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Search Pack PN43

Sudden infant death: sleeping position


Articles specific to the effects of sleeping position on the risk of sudden infant death

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 **Chief Executive:**
Gill Walton,
MA, PGDip, BSc Hons, RM
President:
Rebecca Davies, RM
Patron:
HRH The Princess Royal

PN43 - Sudden infant death: sleeping position

(487)

991205-030

Changing infants' sleep position increases risk of sudden infant death syndrome. Mitchell EA, Thach BT, Thompson JMD, and others (1999), Archives of Pediatrics and Adolescent Medicine vol 153, no 11, November 1999, pp 1136-1141

Objective: To examine whether the prone sleeping position may increase the risk for sudden infant death syndrome (SIDS), particularly in infants unused to prone sleep. **Design:** A 3 year (1987-1990) case-control study. **Setting:** Nationwide study in New Zealand. **Subjects:** Four hundred eighty-five infants who died of SIDS and 1800 controls. **Main outcome measures:** Infants were classified as unaccustomed to prone if their usual sleep position was nonprone and they were placed prone for the last sleep. Secondary prone was used to describe infants placed nonprone but found prone. **Results:** Infants usually and last placed nonprone were at the lowest risk for SIDS (odds ratio [OR], 1.0); those usually placed prone were at increased risk (adjusted OR, 4.6; 95% confidence interval, 3.4-6.3). Risk was greatly increased among infants unaccustomed to the prone position adjusted OR, 19.3; 95% confidence interval, 8.2-44.8). These infants accounted for 8% (31/386) of all SIDS deaths. Ninety percent (28/31) of infants in this group were found prone, and 71% (20/28) of those found prone were found with their faces turned down into bedding - a position in which asphyxia has been implicated as a mechanism of death. In addition, 138 infants who died of SIDS were last placed non-prone. Forty-seven infants (34%) in this group were found prone (secondary prone), and 60% (28/47) of those found prone were found with their faces turned down into the bedding. This group accounted for 12% of all SIDS deaths. Most of these infants (91% [43/47]) were usually placed nonprone. **Conclusions:** Infants placed supine to sleep were at the lowest risk of SIDS, which supports the recommendations that this is the preferred sleeping position for healthy infants. In New Zealand, 20% of SIDS deaths involved a lack of experience with the prone sleeping position. Our findings suggest the possibility that an infant's competence in escaping from potentially lethal situations during prone sleep (eg, the face-down position) may be impaired by inexperience in prone sleeping. Great caution should be exercised in placing infants unaccustomed to the prone sleeping position in the prone position. (41 references) (Author)

991104-003

Why the prone position is a risk factor for sudden infant death syndrome. Jeffery HE, Megevand A, Page M, and others (1999), Pediatrics vol 104, no 2, August 1999, pp 263-269

Introduction: The laryngeal chemoreflex may explain why prone sleeping increases the risk of sudden infant death syndrome (SIDS). Swallowing and arousal are crucial to prevent laryngeal chemoreflex stimulation. Our aim was to examine these reflexes and breathing responses in healthy neonates after pharyngeal infusion of water in the supine versus the prone position, controlling for sleep state. **Methods:** A total of 10 term infants were recruited after parental consent and ethics approval. Polygraphic recordings included sleep state (active and quiet sleep by electroencephalogram, eye movements, breathing, and behavior), cardiorespiratory measurements (nasal airflow, chest wall movements, heart rate, and oxygen saturation), swallowing, and esophageal activity (solid state pressure catheter). Initial sleeping position was assigned randomly. Measurements were made for 1 minute before and after 0.4 mL of water was instilled into the oropharynx. The detect a 30% decrease in swallowing, power analysis indicated that ≥ 10 babies were required. Analysis, blinded to position, was made using nonparametric statistics. **Results:** Of the 164 infusions, the most commonly evoked airway protective responses to pharyngeal infusion were swallowing (95%) and arousal (54%). After infusion in active sleep, there was a significant reduction in swallowing and breathing when the prone position was compared with the supine position (prone: 21.3 [1.0] swallows/min and -9.6 [2.1] breaths/min; and supine: 32 (2.2) and -2.9 (1.5), respectively). However, there was no difference in the occurrence of arousal after water infusion. **Conclusion:** These data suggest that airway protection is compromised in the prone sleeping position during active sleep, even in healthy infants exposed to minute pharyngeal fluid volumes of 0.4 mL. This is because swallowing rate is reduced significantly, and there is no compensatory increase in arousal. The reduction in airway protective reflexes when in the prone position and in active sleep may be the mechanism for the

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990903-033

Appendix 1: Infant sleep position and bedding recommendations for infants less than one year of age during hospitalization. (1999), Neonatal Network vol 18, no 5, August 1999, pp 32-33

Clinical practice guidelines, based on a review of the literature, produced to provide evidence-based policies for sleep positioning and bedding recommendations for hospitalised infants of less than one year of age in order to minimise the risk of sudden infant deaths. (22 references) (KL)

990903-032

Back to sleep: is there room in that crib for both AAP recommendations and developmentally supportive care?.

Lockridge T, Taquino LT, Knight A (1999), Neonatal Network vol 18, no 5, August 1999, pp 29-31

This article offers one institution's approach to implementation of the recommendations for infant sleep positioning as set forth American Academy of Pediatrics. The guidelines are directed toward healthy infants in the first year of life, a population not always encountered by the neonatal nurse. The guidelines focus on supine sleep position and the minimization of additional bedding, both of which can be challenging when contrasted with accomplishing supportive positioning and the goals of developmentally supportive care for ill or preterm infants. A multidisciplinary task force was formed to consider this challenge. The outcome is an evidence-based policy that is presented as an example for other clinicians. The policy addresses the following major components: sleep position with specific clinical exceptions, the use of bedding materials, play position during awake states, and parent education with preparation for discharge. The article also outlines the process by which the task force plans to implement and evaluate necessary practice changes. (16 references) (Author)

990805-019

Short-term morbidity and infant mortality among infants who slept supine at 1 month of age - a follow-up report.

Dwyer T, Ponsonby AL, Couper D, and others (1999), Paediatric and Perinatal Epidemiology vol 13, no 3, July 1999, pp 302-315

Following evidence that prone sleeping is casually related to sudden infant death syndrome (SIDS), intervention campaigns to avoid prone sleeping in many countries have led to a large reduction in SIDS and total infant mortality. The supine position has been recommended for healthy infants in several countries. The objective of this report was to determine how usual sleep position at 1 month relates to morbidity indicators at 1 month and 12 weeks and to SIDS and postneonatal mortality using a prospective population-based live birth cohort in Tasmania, Australia. Eligible infants were the one-fifth of Tasmanian live births at higher risk of SIDS using a perinatal score. From 1 January 1988 to 31 December 1995, 9826 (89% of eligible) infants participated in the home interview. Fifty-three eligible infants died of SIDS, 51 (96%) with hospital interview data and 35 (81% of those eligible for home visit) with home visit data. The main outcome measures were SIDS, postneonatal mortality and parentally reported infant morbidity. The postneonatal mortality rates (cases per 1000 live births) by usual sleep position at 1 month of age were supine 1.60 [95% CI 0.04, 8.87], side 2.87 [1.79, 4.35], prone 10.27 [5.62, 17.18] and other (including no usual position) 6.37 [0.16, 34.98]. None of the study infants who slept supine died of SIDS at a later time. Of 25 morbidity indicators studied, only noisy breathing was increased for supine compared with side-sleeping babies. In this study, there was no evidence to suggest that supine sleeping at 1 month of age was associated with an increase in important short-term morbidity or postneonatal mortality. These findings provide further support for the recent recommendations of the American Academy of Pediatrics that healthy infants should preferably sleep in the supine position. (30 references) (Author)

990615-017

Prone infant sleeping despite the 'back to sleep' campaign. Ottolini MC, Davis E, Patel K, and others (1999), Archives of Pediatrics and Adolescent Medicine vol 153, no 5, May 1999, pp 512-517

Objectives: To determine sleep position variation during the first 6 months of life and to identify risk factors for prone sleeping. Design: Cohort study of healthy term newborns recruited from November 1995 to September 1996 and

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followed up to age 6 months. Pediatricians were surveyed about sleep position advice. At recruitment, all parents were instructed to avoid prone sleeping. Parents were telephoned at 1 week and then monthly to ensure that they recorded sleep position. Investigators were unaware of sleep position until the infant was 6 months of age, when sleep log data and reasons for sleep position choice were ascertained. Setting: Practise-based study conducted by the Children's National Medical Center Pediatric Research Network, Washington, DC. Participants: A total of 402 consecutive healthy term newborns followed up by a Pediatric Research Network pediatrician were enrolled. Exclusion criteria were prematurity, a serious medical condition, and absence of a telephone. Of the 402 enrolled newborns, 348 (86.6%) completed the study. Results: Only 34.0% of infants maintained a consistent sleep position. Prone sleeping increased from 12.2% at birth to 32.0% at 6 months. One third of pediatricians discussed sleep position beyond the newborn period. The following were associated ($P < .5$) with prone sleeping: male sex, lower maternal education level, single marital status, having siblings, and black race. Perceived infant comfort was the main reason for prone sleeping. Conclusions: Most newborns are placed by parents in nonprone sleep positions. Pediatricians need to consistently reinforce the 'Back to sleep' message when the infants are 2 to 4 months of age because this is the most likely that they are switched to prone sleeping and the highest risk period of sudden infant death syndrome. Parents should not use prone sleeping as a means of comforting infants. (26 references) (Author)

990421-009

Seasonal differences in risk factors for sudden infant death syndrome. Mitchel EA, Clements M, Williams SM (1999), Acta Paediatrica vol 88, no 3, March 1999, pp 253-258


The aim of this study was to explore whether the risk of sudden infant death syndrome (SIDS) associated with prone sleeping position and other risk factors varies with season. The study was a large nation-wide case-control study, which compared 485 cases with 1800 controls. Parents of 393 (81.0%) cases and 1591 (88.4%) controls were interviewed. Obstetric records were also examined. Infants dying in winter were older and had lower birthweights than those dying in summer. The increased risk of SIDS associated with prone sleeping position was greater in winter than in summer. In contrast, the increased risk of SIDS associated with excess thermal insulation and bed sharing was less in winter than in summer. Prone sleeping position accounts for about half of the difference between the mortality rate in summer and that in winter. This suggests that some factor related to season modifies the effect of prone sleeping position. (29 references) (Author)

990421-003


More awakenings and heart rate variability during supine sleep in preterm infants. Goto K, Mirmiran J, Adams MM, and others (1999), Pediatrics vol 103, no 3, March 1999, pp 603-609

Objective: The Task Force of The American Academy of Pediatrics (1996) recommends the nonprone sleeping position for asymptomatic preterm infants to prevent sudden infant death syndrome. The mechanism by which the nonprone sleeping position reduces the rate of sudden infant death syndrome is unclear for full-term infants and the precise effect of sleeping position on sleep and cardiorespiratory characteristics has never been addressed in preterm infants. The purpose of the present study was to clarify the effect of sleeping position on sleep and cardiorespiratory characteristics in preterm infants at an age when they are ready for discharge. Study Design: Sixteen asymptomatic preterm infants were studied in both supine and prone sleeping positions at 36.5 +/- 0.6 weeks' postconceptional age using videosomnography. Sleep, respiratory, and heart rate characteristics were compared between the two positions using each infant as his/her own control. Results: More awakenings (ie, arousals ≥ 60 seconds) were seen during all sleep states in the supine sleeping position but overall the total sleep and percent sleep state were not affected by sleeping position. After each feeding, the first quiet sleep was significantly shorter, with more heart rate variability and awakenings in the supine position. There were no significant differences in the occurrence of arousals (< 60 seconds) or the incidence or severity of apnea and periodic breathing. No clinically significant apnea ≥ 15 seconds, bradycardia, or oxygen desaturations were seen. Conclusion: In 36-week-postconceptional age preterm infants, the supine sleeping position had less quiet sleep and was associated with greater heart rate variability during the first sleep cycle after the feeding. More awakenings were seen during all sleep states in the supine position. These data support the American Academy of Pediatrics recommendation for 'Back to Sleep' for asymptomatic preterm infants

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because more awakenings and lower threshold for arousal may provide some benefit for the infant responding to a life-threatening event. However, further studies are needed to address positional effect on the physiologic measures in preterm infants at older ages (later stages of development). Precisely what constitutes the most healthy or advantageous sleep for newborn infants remains an important question. (53 references) (Author)

990307-003*

BabyZone: how to create the environment your baby would ask for. Foundation for the Study of Infant Deaths (1999), London: Foundation for the Study of Infant Deaths 1999. 11p

BabyZone is a campaign of the Foundation for the Study of Infant Deaths (FSID). This leaflet answers the questions relating to the prevention of sudden infant death most frequently asked on the FSID helpline, including information on smoking, clothing and bedding, sleep positions, and co-sleeping. (KL)

990212-011

Factors associated with the transition to nonprone sleep positions of infants in the United States: the National Infant Sleep Position Study. Willinger M, Hoffman HJ, Wu KT, and others (1998), JAMA (Journal of the American Medical Association) vol 280, no 4, 22-29 July 1998, pp 329-335

Context: Studies have demonstrated strong associations between the prone sleep position (on the stomach) and sudden infant death syndrome (SIDS). In 1992, the American Academy of Pediatrics recommended that infants be placed to sleep laterally (on their side) or supine (on their back) to reduce SIDS risk, and in 1994, the national public education campaign 'Back to Sleep' was launched. Objective: To determine the typical sleep position of infants younger than 8 months in the United States, the changes that occurred after these recommendations, and the factors associated with the placement of infants prone or supine. Design: Annual nationally representative telephone surveys. Setting: The 48 contiguous states of the United States. Participants: Nighttime caregivers of infants born within the last 7 months between 1992 and 1996. Approximately 1000 interviews were conducted per year. Main Outcome Measures: The position the infant was usually placed in for sleep, and the position the infant was most commonly found in when checked during the night's sleep. Results: Ninety-seven percent of respondents in each wave of the survey usually placed their infant to sleep in a specific position. Infants were placed in the prone position by 70% of caregivers in 1992, prior to the campaign, but only 24% in 1996. Supine and lateral placements increased during this time period, from 13% in 1992 to 35% in 1996 and from 15% in 1992 to 39% in 1996, respectively. Significant predictors of prone placement included maternal race reported as black (odds ratio [OR], 2.34; 95% confidence interval [CI], 1.68-3.26), mother's age 20 to 29 years (OR, 1.28; 95% CI, 1.09-1.50), region reported as the mid-Atlantic (OR, 1.41; 95% CI, 1.12-1.78) or southern states (OR, 1.47; 95% CI, 1.22-1.70), mothers with a previous child (OR, 1.68; 95% CI, 1.43-1.97), and infants younger than 8 weeks (OR, 0.63; 95% CI, 0.46-0.85). Infants aged 8 to 15 weeks were significantly more likely to be placed nonprone over time compared with the other age groups. Most of the risk factors for prone were significantly related in the opposite direction to supine placement. Conclusions: The prevalence of infants placed in the prone sleep position declined by 66% between 1992 and 1996. Although causality cannot be proved, SIDS rates declined approximately 38% during this period. To achieve further reduction in prone sleeping, efforts to promote the supine sleep position should be aimed at groups at high risk for prone placement. (42 references) (Author)

981114-008


SIDS rates dropping - yet some groups still more likely to lay babies on their stomachs. (1998), AWHONN Lifelines vol 2, no 5, October 1998, pp 10, 13

Rates of sudden infant death in the United States have decreased by 38% between 1992 and 1996. Progress towards compliance with recommendations that babies are put to sleep on their sides or backs is discussed. (KL)


981113-016

Side sleeping position and bed sharing in the sudden infant death syndrome. Scragg RKR, Mitchell EA (1998), Annals of

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In the last decade there have been major reductions in the sudden infant death syndrome (SIDS) rate following prevention programmes in Australasia, Europe and North America, mainly due to changing infants from the prone sleeping position onto their sides or backs. This report reviews previous SIDS observational studies with data on side sleeping position and bed sharing. The relative risk for SIDS calculated from previous studies for side vs back sleeping position is 2.02 (95% CI = 1.68, 2.43). This result suggests that further substantial decreases in SIDS could be expected if infants were placed to sleep on their backs. With regard to bed sharing, the summary SIDS relative risk is 2.06 (1.70, 2.50) for infants of smoking mothers and 1.42 (1.12, 1.79) for infants of nonsmoking mothers. Public health policy should be directed against bed sharing by infants whose mothers smoke as they carry an increased risk of SIDS from bed sharing in addition to their already increased risk from maternal smoking. For infants of nonsmoking mothers, who have a low absolute risk of SIDS, the 40-50% increase in risk needs to be balanced against other perceived benefits from bed sharing, such as increased breastfeeding. (41 references) (Author)

980805-027

Elevation of the head of the cot and Sudden Infant Death Syndrome. Mitchell EA, Scragg L, Clements M (1997), Journal of Sudden Infant Death Syndrome and Infant Mortality vol 2, no 3, September 1997, pp 167-173

Gastroesophageal reflux may be associated with Sudden Infant Death Syndrome (SIDS) and thus elevation of the head of the cot might be associated with a reduced risk of SIDS. A questionnaire was mailed to subjects, who were interviewed previously as part of a large nationwide case-control study. European SIDS cases (n = 105) were compared with European controls (n = 828). There was a significantly lower risk of SIDS if the head of the cot was elevated (adjusted odds ratio = 0.46; 95% confidence intervals = 0.28, 0.78). However, the risk was increased if the infant had been preterm or were of low birthweight. The decreased risk of SIDS associated with elevation of the head of the cot was similar for infants who vomited 30 minutes after a feeding and those who did not vomit. These findings need to be treated with caution as in some subgroups (infants who were preterm or of low birthweight) the risk of SIDS is increased. (24 references) (Author)

980518-007


Reducing the risk of sudden infant death syndrome: a review of the scientific literature. Henderson-Smart DJ, Ponsonby A-L, Murphy E (1998), Journal of Paediatrics and Child Health vol 34, no 3, June 1998, pp 213-219

In March 1997 a multidisciplinary forum was convened by the National SIDS Council of Australia to review recent evidence concerning risk factors of sudden infant death syndrome (SIDS) and to revise and refine the current guidelines for reducing the risk of SIDS. The forum provided an assessment of the evidence for recommendations to reduce the risk of SIDS using an evidence-based process. Strong evidence has now accumulated that the intervention campaigns to reduce prone sleeping during infancy have been followed by SIDS rate declines. Recent data indicate that the supine position is not associated with an increase in significant morbidity outcomes and provides greater protection for SIDS than the side position, which may be unstable. Covering of the baby's head by bedding is strongly related to SIDS. The infant's sleeping environment should be carefully set up to ensure that the baby's head, including the face, cannot be obstructed during sleep. Parental smoking is strongly associated with SIDS. Structural supportive interventions for parental smoking cessation are required. Bedsharing increases the risk of SIDS amongst smokers and the data are currently not sufficient to provide complete reassurance to nonsmoking parents that bedsharing is safe. Infants should be maintained in a comfortable temperature zone. The evidence for a protective effect of breast-feeding is conflicting, so breast-feeding cannot be promoted strongly as reducing the risk of SIDS. Immunisation has not been associated with SIDS. Parents and carers should be aware of the current guidelines. Health professionals should also be aware of the evidence on which the current recommendations are based. Effective health education programmes should lead to a further decline in SIDS mortality in Australia. (63 references) (Author)


980506-006*

Back to sleep: the position in Oxfordshire and Northampton. Rose M, Murphy M, Macfarlane JA, and others (1998), Paediatric and Perinatal Epidemiology vol 12, no 2, April 1998, pp 217-227

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We examined hospital and domestic infant care practices in Oxfordshire and Northampton Health Districts to measure changes in prevalence of sudden infant death syndrome (SIDS) risk factors, and to evaluate a specific educational intervention restricted to Oxfordshire. We sent a postal questionnaire to 2781 parents of babies newly born in January 1992, July 1992 and January 1993 and achieved an 88% response rate. Overall, in hospital a relatively constant proportion (81%) slept on their sides and few prone, whereas at home 52% (but increasing) slept supine and 8% prone part or all of the time. Significant differences existed by district, both in hospital and at home, with more sleeping supine in Oxfordshire and more side-sleeping/propping in Northampton. Firsttime parents were more receptive to safety guidelines about sleeping position and several other risk factors also. We detected no modifying effect of the Oxfordshire advice. Professional practice can influence parental behaviour but general media coverage may produce the biggest effects. (Author)

980410-028

Is midwifery practice evidence based? [Sleeping position for newborn babies]. McGuinness B (1998), Open Line vol 6, no 2, Autumn 1998, pp 15, 22

In a new regular journal section, topical issues will be reviewed and debated. This issue discusses the recommendations for sleeping positions for newborn babies for the prevention of sudden infant death. (22 references) (KL)

980409-046

Infant sleep position and SIDS risk, 1995: a parent survey and analysis of SIDS deaths in Maryland. Meny RG, Rubin JD (1997), Journal of Sudden Infant Death Syndrome and Infant Mortality vol 2, no 2, June 1997, pp 111-115

A clinic-based survey in Baltimore, MD, was conducted to determine the extent to which inner-city families know about and use the nonprone sleeping position for their young infants. Overall 82% of parents reported putting their infants to bed in the supine or side position. Parents who recalled being advised to place the baby in a nonprone sleep position were significantly ($p = 0.01$) more likely to report using the nonprone sleep position. A review of sleep position data for the 85 Maryland SIDS victims in 1995 indicated that 73% of the 67 infants for whom data were available were found in the prone position. Nearly two thirds (9 of 14) of infants reportedly placed for sleep in the side position were found prone at death, suggesting the instability of the side sleep position. (Author)


980315-028

Abandoning prone sleeping: effect on the risk of sudden infant death syndrome. Skadberg BT, Morild I, Markestad T (1998), Journal of Pediatrics vol 132, no 2, February 1998, pp 340-343

Objective: This study was designed to evaluate the long-term effect of a campaign to avoid prone sleeping on the sudden infant death syndrome (SIDS) mortality rate and on parents' choice of sleeping position for young infants. Before the campaign, 64% of infants usually slept prone and the SIDS rate was 3.5 (95% CI, 2.64 to 4.36) per 1000 live births. Study design: Population-based case reference study of infants dying suddenly and unexpectedly at the ages of 1 week to 1 year, and of 493 healthy infants between 2 and 6 months of age, starting 4 years after an intervention program to avoid prone sleeping. Results: The SIDS rate was 0.3 per 1000 live births (95% CI, 0.05 to 0.54). One of five (20%) SIDS victims usually slept prone, three of five (60%) were placed prone for their last sleep, and five of six were found dead in the prone position. Of the reference infants, 1.4% were usually placed prone to sleep, although all had previously accepted a non-prone position. Nearly half of the infants (49.1%) were usually placed supine, 22.7% usually on the side, and 26.8% in variable positions of which 2.0% occasionally included prone. The side position was the least stable position. After the age of 1 week, 59.4% of infants had been found with their heads covered on at least one occasion. Conclusions: SIDS is rare when prone sleeping is avoided. Infants at the age of particular risk for SIDS may spontaneously turn from the side to the prone position and they commonly slip under the bedding during sleep. (Author)

980219-022

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Prone sleeping and SIDS. Dwyer T, Ponsonby AL (1997), *Epidemiology* vol 8, no 3, May 1997, pp 329-331

Commentary on the previous article in this journal issue (1) which questions the significance of the prone sleeping as a risk factor for sudden infant death, using research evidence from the United States. 1. Klonoff-Cohen H. Sleep position and sudden infant death syndrome in the United States. *Epidemiology*, vol 8, no 3, May 1997, pp 327-329. (17 references) (KL)

980219-021

Sleep position and sudden infant death syndrome in the United States. Klonoff-Cohen H (1997), *Epidemiology* vol 8, no 3, May 1997, pp 327-329

Review of evidence of the impact of health promotion strategies for the prevention of sudden infant death in the United States. In particular the effect promotion of supine sleeping is investigated and compared with the impact of other strategies such as promotion of breastfeeding, advice about smoking, improved antenatal care and death scene investigations. Factors which influence differences between SIDS rates in the United States and in other countries are discussed. (23 references) (KL)

980108-022

Association between use of a quilt and sudden infant death syndrome: case-control study. Ponsonby AL, Dwyer T, Couper D, and others (1998), *BMJ* vol 316, no 7126, 17 January 1998, pp 195-196

The relation between an infant's sleeping environment and development of the sudden infant death syndrome depends on the infant's sleep position. We report how the association between the use of a quilt and the syndrome depends on sleep position. (Author)

980102-003

Frequency and type of aspiration in cases of sudden infant death (SID) in correlation with the body position at the time of discovery. Bajanowski T, Ott A, Jorch G, and others (1996), *Journal of Sudden Infant Death Syndrome and Infant Mortality* vol 1, no 4, December 1996, pp 271-279

The assumption of an increased risk of aspiration of stomach contents in the supine sleeping position was investigated in connection with other advantages and disadvantages of different sleeping positions for infants. To determine this relationship, 157 cases of sudden and unexpected infant deaths were investigated including death scene investigation and standardized postmortem examination. The body position at the time of discovery, signs of vomiting, and the type of resuscitation were registered. The quantity and quality of different types of aspirations and signs of inflammatory diseases were evaluated during autopsy and by histology (HE, Best for glycogen). Only 5 cases (3%) showed a severe, deep, and peripheral aspiration of stomach contents and in four cases this was in combination with signs of asphyxiation. Of these five infants three were found dead in the prone position while in the whole series 79% were found in this position. Agonal aspiration (stomach contents in the middle and upper bronchi) occurred in 48 cases which were predominantly found in the prone position (60.4%). This type of aspiration was frequently associated with various types of inflammatory diseases (87.5%) which could have resulted in terminal vomiting and in nearly 50% of these infants resuscitation had been attempted. In conclusion, these results seem to indicate that there is no higher risk of fatal aspiration for infants sleeping in the supine position. (Author)

971120-029

Sudden infant death syndrome: a hypothesis. David CM (1997), *Medical Hypotheses* vol 49, no 1, July 1997, pp 61-67

A study of the strikingly low incidence of sudden infant death syndrome in Eastern countries revealed significant differences in infant handling thought to have an etiological bearing; therefore this writer suggested that adoption of certain Eastern methods of nursing may reduce the incidence of sudden infant death syndrome. A dramatic fall in incidence has resulted from implementing one of the suggestions made by the writer in 1983, namely the abandonment of the prone position, after initial opposition. The present hypothesis sets out to give a scientific explanation for this fall, and is a unified hypothesis explaining certain puzzling and disparate features of sudden

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infant death syndrome such as the remarkable winter incidence, age incidence, and the occurrence of sudden infant death syndrome during sleep, and is based on a postulated disturbance in thermoregulatory function (a unique hypothermia). Recommendations are made for evolving a test for sudden infant death syndrome-proneness and a possible method of treatment of a fatality within a short time frame. (Author)

971112-031*

Back to sleep: questions and answers for professionals on infant sleeping position and SIDS. American Academy of Pediatrics, US Public Health Service, SIDS Alliance, and others (1997), Washington: Back to Sleep [1997?]. 8p

Information for health professionals answering commonly asked questions about the best sleeping positions to minimise the risk of sudden infant death. (KL)

971108-017

Infant behaviour in response to a change in body position from side to prone during sleep. Skadberg BT, Markestad T (1996), European Journal of Pediatrics vol 155, no 12, December 1996, pp 1052-1056

The consequences of provoking a change in the sleeping position from side to prone during quiet (non-REM) and active (REM) sleep in young infants were studied in terms of ability to turn the face away from the mattress within 3 min, and in terms of ventilatory and heart rate responses in those who remained face down. Twenty-six infants were exposed to repeated tilts from the side to prone at 2.5 months, and 20 at 5 months of age. Eighteen infants were tested on both occasions. A computer-aided multichannel system was used for polysomnographic recordings. Approximately 66% of the infants did not rotate the face away from the mattress on at least one occasion. There were no significant differences in the rate of face down outcome between sleep states or ages, and no consistent pattern of final face position following repeated tilts. The face to side position was commonly accomplished after considerable difficulties involving vigorous body movements, particularly if the arm became positioned between the body and the mattress or alongside the trunk after the tilt. Apnoeas of 3-14 s in immediate response to the tilt were observed in 75% of the infants monitored electronically. In 13% of the infants, all in a face down position, the test was terminated because of increases in heart and respiratory rates, drop in oxygen saturation, or marked pallor. Conclusions: The observed difficulties of obtaining a face to side position when suddenly exposed to the prone position during sleep, may render some young infants at risk of sudden infant death (SID). (Author)

971107-016

Now I lay me down to sleep: SIDS and infant sleep positions. Lockridge T (1997), Neonatal Network vol 16, no 7, October 1997, pp 25-31

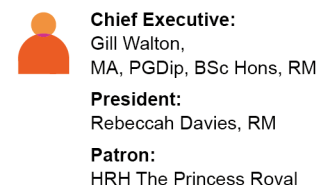
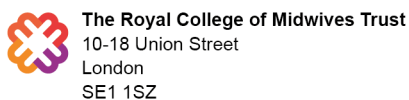
Sudden infant death syndrome (SIDS) is the primary cause of infant death outside the neonatal period. The etiology of SIDS has been studied extensively but remains unclear. In 1992, the American Academy of Pediatrics (AAP) responded to international research that suggested an association between SIDS and prone sleeping patterns. Controversial guidelines on infant sleep position were issued at this time, advocating supine or sidelying positions. The AAP modified their initial guidelines in 1996, recommending supine as the preferred sleep position during infancy. The AAP stressed that both sidelying and supine positions place an infant at less risk for SIDS than the prone position, but that supine offered the lowest risk of SIDS. The AAP reaffirmed that these guidelines were intended for healthy newborns only, and also modified some of the original recommendations to reflect the latest research on SIDS. This article provides a brief overview of SIDS and the events leading to the current AAP stance on infant positioning. Parent education is addressed, with specific recommendations for discharge teaching. (Author)

971106-018

Combined effects of sleeping position and prenatal risk factors in sudden infant death syndrome: the Nordic Epidemiological SIDS Study. Oyen N, Markestad T, Skjærven R, and others (1997), Pediatrics vol 100, no 4, October 1997, pp 613-621

Objective. Prone sleeping is a strong risk factor for sudden infant death syndrome (SIDS). We investigated whether the

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combined effect of prone sleeping position and prenatal risk factors further increased the SIDS risk. Methods. In the Nordic Epidemiological SIDS Study, parents of SIDS victims in Denmark, Norway, and Sweden completed a questionnaire on potential risk factors for SIDS. Forensic pathologists verified the SIDS diagnosis. Four controls of the same gender, age, and place of birth were selected. This matched case-control study, which included 244 SIDS cases and 869 controls from 1992 to 1995, was analyzed by conditional logistic regression. Results. Odds ratios (ORs) for prone and side sleeping compared with supine sleeping for the last sleep were 13.9 (95% confidence interval 8.2-24) and 3.5 (2.1-5.7). Infants 13 to 24 weeks old had particularly high risk in prone and side sleeping, at 28.5 (7.9-107) and 5.9 (1.6-22). OR for prone sleeping was higher in girls, at 30.4 (11-88), than in boys, 10.3 (5.5-19). We found strong combined effects of sleeping position and prenatal risk factors (more than multiplicative). The OR for prone and side sleeping was increased for infants with birth weight <2500 g, at 83 (25-276) and 36.6 (13-107); for preterm infants, at 48.8 (19-128) and 40.5 (14-115); and for intrauterine growth retarded, at 38.8 (14-108) and 9.6 (4.3-22), compared with supine position in infants without these prenatal factors. The combined effect of nonsupine positions and intrauterine growth retarded was highest among 13- to 24-week-old infants. Effects of combined presence of nonsupine sleeping positions and each of the factors of smoking in pregnancy, young maternal age, higher parity, low level of maternal education, and single motherhood were more than additive. Attributable fractions in the population for prone and side sleeping were 18.5% and 26.0%. Conclusions. Both prone and side sleeping increased the risk of SIDS. The risk was increased further in low birth weight infants, preterm infants, and infants at the age of 13 to 24 weeks, suggesting that SIDS may be triggered by nonsupine sleeping in infants with prenatal risk factors during a vulnerable period of postnatal development. (Author)

971014-025

Case-control study of sudden infant death syndrome in Scotland, 1992-95. Brooke H, Gibson A, Tappin D, and others (1997), BMJ vol 314, 24 May 1997, pp 1516-1520

Objective: To investigate the relation between routine infant care practices and the sudden infant death syndrome in Scotland. Methods: National study of 201 infants dying of the sudden infant death syndrome (cases) and 276 controls by means of home interviews comparing methods of infant care and socioeconomic factors. Results: Sleeping prone (odds ratio 6.96 (95% confidence interval 1.51 to 31.97)) and drug treatment in the previous week (odds ratio 2.33 (1.10 to 4.94)) were more common in the cases than controls on multivariate analysis. Smoking was confirmed as a significant risk factor (odds ratio for mother and father both smoking 5.19 (2.26 to 11.91)). The risk increased with the number of parents smoking ($P < 0.0001$) with the number of cigarettes smoked by mother or father ($P = 0.0001$), and with bed sharing ($P < 0.005$). A new finding was an increased risk of dying of the syndrome for infants who slept at night on a mattress previously used by another infant or adult (odds ratio 2.51 (1.39 to 4.52)). However, this increased risk was not established for mattresses totally covered by polyvinyl chloride. Conclusions: Sleeping prone and parental smoking are confirmed as modifiable risk factors for the sudden infant death syndrome. Sleeping on an old mattress may be important but needs confirmation before recommendations can be made. (Author) (Author)

970913-047

SIDS in Scotland, 1992-1995. (1997), Foundation for the Study of Infant Deaths (FSID) News no 56, Autumn 1997, p 7

Discussion of the findings of two recent studies into the incidence and causes of sudden infant deaths in Scotland. (KL)

970905-047

Temporal disparity between reduction of cot death and reduction of prone sleeping prevalence. Einspieler C, Kerbl R, Kenner T (1997), Early Human Development vol 49, no 2, 19 September 1997, pp 123-133.

According to several reports sudden infant death rates have decreased significantly after public campaigns aimed at reducing the incidence of sleeping in a prone position. The Styrian population (1.2 million inhabitants), who have been studied from 1984, also showed a significant drop in the incidence of cot death during 1989 (from 2 to 1 per thousand). The year before, a campaign for the prevention of cot death had been launched. This included the recommendation to prevent infants from lying in a prone position during sleep. Part of the prevention programme

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consisted of a detailed questionnaire filled in and returned by the parents. These data, on 29,970 infants from 1989 to 1994, provided information on the frequency of prone sleeping in 37% of our total population and as a consequence on parental response to the campaign. Calculating the data per year led to the surprising result that the reduction by half (from 50% to 25%) in the prevalence of sleeping in a prone position did not occur in 1989, when the drop in the incidence of cot death occurred, but 3 years later, in 1992. The following years saw a further decrease of prone position to 7% but no appreciable change in the incidence of cot death. However, during those 11 years of study about 80% of the victims were consistently found dead lying in a prone position. Our results show a temporal disparity between the reduction of sudden infant death and the decrease of prone sleeping in a population. Although we do not deny sleeping in a prone position as a risk factor for cot death, there cannot be a simple relationship between sleeping habits in the population and incidence of cot death. (Author)

970802-037

SIDS: parental awareness and infant care practices in contrasting socioeconomic areas in Cardiff. Shrivastava A, Davis P, Davies DP (1997), Archives of Disease in Childhood vol 77, no 1, July 1997, pp 52-53

Parental awareness of risk factors for sudden infant death syndrome (SIDS) and infant care practices were compared in an area of relative deprivation and one of relative affluence in Cardiff. Awareness was high in both areas. More infants slept on the side in the deprived area ($p < 0.02$). One in three babies was exposed to cigarette smoking, significantly more in the deprived area ($p < 0.001$). Health professionals should discourage side sleeping and smoking, especially in areas of deprivation. (Author)

970703-014

'Back to sleep' and head moulding. Roberts A (1997), Midwifery Matters no 73, June 1997, p 30

An antenatal teacher for the National Childbirth Trust speculates on the increased number of babies with asymmetrical and flat-backed head shapes - could this be as a result of the 'back to sleep' campaign which advocates supine sleeping to reduce the risk of sudden infant death? (KL)

970610-025

Now I lay me down to sleep: SIDS and infant sleep positions. Lockridge T (1997), Mother Baby Journal vol 2, no 2, March 1997, pp 7-13

Overview of risk factors for sudden infant death as a basis for the provision of information to new parents. (25 references) (KL)

970212-017

Positioning and sudden infant death syndrome (SIDS): update. Task Force on Infant Positioning and SIDS (1996), Pediatrics vol 98, no 6, part 1, December 1996, pp 1216-1218

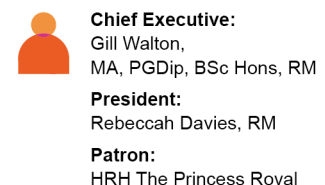
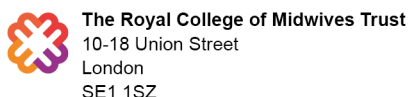
This statement provides an update to the June 1992 American Academy of Pediatrics' policy, 'Infant Positioning and SIDS,' which recommended that healthy term infants be placed on their sides or backs to sleep. Recent data show that the original policy appears to have had a positive effect in decreasing the prevalence of prone sleeping significantly. Simultaneously, the SIDS rate in the United States has also dropped. New data also suggest that the supine position is still significantly safer than the prone position. Additional information regarding sleeping surface and exceptions to these recommendations are addressed. (Author)

960917-030

Sudden infant death syndrome. Beal SM (1996), Medical Journal of Australia vol 165, no 4, 19 August 1996, pp 179-180

If all infants were to sleep supine, in conditions which ensured that the head could not become covered, the incidence of SIDS in Australia could fall to less than 0.4 per 1000 live births. (Author)

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960915-017

Sleeping position and cot death: does health promotion always promote health? Webb GP (1995), Journal of Biological Education vol 29, no 4, 1995, pp 279-285

In the 1970s and 1980s, the prone sleeping position for infants was widely recommended by health professionals and childcare writers. Prone sleeping was said to decrease the risk of choking upon regurgitated milk and many childcare books of the period emphasize the risk of babies choking in the supine position. However, prone sleeping is now discouraged because it is thought to increase the risk of cot death. The earlier promotion of prone sleeping was based upon narrow measures or assumptions of benefit, often in particular 'high-risk' groups of babies. This example is used to illustrate some of the potential pitfalls of health promotion. It highlights the need to ensure that any health promotion or preventive medicine interventions are thoroughly tested and evaluated before they are implemented; a responsibility that must ultimately lie with governments. In addition to any direct harmful effects, ill-considered measures will undermine public confidence in health promotion and increase resistance to future campaigns. (Author)

960909-063

Sudden unexpected deaths in infancy. Important issues for midwives. Saunders D (1996), Midwives vol 109, no 1304, September 1996, p 256

Sudden infant death rates have fallen, but it still remains the largest single category of infant mortality. Ways midwives can contribute to a further reduction of the rate are explained. Key health issues from the recent report from the Confidential enquiry into Stillbirth and Deaths in Infancy (CESDI), which concentrated on sudden unexpected death in infancy, are given. (KL)

960904-043

Sleeping position and upper airways bacterial flora: relevance to cot death. Bell S, Crawley BA, Oppenheim BA, and others (1996), Journal of Clinical Pathology vol 49, 1996, pp 170-172

The hypothesis that the prone sleeping position is associated with accumulation of upper airways secretions and increased bacterial growth was investigated in adults. Ten subjects with upper respiratory tract infection lay prone for one hour and then supine for one hour. Nasal swabs after the prone period yielded higher bacterial counts than swabs obtained after the supine period. This result could be relevant to sudden infant death syndrome (SIDS), as infants who sleep in the prone position are at increased risk of SIDS and one theory is that death is caused by toxins produced by bacterial overgrowth in the upper respiratory tract following a viral infection. (Author)

960904-042

Soft cot mattresses and the sudden infant death syndrome. Mitchell EA, Scragg L, Clements M (1996), New Zealand Medical Journal vol 109, no 1023, 14 June 1996, pp 206-207

Aims: To investigate whether soft cot mattresses are a risk factor for the sudden infant death syndrome (SIDS).
Methods: A follow-up postal questionnaire was sent to the subjects who were interviewed 3.8 years (range 2.2 to 5.2 years) previously as part of the New Zealand Cot Death Study, a large nationwide case-control study. **Results:** 105 European SIDS cases were compared with 828 European controls. Soft cot mattresses were associated with an increased risk of SIDS (adjusted OR=2.36; 95% CI=1.06, 5.25) compared with average or hard mattresses. The firmness of the mattress did not interact with the sleeping position of infant. **Conclusion:** Soft cot mattresses should be avoided. (Author)

960904-004

Risk factors for the infant prone sleep position. Taylor JA, Davis RL (1996), Archives of Pediatrics and Adolescent Medicine vol 150, no 8, August 1996, pp 834-837

Objective: To identify parental characteristics associated with infants being placed to sleep in the prone position.

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Study Design: Cross-sectional survey. **Patients:** Randomly selected King County, Washington, infants born on the same days as King County infants who died of sudden infant death syndrome between November 1992 and October 1994. **Methods:** Parents of study infants responded to a telephone interview about sleep position in their infants. Parents were asked how they usually put their infants to bed during the previous 2 weeks, and if they were aware of any recent advice on sleep position in young infants. Demographic data were also collected during the telephone interview. Logistic regression was used to identify infant and parental characteristics associated with the prone sleep position. **Results:** Parents of 178 infants were interviewed; 28.1% responded that their infants usually slept prone, 66.9% slept non-prone, and 5% had no usual sleep position. Parents who were unaware of sleep position advice were more likely to place their infants prone than those who were aware of this advice (odds ratio, 3.5; 95% confidence interval, 1.5-7.8). Among parents who were aware of sleep position advice, mothers younger than 20 years were more than 10 times as likely to place their infants prone than were older mothers (odds ratio, 10.7; 95% confidence interval, 1.1-107.0). For those who were unaware of sleep position advice, single mothers were more likely to place their infants prone (odds ratio, 14.0; 95% confidence interval, 1.5-133.2). Single mothers and parents of low-birth-weight infants were more likely to be unaware of recent medical advice regarding optimal sleep position for infants. **Conclusions:** The results of this study may provide direction to future efforts to encourage nonprone sleeping. Knowledge of the risk is associated with decreased use of prone sleep position. Single mothers should be targeted for intensive educational efforts regarding the hazards of prone sleeping. Among teenage mothers, awareness of the association between prone sleeping and sudden infant death syndrome may not be adequate to change behaviour; educational interventions that are more focused for this age group may be needed. (Author)

960814-049

The 'new' risk factors for SIDS: is there an association with the ethnic and place of birth differences in incidence in Victoria, Australia?. Potter A, Lumley J, Watson L (1996), *Early Human Development* vol 45, no 1-2, 5 July 1996, pp 119-131

Home interviews and assessments of infant development were carried out in a project examining the family environments of four groups of women and their infants with different risks of sudden infant death syndrome (SIDS): a reference group of 200 Australian-born (Anglo-Celtic) women (SIDS incidence, 2.04/1000), 101 women born in Asia (0.97/1000) and 56 women born in Southern Europe (0.58/1000) whose infants have a very low risk of SIDS and 102 women who chose to give birth at home whose infants have a high risk of SIDS (8.9/1000). As these differences are not explained by the classic social and perinatal risk factors, it was possible that they might be attributable to the 'new' risk factors: prone sleeping position, not fully breast feeding, exposure to cigarette smoke and bed sharing. Analysis of the data did not show this expected association: there were no significant differences between the groups in the use of the prone position; although only two Asian-born women smoked, infant exposure to cigarette smoke was similar in the other three groups; choice of infant feeding method did not fit the expected pattern - homebirth infants were fully breast fed almost exclusively while this was so for only about 50% of infants in both low risk groups; more than 50% of homebirth families slept with their infants, but bed sharing was also significantly more common in the Asian-born group than in the reference group. (Author)

960812-047

Does supine sleeping cause asymmetric heads?. Hunt CE, Puczynski MS (1996), *Pediatrics* vol 98, no 1, July 1996, pp 127-129

Commentary on a recent article (1) which reports an increase in the incidence of unilateral occipital flattening (plagiocephaly) without synostosis following advice from the American Academy of Pediatrics regarding sleeping position. 1. Kane AA et al. *Pediatrics*, vol 986, no 6, June 1996, pp 877-885. (SJH)

960812-027

Pathological findings in SIDS infants found in the supine position compared to the prone. Byard RW, Stewart WA, Beal SM (1996), *Journal of Sudden Infant Death Syndrome and Infant Mortality* vol 1, no 1, March 1996, pp 45-50

A study was undertaken to determine whether pathological findings differed in infants who died of sudden infant death syndrome (SIDS) in the supine position (n = 12), compared to those who died in the prone position (n = 24). No

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significant differences could be found in the occurrence of pulmonary edema and congestion, and in mild chronic inflammation of the major airways. Macroscopically observed pleural and epicardial petechiae were found in 75% of infants in both groups, and thymic petechia were noted in 92% of supine infants and in 96% of prone infants. Histological examination of the thymus showed slightly more petechiae in the supine group (mean = 8.3) compared to the prone group (mean = 4.4), although this did not reach statistical significance. No effect of resuscitation on the number of thymic petechiae could be shown. In this study, common pathological findings occurred with similar frequency in SIDS infants who were found in the supine compared to the prone position, and thus could not be used to differentiate between these two groups. (Author)

960723-128

Environment of infants during sleep and risk of the sudden infant death syndrome: results of 1993-5 case-control study for confidential inquiry into stillbirths and deaths in infancy. Fleming PJ, Blair PS, Bacon C, et al (1996), BMJ vol 313, no 7051, 27 July 1996, pp 191-195

Objective: To investigate the role of sleeping arrangements as risk factors for the sudden infant death syndrome after a national risk reduction campaign. Design: Two year population based case-control study. Parental interviews were conducted for each infant who died and for four controls matched for age and date of interview. Setting: Three regions in England with a total population of 17 million people. Subjects: 195 babies who died and 780 matched controls. Results: Prone and side sleeping positions both carried increased risks of death compared with supine when adjusted for maternal age, parity, gestation, birth weight, exposure to smoke, and other relevant factors in the sleeping environment (multivariate odds ratio = 9.00 (95% confidence interval 2.84 to 28.47) and 1.84 (1.02 to 3.31), respectively). The higher incidence of side rather than prone sleeping led to a higher population attributable risk (side 18.4%, prone 14.2%). More of the infants who died were found with bed covers over their heads (21.58; 6.21 to 74.99). The use of a dummy had an apparent protective effect (0.38; 0.21 to 0.70). Bed sharing for the whole night was a significant risk factor for infants whose mothers smoked (9.25; 2.31 to 34.02). No protective effect of breast feeding could be identified on multivariate analysis. Conclusions: This study confirms the importance of certain risk factors for the sudden infant death syndrome and identifies others - for example, covers over the head, side sleeping position - which may be amenable to change by educating and informing parents and health care professionals. (Author)

960723-125

Sudden infant death syndrome: after the 'back to sleep' campaign. Dwyer T, Ponsonby AL (1996), BMJ vol 313, no 7051, 27 July 1996, pp 180-181

Commentary on two papers in this issue of the BMJ (1,2) which present the findings from a two year case-control study conducted in England after the 'back to sleep' campaign was launched. 1. Fleming PJ et al. Environment of infants during sleep and risk of the sudden infant death syndrome: results of 1993-5 case-control study for confidential inquiry into stillbirths and deaths in infancy. BMJ, vol 313, no 7051, 27 July 1996, pp 191-195. 2. Blair PS et al. Smoking and the sudden infant death syndrome: results from 1993-5 case-control study for confidential inquiry into stillbirths and deaths in infancy. BMJ, vol 313, no 7051, 27 July 1996, pp 195-198. (SJH)

960715-024

Sudden infant death syndrome declines in USA. Rowe PM (1996), Lancet vol 348, no 9019, 6 July 1996, p 49


Sudden infant death rates in the USA have declined by 30% since 1993. Since the American Academy of Pediatrics recommended placing infants on their backs, the prevalence of prone-sleeping infants has declined from 70% to under 30%. (SJH)

960613-122

Risk factors for sudden infant death syndrome: further change in 1992-3. Hiley CMH, Morley CJ (1996), BMJ vol 312, no 7043, 1 June 1996, pp 1397-1398

Update of information (1) on changes in risk factors for sudden infant death syndrome in three East Anglian health

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960608-037

Prone sleep position and the sudden infant death syndrome in King County, Washington: a case-control study. Taylor JA, Krieger JW, Reay DT, and others (1996), Journal of Pediatrics vol 128, no 5, part 1, May 1996, pp 626-630

Objective: To determine whether the prone sleep position was associated with an increased risk of the sudden infant death syndrome (SIDS). Study design: Population-based case-control study. Participants: Case subjects were infants who died of SIDS in King County, Washington. Control subjects were randomly selected infants born in King County. Up to four control subjects were matched on date of birth to each case subject. Methods: During the study period, November 1992 through October 1994, sleep-position data were collected on infants who died of SIDS by the King County Medical Examiner's Office during their investigation of the deaths. Parents of infants chosen as control subjects were contacted by telephone, and sleep position information was obtained. Infants who usually slept on their abdomen were classified as sleeping prone; those who usually slept on the side or back were categorized as sleeping nonprone. The adjusted odds ratio for prone sleep position as a risk factor for SIDS was calculated with conditional logistic regression after control for race, birth weight, maternal age, maternal marital status, household income, and maternal cigarette smoking during pregnancy. Results: Sleep position data were collected on 47 infants with SIDS (77% of eligible infants) and 142 matched control subjects; 57.4% of infants who died of SIDS usually slept prone versus 24.6% of control subjects ($p < 0.00001$). The unadjusted odds ratio for prone sleep position as a risk factor for SIDS was 4.69 (95% confidence interval: 2.17, 10.17). After control for potentially confounding variables, the adjusted odds ratio for prone sleep position was 3.12 (95% confidence interval: 1.08, 9.03). Conclusion: Prone sleep position was significantly associated with an increased risk of SIDS among a group of American infants. (Author)

960608-036

Face-straight-down and face-near-straight-down positions in healthy, prone-sleeping infants. Waters KA, Gonzalez A, Jean C, and others (1996), Journal of Pediatrics vol 128, no 5, part 1, May 1996, pp 616-625

Objective: To determine the frequency and physiologic consequences of the face-straight-down (FSD) position, a postulated mechanism for the sudden infant death syndrome in prone-sleeping infants. Study design: A survey of 151 infants, aged 1 to 7 months, in Montreal showed that 33% slept prone. Ten healthy prone-sleeping infants were studied in their homes at age 10 to 22 weeks. Infrared video and cardiorespiratory recordings were made on 3 consecutive nights in the prone (nights 1 and 3) and lateral (night 2) positions. Results: Infants maintained the prone position during 17 of 19 studies, but only 4 of 9 infants maintained the lateral position. The FSD position was observed 27 times in 17 prone nights: median frequency, 0.6 times per night (interquartile range, 0 to 4), and median total duration, 3.3 minutes (0.8% of total sleep time). A related position, the face-near-straight-down (FNSD) position, occurred more often, 5.3 (1 to 10) times per prone night, for 22.4 minutes (5.8% of total sleep time). Most periods in the FSD or FNSD position had no physiologic consequences; however, 14% of FSD and 3% of FNSD episodes were associated with airway obstruction as indicated by snoring, paradoxical respiratory movements, apnea, and/or increased partial pressure of transcutaneous carbon dioxide. Spontaneous arousal and head turning terminated the FSD and FNSD episodes. Conclusion: The FSD and FNSD positions occur commonly in healthy prone-sleeping infants, and these positions can cause airway obstruction. We speculate that those infants with sudden infant death syndrome found in the FSD or FNSD position either have a congenital or an acquired defect in the arousal-head turning response or have encountered insurmountable environmental factors that prevent effective head turning. (Author)

960608-034

Prone sleeping in healthy infants and victims of sudden infant death syndrome. Hunt CE (1996), Journal of Pediatrics vol 128, no 5, part 1, May 1996, pp 594-596

Discussion of recent evidence regarding sleep position and its relationship to risk of sudden infant death. (14 references) (KL)

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960608-019*

Sudden infant death syndrome: an update. Chantler S (1996), Hospital Update vol 22, no 6, June 1996, pp 212, 214-216

Sudden infant death is a distressing and mysterious syndrome. Dr Chantler reviews what is known about the condition and describes recent discoveries. (Author)

960607-007

Child care practices and cot death in Hong Kong. Nelson EAS, Chan PH (1996), New Zealand Medical Journal vol 109, no 1020, 26 April 1996, pp 144-146

Aims: To document child care practices in Hong Kong which has a very low SIDS rate of 0.3/1000 live births. Methods: Data were collected by interview and postal questionnaires using a protocol developed in southern New Zealand. 195 mothers were recruited at the Prince of Wales Hospital and 100 completed the study. Results: 81% babies slept in the parents room. 32% shared a bed with parents but only a third were described as being 'in direct contact'. Only 9% of infants were still breastfeeding by 4 weeks of age. 78% of babies slept on their backs, 18% on their sides and 3% on the fronts. Sheepskins were not used and 56/58 described underbedding as firm or moderately firm. At the time of birth only 3% of mothers smoked. Conclusions: Certain SIDS risk factors (bedsharing, lack of breast feeding) are common in Hong Kong, whereas others (prone sleep position, soft underbedding, maternal smoking) appear uncommon. (Author)

960603-078

Sudden infant death syndrome. Brooke H (1996), World Health no 2, March-April 1996, pp 16-17

Commonly known as 'cot deaths', the Sudden Infant Death Syndrome is remarkable for its widely different rates between various ethnic groups. The baby's sleeping position and whether or not the mother smokes appear to have a direct bearing on those rates. (Author)

960425-012

The mystery of SIDS. Horgan J (1995), Scientific American vol 273, 1995, part 2, 1995, pp 16-18

Following a case in which a mother was found guilty of murdering her five children who were thought to have suffered sudden infant deaths 20 years ago, doubts have been cast on how far apnoea is a risk factor for sudden infant death. Studies in the United States have failed to replicate European evidence that sleeping on the front is a risk factor for sudden infant death. (KL)

960419-091

[Infant sleeping practices in the United States]. (1996), Birth vol 23, no 1, March 1996, p 49

A congressional briefing on sudden infant death held in October 1995 was told that, following recommendations by the American Academy of Pediatrics, 70% of infants are now placed on their backs or sides to sleep, compared with an earlier figure of 30%. Preliminary figures for sudden infant death in 1993-94 show a significant drop compared with previous years. (KL)

960227-007

Co-sleeping: instinct is enough. (1996), Mothers Know Best vol 1, no 8, January 1996, p 12

Discussion of some recent evidence for the influence of co-sleeping for the reduction of risk of sudden infant death. (KL)

960211-016

New Zealand's SIDS prevention program and reduction in infant mortality. Davidson-Rada J, Caldis S, Tonkin SL (1995), Health Education Quarterly vol 22, no 2, May 1995, pp 162-171

New Zealand has suffered a very high mortality rate from sudden infant death syndrome (SIDS), also known as 'crib

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death' or 'cot death'. This prompted the development of the New Zealand Cot Death Study, a case-controlled epidemiological study. The preliminary findings of this study identified three risk behaviors potentially amenable to modification: prone sleeping position of the infant, maternal smoking, and not breastfeeding. These findings were discussed with the major stakeholders of child health. The Department of Health coordinated the development of a health education SIDS prevention program. Since the Help Prevent Cot Death Programme was launched in February 1991, the rate of total infant deaths, which was 10.1/1000 live births in 1987, fell to 7.6/1000 live births in 1991. The SIDS rate fell from 4.2/1000 in 1987 to 2.5/1000 in 1991. It is suggested that the described health education program had a significant influence on this improvement in infant survival. (Author)

960206-003

A community-based survey of infant sleep position. Chessare JB, Hunt CE, Bourguignon C, and others (1995), *Pediatrics* vol 96, no 5, part 1, November 1995, pp 893-896

Objective: To determine prevalent infant sleep positions before and after the American Academy of Pediatrics position statement of 1992 and to identify determinants of sleep position. **Method:** Design: cross-sectional survey. **Setting:** private and hospital-sponsored general pediatric offices. **Participants:** parents of infants younger than 7 months of age. **Results:** Eight hundred fifty-two care givers completed surveys during the 5-week study. Fifty-four percent of the study infants were put to sleep in the prone position. In 416 families with more than one child, however, 75% of the youngest siblings had been put to sleep in the prone position at the same age. Gender, race, family income, maternal smoking, and birth weight were not associated with choice of sleep position. **Conclusions:** There has been a change in infant sleep positioning in the desired direction since the American Academy of Pediatrics statement. However, 54% of the study infants were still being put to sleep prone. (Author)

960129-004

Infant sleep position and the sudden infant death syndrome. Carolan PL, Moore JR, Luxenberg MG (1995), *Clinical Pediatrics* vol 34, no 8, August 1995, pp 402-409


A questionnaire survey was conducted to assess the impact of the April 1992 American Academy of Pediatrics Task Force Statement, 'Infant Positioning and SIDS,' on the routine advice provided by pediatricians in Minnesota to families with newborn infants regarding sleep practices, including sleep position. There was a trend toward more discussion between all pediatric practice groups and families regarding infant sleep practices following the AAP Sleep Position Statement ($P < 0.001-0.003$). Prone sleep recommendations ranged from 9.2% for newborn infants to 21.4% for infants 6 months of age. Pediatricians in private practice were more likely to identify the AAP Statement as establishing a medicolegal standard ($P < 0.05$). We conclude that the 1992 AAP Statement has had a significant impact on the routine advice provided to families regarding infant sleep practices, including infant sleep position. (Author)

960115-090


Play position is influenced by knowledge of SIDS sleep position recommendations. Mildred J, Beard K, Dallwitz A, and others (1995), *Journal of Paediatrics and Child Health* vol 31, no 6, December 1995, pp 499-502

Objective: This study determined whether knowledge of sleeping in the prone position as a risk factor for sudden infant death syndrome (SIDS) influences caregivers' positioning of their infants for play and sleep. **Methodology:** One hundred caregivers attending Adelaide Metropolitan Child Adolescent and Family Health Services (CAFHS) were surveyed by self-administered questionnaire. **Results:** Ninety-three per cent of parents reported that their knowledge of SIDS influenced infant positioning for sleep and 84% reported they never put their infant in the prone position for sleep. Thirty seven per cent reported that SIDS knowledge did influence play positioning and 26% reported never placing their infant prone for play. There was a significant association ($P = 0.002$) between the influence of SIDS knowledge on play positioning and avoidance of the prone position for play. **Conclusions:** Community educators may need to clarify that prone positioning for play is not a risk factor for SIDS and that it is desirable for infants to spend supervised wakeful time in the prone position. (Author)

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960107-033

Infant room-sharing and prone sleep position in sudden infant death syndrome. Scragg RKR, Mitchell EA, Stewart AW, and others (1996), Lancet vol 347, no 8993, 6 January 1996, pp 7-12

Background: There is evidence that the risk of sudden infant death syndrome is lower among ethnic groups in which parents generally share a room with the infant for sleeping. We investigated whether the presence of other family members in the infant's sleeping room affects the risk of the sudden infant death syndrome. Methods: The case-control study covered a region with 78% of all births in New Zealand during 1987-90. Home interviews were completed with parents of 393 (81.0% of total) babies who died from the sudden infant death syndrome aged 28 days to 1 year and 1592 (88.4% of total) controls, selected from all hospital births in the study region. Findings: The relative risk of sudden infant death for sharing the room with one or more adults compared with not sharing was 0.19 (95% CI 0.08-0.45) for sharing at night during the last 2 weeks and 0.27 (0.17-0.41) for sharing in the last sleep, after control for other confounders. Sharing the room with one or more children did not affect the relative risk (1.25 [0.86-1.82] for sharing during last 2 weeks; 1.29 [0.85-1.94] for sharing in last sleep). There was a significant interaction ($p = 0.033$) between not sharing the room with an adult and prone sleep position in the last sleep. Compared with infants sharing the room with an adult and not prone, the multivariate relative risk was 16.99 (10.43-27.69) for infants not sharing with an adult and prone, 3.28 (2.06-5.23) for infants sharing the room and prone, and 2.60 (1.58-4.30) for infants not sharing the room and not prone. The interaction between adult room-sharing and prone sleep position suggests that both exposures may affect the risk of sudden infant death syndrome through a common mechanism. Interpretation: We recommend that infants sleep in the same bedroom as their parents at night to reduce the risk of sudden infant death syndrome. (Author)

960107-032

Bed-sharing and sudden infant death. Pharoah P (1996), Lancet vol 347, no 8993, 6 January 1996, p 2

Commentary on an article in this issue (1), and general discussion of evidence for risk factors of sudden infant death.

1. RKR Scragg et al. Infant room sharing and prone sleep position in sudden infant death syndrome. Lancet, vol 347, no 8993, 6 January 1996, p 7. (KL)

951211-037

What do mothers remember about the 'back to sleep' campaign?. Hiley CMH, Morley C (1995), Archives of Disease in Childhood vol 73, no 6, December 1995, pp 496-497

A campaign was launched by the Department of Health late in 1991 to advise mothers how to reduce the risk of cot death. Objective: To investigate whether mothers remember receiving this advice, their sources of information, and the advice they were given. Setting: Questionnaires filled in by mothers of babies born in three maternity units in East Anglia. Method: 450 mothers of full term babies born throughout 1992 were enrolled. All of them should have received the information. They were sent a questionnaire when their baby was 6 months old. Results: 399 (89%) questionnaires were analysable. Sources of information were: television, 72%; magazines, 59%; midwives, 55%; health visitors, 48%; and doctors, 11%. 23% said they received no advice from a health professional about reducing the risk of cot death. Doctors, who had all been informed by the Department of Health, were surprisingly poor at passing on the information. Advice on sleeping position was remembered by 72%, overheating by 60%, and smoking by 35%. Problems in following the advice were reported by only 5% of mothers. Conclusions: The media was most influential in spreading the new advice. Basic infant care advice is not the preserve of doctors. (Author)

951023-045

CO2 rebreathing: a possible contributor factor to some cases of sudden infant death?. Skadberg BT, Oterhals A, Finborud K, et al (1995), Acta Paediatrica vol 84, no 9, September 1995, pp 988-995

Physical and geometrical conditions influencing carbon dioxide (CO₂) accumulation near the face of a sleeping infant positioned deep in a cot or pram (open cot shaft) or underneath bedding (closed cot shaft) were investigated. By means of mathematical and data-based simulation, and an experimental rebreathing model, both hypothetical (dry,

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exhaled air + 20oC, room temperature + 20oC) and more physiological conditions (heated, humidified exhaled air, room temperature + 20oC; with and without pooling of cold air within the shaft) were tested. With exhaled air at + 20oC, the CO2 concentration increased to about 10% within 5 min. The increase was faster the smaller the volume, and the smaller the opening of the cot shaft. When expiratory air was heated, the CO2 concentration increased with the same speed as when the shaft was closed, but to only 0.1-0.3% when the shaft was open. Pooling of cold air in the shaft increased CO2 accumulation 70-200 times the concentration in air (to < 5.5%) when the shaft was open. Turbulence of the air outside the open shaft reduced the increase in CO2 concentration. The experiments imply that CO2 may accumulate around an infant's head when placed deep in a cot or pram with the bedding and walls creating a narrow, vertical, shaft-like tunnel to the surrounding air. Although the CO2 concentration may theoretically attain dangerous levels in such circumstances, a rapid equilibrium between the air within and outside the cot usually occurs due to convection of the expiratory air and turbulence from drafts, the infant's body movements and breathing. Such factors will largely eliminate any significant rebreathing with the exception of the extreme situation when expired air is contained within a closed space. (Author)

950921-050

Accidental death or sudden infant death syndrome?. Beal SM, Byard RW (1995), *Journal of Paediatrics and Child Health* vol 31, no 4, August 1995, pp 269-271

Objective: To describe the reasons why it is difficult to decide whether to attribute some infant deaths to accidents or to SIDS. Methodology: To extract from infant deaths data in South Australia those where the cause of death is debatable. Results: The risks associated with rocking cradles, bed sharing, bedclothes, couch sleeping, unsafe cots or beds and the prone position are presented. Conclusions: Uniform worldwide death scene investigations for all infant deaths should help identify unsafe sleeping conditions for infants. (Author)

950717-134

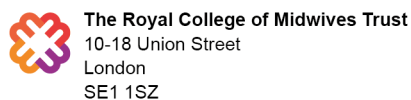
A case-control study of routine and death scene sleep position and sudden infant death syndrome in Southern California. Klonoff-Cohen HS, Edelstein SL (1995), *JAMA (Journal of the American Medical Association)* vol 273, no 10, 8 March 1995, pp 790-794

Objective: To investigate whether infants who died of sudden infant death syndrome (SIDS) were routinely placed in different sleep positions compared with healthy infants in a multiethnic diverse population in the United States. Design: A population-based case control study. Setting: Five counties in Southern California including Los Angeles, Orange, San Bernardino, Riverside, and San Diego. Participants: Parents of 200 white, African-American, Hispanic, and Asian infants who died of SIDS between January 1989 and December 1992 and parents of 200 healthy, living infants matched on the basis of birth hospital, birth date, race, and gender. Information was obtained from detailed telephone interviews with the parents and validated with obstetric and pediatric records. Main Outcome Measures: Routine sleep position, type of bedding, and objects in bed were determined for both case and control infants, while the last-placed and found sleep and face positions at death were reported for SIDS infants. Results: Approximately 66% of SIDS infants and 64% of comparison infants routinely slept on their abdomens (P = .91). At the time of death, 80% of cases were found sleeping on their abdomens. There was no difference in routine sleep position for SIDS infants and comparison infants (odds ratio = 0.76; 95% confidence interval, 0.42 to 1.38), while simultaneously adjusting for birth weight (in grams), medical conditions at birth, breast-feeding, passive smoking, maternal recreational drug use, prenatal care, and infant vomiting. Hispanic parents routinely placed their infants on their abdomens less frequently than white parents (P < .01). However, the prone sleep position (face down) was the most commonly found sleep position at death in both Hispanic and non-Hispanic infants. Conclusions: Routine prone sleep position was not associated with an increased risk of SIDS in this study population. The results need to be confirmed with other parents of SIDS infants interviewed before the height of publicity regarding prone sleep position in the United States. (Author)

950717-133

The contribution of changes in the prevalence of prone sleeping position to the decline in sudden infant death

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syndrome in Tasmania. Dwyer T, Ponsonby AL, Blizzard L, and others (1995), JAMA (Journal of the American Medical Association) vol 273, no 10, 8 March 1995, pp 783-789

Objective: To determine the independent contribution of changes in infant sleep position to the recent decline in sudden infant death syndrome (SIDS) rate in Tasmania. **Design:** (1) A comparison of the whole population incidence of SIDS before and after an intervention to reduce the prevalence of prone sleeping position. (2) A within-cohort analysis of the contribution of sleep position and other exposures to the decline in SIDS after the intervention. **Setting:** Tasmania, Australia. **Participants:** (1) All SIDS cases from 1975 through 1992. (2) A sample of one in five infants born in Tasmania who at perinatal assessment were scored to be at higher risk for SIDS since January 1988. Of 5534 infants included in the study, 39 later died of SIDS. **Interventions:** Multiple public health activities to reduce the prevalence of the prone infant sleeping position in Tasmania and verbal information on the association between prone position and SIDS to cohort participants from May 1, 1991. **Main Outcome Measure:** Sudden infant death syndrome incidence. **Results:** The Tasmanian SIDS rate decreased ($P < .01$) from 3.8 (95% confidence interval [CI], 3.5 to 4.2) deaths per 1000 live births from 1975 through 1990 to a rate of 1.5 (95% CI, 0.9 to 2.2) deaths per 1000 live births from 1975 through 1990 to a rate of 1.5 (95% CI, 0.9 to 2.2) deaths per 1000 live births in 1991 through 1992. The SIDS mortality rate in the cohort by period of birth was 7.6 (95% CI, 4.9 to 10.3) deaths per 1000 live births for those born from May 1, 1988, through April 30, 1991, through October 31, 1992. The prevalence of usual prone sleeping position at 1 month of age was 29.9% and 4.3% in these two cohorts, respectively (adjusted odds ratio, 0.11; 95% CI, 0.08 to 0.13). Logistic regression demonstrated that 70% of the SIDS rate reduction in the cohort could be accounted for by the decreased prevalence of the prone sleeping position. Other factors examined individually contributed to less than 10% of the SIDS rate reduction. **Conclusions:** The major contributing factor to the recent SIDS rate decline in Tasmania has been the reduction in the proportion of infants usually sleeping prone. (Author)

950713-001

The Tasmanian SIDS case-control study: univariable and multivariable risk factor analysis. Ponsonby A-L, Dwyer T, Kasl SV, and others (1995), Paediatric and Perinatal Epidemiology Vol 9, no 3, July 1995, pp 256-272

Summary: A population-based retrospective case-control study has been conducted in Tasmania since October 1988. Study measurements pertained to the scene of death of last sleep, as well as a verbal questionnaire on relevant exposures. From 1 October 1988 to 1 October 1991, 62 cases of sudden infant death syndrome (SIDS) occurred. Case response rate for retrospective interviews was 94% (58/62). The initial control response rate was 84% (101/121). After stratification for maternal age and birthweight, there was no increase in risk associated with the usual side position (odds ratio [OR] 1.05 [0.27, 5.02], compared with the supine position (OR 1.00, reference). The prone position was associated with increased risk [OR 5.70(1.67, 25.58)], relative to the supine position. In the final multivariable model, predictors of SIDS in this study were usual prone position ($P < 0.001$), maternal smoking ($P = 0.008$), a family history of asthma ($P = 0.0045$) and bedroom heating during last sleep ($P = 0.039$). Protective factors were maternal age over 25 years ($P = 0.013$) and more than one child health clinic attendance ($p = 0.003$). The results provide further support for current health education activities which aim to inform parents of modifiable risk factors for SIDS, including the prone sleeping position, thermal stress and infant exposure to tobacco smoke. (Author)

950624-031

Sleeping position and sudden infant death syndrome in Norway 1967-91. Irgens LM, Markestad T, Baste V, and others (1995), Archives of Disease in Childhood vol 72, no 6, June 1995, pp 478-482

Objective: To investigate, in a population based national study, the association between sleeping position of infants and the occurrence of sudden infant death syndrome (SIDS). **Design:** A retrospective survey and registry based ecological study. A questionnaire based surveillance of sleeping position was obtained in a random sample ($n = 34,799$) and surveillance of SIDS was based on all infants born in Norway 1967-91, surviving the perinatal period. **Variables studied from the questionnaire** were usual sleeping position (placed), breast feeding at 3 months, and maternal smoking in pregnancy, and from the Medical Birth Registry maternal age, birth order, and birth weight. **Results:** Proportion of infants sleeping prone increase from 1970 (7.4%) to 1989 (49.1%) and dropped in 1990 (26.8%) and 1991 (28.3%). Occurrence of SIDS increased from 1970 (1.1/1000) to 1989 (2.0) before dropping in 1990 and 1991

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(1.1). Implication and relevance of results: A cause effect relationship between prone sleeping and SIDS as suggested in previous studies is supported by the present, and so far only, national study of infants' sleeping position. (Author)

950518-065

An audit of the sudden infant death syndrome prevention programme in the Auckland region. Obdeijn MC, Tonkin S, Mitchell EA, and others (1995), New Zealand Medical Journal vol 108, no 996, March 1995, pp 99-101

Aim: An audit of the sudden infant death syndrome (SIDS) prevention programme in the Auckland region. Methods: 107 health professionals working in antenatal classes, postnatal wards, domiciliary midwifery and the Plunket Society were interviewed. Results: Maternal smoking and infant sleeping position were considered to be the most important risk factors for SIDS; lack of breast feeding and cosleeping were rated less important. Many other putative risk factors were also mentioned. There was no difference in the evaluation of the relative importance of risk factors for SIDS by health professionals working in south Auckland, where SIDS mortality has declined only slightly, compared with the evaluation by health professionals in the rest of Auckland, where SIDS mortality has declined considerably. The most important source of information for health professionals was the pamphlet 'Cot death: you can reduce the risks', which is designed for parents. Conclusion: Differences in the SIDS prevention message by health professionals do not explain differences in SIDS mortality within Auckland. Health professionals were knowledgeable about risk factors for SIDS, but knowledge could be improved further by regular updates. New resource material including posters and pamphlets for families is also required. (Author)

950518-050

Confidential inquiries into cot deaths in British Forces Germany. Miller SA St J (1995), Journal of the Royal Army Medical Corps vol 141, no 1, February 1995, pp 37-39

Confidential inquiries into cases of cot death in British Forces Germany were introduced in 1990. The information which has been collected so far suggests that the current attention to the position in which a baby is placed in a cot, the prevention of overheating and the avoidance of cigarette smoke, is not misplaced. Despite the considerable reduction in the cot death rate which has occurred in British Forces Germany since 1990 it is recommended that confidential inquiries should be continued so that possible opportunities to further reduce the risks are not missed. (Author)

950501-141


Arterial oxygen saturation in infants at risk of sudden death: influence of sleeping position. Poets CF, Rudolph A, Neuber K, and others (1995), Acta Paediatrica vol 84, no 4, April 1995, pp 379-382

To study the possible influence of sleeping position on arterial oxygen saturation, measured by pulse oximetry (SpO₂), 7-h overnight recordings of breathing movements and ECG were performed in 43 infants (median age 2.4 months, range 0.2-11 months) at increased risk of sudden infant death syndrome (SIDS). Infants were randomly allocated to start sleeping either in their usual sleeping position or in the opposite position. After 3.5 h, all infants were gently turned over. Thus, each infant served as their own control. Recordings were analysed for sleep time, baseline SpO₂ (only during regular breathing), and the number and duration of desaturations (a decrease in SpO₂ to < 80%). In the prone position, a significantly higher proportion of time was spent asleep (median 79% versus 70%; p < 0.05). Median baseline SpO₂ was 98.8% (91.7-100%) in the prone and 99.0% (92.0-100%) in the supine position(ns). A total of 191 desaturations were found in 29 recordings; 96 in the prone and 95 in the supine position(ns). One infant subsequently died of SIDS while sleeping in the prone position. He had a relatively high number of desaturations (n = 12) which all occurred in the prone position. These results confirm earlier studies which could not find a significant influence of sleeping position on baseline oxygenation. The occurrence of desaturations in the prone position only in the infant who subsequently died requires further investigation. (Author)


950501-140

Sleeping position and sudden infant death syndrome (SIDS): effect of an intervention programme to avoid prone

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sleeping. Markestad T, Skadberg B, Hordvik E, and others (1995), Acta Paediatrica vol 84, no 4, April 1995, pp 375-378

The proportion of prone sleeping among sudden infant death syndrome (SIDS) victims and infants in general, and the rate of SIDS were prospectively studied in the county of Hordaland, Norway, three years before (1987-89) and three years after (1990-92) a campaign to discourage prone sleeping. Before the campaign, 64% of random reference infants were put prone versus 8% after ($p < 0.0001$). Concurrently, the rate of SIDS decreased from 3.5 to 1.6 per 1000 live births (63 infants before and 30 after the campaign, $p = 0.0002$). Prone sleeping was not considered a statistically significant risk factor for SIDS before (OR 2.0, 95% CI 0.8-4.5), but was highly significant (OR 11.3, 95% CI 3.6-36.5) after the campaign. Prone sleeping is an important risk factor for SIDS, but the association may be missed in epidemiological studies if prone is the predominant sleeping position. Behaviour with regard to sleeping position may be changed rapidly by means of a simple campaign. (Author)

950403-128

Lower body temperature in sleeping supine infants. North RG, Petersen SA, Wailoo MP (1995), Archives of Disease in Childhood vol 72, no 4, April 1995, pp 340-342

Night time rectal temperature recordings were made from 103 infants sleeping in their own home in different sleeping positions. In most cases sleeping position was verified by video monitoring throughout the night. In the period before an adult-like night time body temperature pattern appeared there was no significant effect of sleeping position upon night time body temperature, in line with previous reports. Once an adult-like night time temperature pattern appeared, infants sleeping supine reached significantly lower rectal temperatures than those sleeping prone or lateral. Babies sleeping supine moved significantly more during the night and were more likely to uncover their hands and arms. These findings suggest that supine sleepers are in a different physiological condition from those sleeping prone or lateral, which may be associated with their lower vulnerability to sudden unexpected infant death. (Author)

950326-028

Correlates of prone infant sleeping position by period of birth. Ponsonby AL, Dwyer T, Kasl SV, and others (1995), Archives of Disease in Childhood vol 72, no 3, March 1995, pp 204-208


Intervention to avoid the prone sleeping position during infancy has occurred in various countries after evidence that it increases the risk of sudden infant death syndrome (SIDS). This study examined cohort data to determine if correlates of the prone position differed by period of birth, before intervention (1 May 1988 to 30 April 1991) compared with after intervention (1 May 1991 to 30 April 1992). The usual prone sleeping position was more closely associated with the following factors after intervention: teenage motherhood, low maternal education, paternal unemployment, unmarried motherhood, non-specialist antenatal care, not reading books to prepare for a baby, poor smoking hygiene, and bottle feeding. For example, the association of usual prone position with being unmarried shown by the odds ratio (95% confidence interval) was 0.54 (0.47 to 0.63) in the period before intervention and 1.92 (1.18 to 3.15) in the period after intervention. The alteration in correlates of the prone position reported here provide an example to support the theoretical concept that well known 'modifiable' risk factors for disease tend to be associated with each other in both populations and individuals. This phenomenon was not evident in the population before intervention, that is, before the prone sleeping position became a well known SIDS risk factor. (Author)

950216-025


Infant sleep position: pediatricians' advice to parents. Hudak BB, O'Donnell J, Mazyrka N (1995), Pediatrics vol 95, no 1, January 1995, pp 55-58

Objective: The American Academy of Pediatrics' (AAP) recommendation for side or supine sleep position in healthy babies has generated much controversy. We surveyed primary care physicians to determine the effect of the AAP statement on physician attitude toward infant sleep position and advice to parents. Methods: We sent a 23-question survey to 194 physicians in Western New York. The survey addressed their attitude toward the AAP recommendations and its impact on their advice to parents. Results: Of the 149 physicians treating newborns, 121 (82%) completed the

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questionnaire; 98% were aware of the AAP statement. The most common sources of information were the AAP (86%) and professional literature (77%). Of the respondents, 79% agreed with the AAP statement. Reasons for reservation were lack of data (64%), potential adverse consequences of supine position (52%), and their own experience (47%). Gender, years in practice, and type of reimbursement did not influence attitude toward the AAP recommendation. The AAP statement increased the frequency with which physicians routinely discussed sleep position from 34 to 70% ($P < .02$). Physicians recommending the prone position decreased from 57 to 7% ($P < .001$), while those recommending supine sleep position increased from 10 to 42% ($P < .001$). Conclusions: Most physicians agreed with the AAP statement and more frequently discussed sleep position following the AAP recommendations. However, they did not routinely recommend supine sleep position. The majority (69%) recommended the side position even though it is unstable. Although the AAP statement has increased discussion of infant sleep position by primary care physicians in WNY, only a minority recommend that infants sleep supine. (Author)

2024-11364

Neonatal Mortality and Sudden Unexplained Death [written answer]. House of Commons (2024), Hansard Written question 5175, 10 September 2024

Karin Smyth responds to a written question from Victoria Collins to the Secretary of State for Health and Social Care, regarding whether he will launch a nationwide review of neonatal (a) mortality rates and (b) unexplained deaths. (JSM)

Full URL: <https://questions-statements.parliament.uk/written-questions/detail/2024-09-10/5175>

2024-11121

Evidence Base for 2022 Updated Recommendations for a Safe Infant Sleeping Environment to Reduce the Risk of Sleep-Related Infant Deaths. Moon RY, Carlin RF, Hand I, et al (2022), Pediatrics vol 150, no 1, July 2022, e2022057991

Every year in the United States, approximately 3500 infants die of sleep-related infant deaths, including sudden infant death syndrome (SIDS) (International Statistical Classification of Diseases and Related Health Problems 10th Revision [ICD-10] R95), ill-defined deaths (ICD-10 R99), and accidental suffocation and strangulation in bed (ICD-10 W75). After a substantial decline in sleep-related deaths in the 1990s, the overall death rate attributable to sleep-related infant deaths have remained stagnant since 2000, and disparities persist. The triple risk model proposes that SIDS occurs when an infant with intrinsic vulnerability (often manifested by impaired arousal, cardiorespiratory, and/or autonomic responses) undergoes an exogenous trigger event (eg, exposure to an unsafe sleeping environment) during a critical developmental period. The American Academy of Pediatrics recommends a safe sleep environment to reduce the risk of all sleep-related deaths. This includes supine positioning; use of a firm, noninclined sleep surface; room sharing without bed sharing; and avoidance of soft bedding and overheating. Additional recommendations for SIDS risk reduction include human milk feeding; avoidance of exposure to nicotine, alcohol, marijuana, opioids, and illicit drugs; routine immunization; and use of a pacifier. New recommendations are presented regarding noninclined sleep surfaces, short-term emergency sleep locations, use of cardboard boxes as a sleep location, bed sharing, substance use, home cardiorespiratory monitors, and tummy time. In addition, additional information to assist parents, physicians, and nonphysician clinicians in assessing the risk of specific bed-sharing situations is included. The recommendations and strength of evidence for each recommendation are published in the accompanying policy statement, which is included in this issue. (Author)

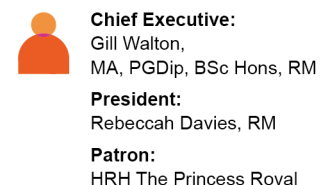
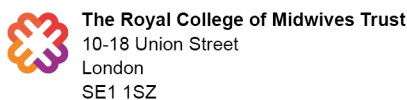
2024-11115

Sleep-Related Infant Deaths: Updated 2022 Recommendations for Reducing Infant Deaths in the Sleep Environment.

Moon RY, Carlin RF, Hand I, et al (2022), Pediatrics vol 150, no 1, July 2022, e2022057990

Each year in the United States, 3500 infants die of sleep-related infant deaths, including sudden infant death syndrome (SIDS) (International Classification of Diseases, 10th Revision [ICD-10] R95), ill-defined deaths (ICD-10 R99), and accidental suffocation and strangulation in bed (ICD-10 W75). After a substantial decline in sleep-related deaths in the 1990s, the overall death rate attributable to sleep-related infant deaths has remained stagnant since 2000, and disparities persist. The triple risk model proposes that SIDS occurs when an infant with intrinsic vulnerability (often

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manifested by impaired arousal, cardiorespiratory, and/or autonomic responses) undergoes an exogenous trigger event (eg, exposure to an unsafe sleeping environment) during a critical developmental period. The American Academy of Pediatrics recommends a safe sleep environment to reduce the risk of all sleep-related deaths. This includes supine positioning; use of a firm, noninclined sleep surface; room sharing without bed sharing; and avoidance of soft bedding and overheating. Additional recommendations for SIDS risk reduction include human milk feeding; avoidance of exposure to nicotine, alcohol, marijuana, opioids, and illicit drugs; routine immunization; and use of a pacifier. New recommendations are presented regarding noninclined sleep surfaces, short-term emergency sleep locations, use of cardboard boxes as a sleep location, bed sharing, substance use, home cardiorespiratory monitors, and tummy time. Additional information to assist parents, physicians, and nonphysician clinicians in assessing the risk of specific bed-sharing situations is also included. The recommendations and strength of evidence for each recommendation are included in this policy statement. The rationale for these recommendations is discussed in detail in the accompanying technical report. (Author)

2024-07416

Head midline position for preventing the occurrence or extension of germinal matrix-intraventricular haemorrhage in preterm infants (Cochrane Review). Romantsik O, Calevo MG, Bruschetti M (2020), Cochrane Database of Systematic Reviews issue 7, 7 July 2020, Art No.: CD012362

Background

Head position during care may affect cerebral haemodynamics and contribute to the development of germinal matrix-intraventricular haemorrhage (GM-IVH) in very preterm infants. Turning the head toward one side may occlude jugular venous drainage while increasing intracranial pressure and cerebral blood volume. It is suggested that cerebral venous pressure is reduced and hydrostatic brain drainage improved if the infant is cared for in the supine 'head midline' position.

Objectives

To assess whether head midline position is more effective than other head positions for preventing (or preventing extension) of GM-IVH in very preterm infants (< 32 weeks' gestation at birth).

Search methods

We used the standard search strategy of Cochrane Neonatal to search the Cochrane Central Register of Controlled Trials (CENTRAL; 2019, Issue 9), MEDLINE via PubMed (1966 to 12 September 2019), Embase (1980 to 12 September 2019), and the Cumulative Index to Nursing and Allied Health Literature (CINAHL; 1982 to 12 September 2019). We searched clinical trials databases, conference proceedings, and reference lists of retrieved articles.

Selection criteria

Randomised controlled trials (RCTs) comparing caring for very preterm infants in a supine head midline position versus a prone or lateral decubitus position, or undertaking a strategy of regular position change, or having no prespecified position. We included trials enrolling infants with existing GM-IVH and planned to assess extension of haemorrhage in a subgroup of infants. We planned to analyse horizontal (flat) versus head elevated positions separately for all body positions.

Data collection and analysis

We used standard methods of Cochrane Neonatal. For each of the included trials, two review authors independently extracted data and assessed risk of bias. The primary outcomes were GM-IVH, severe IVH, and neonatal death. We evaluated treatment effects using a fixed-effect model with risk ratio (RR) for categorical data; and mean, standard deviation (SD), and mean difference (MD) for continuous data. We used the GRADE approach to assess the certainty of evidence.

Main results

Three RCTs, with a total of 290 infants (either < 30 weeks' gestational age or < 1000 g body weight), met the inclusion

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criteria. Two trials compared supine midline head position versus head rotated 90° with the cot flat. One trial compared supine midline head position versus head rotated 90° with the bed tilted at 30°. We found no trials that compared supine versus prone midline head position.

Meta-analysis of three trials (290 infants) did not show an effect on rates of GM-IVH (RR 1.11, 95% confidence interval (CI) 0.78 to 1.56; $I^2 = 0\%$) and severe IVH (RR 0.71, 95% CI 0.37 to 1.33; $I^2 = 0\%$). Neonatal mortality (RR 0.49, 95% CI 0.25 to 0.93; $I^2 = 0\%$; RD -0.09, 95% CI -0.16 to -0.01) and mortality until hospital discharge (typical RR 0.50, 95% CI 0.28 to 0.90; $I^2 = 0\%$; RD -0.10, 95% CI -0.18 to -0.02) were lower in the supine midline head position. The certainty of the evidence was very low for all outcomes because of limitations in study design and imprecision of estimates. We identified one ongoing study.

Authors' conclusions

We found few trial data on the effects of head midline position on GM-IVH in very preterm infants. Although meta-analyses suggest that mortality might be reduced, the certainty of the evidence is very low and it is unclear whether any effect is due to cot tilting (a co-intervention in one trial). Further high-quality RCTs would be needed to resolve this uncertainty. (Author)

[This supersedes a previous Cochrane Review, <https://doi.org/10.1002/14651858.CD012362.pub2>, 20 July 2017.]

Full URL: <https://doi.org/10.1002/14651858.CD012362.pub3>

2024-05889

Community infant safe sleep and breastfeeding promotion and population level-outcomes: A mixed methods study.

Huber R, Menon M, Russell RB, et al (2024), *Midwifery* vol 132, May 2024, 103953

Problem

In the U.S., sudden unexpected infant deaths due to accidental suffocation and strangulation in bed are increasing. Though breastfeeding is a protective factor against sudden unexpected infant death, motivations to breastfeed often couple with unsafe infant sleep practices. Racial/ethnic disparities are present in sudden unexpected infant death, accidental suffocation and strangulation in bed, and breastfeeding.

Background

Promoting infant safe sleep and breastfeeding through community-level initiatives could address disparities in related outcomes.

Aim

Investigate the relationship between community-level strategies and associated state-level outcomes for infant safe sleep and breastfeeding.

Methods

We employed an intervention mixed methods framework and exploratory sequential design. The qualitative component entailed a hermeneutical phenomenological framework to analyze key informant interview data from seven U.S. community-level providers participating in a practice improvement initiative. The quantitative component entailed descriptively analyzing infant safe sleep and breastfeeding indicators from the 2019 Pregnancy Risk Assessment Monitoring System and Ohio Pregnancy Assessment Survey. Qualitative and quantitative data were linked through embedded integration.

Findings

We identified two mixed insights: gaps in promotion and outcomes, and persistent disparities between infant safe sleep and breastfeeding promotion and outcomes.

Discussion

Our findings indicate conversational approaches could improve infant safe sleep and breastfeeding promotion,

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outcomes, and relative disparities. We find that community collaboration is needed to address organizational capacity limitations in promoting infant safe sleep and breastfeeding.

Conclusion

Community-level organizations and providers should consider tailoring program offerings and care delivery to include conversational approaches and community collaboration to promote infant safe sleep and breastfeeding and decrease relative disparities in outcomes. (Author)

2024-04079

Higher awakening threshold of preterm infants in prone position may be a risk factor for SIDS. Ikels AK, Herting E, Stichtenoth G (2024), *Acta Paediatrica* vol 113, no 7, July 2024, pp 1562-1568

Aim

The supine sleeping position in the prevention of sudden infant death syndrome in preterm infants is poorly understood. We aimed to investigate the effect of sleep posture on cardiorespiratory parameters and movement patterns in preterm infants close to discharge.

Methods

This observational study included neonates born in 2022 at the University Hospital Schleswig-Holstein, Lübeck, Germany. Motion sensor data, heart rate, respiratory rate and oxygen saturation were recorded for infants with postconceptional age 35–37 weeks during sleep in the prone and supine positions.

Results

We recorded data from 50 infants, born at 31 (24–35) weeks of gestation (mean(range)), aged 5.2 ± 3.7 weeks (mean \pm SD), of whom 48% were female. Five typical movement patterns were identified. In the prone position, the percentage of calm, regular breathing was higher and active movement was less frequent when compared to the supine position. The percentage of calm irregular breathing, number of apnoeas, bradycardias, desaturations and vital sign changes were not influenced by position.

Conclusion

The prone position seems to be associated with a higher arousal threshold. The supine position appears advantageous for escape from life-threatening situations such as sudden infant death syndrome. (Author)

Full URL: <https://doi.org/10.1111/apa.17194>

2024-03390

Decorate the room, not the crib: Safer sleep practices help prevent sleep-related infant deaths. Perinatal Services BC (2024), *Perinatal Services BC* 14 March 2024

Guidance and resources for safer sleep practices can help contribute to decreasing sleep-related injuries and deaths amongst infants in Canada. PHSA employees share how they keep their baby's sleep space safe. (Author)

Full URL: <http://www.perinatalservicesbc.ca/about/news-stories/stories/decorate-the-room-not-the-crib-safer-sleep-practices-help-revent-sleep-related-infant-deaths>

2024-01499

An evaluation of factors associated with safe infant sleep practices among perinatal home visiting participants in Florida, United States. Dorjulus B, Prieto C, Elger RS, et al (2023), *Journal of Child Health Care* vol 27, no 1, March 2023, pp 78-90

Sleep-related deaths are a leading cause of infant mortality in Florida. The American Academy of Pediatrics recommends placing infants to sleep on their back, alone, and without soft bedding. Compliance with these guidelines varies among parents. This evaluation examined the rates of safe infant sleep practices and associated factors among 1985 participants enrolled in Florida Maternal, Infant, and Early Childhood Home Visiting (FL MIECHV) programs during 2017-2019. Participant- and program-level variables were examined in relation to three sleep

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practices: infant position, bedding, and bed-sharing at 2-3 months to determine which factors were associated with high rates of safe sleep outcomes. Analyses included univariate descriptive statistics, bivariate statistics, and multivariable logistic regression. Most caregivers (70%) reported always placing their babies to sleep on their back, alone, and without soft bedding. Factors such as primary language, race, education, housing situation, and year the Safe Baby™ curriculum implemented were significantly associated with safe infant sleep practices. Bearing this in mind, FL MIECHV can tailor safe sleep education, messaging, and strategies to support participants at highest risk. Recent adoption of the Safe Baby™ curriculum, and associated staff training, was an important factor influencing parents' infant sleep practices.

Keywords: Florida; infant mortality; parents; sleep. (Author)

2024-01187

Safety plea over co-sleeping baby deaths figures. Curran R (2024), BBC News 26 January 2024, online

Parents are being urged to heed advice on co-sleeping with babies after new infant death figures were released.

(Author)

Full URL: https://www.bbc.co.uk/news/uk-scotland-68101937?at_medium=RSS&at_campaign=KARANGA

2024-00906

“Things changed very quickly”: Maternal intentions and decision-making about infant sleep surface, location, and position. Ward TCS (2024), Birth vol 51, no 2, June 2024, pp 373-383

Introduction

Approximately 3400 infants die suddenly and unexpectedly each year in the United States; many of these deaths include modifiable risk factors (such as a non-supine position, sleeping on a soft surface, or loose bedding or items in the environment). Interventions have been successful at improving parental knowledge about recommendations to reduce risk of sleep-related infant deaths, as well as improving intention to adopt recommendations. However, follow-up studies have found a disconnect between knowledge/intentions to adhere to recommendations and actual practices. Exploring maternal decision-making about infant sleep practices can better elucidate the disconnect between knowledge of infant sleep recommendations and the practice of it, and thus, inform more effective safe sleep interventions. The purpose of this study was to gain a more in-depth understanding of decision-making around infant sleep practices, and barriers and facilitators to adopting safe infant sleep recommendations.

Methods

Semi-structured in-home interviews were conducted with 22 families (20 mothers and 2 mother–father dyads) of infants up to 6 months of age.

Results

Thematic analysis of the transcripts revealed six themes: Plans changed when baby came, Trying things to figure out what works (infant preferences), Safety concerns, What's comfortable for me (maternal preferences), They say...(advice), and Trying to be careful.

Conclusion

These results suggest that knowledge of infant sleep recommendations alone is not enough to ensure adherence and that decision-making is a dynamic and ongoing process affected by multiple factors. Findings have implications for timing and content of risk reduction efforts, as well as for data collection in research studies. (Author)

2024-00144

Improving Hospital Infant Safe Sleep Compliance by Using Safety Prevention Bundle Methodology. Batra EK, Lewis M, Saravana D, et al (2021), Pediatrics vol 148, no 6, December 2021, e2020033704

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BACKGROUND AND OBJECTIVES

Sudden unexpected infant death often results from unsafe sleep environments and is the leading cause of postneonatal mortality in the United States. Standardization of infant sleep environment education has been revealed to impact such deaths. This standardized approach is similar to safety prevention bundles typically used to monitor and improve health outcomes, such as those related to hospital-acquired conditions (HACs). We sought to use the HAC model to measure and improve adherence to safe sleep guidelines in an entire children's hospital.

METHODS

A hospital-wide safe sleep bundle was implemented on September 15, 2017. A safe sleep performance improvement team met monthly to review data and discuss ideas for improvement through the use of iterative plan-do-study-act cycles. Audits were performed monthly from March 2017 to October 2019 and monitored safe sleep parameters. Adherence was measured and reviewed through the use of statistical process control charts (p-charts).

RESULTS

Overall compliance improved from 9% to 72%. Head of bed flat increased from 62% to 93%, sleep space free of extra items increased from 52% to 81%, and caregiver education completed increased from 10% to 84%. The centerline for infant in supine position remained stable at 81%.

CONCLUSIONS

Using an HAC bundle safety prevention model to improve adherence to infant safe sleep guidelines is a feasible and effective method to improve the sleep environment for infants in all areas of a children's hospital. (Author)

2024-00137

Interconception Care and Safe Sleep: Adapting the IMPLICIT Toolkit for Pediatrics. Scott E, Casavan K, Swigonski N (2021), Pediatrics vol 148, no 5, November 2021, e2020016253

BACKGROUND

A woman's health in the interconception period has an impact on birth outcomes. Pediatric visits offer a unique opportunity to provide interconception care (ICC). Our aim was to screen and provide interconception and safe sleep screening, counseling, and interventions for 50% of caregivers of children <2 years of age in a pediatric medical setting.

METHODS

Two pediatric clinics implemented the March of Dimes' Interventions to Minimize Preterm and Low Birth Weight Infants Through Continuous Improvement Techniques (IMPLICIT) toolkit, in addition to standardized safe sleep assessments. A quality improvement learning collaborative was formed with a local "infant mortality champion" leading quality improvement efforts. Monthly webinars with the clinic teams reviewed project successes and challenges. Framework for Reporting Adaptations and Modifications was used to document adaptations.

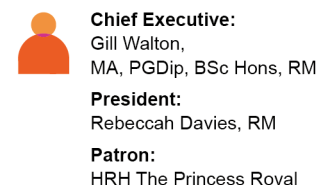
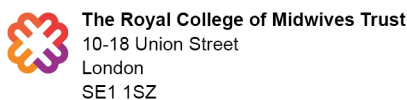
RESULTS

For each individual IMPLICIT domain, clinics screened and provided needed interventions for ICC and safe sleep in >50% of eligible encounters. Over the course of the quality improvement learning collaborative, the number of caregivers screened for at least 4 of the 5 IMPLICIT domains increased from 0% to 95%.

CONCLUSIONS

To successfully implement the IMPLICIT toolkit in pediatrics, adaptations were made to the existing model, which had previously been used in family medicine clinics. Pediatricians should consider providing ICC as an innovative way to impact infant mortality rates in their community. Framework for Reporting Adaptations and Modifications can be used to systematically describe the adaptations needed to improve the fit of IMPLICIT in the pediatric clinic, understand the process of change and potential application to local context. (Author)

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2024-00123

Half Century Since SIDS: A Reappraisal of Terminology. Shapiro-Mendoza CK, Palusci VJ, Hoffman B, et al (2021), *Pediatrics* vol 148, no 4, October 2021, e2021053746

After a sudden infant death, parents and caregivers need accurate and open communication about why their infant died. Communicating tragic news about a child's death to families and caregivers is difficult. Shared and consistent terminology is essential for pediatricians, other physicians, and nonphysician clinicians to improve communication with families and among themselves. When families do not have complete information about why their child died, pediatricians will not be able to support them through the process and make appropriate referrals for pediatric specialty and mental health care. Families can only speculate about the cause and may blame themselves or others for the infant's death. The terminology used to describe infant deaths that occur suddenly and unexpectedly includes an assortment of terms that vary across and among pediatrician, other physician, or nonphysician clinician disciplines. Having consistent terminology is critical to improve the understanding of the etiology, pathophysiology, and epidemiology of these deaths and communicate with families. A lack of consistent terminology also makes it difficult to reliably monitor trends in mortality and hampers the ability to develop effective interventions. This report describes the history of sudden infant death terminology and summarizes the debate over the terminology and the resulting diagnostic shift of these deaths. This information is to assist pediatricians, other physicians, and nonphysician clinicians in caring for families during this difficult time. The importance of consistent terminology is outlined, followed by a summary of progress toward consensus. Recommendations for pediatricians, other physicians, and nonphysician clinicians are proposed. (Author)

Full URL: <https://doi.org/10.1542/peds.2021-053746>

2024-00094

Transition to a Safe Home Sleep Environment for the NICU Patient. Goodstein MH, Stewart DL, Keels EL, et al (2021), *Pediatrics* vol 148, no 1, July 2021, e2021052046

Of the nearly 3.8 million infants born in the United States in 2018, 8.3% had low birth weight (<2500 g [5.5 lb]) and 10% were born preterm (gestational age of <37 completed weeks). Many of these infants and others with congenital anomalies, perinatally acquired infections, and other disease require admission to a NICU. In the past decade, admission rates to NICUs have been increasing; it is estimated that between 10% and 15% of infants will spend time in a NICU, representing approximately 500 000 neonates annually. Approximately 3600 infants die annually in the United States from sleep-related deaths, including sudden infant death syndrome International Classification of Diseases, 10th Revision (R95), ill-defined deaths (R99), and accidental suffocation and strangulation in bed (W75). Preterm and low birth weight infants are particularly vulnerable, with an incidence of death 2 to 3 times greater than healthy term infants. Thus, it is important for health care professionals to prepare families to maintain their infant in a safe sleep environment, as per the recommendations of the American Academy of Pediatrics. However, infants in the NICU setting commonly require care that is inconsistent with infant sleep safety recommendations. The conflicting needs of the NICU infant with the necessity to provide a safe sleep environment before hospital discharge can create confusion for providers and distress for families. This technical report is intended to assist in the establishment of appropriate NICU protocols to achieve a consistent approach to transitioning NICU infants to a safe sleep environment as soon as medically possible, well before hospital discharge. (Author)

2024-00079

Explaining Sudden Unexpected Infant Deaths, 2011–2017. Parks SE, Lambert ABE, Hauck FR, et al (2021), *Pediatrics* vol 147, no 5, May 2021, e2020035873

BACKGROUND:

Sudden unexpected infant death (SUID) represents a broad group of explained and unexplained infant deaths (<1 year old). Explaining why SUID occurs is critical to understanding etiology and prevention. Death certificate data cannot differentiate explained from unexplained SUID cases nor describe the surrounding circumstances. We report SUID rates by explained and unexplained categories and describe demographics and history of recent injury or illness using the Centers for Disease Control and Prevention SUID Case Registry.

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METHODS:

The registry is a population-based surveillance system built on Child Death Review programs. Data are derived from multiple sources, including death certificates, scene investigations, and autopsy reports. Cases included SUIDs reported by states or jurisdictions participating in the registry during 2011–2017. Cases were classified into explained and unexplained categories by using the registry's classification system. Frequencies, percentages, and mortality rates per 100 000 live births were calculated.

RESULTS:

Of the 4929 SUID cases, 82% were categorized as unexplained. Among all cases, 73% had complete case information. Most SUIDs (72%) occurred in an unsafe sleep environment. The SUID mortality rate was 97.3 per 100 000 live births. Among explained and possible suffocation deaths, 75% resulted from airway obstruction attributed to soft bedding.

CONCLUSIONS:

Unsafe sleep factors were common in explained and unexplained SUID cases, but deaths could only be classified as explained suffocation for 20% of cases. Further analysis of unexplained deaths, including continued improvements to death scene investigation and documentation, may generate hypotheses for physiologic and genetic research, advance our understanding of gaps in SUID investigation, and enhance our understanding of infants at highest risk.

(Author)

2023-11495

Changes in background characteristics and risk factors among SIDS infants in England: cohort comparisons from 1993 to 2020. Pease A, Turner N, Ingram J, et al (2023), BMJ Open vol 13, no 10, October 2023

Objectives Using the National Child Mortality Database, this work aims to investigate background characteristics and risk factors in the sleeping environment associated with sudden infant death syndrome (SIDS) and compare the prevalence with previous English SIDS case–control studies.

Design Cohort of SIDS in 2020 compared with a combined analysis of two case–control studies conducted in 1993–1996 and 2003–2006.

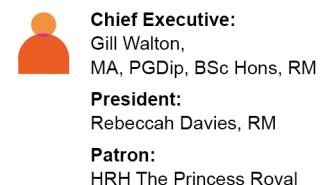
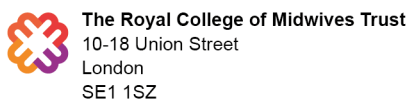
Setting England, UK

Participants 138 SIDS deaths in 2020 compared with 402 SIDS deaths and 1387 age-equivalent surviving controls, combined from previous studies.

Results The increased vulnerability of SIDS infants identified in previous studies has become more marked. The infants who died in 2020 were younger (median=66 days (IQR: 34–118) vs 86 days (IQR: 52–148), $p=0.003$) with an increased prevalence of low birth weight (30.5% vs 21.6%, $p=0.04$) and preterm births (29.6% vs 19.3%, $p=0.012$). The excess of socioeconomically deprived families, male infants and high levels of maternal smoking during pregnancy were still evident. Among recent deaths, fewer infants were put down or found on their side; however, there was no significant change in the proportion of infants who were put down (15.6% vs 14.6%, $p=0.81$) and found prone (40.4% vs 35.3%, $p=0.37$), despite population wide risk reduction advice over three decades. The proportional increase observed in 2003–2006 of half the deaths occurring while sleeping next to an adult was maintained in 2020, and for the vast majority (90%), this was in hazardous circumstances (adult had consumed alcohol, smoked, slept on a sofa, or the infant was premature or low birth weight and less than 3 months old). More deaths also occurred when there was a disruption in infant care routine compared with previous observations (52.6% vs 20.7%, $p<0.001$).

Conclusions A more targeted approach is needed with vulnerable families emphasising the importance of sleeping infants on their back and proactive planning infant sleep when there are disruptions to the normal routine, in particular to avoid hazardous co-sleeping. (Author)

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2023-10602

Assessment of mothers' awareness of sudden infant death syndrome and safe infant sleep practices in Palestine.

Almahmoud OH, Yaghmour IN, Shamasna HI, et al (2024), *Journal of Neonatal Nursing* vol 30, no 3, June 2024, pp 214-220

Objective

One of the major public health mysteries around the world is a subcategory of infant sleep-related deaths of unknown etiology termed Sudden Infant Death Syndrome (SIDS) which is a common leading cause of infant mortality worldwide and targets infants under a year of age while sleeping. Sleep environment plays a significant role in the risk of SIDS, mothers actions for creating safe infant sleep practices play a protective role in reducing SIDS occurrence. The knowledge gap centered on SIDS is not adequately researched or investigated in Palestine. Correspondingly, the study aims to assess mothers' awareness of SIDS and safe infant sleep practices.

Methods

A cross-sectional quantitative design was used. A self-reported questionnaire containing 30 items was distributed to childbearing mothers in various rural and urban areas in Palestine. The 1116 participants were selected based on a non-probability, convenience method in duration from April 1st, 2023 to June 19th, 2023.

Result

The data were analyzed through the SPSS program version 20; specifically, one-way ANOVA, independent sample T-tests, and Pearson's correlation test. The mother's total awareness and practice scores were coded into two categories: 1 signifying poor awareness or practice, and 2 signifying good awareness or practice. The mean total awareness was calculated to be 1.444, while the standard deviation came out to 0.497. The mean total practice was calculated to be 8.0789, while the standard deviation came out to 2.223. To further elaborate, 55.6% of the mothers showed poor awareness regarding SIDS. Moreover, 84.5% of the mothers revealed they had poor practices regarding safe infant sleep practices.

Conclusion

The study displayed a positive-moderate correlation between the mothers' awareness and practices. Specifically, mothers' had poor awareness in addition to poor practices. (Author)

2023-09448

Midwives' experiences of safer infant sleep discussions at a southwest London hospital: a work-based learning project. Jolly L, Gregory J (2023), *MIDIRS Midwifery Digest* vol 33, no 3, September 2023, pp 278-284

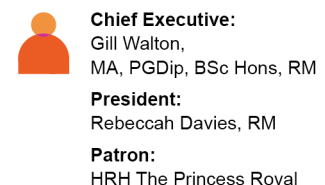
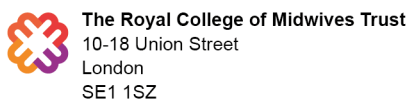
Sudden infant death syndrome (SIDS) is defined as 'the sudden unexpected death of an infant under one year of age, with onset of the fatal episode apparently occurring during sleep, which remains unexplained after thorough investigation' (Willinger et al 1991). The aim of this work-based learning (WBL) project was to review how the maternity workforce at a southwest London trust undertakes Safer Infant Sleep Discussions (SISD). Women's and midwives' experiences of SISD were explored to identify barriers and facilitators, alongside a review of interventions to assist midwives with SISD. Analysis of the results enabled quality improvement and practice-based recommendations with a reflection on the learning process. (Author)

2023-08570

Infant safe sleep interventions, 1990–2015: a review. Salm Ward TC, Balfour GM (2015), *Journal of Community Health* vol 41, 5 July 2015, pp 180-196

Sleep-related infant deaths remain a major public health issue. Multiple interventions have been implemented in efforts to increase adherence to safe sleep recommendations. We conducted a systematic review of the international research literature to synthesize research on interventions to reduce the risk of sleep-related deaths and their

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effectiveness in changing infant sleep practices. We searched PubMed, CINAHL, PsycINFO, and Google Scholar for peer-reviewed articles published between 1990 and 2015 which described an intervention and reported results. Twenty-nine articles were included for review. Studies focused on infant caregivers, health care professionals, peers, and child care professionals. Targeted behaviors included sleep position, location, removing items from the crib, breastfeeding, smoke exposure, clothing, pacifier use, and knowledge of Sudden Infant Death Syndrome. Most articles described multi-faceted interventions, including: one-on-one or group education, printed materials, visual displays, videos, and providing resources such as cribs, pacifiers, wearable blankets, and infant t-shirts. Two described public education campaigns, one used an educative questionnaire, and one encouraged maternal note taking. Health professional interventions included implementing safe sleep policies, in-service training, printed provider materials, eliciting agreement on a Declaration of Safe Sleep Practice, and sharing adherence data. Data collection methods included self-report via surveys and observational crib audits. Over half of the studies utilized comparison groups which helped determine effectiveness. Most articles reported some degree of success in changing some of the targeted behaviors; no studies reported complete adherence to recommendations. Future studies should incorporate rigorous evaluation plans, utilize comparison groups, and collect demographic and collect follow-up data. (Author)

Full URL: <https://doi.org/10.1007/s10900-015-0060-y>

2023-07297

Sudden Unexpected Infant Death: Keeping the Newborn Safe in Hospital and at Home. Kellams A, Feldman-Winter L (2021), *Clinics in Perinatology* vol 48, no 3, August 2021, pp 619-630

Sudden unexpected infant death is a leading cause of death in infancy. Both safe sleep practices and breastfeeding can help decrease the risk, although the current practice of educating parents about the recommendations has not resulted in universal adherence. Prenatal counseling provides opportunities to discuss recommendations as well as troubleshoot common barriers to breastfeeding and safe infant sleep with goals to gradually change attitudes, address social norms, and prepare new parents. A conversational, motivational approach to discussions about the importance of safe sleep and continued breastfeeding, with explanations as to the reasoning behind these recommendations, can help parents incorporate optimal practices into their lifestyles in a way that is sustainable for adherence. (Author)

2023-07091

The health impact of Scotland's Baby Box Scheme: a natural experiment evaluation using national linked health data. McCabe R (2023), *The Lancet Public Health* vol 8, no 7, July 2023, pp e504-e510

Background

Scotland's Baby Box Scheme (SBBS) is a national programme offering a box of essential items to all pregnant women in Scotland intended to improve infant and maternal health. We aimed to evaluate the effect of SBBS on selected infant and maternal health outcomes at population and subgroup levels (maternal age and area deprivation).

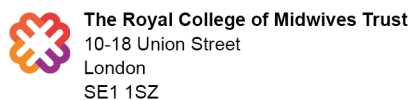
Methods

Our complete-case, intention-to-treat evaluation used national health data (from the Scottish Morbidity Record [SMR] 01, SMR02, and the Child Health Surveillance Programme-Pre School), linking birth records to postnatal hospitalisation and universal health visitor records in Scotland. We considered maternal–infant pairs of all live-singleton births 2 years either side of SBBS introduction (Aug 17, 2015, to Aug 11, 2019). We estimated step-changes and trend-changes in outcomes (hospital admission and self-reported exclusive breastfeeding, tobacco smoke exposure, and infant sleeping position) by week of birth using segmented Poisson regression, adjusting for over-dispersion and seasonality where necessary.

Findings

The analysis comprised 182 122 maternal–infant pairs. The prevalence of tobacco smoke exposure reduced after SBBS introduction: step decrease of 10% (prevalence ratio 0.904 [95% CI 0.865–0.946]; absolute decrease of 1.6% 1 month post-introduction) for infants and 9% (0.905 [0.862–0.950]; absolute decrease of 1.9% 1 month post-introduction) for the primary carer. There was no evidence of changes in infant and maternal all-cause hospital admissions or infant

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sleeping position. Among mothers younger than 25 years, there was a 10% step-increase in breastfeeding prevalence (1.095 [1.004–1.195]; absolute increase of 2.2% 1 month post-introduction) at 10 days and 17% (1.174 [1.037–1.328]) at 6–8 weeks postnatal. Although associations were robust to most sensitivity analyses, for smoke exposure associations were only observed early in the postnatal period.

Interpretation

SBBS reduced infant and primary carer tobacco smoke exposure, and increased breastfeeding among young mothers in Scotland. However, absolute effects were small.

Funding

Medical Research Council, Scottish Government Chief Scientist Office, and National Records of Scotland. (Author)

Full URL: [https://doi.org/10.1016/S2468-2667\(23\)00121-4](https://doi.org/10.1016/S2468-2667(23)00121-4)

2023-03856

Risk Factors for Suffocation and Unexplained Causes of Infant Deaths. Parks SE, DeSisto CL, Kortsmitt K, et al (2023), Pediatrics vol 151, no 1, January 2023, e2022057771

Background: Observational studies have improved our understanding of the risk factors for sudden infant death syndrome, but separate examination of risk for sleep-related suffocation and unexplained infant deaths has been limited. We examined the association between unsafe infant sleep practices and sudden infant deaths (sleep-related suffocation and unexplained causes including sudden infant death syndrome).

Methods: We conducted a population-based case-control study using 2016 to 2017 Centers for Disease Control and Prevention data. Controls were liveborn infants from the Pregnancy Risk Assessment Monitoring System; cases were from the Sudden Unexpected Infant Death Case Registry. We calculated risk factor prevalence among cases and controls and crude and adjusted odds ratios.

Results: We included 112 sleep-related suffocation cases with 448 age-matched controls and 300 unexplained infant death cases with 1200 age-matched controls. Adjusted odds for sleep-related suffocation ranged from 18.7 (95% confidence interval [CI]: 6.8-51.3) among infants not sharing a room with their mother or caregiver to 1.9 (95% CI: 0.9-4.1) among infants with nonsupine sleep positioning. Adjusted odds for unexplained death ranged from 7.6 (95% CI: 4.7-12.2) among infants not sharing a room with their mother or caregiver to 1.6 (95% CI: 1.1-2.4) among nonsupine positioned infants.

Conclusions: We confirmed previously identified risk factors for unexplained infant death and independently estimated risk factors for sleep-related suffocation. Significance of associations for suffocation followed similar patterns but was of larger magnitude. This information can be used to improve messaging about safe infant sleep.

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Full URL: <https://doi.org/10.1542/peds.2022-057771>

2023-03031

Refreshed toolkit for health-care providers helps promote safer sleep practices for Indigenous infants. Perinatal Services BC (2023), Perinatal Services BC 16 March 2023

Indigenous infants are disproportionately impacted by sudden, unexpected infant death during sleep. The refreshed toolkit is intended to support providers in their discussions of safer infant sleep with Indigenous families. (Author)

Full URL: <http://www.perinatalservicesbc.ca/about/news-stories/stories/refreshed-toolkit-safe-sleep-indigenous-babies>

2023-02008

Sleeping soundly. Ward J (2022), Midwives vol 25, September 2022, pp 47-49

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2023-01644

Infant Mortality [written answer]. House of Lords (2023), Hansard Written question HL4757, 16 January 2023

Lord Markham responds to a written question asked by Baroness Bennett of Manor Castle to His Majesty's Government regarding what assessment they have made of the rise in trauma deaths and sudden unexpected deaths in infancy and childhood (Sudic) in 2022; in particular, that four times as many deaths occurred in the most deprived fifth of the population, compared with the least deprived fifth; and what steps they plan to take, if any, in response.

(AS)

Full URL: <https://questions-statements.parliament.uk/written-questions/detail/2023-01-16/hl4757>

2022-11025

Sudden and unexpected deaths in infancy and childhood. National Child Mortality Database Programme thematic report. Williams T, Sleep V, Pease A, et al for the National Child Mortality Database (NCMD) Programme (2022), December 2022. 64 pages

This report covers the two-year period from 2019 to 2021 and is unique in two ways. It is the first national report to have investigated all unexpected deaths of infants and children – not just those that remained unexplained. It is also the first national review of the “multi-agency investigation process” into unexpected deaths.

The report found that, of all infant and child deaths occurring between April 2019 and March 2021 in England, 30% occurred suddenly and unexpectedly, and of these 64% had no immediately apparent cause.

Other key findings relating to sudden and unexpected infant deaths (under 1 year) include:

- 70% were aged between 28 and 364 days, and 57% were male
- Infant death rates were higher in urban areas and the most deprived neighbourhoods
- For sudden and unexpected infant deaths that occurred during 2020 and had been fully reviewed, 52% were classified as unexplained (ie Sudden Infant Death Syndrome) and 48% went on to be explained by other causes eg metabolic or cardiac conditions.

(Publisher)

Full URL: https://www.hqip.org.uk/wp-content/uploads/2022/12/Ref-321-SUDIC-Thematic-report_FINAL.pdf

2022-10664

Infant Mortality [written answer]. House of Commons (2022), Hansard Written question 85056, 11 November 2022

Maria Caulfield responds to a written question from Carla Lockhart to the Secretary of State for Health and Social Care, regarding how many sudden infant deaths occurred in the UK in each of the last three years. (JSM)

Full URL: <https://questions-statements.parliament.uk/written-questions/detail/2022-11-11/85056>

2022-10195

What risk factors for sudden infant death syndrome are preterm and term medically complex infants exposed to at home?. Mitchell I, Wang DY, Troskie C, et al (2021), Paediatrics & Child Health vol 26, no 4, July 2021, pp e184-e188

Objectives

Risk factors for sudden infant death syndrome include premature birth, maternal smoking, prone or side sleeping position, sleeping with blankets, sharing a sleeping surface with an adult, and sleeping without an adult in the room.

In this study, we compare parents' responses on sleep patterns in premature and term infants with medical complexity.

Methods

Parents of children enrolled in the Canadian Respiratory Syncytial Virus Evaluation Study of Palivizumab were phoned

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monthly regarding their child's health status until the end of each respiratory syncytial virus season. Baseline data were obtained on patient demographics, medical history, and neonatal course. Responses on adherence to safe sleep recommendations were recorded as part of the assessment.

Results

A total of 2,526 preterms and 670 term infants with medical complexity were enrolled. Statistically significant differences were found in maternal smoking rates between the two groups: 13.3% (preterm); 9.3% (term) infants ($\chi^2=8.1$, $df=1$, $P=0.004$) and with respect to toys in the crib: 12.3% (term) versus 5.8% preterms ($\chi^2=24.5$, $df=1$, $P<0.0005$). Preterm infants were also significantly more likely to be placed prone to sleep (8.8%), compared with term infants (3.3%), ($\chi^2=18.1$, $df=1$, $P<0.0005$).

Conclusion

All the infants in this study had frequent medical contacts. There is a greater prevalence of some risk factors for sudden infant death syndrome in preterm infants compared to term infants with medical complexity. Specific educational interventions for vulnerable infants may be necessary. (Author)

2022-09215

Comparing asphyxia and unexplained causes of death: a retrospective cohort analysis of sleep-related infant death cases from a state child fatality review programme. MacDonald M, Thompson D, Perry R, et al (2022), *BMJ Open* Vol 12, no 9, September 2022, e059745

Objectives To examine the characteristics and circumstances of infants who died while sleeping or in a sleep environment and compare deaths classified as either unintentional asphyxia or an unexplained cause.

Design A retrospective cohort study.

Setting Data were extracted from the National Fatality Review Case Reporting System and Florida Vital Statistics databases.

Participants Data on 778 sleep-related infant deaths occurring from 2014 to 2018 in Florida were analysed.

Primary outcome measure Cause of death classification as unintentional asphyxia or unexplained.

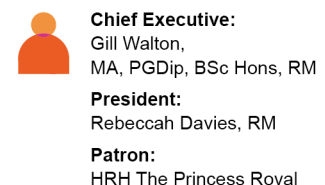
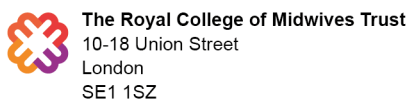
Results Overall, 36% ($n=276$) of sleep-related infant deaths in this study sample were classified as resulting from an unexplained cause compared with unintentional asphyxia. Most infants were reported to be in an adult bed (60%; $n=464$) and sharing a sleep surface with a person or animal (60%; $n=468$); less than half (44%; $n=343$) were reportedly placed to sleep on their back. After controlling for the influence of other independent variables, female sex (adjusted risk ratio: 1.36; 95% CI 1.06 to 1.74) and fully obstructed airway condition (adjusted risk ratio: 0.30; 95% CI 0.18 to 0.50) were associated with an unexplained cause of death.

Conclusions The results of this analysis indicate that sleep environment hazards remain prevalent among infants who die suddenly and unexpectedly, regardless of the cause of death determination. While significant differences were observed for some factors, in many others the distributions of both demographic and incident characteristics were similar between unexplained deaths and those resulting from asphyxia. The results of this study support growing evidence that unsafe sleep environments contribute to all forms of sudden unexpected infant death, underscoring the need for standardising cause of death determination practices and promoting consistent, high-quality forensic investigations to accurately explain, monitor and prevent these deaths. (Author)

Full URL: <http://dx.doi.org/10.1136/bmjopen-2021-059745>

2022-07408

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Subject Matter Expert Nurses in Safe Sleep Program Implementation. Stringer M, Ohnishi BR, Ferrarello D, et al (2022), MCN - American Journal of Maternal/Child Nursing Vol 47, no 6, November/December 2022, pp 337-344

Background:

Pennsylvania sudden unexpected infant death rates rank among the highest nationally. A nursing team developed, implemented, evaluated, and disseminated an evidence-based quality improvement (QI) program at birthing hospitals in Pennsylvania to address this issue. To facilitate implementation, clinical nurses were educated as Subject Matter Experts (SMEs) to empower them to transform and sustain outcomes-driven QI for infant safe sleep nursing practice.

Methods:

This descriptive study examined outcomes from 268 nurses who received comprehensive education on infant safe sleep and the SME role. Likert-type scale surveys measured knowledge gained and progress made in practice following education. A programmatic dashboard tracked program implementation. Descriptive statistics were used to report findings.

Intervention:

SME nurses (N = 268) completed two interactive learning modules addressing safe sleep guidelines and teaching strategies and attended a workshop to acquire skills for program implementation. Key competencies included data collection and dissemination, policy development, and communication techniques.

Results:

Immediate posteducation surveys completed by SMEs indicated that over 98% of respondents strongly agreed or agreed they were able to effectively demonstrate communication strategies, identify SME role components, provide environment surveillance, and demonstrate best practices in infant safe sleep. To allow time for assimilation of the SME role, a survey was initiated at 6 months to capture progress made. Seventy-eight SMEs responded to the survey and reported exceptional or substantial progress in 10 areas for SME responsibilities.

Conclusion:

Use of the SME role for program implementation led to highly favorable SME-reported outcomes in leading a hospital-based QI program. (Author)

Full URL: <https://doi.org/10.1097/NMC.0000000000000859>

2022-07056

Infant Safe Sleep Initiative in a Small Volume Maternity Service. Patterson KJ, Adams ED, Ramieh C (2022), MCN - American Journal of Maternal/Child Nursing vol 47, no 4, July/August 2022, pp 189-194

Purpose:

Despite the 2016 American Academy of Pediatrics recommendations for preventing sudden unexpected infant death, there are approximately 3,400 sudden unexpected infant deaths annually in the United States. Modeling of safe sleep practices by nurses in the hospital influences parents' practice at home; however, safe sleep practices are not consistently modeled during the childbirth hospitalization.

Methods:

A quality improvement project was conducted to implement a safe sleep initiative based on the 2016 American Academy of Pediatrics recommendations for nurses caring for hospitalized infants after birth. Evaluation included testing of nurses' knowledge, infant crib audits, and nurses' evaluation of the intervention.

Results:

A significant improvement was found in overall nurse education scores. Crib audits demonstrated a significant improvement in the following elements: use of multiple blankets, swaddling of the infant, and parent teaching. Nursing surveys reported an increase in confidence to practice safe sleep recommendations and educate and redirect

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parents.

Clinical Implications:

Implementing a safe sleep initiative can increase nurses' knowledge, improve adherence to recommendations with modeling safe sleep practices, and increase parent awareness of safe sleep recommendations, potentially positively affecting adherence after discharge. (Author)

2022-07046

Safe sleep community baby showers to reduce infant mortality risk factors for women who speak Spanish.

Ahlers-Schmidt CR, Schunn C, Hervey AM, et al (2021), *Sleep Health* vol 7, no 5, October 2021, pp 603-609

Objectives

In the United States, sleep-related deaths are one of the primary causes of death for infants age 28 days to one year. The American Academy of Pediatrics (AAP) developed Safe Sleep Recommendations which provide risk reduction strategies for sleep-related infant deaths. Interventions such as Safe Sleep Community Baby Showers have increased knowledge and intentions to engage in these safe sleep behaviors for women who speak English. This study assessed the feasibility, acceptability and initial outcomes of Safe Sleep Community Baby Showers for women who speak Spanish.

Methods

Six Spanish Safe Sleep Community Baby Showers were held in Sedgwick County, Kansas. One hundred forty-six pregnant or recently delivered women who spoke Spanish completed pre- and post-assessments. Univariate comparisons were made using McNemar's test for paired dichotomous variables.

Results

Participants had a high school diploma/General Educational Diploma (GED) or less (75.3%), and were uninsured (52.1%) or had Medicaid (n = 49; 33.6%). The majority reported being very satisfied (n = 130; 89.0%) or satisfied (n = 8; 5.5%). Compared to baseline, significant increases in intentions and confidence to follow the AAP Safe Sleep Recommendations were observed following the events. The majority of participants reported intending to place their infant on the back to sleep (98.6%), use only a safe surface (crib, portable crib, bassinet; 99.3%), and only include safe items (firm mattress, fitted sheet; 93.5%) (all p < .001).

Conclusions

Study findings support both feasibility and acceptability of modifying Safe Sleep Community Baby Showers to provide culturally and linguistically appropriate education for women who speak Spanish. Initial outcomes suggest increased intentions to follow safe sleep recommendations. (Author)

2022-06325

Infant Safe Sleep Knowledge, Attitudes, and Behaviors by Physicians at an Academic Children's Hospital. Schmit EO, Molina AL, Stoops C, et al (2022), *Clinical Pediatrics* vol 61, no 12, December 2022, pp 840-849

Sudden unexpected infant death (SUID) is the leading cause of death for infants. Physician advice on safe sleep is an important source of information for families. We sought to evaluate the safe sleep knowledge, attitudes, and behaviors of physicians by distributing a cross-sectional survey at a freestanding children's hospital. The survey included demographics, knowledge items, attitudinal assessment, and frequency of providing safe sleep guidance. Multivariable linear regression and logistic regression were used to evaluate associations between variables. 398 physicians were surveyed with 124 responses (31%). Females, those who received safe sleep training, and those who see infants in daily practice had higher knowledge scores. Physicians with higher knowledge scores had more positive attitudes toward safe sleep and provided safe sleep education to patients more often. Our study underlies the importance of education and repeated exposure in forming positive attitudes toward safe sleep recommendations and leads to increased provision of safe sleep guidance. (Author)

2022-02598

A ten-year retrospective case review of risk factors associated with sleep-related infant deaths. Godoy M, Maher M

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Aim

The study aimed to identify risk factors associated with sleep-related deaths of infants (0–24 months) in the province of Manitoba, Canada, between January 2009 and December 2018.

Methods

A systematic retrospective case review of autopsies and administrative records in Manitoba between 2009 and 2018.

Results

A total of 145 infants died in cases where unsafe sleep environments were known to have contributed to or resulted in their death and where no explained medical causes were identified. Where data complete, all infants had at least one known risk factor for sleep-related deaths, and 96% had multiple. The most common risk factors increased over time and included objects in the sleeping environment (90% of cases), not approved sleep surfaces (77%) and bedsharing (50%). Indigenous infants, infants of young mothers and infants in low-income neighbourhoods are overrepresented. Risk factors for Indigenous infants differed from cases involving non-Indigenous infants.

Conclusion

A high proportion of sleep-related infant deaths were associated with not approved sleep surfaces and bedsharing, especially for infants under one year. Families in low-income neighbourhoods, Indigenous families and families with young mothers were disproportionately affected by sleep-related infant deaths. There is a need to enhance messaging and smoking cessation messaging in Indigenous communities to prevent sleep-related deaths. (Author)

2022-02184

SIDS, prone sleep position and infection: An overlooked epidemiological link in current SIDS research? Key evidence for the “Infection Hypothesis”. Goldwater PN (2020), Medical Hypotheses vol 144, November 2020, 110114

Mainstream researchers explain the etiology of SIDS with the cardiorespiratory paradigm. This has been the focus of intense study for many decades without providing consistent supporting data to link CNS findings to epidemiological risk factors or to the usual clinicopathological findings. Despite this, and the apparent oversight of the link between prone sleep position and respiratory infection, papers citing CNS, cardiac and sleep arousal findings continue to be published. Discovery of the prone sleep position risk factor provided tangential support for the cardiorespiratory control hypothesis which defines the mainstream approach. Despite many decades of research and huge expenditure, no aetiological answer has been forthcoming. In asking why? This paper exposes some of the shortcomings regarding this apparent oversight by mainstream SIDS researchers and examines the role of respiratory infection and puts the case for the “Infection Hypothesis.” In addition, the paper provides encouragement to neuropathologists to examine the potential link between CNS findings and cardiac function (as opposed to respiratory function) in relation to infection and to examine possible correlates between CNS findings and established risk factors such as recent infection, contaminated sleeping surfaces, maternal/obstetric/higher birth, ethnicity, non-breast-feeding, male gender, etc. or with the usual gross pathological findings of SIDS (intrathoracic petechial hemorrhages, liquid blood, congested lungs). The shortcomings exposed through this review invite questions over current research directions and hopefully encourage research into other more plausible hypotheses, such as the infection paradigm.

• Mainstream SIDS researchers appear to have overlooked the key relationship between prone sleep position and infection.

• This omission has major implications for current and future SIDS research. (Author)

Full URL: <https://doi.org/10.1016/j.mehy.2020.110114>

2022-01887

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Personalising Safe Sleep Messaging for Infant Caregivers in the United States. Vilvens HL, Vaughn LM, Southworth H, et al (2020), Health and Social Care in the Community vol 28, no 3, May 2020, pp 891-902

The purpose of our study was to better understand why parents/caregivers might not practice safe sleep behaviours. In autumn 2016, we conducted 'pulse' interviews with 124 parents/caregivers of children under the age of one year at a variety of local community events, festivals and meetings in cities with high infant mortality rates around the Midwestern US state of Ohio. Through an inductive approach, pulse interviews were analysed using thematic coding and an iterative process which followed for further clarification of themes (Qualitative Research in Psychology, 2006, 3, 77; BMC Medical Research Methodology, 2013, 13, 117). The six major themes of underlying reasons why parents/caregivers might not practice safe sleep behaviours that were identified in our coding process included the following: (a) culture and family tradition, (b) knowledge about safe sleep practices, (c) resource access, (d) stressed out parents, (f) lack of support and (g) fear for safety of baby. Using the descriptive findings from the pulse interviews, qualitative themes and key informant validation feedback, we developed four diverse fictional characters or personas of parents/caregivers who are most likely to practice unsafe sleep behaviours. These personas are characteristic scenarios which imitate parent and caregiver experiences with unsafe sleep behaviours. The personas are currently being used to influence development of health promotion and education programs personalised for parents/caregivers of infants less than one year to encourage safe sleep practices. (Author)

2022-00341

Infant Sleep Hazards and the Risk of Sudden Unexpected Death in Infancy. MacFarlane ME, Thompson JMD, Wilson J, et al (2022), The Journal of Pediatrics vol 245, June 2022, pp 56-64

Objective

To examine the effects of infant sofa-sleeping, recent use by caregivers of alcohol, cannabis and/or other drugs, and bed type and pillows, on the risk of sudden unexpected death in infancy (SUDI) in New Zealand.

Study design

A nationwide prospective case-control study was implemented between March 2012 and February 2015. Data were collected during interviews with parents/caregivers. 'Hazards' were defined as infant exposure to one or more of sofa-sleeping and recent use by caregivers of alcohol, cannabis and other drugs. The interaction of hazards with tobacco smoking in pregnancy and bed sharing, including for very young infants, and the difference in risk for Māori and non-Māori infants, were also assessed.

Results

The study enrolled 132 cases and 258 controls. SUDI risk increased with infant sofa-sleeping (imputed adjusted odds ratio (IaOR)=24.22, 95% CI=1.65, 356.40) and with hazards (IaOR=3.35, 95% CI=1.40, 8.01). The SUDI risk from the combination of tobacco smoking in pregnancy and bed sharing (IaOR=29.0, 95% CI=10.10, 83.33) increased with the addition of one or more hazards (IaOR=148.24, 95% CI=15.72, 1398), and infants under three months appeared to be at greater risk (IaOR=450.61, 95% CI=26.84, 7593.14).

Conclusion

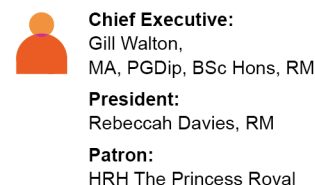
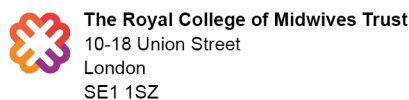
Tobacco smoking in pregnancy and bed sharing remain the greatest SUDI risks for infants and risk increases further in the presence of sofa-sleeping or recent caregiver use of alcohol and/or cannabis and other drugs. Continued implementation of effective, appropriate programs for smoking cessation, safe sleep, and supplying safe sleep beds is required to reduce New Zealand SUDI rates and SUDI disparity among Māori. (Author)

2022-00212

Population-Based Survey Showing That Breastfed Babies Have a Lower Frequency of Risk Factors for Sudden Infant Death Syndrome Than Nonbreastfed Babies. Landa-Rivera JL, Pérez-Pérez J, del Pilar González-Núñez M, et al (2022), Breastfeeding Medicine vol 17, no 2, February 2022, pp 182-188

Justification: Breastfeeding provides the best infant food, and closeness to the mother is crucial for successful breastfeeding. However, sharing parents' beds and sleeping on the stomach poses a high risk for sudden infant death syndrome (SIDS). There is little information on these practices regarding the Spanish population.

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Objective: To explore breastfeeding and bed-sharing practices in the study population

Materials and Methods: A cross sectional observational study was conducted through an anonymous telephone survey with a representative random sample of babies born in the Health Area of La Marina Baixa, Alicante, between 2018 and 2019. A previous-day strategy was implemented to determine the feeding and bed-sharing variables.

Results: The total breastfeeding and formula-feeding rates were 47.0% and 52.9%, respectively. The overall bed-sharing rate was 66.5%. The breastfeeding rate was 86.4% with bed-sharing and 13.6% without bed-sharing. The rate of prone sleeping position in children younger than 6 months of age was 9.3–3.5% with breastfeeding and 5.8% with formula feeding. Lower frequencies of tobacco, alcohol, and nonsupine sleeping positions were observed among mothers who practiced breastfeeding and bed-sharing.

Conclusions: We found a close relationship between breastfeeding and bed-sharing and a lower frequency of SIDS risk factors associated with both practices. Families should be informed about the risk factors associated with SIDS to encourage safe bed-sharing while avoiding recommendations that discourage breastfeeding. (Author)

Full URL: <https://doi.org/10.1089/bfm.2021.0113>

2022-00206

Mothers' Decision Making Concerning Safe Sleep for Preterm Infants What Are the Influencing Factors?. Capper B, Damato EG, Gutin-Barsman S, et al (2022), *Advances in Neonatal Care* vol 22, no 5, October 2022, pp 444-455

Background:

Parental decisions regarding infant sleep practices vary widely, resulting in a lack of adherence to the American Academy of Pediatrics safe sleep recommendations (SSR) and consequently an increased risk of sudden infant death syndrome (SIDS). Preterm infants are among those at a highest risk for SIDS, yet few studies focus on parental decision-making surrounding sleep practices for preterm infants.

Purpose:

The purpose of this study was to identify factors influencing decisions concerning infant sleep practices of mothers of preterm infants.

Methods:

This study used a mixed-methods design. Recruitment was through social media messaging by 2 parent support organizations. An online survey was used to assess factors influencing mothers' decisions regarding sleep practices for preterm infants.

Findings/Results:

Survey participants (n = 98) were from across the United States. Mothers of preterm infants (mean gestational age at birth = 29.42 weeks) most often reported positioning infants on their back to sleep (92.3%) and a low (15.4%) use of a pacifier at sleep time. Three themes emerged for the decisions made: adherence to SSR; nonadherence to SSR; and infant-guided decisions. Regardless of the decision, mothers indicated that anxiety over the infant's well-being resulted in a need for sleep practices that facilitated close monitoring of the infant.


Implications for Practice and Research:

The findings of this study indicate the need for understanding the underlying anxiety preventing mothers from adhering to SSR despite knowing them, along with tailoring infant sleep messaging and education to improve safety of sleep practices for preterm infants. Research is needed to examine decision making in more diverse populations.


(Author)

2021-12352

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MA, PGDip, BSc Hons, RM
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Background

Despite the significant reduction decades ago in sudden unexpected death in infancy (SUDI), decline of rates has slowed and stalled in some countries, including the USA. This led to an appreciation of ethnic variations in SUDI rates and the need to increase cultural sensitivity regarding sleep practices and circumstantial factors of SUDI. The study explored SUDI-related factors, in journal articles from two geo-cultural regions (Asian and Western countries), particularly for factors related to infant sleep practices.

Methods

A systematic review was conducted to identify SUDI-related factors in articles from PubMed, Scopus, and the Korean Citation Index from January 1992 to April 2019. From each article, SUDI-related factors were retrieved and categorized through the identification, aggregation, and categorization of factors into the areas of the triple risk model (TRM) of SUDI by their meanings and commonality. Significant trends in the frequency of factors were analyzed across time and between the two geo-cultural regions (Asian and Western countries) of article.

Results

From a review of 218 articles (38 Asian and 180 Western articles), 84 SUDI-related factors were identified: 39 factors for TRM 1, 44 factors for TRM 2, and one factor for TRM 3. Four of the top-ranked 10 factors were found in both cultural zones: sleep position, male sex, bed-sharing, and genetics. Both cultural zones identified sleep position (44.0%), bed-sharing (22.0%), and rooming-in (16.5%) as the three most important sleep-related factors for SUDI. Variations between the cultural zones were observed in the place of SUDI occurrence, overheating, swaddling or bedding standards, and smoking.

Conclusions

Regardless of the urgent need to identify SUDI-related factors in low-SUDI societies, Asian cultures showed a significant lack of articles on SUDI. Several sociocultural issues were recognized such as the meaning of bed-sharing and rooming-in, along with residential styles and traditional health beliefs on sleep-related SUDI factors. Particularly little attention towards smoking was found in Asian articles in terms of frequency, suggesting the need to enhance SUDI reduction strategies by incorporating gender-sensitive smoking cessation interventions. This review of SUDI factors requests child health professionals to be alert to sociocultural variations in sleep practices and SUDI factors.

(Author)

Full URL: <https://doi.org/10.1186/s12887-021-02894-8>

2021-12345

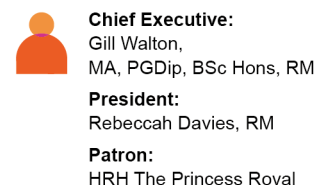
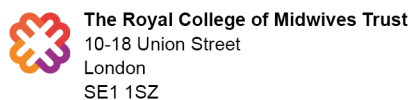
Sudden infant death syndrome prevention. Jullien S (2021), BMC Pediatrics vol 21, no 320, 8 September 2021

We looked at existing recommendations and supporting evidence for successful strategies to prevent the sudden infant death syndrome (SIDS).

We conducted a literature search up to the 14th of December 2020 by using key terms and manual search in selected sources. We summarized the recommendations and the strength of the recommendation when and as reported by the authors. We summarized the main findings of systematic reviews with the certainty of the evidence as reported.

Current evidence supports statistical associations between risk factors and SIDS, but there is globally limited evidence by controlled studies assessing the effect of the social promotion strategies to prevent SIDS through knowledge, attitude and practices, due to obvious ethical reasons. A dramatic decline in SIDS incidence has been observed in many countries after the introduction of "Back to Sleep" campaigns for prevention of SIDS. All infants should be placed to sleep in a safe environment including supine position, a firm surface, no soft objects and loose bedding, no head covering, no overheating, and room-sharing without bed-sharing. Breastfeeding on demand and the use of pacifier during sleep time protect against SIDS and should be recommended. Parents should be advised against the use of

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2021-09926

Pēpē-infant sleep practices and sudden unexpected death in infancy in Aotearoa New Zealand. Macfarlane M, Thompson JMD, Mitchell EA, et al (2021), International Journal of Gynecology & Obstetrics vol 155, no 2, November 2021, pp 305-317

Objective

To explore pēpē [infant] sleep practices and the key motivators among selected Māori and non-Māori māmā [mothers] in Auckland, New Zealand, in relation to the risk of sudden unexpected death in infancy (SUDI).

Methods

Qualitative research underpinned by a kaupapa Māori cultural framework was undertaken. In-depth face-to-face interviews occurred in the homes of māmā with young pēpē born in Counties Manukau, Auckland. Interview transcripts were analyzed using general purpose thematic analysis.

Results

Thirty māmā participated, including 17 Māori. Two-thirds of māmā reported previous or current bed sharing. The fundamental human need for adequate sleep motivated half the māmā in the present study, and especially Māori māmā, to bed share. The second most common reason given was closeness and convenience. This was followed by breastfeeding, which was cited as a reason by Māori māmā only. These findings were interpreted in terms of intrinsic fear, culture, and māmā deployment of knowledge.

Conclusion

Service providers are encouraged to respond to the lived experiences and cultural realities, values, and beliefs of māmā when designing and delivering effective SUDI prevention interventions. Innovative approaches for providing structured and opportunistic, culturally appropriate education and support around safe sleep are likely to be well-received by māmā and their whānau [family/ies].

Synopsis

The fundamental human need for adequate sleep motivated half the māmā [mothers] in this study, especially Māori māmā, to bed share with their pēpē [infant]. (Author)

Full URL: <https://doi.org/10.1002/ijgo.13910>

2021-09271

Supporting African American Mothers during Nurse Home Visits in Adopting Safe Sleep Practices. Stiffler D, Matemachani SM, Crane L (2020), MCN - American Journal of Maternal/Child Nursing vol 45, no 4, July/August 2020, pp 208-213

Background:

Nurses providing home visits were concerned that some mothers were not routinely using safe sleep practices for their newborns and infants.

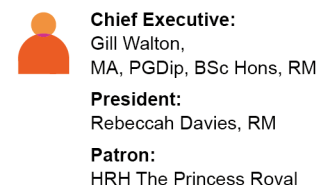
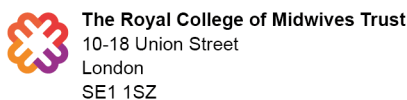
Purpose:

The purpose of this study was to listen to how home visit nurses offer education to their African American clients about the safe to sleep guidelines during the prenatal and postpartum periods and discuss ways nurses could support mothers to be more successful in using safe sleep practices.

Study Design and Methods:

A focus group was conducted with home visit nurses who partner with pregnant mothers and follow them through the first 2 years of their child's life. We asked the nurses to discuss how they offer information and education to their African American clients about safe sleep practices and what could be done to support adoption of the guidelines. A

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qualitative narrative approach was used for data analysis.

Results:

Seventeen home visit nurses participated in the focus group. We identified two overall themes with eight subthemes. The first theme focused on nurses' perceptions about challenges some mothers have in following the recommendations. The second theme included nurses' perspectives on how to better promote the safe sleep message and educating mothers within their cultural context.

Clinical Implications:

Expectant and new mothers need advice and knowledge about the Safe to Sleep® guidelines that provide ways to decrease risk of infant death. Nurses must be aware of their clients' culture and beliefs so they can offer support and information on infant safety within that context. (Author)

2021-07162

Outpatient- or community-based interventions to prevent SIDS and sleep-related deaths. Pretorius K, Rew L (2020), Journal for Specialists in Pediatric Nursing (JSPN) vol 25, no 2, April 2020, e12279

Purpose

To determine the state of science of outpatient- or community-based interventions for sudden infant death syndrome prevention in the United States, an integrative review was completed and studies identified through the application of inclusion and exclusion criteria.

Conclusions

Of the nine studies identified, three were randomized controlled trials. There was a wide range of measurement tools and variables measured. The timing of interventions also varied. There was a focus on mothers and African Americans. Lastly, study design and approach have not changed significantly over time.

Practice Implications

Findings highlight recommendations for future research: expanding the target population, addressing culture in the development of the intervention or program, including additional providers, such as nurses, in the intervention or program, advancing innovation, and increasing rigor of study design. (Author)

2021-04833

Safe to sleep: A systematic review of the safe infant sleep training literature across relevant personnel. Mery JN, Vladescu JC, Sidener TM, et al (2021), Journal of Neonatal Nursing vol 27, no 6, December 2021, pp 381-395

To reduce sleep-related infant deaths, the American Academy of Pediatrics (AAP) has identified safe infant sleep recommendations; however, it is unclear which training strategies to teach safe infant sleep practices are most effective. Since the AAP released updated safe sleep recommendations in 2016, no analysis of the safe infant sleep training literature has been conducted. The purpose of the present review was to evaluate the safe infant sleep training literature of relevant populations such as caregivers and medical personnel, and provide recommendations for future research. The overall efficacy of training strategies was found to be positive or mixed where experiments most commonly implemented an educational session, followed by use of instructional materials, distribution of safe materials, and hospital-wide policy change. Methodological limitations were also identified. (Author)

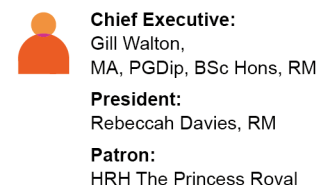
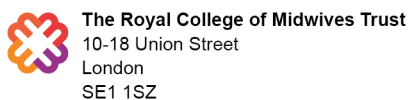
2021-04248

Persistent Racial/Ethnic Disparities in Supine Sleep Positioning among US Preterm Infants, 2000-2015. Hwang SS, Tong S, Smith RA, et al (2021), The Journal of Pediatrics vol 233, June 2021, pp 51-57.e3

Objective

To assess trends in racial disparity in supine sleep positioning (SSP) across racial/ethnic groups of infants born early preterm (Early preterm; <34 weeks) and late preterm (Late preterm; 34-36 weeks) from 2000 to 2015.

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Study design

We analyzed Pregnancy Risk Assessment Monitoring System data (a population-based perinatal surveillance system) from 16 US states from 2000 to 2015 (Weighted N = 1 020 986). Marginal prevalence of SSP by year was estimated for infants who were early preterm and late preterm, adjusting for maternal and infant characteristics. After stratifying infants who were early preterm and late preterm, we compared the aOR of SSP trends across racial/ethnic groups by testing the time–race interaction.

Results

From 2000 to 2015, Non-Hispanic Black infants had lower odds of SSP compared with Non-Hispanic White infants for early preterm (aOR 0.61; 95% CI 0.47-0.78) and late preterm (aOR 0.44; 95% CI 0.34-0.56) groups. For Hispanic infants, there was no statistically significant difference for either preterm group when compared with Non-Hispanic White infants. aOR of SSP increased (on average) annually by 10.0%, 7.3%, and 7.7%, respectively, in Non-Hispanic White, Non-Hispanic Black, and Hispanic early preterm infants and by 5.8%, 5.9%, and 4.8% among Non-Hispanic White, Non-Hispanic Black, and Hispanic late preterm infants. However, there were no significant between-group differences in annual changes (Early preterm: P = .11; Late preterm: P = .25).

Conclusions

SSP increased for all racial/ethnic preterm groups from 2000 to 2015. However, the racial/ethnic disparity in SSP among early preterm and late preterm groups persists. (Author)

Full URL: <https://doi.org/10.1016/j.ipeds.2021.02.070>

2021-02042

Circadian variation in sudden unexpected infant death in the United States. Anderson TM, Allen K, Ramirez J-M, et al (2021), *Acta Paediatrica* vol 110, no 5, May 2021, pp 1498-1504

Aim

To determine which factors are associated with sudden unexpected infant death (SUID) by time of day.

Methods

Data were analysed from the National Fatality Review Case Reporting System (2006-2015). Out of 20 005 SUID deaths in 37 states, 12 191 (60.9%) deaths had a recorded nearest hour of discovery of the infant. We compared distribution patterns between time of death and 118 variables to determine which were significantly correlated with SUID time of death using advanced statistical modelling techniques.

Results

The 12-hour time periods that were most different were 10:00 to 21:00 (daytime) and 22:00 to 09:00 (nighttime). The main features that were associated with nighttime SUID were bed sharing, younger infants, non-white infants, placed supine to sleep and found supine, and caregiver was the parent. Daytime SUID was associated with older infants, day care, white infants, sleeping in an adult bed and prone sleep position. Factors not associated with time of death were sex of the infant, smoking and breastfeeding.

Conclusion

Sudden unexpected infant death deaths that occur at night are associated with a separate set of risk factors compared to deaths that occur during the day. However, to minimise risk, it is important to practice safe sleep guidelines during both nighttime and daytime sleep.

2021-02015

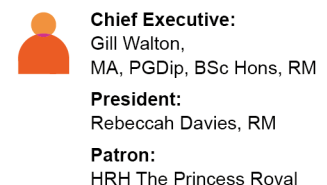
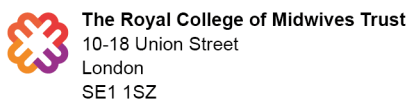
Norwegian parents avoid placing infants in prone sleeping positions but frequently share beds in hazardous ways.

Osberg S, Kalstad TG, Stray-Pedersen A (2021), *Acta Paediatrica* vol 110, no 7, July 2021, pp 2119-2125

Aim

Campaigns to prevent prone sleeping and other modifiable risk factors have greatly reduced the incidence of sudden infant death syndrome in Norway. Sleep-related infant deaths still occur sporadically and may be preventable. We

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studied infants' sleeping environments and whether parents followed safe sleep recommendations.

Methods

Parents with infants up to 12 months of age were invited to complete an online questionnaire from May to December 2018. It was publicised by health centres and on websites and social media.

Results

We received 4886 responses and 4150 met the age criteria and were included. Just under two-thirds (62.7%) reported routine bed-sharing, and this practice was associated with increased nocturnal breastfeeding, single parents and having more than one child. A small number of infants under six months were occasionally placed prone when they were laid down to sleep (2.1%) and 29.7% were placed on their side. Nearly three-quarters (72.6%) of the 2330 parents with infants under six months of age reported previous high-risk behaviour, such as sleeping together on a sofa or bed-sharing after smoking or drinking.

Conclusion

Norwegian parents rarely used prone sleeping positions for infants. However, bed-sharing was common, including high-risk scenarios such as smoking, alcohol use and sofas.

2021-01359

What explains Sweden's low rates of sudden unexpected death in infancy? Moon RY, Hauck FR (2021), *Acta Paediatrica* vol 110, no 6, June 2021, pp 1711-1712

Editorial highlighting rates of sudden unexpected infant death in Sweden and the United States. Discusses parental self-report of supine positioning, bed sharing and breastfeeding. (LDO)

20210113-38*

Understanding the barriers and facilitators to safe infant sleep for mothers of preterm infants. Hwang SS, Parker MG, Colvin BN, et al (2021), *Journal of Perinatology* vol 41, no 8, August 2021, pp 1992-1999

Objective

To identify barriers and facilitators to adherence to safe sleep practices (SSP) among mothers of preterm infants using qualitative methodology.

Design

We conducted 23 in-depth interviews in English or Spanish with mothers of preterm infants who were recently discharged from four hospitals, utilizing a grounded-theory approach and framework of the Theory of Planned Behavior (attitudes, perceived control, social norms).

Results

For attitudes, mothers' fear about their infants' vulnerable preterm state related to suffocation, apnea of prematurity, and reflux influenced infant sleep practices. For social norms, education received in the NICU and advice from other health care providers, family, friends, and media impacted their choices. For perceived control, mothers adapted infant sleep practices to meet their own needs and address the perceived safety and comfort of infants.

Conclusion

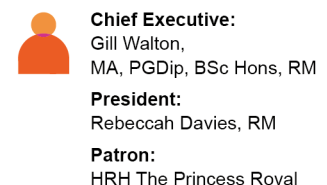
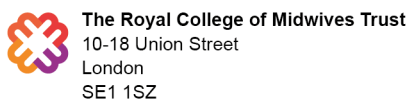
Factors identified that influence maternal decision-making about infant sleep practices can inform interventions to address sudden unexpected infant death reduction in preterm infants. (Author)

20201208-67*

The wake project: Improving safe sleep practices in a neonatal intensive care unit. Uduwana S, Garcia L, Nemerofsky SL (2020), *Journal of Neonatal-Perinatal Medicine* vol 13, no 1, 2020

BACKGROUND: Every year, about 50 babies in New York City die from a sleep-related injury. The Bronx County ranked second highest rate of sleep-related infant deaths (SRID) at 0.5 per 1000 among the other boroughs. The highest rate was among blacks and the rate of SRID cases were highest in our population at 0.97 (zip code 10466) among all other

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Bronx neighborhoods which comprises 77% of non-Hispanic black population. Further, Bronx has the highest preterm birth rate at 9.5%. This quality improvement (QI) project aimed to develop and implement an educational initiative on infant safe sleep (SS) to improve 'Safe Sleep Practices (SSP) in a level III neonatal intensive care unit (NICU) for one of the highest risk populations in the country.

METHODS: Baseline data was collected prior to initiating the QI project. Multiple plan-do-study-act (PDSA) cycles were completed over a 12 month period. Run charts were utilized to identify improvement and guide interventions. These interventions included education for nurses, crib cards, posters, feedback forms, grand rounds and small group discussions.

RESULTS: Approximately 600 crib checks (CC) were performed over the duration of this project. At baseline, 7% of infants were placed in a SS position in the NICU. Following the QI project, SS position increased to 96% of infants.

CONCLUSION: Multifactorial interventions significantly improved SS compliance among NICU nurses. Cultivating personal motivation among nurses, consistent empowerment and dedication to culture change by the entire team was crucial for the sustainability of the project. (Author)

20201102-57*

Improving infant sleep safety via electronic health record communication: a randomized controlled trial. Canty EA, Fogel BN, Batra EK, et al (2020), BMC Pediatrics vol 20, no 468, 8 October 2020

Background

With increased use of telehealth, interventions to improve infant sleep environments have not been explored. This study sought to assess the feasibility and efficacy of using electronic health record patient portals to transmit photographs of infant sleep between mothers and healthcare professionals as part of an intervention to promote sleep environments consistent with AAP guidelines.

Methods

One hundred eighty-four mother-newborn dyads consented to participate in a randomized trial requiring patient portal registration within 1 month of delivery. We first assessed feasibility as measured by a) the proportion of consented mothers enrolling in the portal and b) maternal adherence to prompts to submit photographs of their infant sleeping to the research team through the patient portal. Intervention group mothers were prompted at 1 and 2 months; controls were prompted only at 2 months. Efficacy was determined via research assistant review of submitted photographs. These assistants were trained to detect sudden unexplained infant death risk factors utilizing AAP guidelines. Standardized feedback was returned to mothers through the patient portal. We used Fisher's Exact test to assess group differences in guideline adherence at 2 months.

Results

One hundred nine mothers (59%) enrolled in the patient portal and were randomized to intervention (N = 55) and control (N = 54) groups. 21 (38, 95% CI 25-52%) intervention group participants sent photographs at 1 month and received personalized feedback. Across both groups at 2 months, 40 (37, 95% CI 28-46%) sent photographs; 56% of intervention group participants who submitted photographs met all safe sleep criteria compared with 46% of controls (difference 0.10, 95% CI - 0.26 to 0.46, p = .75). Common reasons for guideline non-adherence were sleeping in a room without a caregiver (43%), loose bedding (15%) and objects (8%) on the sleep surface.

Conclusions

Utilizing the patient portal to individualize safe infant sleep is possible, however, we encountered numerous barriers in this trial to assess its effects on promoting safe infant sleep. Photographs of infants sleeping showed substantial non-adherence to AAP guidelines, suggesting further needs for improvement to promote safe infant sleep practices.

Trial registration

Name: Improving Infant Sleep Safety With the Electronic Health Record; Clinicaltrials.gov: NCT03662048; Date of

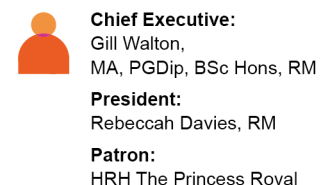
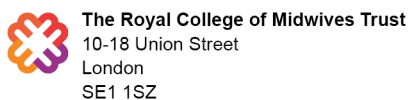
Registration: September 7, 2018 (Author)

Full URL: <https://doi.org/10.1186/s12887-020-02369-2>

20200909-20*

Maternal intentions towards infant sleeping practices in Ireland. O'Brien N, McGarvey C, Hamilton K, et al (2021), Acta

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Aim

Mortality from Sudden Infant Death Syndrome (SIDS) has reduced by 50%-85% globally. Despite improvements from 1990 to 2009, the Irish SIDS rate has plateaued. Reasons for this are unclear, but may be related to a reduced parental SIDS awareness. Our study aimed to assess intentions regarding infant sleeping practices in mothers in Ireland.

Methods

A cross-sectional survey of post-partum mothers was performed in the Rotunda Hospital over a four month period. Mothers with a history of SIDS, miscarriage or neonatal admissions were excluded.

Results

Of 451 participants, unsafe sleeping positions were intended by 15.4%, reduced by Irish ethnicity [AOR = 0.52, 95% CI = 0.277-0.959, P = .036]. Safe sleep locations were intended by 66%, increased by Irish ethnicity [AOR = 2.6, 95% CI = 1.617-4.191, P < .001], and reduced by young maternal age [AOR = 0.15, 95% CI = 0.03-0.713, P = .02]. Maternal smoking was more likely in mothers with lower educational level [AOR = 3.51, 95% CI = 1.169-10.56, P = .03]. Soft bedding use was intended by 34.8%, increased in younger mothers [AOR = 2.28, 95% CI = 1.04-4.98, P = .04]. Breastfeeding was intended by 72.2%, decreased by Irish ethnicity [AOR = 0.14, 95% CI = 0.067-0.271, P < .001], and low maternal education [AOR = 0.22, 95% CI = 0.117-0.406, P < .001].

Conclusion

Educational campaigns on safe sleep for infants in Ireland need to address modifiable SIDS risks factors, focusing on younger, non-Irish mothers, with lower educational attainment.

(Author)

20200817-30*

Classification of sleep-related sudden unexpected death in infancy: A national survey. Garstang J, Cohen M, Mitchell EA, et al (2021), Acta Paediatrica vol 110, no 3, March 2021, pp 869-874

Aim

To identify how British Child Death Overview Panels (CDOPs) and paediatric pathologists classify cause of death for sleep-related Sudden Unexpected Death in Infancy (SUDI). To determine compliance with national requirements for SUDI investigation.

Methods

Electronic survey of CDOPs and pathologists using three vignettes of SUDI cases illustrating: accidental asphyxia, typical Sudden Infant Death Syndrome (SIDS) and SIDS with co-sleeping.

Results

Thirty-eight (41%) of 92 CDOPs returned questionnaires, and 32 were complete. Thirteen (14%) of 90 pathologists returned complete questionnaires. Thirty-one (97%) CDOPs and 7 (53%) pathologists agreed with the cause of death in the accidental asphyxia case; 24 (75%) CDOPs and 9 (69%) pathologists in the typical SIDS case; and 11 (34%) CDOPs and 1 (8%) pathologist in the co-sleeping SIDS case. Pathologists used the terms SUDI or unascertained as the cause of death for the accidental asphyxia case (46%) and the co-sleeping SIDS case (77%). These terms were used by CDOPs for the typical SIDS case (25%) and the co-sleeping SIDS case (41%). Seventeen (46%) CDOPs reported compliance with guidelines for investigation in more than 75% of cases.

Conclusion

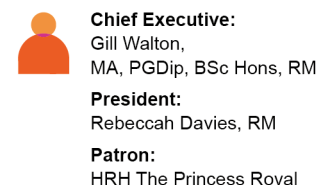
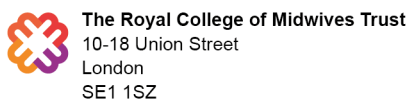
There is wide variation in classification of deaths, with only limited agreement between CDOPs and pathologists. The terms SIDS and accidental asphyxia are underused, even in typical cases. (Author)

20200803-18*

Recurrent sudden unexpected death in infancy: a case series of sibling deaths. Garstang JJ, Campbell MJ, Cohen MC, et al (2020), Archives of Disease in Childhood vol 105, no 10, October 2021, pp 945--950

Objectives To determine the rate of sudden unexpected death in infancy (SUDI) for infants born after a previous SUDI in the same family, and to establish the causes of death and the frequency of child protection concerns in families with recurrent SUDI.

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Design Observational study using clinical case records.

Setting The UK's Care of Next Infant (CONI) programme, which provides additional care to families who have experienced SUDI with their subsequent children.

Patients Infants registered on CONI between January 2000 and December 2015.

Main outcome measures Cause of death, presence of modifiable risk factors for SUDI and child protection concerns.

Results There were 6608 live-born infants registered in CONI with 29 deaths. 26 families had 2 deaths, and 3 families had 3 deaths. The SUDI rate for infants born after one SUDI is 3.93 (95% CI 2.7 to 5.8) per 1000 live births. Cause of death was unexplained for 19 first and 15 CONI deaths. Accidental asphyxia accounted for 2 first and 6 CONI deaths; medical causes for 3 first and 4 CONI deaths; and homicide for 2 first and 4 CONI deaths. 10 families had child protection concerns.

Conclusions The SUDI rate for siblings is 10 times higher than the current UK SUDI rate. Homicide presenting as recurrent SUDI is very rare. Many parents continued to smoke and exposed infants to hazardous co-sleeping situations, with these directly leading to or contributing to the death of six siblings. SUDI parents need support to improve parenting skills and reduce risk to subsequent infants. (Author)

20200722-74*

Association between NICU Admission and Supine Sleep Positioning, Breastfeeding, and Postnatal Smoking among Mothers of Late Preterm Infants. Hannan KE, Smith RA, Barfield WD, et al (2020), The Journal of Pediatrics vol 227, December 2020, pp 114-120.e1

Objective

To evaluate the association between neonatal intensive care unit (NICU) admission and breastfeeding practices, infant supine sleep positioning, and postnatal smoking among mothers of late preterm infants.

Study design

Data from 36 states using the 2000-2013 Pregnancy Risk Assessment Monitoring System (PRAMS) were analyzed. Chi-square tests and 95% confidence intervals (CI) assessed infant and maternal characteristics and recommended care practices for late preterm infants based on NICU admission after birth. Adjusted prevalence ratios (APR) for BF initiation and continuation at 10 weeks, supine sleep position, and postnatal smoking were estimated using multivariable logistic regression models, controlling for infant and maternal characteristics. Analyses were weighted and standard errors accounted for the complex survey design.

Results

Our sample included 62,494 late preterm infants, representing a weighted population of 1,441,451 late preterm infants. In the adjusted analysis, mothers of late preterm infants admitted to a NICU were more likely to initiate BF (APR 1.07; 95% CI 1.05-1.09) and place their infants in supine sleep position (1.04; 95% CI 1.01-1.06) than mothers of late preterm infants not admitted to a NICU. There was no significant difference between groups for BF continuation or postnatal smoking.

Conclusions

Mothers of late preterm infants admitted to a NICU were more likely to initiate BF and practice supine sleep position than mothers of late preterm infants not admitted to a NICU. Future work should seek to identify the drivers of these differences to develop effective strategies to engage mothers in these health promoting infant care practices.

(Author)

20200716-2*

Out of routine: A review of sudden unexpected death in infancy (SUDI) in families where the children are considered at risk of significant harm. Final report. The Child Safeguarding Practice Review Panel (2020), London: The Child Safeguarding Practice Review Panel July 2020. 55 pages

This review of sudden unexpected death in infancy (SUDI) in families where children are considered at risk of significant harm is the second national review commissioned by the Child Safeguarding Practice Review Panel (the Panel). Infants dying suddenly and unexpectedly represent one of the largest groups of cases notified to the Panel, with 40 notifications between June 2018 and August 2019. While these represent only a proportion of all SUDI, they

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10-18 Union Street
London
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F: +44 20 7312 3536
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MA, PGDip, BSc Hons, RM
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occur in families who are particularly vulnerable and each one is a devastating loss for the family. Almost all of these tragic incidents involve parents co-sleeping in unsafe sleep environments with infants, often when the parents had consumed alcohol or drugs. In addition, there were wider safeguarding concerns - often involving cumulative neglect, domestic violence, parental mental health concerns and substance misuse.

The major risk factors for SUDI are well known and the advice on reducing the risks is evidence-based and well established. In spite of this, it was apparent from the cases notified to the Panel that this advice, for whatever reason, is not clearly received or not acted on by some of those families most at risk. It is also clear that, for this group of families, the risks to their children extend beyond the direct risks of abuse or neglect to include wider risks to their health, development and wellbeing.

Within that context, this national review set out to answer the following question:

In families with children considered to be at high risk of significant harm through child abuse or neglect, how can professionals best support the parents to ensure that safer sleep advice can be heard and embedded in parenting practice so as to reduce the risks of SUDI?

The review concluded that:

- A better understanding of parental perspectives by all professionals enables local areas to adopt a more flexible and responsive partnership with parents, develop supportive yet challenging relationships that facilitate more effective safer sleep conversations, and co-produce appropriate information and support for parents and carers to aid their decisionmaking about the sleep environment.
- There need to be better links between the work in local areas to reduce the risk of SUDI and wider strategies for responding to neglect, issues related to social and economic deprivation, domestic violence, parental mental health concerns and substance misuse. This work needs to be embedded in multi-agency working and not just seen as the responsibility of health professionals.
- The use of behavioural insights and models of behaviour change should be investigated to explore whether these can support interventions to promote safer sleeping, specifically with this group of families with children at risk of significant harm. Approaches such as motivational interviewing hold out promise, particularly when combined with other strategies for family support and risk reduction. Such an approach could include the use of marketing and social media to influence behaviour change and could be linked to ongoing national work to provide consistent and evidence-based safer sleep messages as part of good infant care and safety. (Author)

Full URL: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/901091/DfE_Death_in_infancy_review.pdf

20200706-19*

Intensive Care Neonates and Evidence to Support the Elimination of Hats for Safe Sleep. Fulmer M, Zachritz W, Posencheg MA (2020), *Advances in Neonatal Care* vol 20, no 3, April 2020, pp 229-232

Background:

Although the incidence of sudden unexplained infant deaths has decreased over time with the use of safe sleep practices, one area that remains unclear is the safety of hats during infant sleep.

Purpose:

Decrease the risk of overheating or suffocation by removing NICU infants' hats during sleep without increasing the relative risk of hypothermia during transition to an open crib.

Methods:

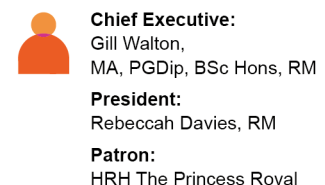
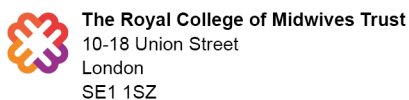
Removal of hats for routine thermoregulation, beyond the initial infant resuscitation and stabilization of NICU infant was implemented in 2015. Retrospective chart audits were conducted on all NICU infants between February 2015 and December 2016. Hypothermia ($\leq 97.6^{\circ}\text{F}$) data during transition to an open crib was collected. Exclusion criteria included concurrent diagnosis of: sepsis, hyperbilirubinemia, congenital anomaly inhibiting infants thermoregulation and noncompliance with unit guideline for weaning infant to open crib.

Findings:

Over 18 months, 2.7% of infants became hypothermic ($\leq 97.6^{\circ}\text{F}$) during transition to open crib, requiring return to isolettes.

Implications for Practice:

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Hats were found to be unnecessary in maintaining thermoneutrality after weaning infants to an open crib in our NICU. By avoiding the use of hats in an open crib, it's possible infants will avoid overheating and a risk of suffocation, creating a safer sleep environment.

Implications for Research:

The removal of hats during sleep to promote infant health should be considered for all infants. (Author)

20200514-34*

The effect of sleeping position on heart rate variability in newborns. Fister P, Nolim M, Lenasi H, et al (2020), BMC Pediatrics vol 20, no 156, 13 April 2020

Background

Lower heart rate variability (HRV) in a newborn might represent a risk factor for unfavourable outcome, a longer recovery after illness, and a sudden infant death. Our aim was to determine whether the newborn's sleeping position is associated with HRV.

Methods

We performed a prospective clinical study in 46 hospitalized cardiorespiratory stable term newborns. During sleeping, we measured the parameters of HRV in four body positions (supine, supine with tilt, prone, prone with tilt).

Results

The TP (total power spectral density) was significantly higher when lying supine in comparison to prone ($p = 0,048$) and to prone with tilt ($p = 0,046$). The HF (high frequency of power spectral density) in the supine position without tilt tended to be higher compared to prone without tilt ($p > 0,05$). The LF (low frequency power) was significantly higher when lying supine compared to prone, both without tilt ($p = 0,018$). TP and HF showed a positive correlation with gestational but not postmenstrual age ($p = 0.044$ and $p = 0.036$, respectively).

Conclusions

In term newborns, sleeping position is associated with HRV. Higher TP and HF were found in the supine position, which might reflect better ANS stability. Gestational age positively correlated with TP and HF power, but only in supine position.

Trial registration

ISRCTN11702082, date of registration: March, 13th, 2020; retrospectively registered. (Author)

Full URL: <https://doi.org/10.1186/s12887-020-02056-2>

20200320-15*

Considerations in Safe to Sleep® messaging: Learning from African-American mothers. Stiffler D, Matemachani SM, Crane L (2020), Journal for Specialists in Pediatric Nursing (JSPN) vol 25, no 1, January 2020, e12277

Purpose

The purpose of this study was to identify why African-American mothers do not tend to follow the Safe to Sleep® recommendations and to begin to identify a way to frame the Safe to Sleep® message so that African-American mothers might be more likely to follow these recommendations.

Design

We recruited African-American mothers with infants over the age of 6 months to participate in two focus groups facilitated by a community engagement manager experienced in focus group facilitation. We used ethnography to find shared patterns of behavior and beliefs in African-American women related to safe sleep.

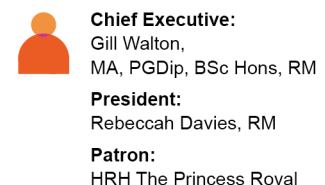
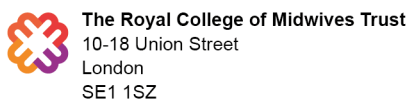
Results

We identified 14 concepts and formulated them into three categories: it's just easier; can't fight culture and grandma; and Effectively teaching mother. From these we were able to identify the shared value of multifaceted learning.

Practice implications

African-American mothers say that they are generally aware of the Safe to Sleep® recommendations, even though the majority of mothers do not follow them. The reasons they give for not following them are that they are not comfortable doing so, they feel they are unable to do so, or find it unnecessary. Many of the mothers attempted to follow the Safe to Sleep® recommendations but abandoned the effort due to the stress of their crying infant. Trying to

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follow the Safe to Sleep® recommendations were stressful for the mothers, even though there was concern expressed by some that their infant could indeed suffocate or die from sudden infant death syndrome. The mothers gave suggestions on how they would change the message or the delivery of the message. (Author)

20200318-73*

Modeling Safe Infant Sleep in the Hospital. Frey E, Hamp N, Orlov N (2020), Journal of Pediatric Nursing vol 50, January-February 2020, pp 20-24

Purpose

Despite reductions in the rate of sudden infant death syndrome (SIDS) over the last 25 years, over 3000 infant deaths annually in the US are attributable to sleep-related causes. We aimed to improve safe sleep practice (SSP) adherence by healthcare providers working with infants admitted to an inpatient pediatric unit in an urban academic center specifically increasing compliance on five core SSP (supine, alone in the crib, no objects in crib, appropriate bundling, and flat crib).

Design and methods

This Quality Improvement project evaluated a staff education intervention using a pre- and post-design. Surveys of providers determined baseline SSP knowledge. Adherence to SSP in the hospital was audited before and after education. One hundred pre-intervention infant sleep placement observations were recorded and 123 were collected post-intervention.

Results

Surveyed providers had appropriate knowledge of SSP; however, baseline audits indicated that no patients met all SSP practices in the hospital. Post-intervention adherence to SSP showed significant ($p < .05$) improvements in keeping the crib flat, removing objects from the crib, and avoiding over-bundling. Overall, SSP adherence increased by 12.5% post-intervention.

Conclusions

This quality improvement project suggests that the inpatient setting provides opportunities for providers to demonstrate SSP but that healthcare providers often do not follow SSP in practice. Continued education can lead to improvements in SSP adherence ensuring that hospitals are modeling SSP for the families of infants.

Practice implications

Limited improvements to SSP adherence illustrate the complexities of modifying provider behaviors in the absence of formal policy. (Author)

Full URL: <https://doi.org/10.1016/j.pedn.2019.10.002>

20200316-49*

Half of new parents admit to risking cot death when tired according to new survey. The Lullaby Trust (2020), London: The Lullaby Trust 9 March 2020

Reports the main findings of a survey of over 7,000 new parents carried out by The Lullaby Trust, which has shown that 46% have put their baby in an unsafe sleeping environment in order to get them to sleep for longer. (Author, edited)

Full URL: <https://www.lullabytrust.org.uk/half-of-new-parents-admit-to-risking-cot-death-when-tired-according-to-new-survey/>

20200303-45*

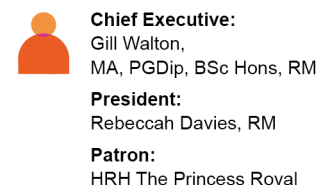
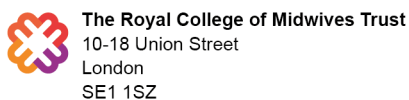
Infant care practices and parent uptake of safe sleep messages: a cross-sectional survey in Queensland, Australia. Cole R, Young J, Kearney L, et al (2020), BMC Pediatrics vol 20, no 27, 21 January 2020

Background

Globally, the incidence of sleep-related infant mortality declined dramatically following the first public health campaigns seen internationally in the 1990s to reduce the risks of sudden infant death. However, Australian Sudden Unexpected Death in Infancy (SUDI) rates have plateaued with little change in incidence since 2004 despite two further public health safe sleep campaigns. This study aims to describe contemporary infant care practices employed by families related to the current public health SUDI prevention program.

Methods

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A cross-sectional survey of 3341 Queensland primary caregivers with infants approximately 3-months of age was conducted using the Queensland Registry of Births, Deaths and Marriages as a sampling frame. Surveys were returned either via reply-paid mail or online. Questionnaires explored prevalence of infant care practices and awareness of safe sleep recommendations. Univariable analysis was used to generate descriptive statistics for key variables.

Results

Overall, only 13% of families routinely practised all six 'Safe Sleeping' program messages. More than one third (1118, 34%) of infants had slept in a non-supine sleep position at some time. Potentially hazardous sleep environments were common, with 38% of infants sleeping with soft items or bulky bedding, or on soft surfaces. Nearly half, for either day- or night-time sleeps, were routinely placed in a sleep environment that was not designed or recommended for safe infant sleep (i.e. a bouncer, pram, beanbag). Most babies (84%) were reportedly smoke free before and after birth. Sleeping in the same room as their caregiver for night-time sleeps was usual practice for 75% of babies. Half (1600, 50%) of all babies shared a sleep surface in the last two-weeks. At 8-weeks, 17% of infants were no longer receiving any breastmilk.

Conclusions

The prevalence rates of infant care practices among this Australian population demonstrate many families continue to employ suboptimal practices despite Australia's current safe sleep campaign. Strategic approaches together with informed decisions about pertinent messages to feature within future public health campaigns and government policies are required so targeted support can be provided to families with young infants to aid the translation of safe sleep evidence into safe sleeping practices. (62 references) (Author)

Full URL: <https://doi.org/10.1186/s12887-020-1917-5>

20200226-29*

Parental knowledge of safe infant sleep and sudden infant death syndrome is inadequate in Croatia. Barbir I, Ball HL, Zakarija-Grkovic I, et al (2020), Acta Paediatrica vol 109, no 9, September 2020, pp 1887-1888

No national safe sleep guidelines have been established in Croatia, and the knowledge of Croatian parents regarding safe infant sleep is unknown. Hence, we conducted an online survey of parental knowledge of safe infant sleep and SIDS in 2018. In 2017, there were 36 556 live births, 149 stillbirths and 148 infant deaths in Croatia, of which six were attributed to SIDS.

There are limitations associated with online studies, such as obtaining a representative sample. Our survey was advertised, among others, on the website of a parenting organisation whose members practice attachment parenting, including bed-sharing, and tend to be more highly educated. The bed-sharing prevalence found in this study may therefore reflect this, suggesting that the true awareness of SIDS risk factors among Croatian parents may in fact be much worse.


There is a need for systematic, evidence-based parental education on safe infant sleep and SIDS in Croatia, based on successful Back to Sleep campaigns conducted worldwide. (5 references) (Author, edited)

20191120-5*


Accidental Infant Suffocation and Strangulation in Bed: Disparities and Opportunities. Drowos J, Fils A, Mejia de Grubb MC, et al (2019), Maternal and Child Health Journal vol 23, no 12, December 2019, pp 1670-1678

Objectives (a) Update previous descriptions of trends in ASSB; (b) determine if factors previously associated with ASSB are replicated by updated data; and (c) generate new hypotheses about the occurrence of ASSB and racial inequalities in ASSB mortality. Methods National Center for Health Statistics files (International Classification of Diseases, Tenth Edition) Code W75 to describe race-ethnicity-specific ASSB occurrence. Results (a) ASSB mortality continues to increase significantly; for 1999-2016, 4.4-fold for NHB girls (45.8 per 100,000 in 2016), 3.5-fold for NHB boys (53.8), 2.7-fold for NHW girls (15.8) and 4.0-fold for NHW boys (25.9); (b) Factors previously associated with ASSB (unmarried mothers and mothers with low educational attainment, low infant birth weight, low gestational age, lack of prenatal care, male infant, multiple birth, high birth order) continue to be associated with both overall ASSB and inequalities adversely affecting NHB; (c) (1) geographic differences and similarities in ASSB occurrence support hypotheses related to positive deviance; (2) lower ASSB mortality for births attended by midwives as contrasted to physicians generate

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hypotheses related to both medical infrastructure and maternal engagement; (3) high rates of ASSB among infants born to teenage mothers generate hypotheses related to the possibility that poor maternal health may be a barrier to ASSB prevention based on education, culture and tradition. Conclusions for Practice These descriptive data may generate new hypotheses and targets for interventions for reducing both ASSB mortality and racial inequalities. Analytic epidemiologic studies designed a priori to do so are required to address these hypotheses. (Author)

20191119-81*

Reports of Injury Risks and Reasons for Choice of Sleep Environments for Infants and Toddlers. Scheers NJ, Dayton C, Batcher M, et al (2019), *Maternal and Child Health Journal* vol 23, no 12, December 2019, pp 1613-1620

Objective

Compare mothers' reports of injuries for infants and toddlers sleeping with crib-bumpers/mesh-liners/no-barriers and reasons for these sleep environment choices.

Methods

A cross-sectional survey of mothers subscribing to a parenting magazine and using crib bumpers (n = 224), mesh liners (n = 262), and no barriers (n = 842). Analyses of four possible injuries (face-covered, climb-out/fall, slat-entrapment, hit-head) including multivariate logistic regression adjusted for missing data/demographics and Chi squared analyses of reasons for mothers' choices.

Results

Maternal reports of finding infants/toddlers with face covered had 3.5 times higher adjusted odds (aOR) for crib bumper versus mesh liner use. Breathing difficulties and wedgings were reported for infants/toddlers using crib bumpers but not mesh liners. Climb-outs/falls showed no significant difference in aORs for crib bumpers versus no-barriers and mesh liners versus no barriers. Reports of slat-entrapment were less likely for mothers using crib bumpers and mesh liners than using no barrier (aOR = .28 and .32). Reports of hit-heads were less likely for crib bumpers vs no barrier (aOR = .38) with no significant difference between mesh liners versus no barrier use. Mothers using crib bumpers and mesh liners felt their choice prevented slat-entrapment (89%, 91%); 93.5% of crib bumper users felt their choice prevented hit-heads. Significantly more mesh liner than crib bumper users chose them because 'There is no suffocation risk' (64.1% vs. 40.6%), while 83.6% of no-barrier users chose them because 'I was concerned about suffocation risk.'

Conclusions for Practice

Mothers appeared to be more concerned about preventing minor risks than suffocation. Understanding reasons for mothers' use of barriers/no-barriers is important in tailoring counseling for mothers with infants/toddlers. (Author)

20191118-14*

Trends in Breastfeeding Interventions, Skin-to-Skin Care, and Sudden Infant Death in the First 6 Days after Birth.

Bartick M, Boisvert ME, Philipp BL, et al (2020), *The Journal of Pediatrics* vol 218, March 2018, pp 11-15

Objective

To determine if implementation of skin-to-skin care and the Baby-Friendly Hospital Initiative (BFHI) contributes to sudden unexpected infant death (SUID) and asphyxia in the first 6 days after birth.


Study design

Survey data were used to determine a correlation between BFHI and deaths from SUID and asphyxia among infants <7 days in the US and Massachusetts. Using data from the Centers for Disease Control and Prevention, implementation of BFHI was tracked from 2004-2016 and skin-to-skin care was tracked from 2007-2015. Using data from Centers for Disease Control and Prevention WONDER and the Massachusetts Department of Public Health, SUID and asphyxia were tracked from 2004-2016.


Results

Nationally, births in Baby-Friendly facilities rose from 1.8% to 18.3% and the percentage of facilities in which most dyads experienced skin-to-skin care rose from 40% to 83%. SUID prevalence among infants <7 days was rare (0.72% of neonatal deaths) and decreased significantly from 2004-2009 compared with 2010-2016, from 0.033 per 1000 live births to 0.028, OR 0.85 (95% CI 0.77, 0.94). In Massachusetts, births in Baby-Friendly facilities rose from 2.8% to 13.9% and

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skin-to-skin care rose from 50% to 97.8%. SUID prevalence decreased from 2010-2016 compared with 2004-2009: OR 0.32 (95% CI 0.13, 0.82), with 0 asphyxia deaths during the 13-year period.

Conclusion

Increasing rates of breastfeeding initiatives and skin-to-skin care are temporally associated with decreasing SUID prevalence in the first 6 days after birth in the US and Massachusetts.

Keywords

SUID baby-friendly hospital initiative infant mortality (Author)

20191022-8*

Prevalence and Factors Associated With Safe Infant Sleep Practices. Hirai AH, Kortsmit K, Kaplan L, et al (2019), *Pediatrics* vol 144, no 5, November 2019

OBJECTIVES: To examine prevalence of safe infant sleep practices and variation by sociodemographic, behavioral, and health care characteristics, including provider advice.

METHODS: Using 2016 Pregnancy Risk Assessment Monitoring System data from 29 states, we examined maternal report of 4 safe sleep practices indicating how their infant usually slept: (1) back sleep position, (2) separate approved sleep surface, (3) room-sharing without bed-sharing, and (4) no soft objects or loose bedding as well as receipt of health care provider advice corresponding to each sleep practice.

RESULTS: Most mothers reported usually placing their infants to sleep on their backs (78.0%), followed by room-sharing without bed-sharing (57.1%). Fewer reported avoiding soft bedding (42.4%) and using a separate approved sleep surface (31.8%). Reported receipt of provider advice ranged from 48.8% (room-sharing without bed-sharing) to 92.6% (back sleep position). Differences by sociodemographic, behavioral, and health care characteristics were larger for safe sleep practices (10-20 percentage points) than receipt of advice (5-10 percentage points). Receipt of provider advice was associated with increased use of safe sleep practices, ranging from 12% for room-sharing without bed-sharing (adjusted prevalence ratio: 1.12; 95% confidence interval: 1.09-1.16) to 28% for back sleep position (adjusted prevalence ratio: 1.28; 95% confidence interval: 1.21-1.35). State-level differences in safe sleep practices spanned 20 to 25 percentage points and did not change substantially after adjustment for available characteristics.

CONCLUSIONS: Safe infant sleep practices, especially those other than back sleep position, are suboptimal, with demographic and state-level differences indicating improvement opportunities. Receipt of provider advice is an important modifiable factor to improve infant sleep practices. (Author)

Full URL: <https://doi.org/10.1542/peds.2019-1286>

20190925-46*

Disclosure of Infant Unsafe Sleep Practices by African American Mothers in Primary Care Settings. Mahoney P, Solomon BS, McDonald EM, et al (2019), *JAMA Pediatrics* vol 173, no 9, September 2019, pp 878-879

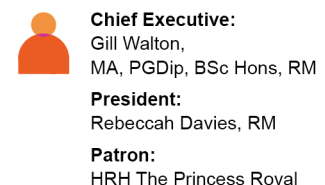
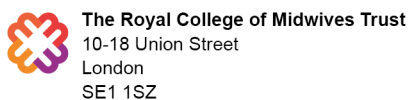
African American infants from low-income families remain at high risk for sleep-related deaths despite the reduction in infant sleep deaths in the general population. As part of a larger research study, 46 African American mothers were asked about their infants' sleep practices during 3 separate encounters on the same day: a survey administered by a research assistant (RA), a well-baby visit with the pediatrician, and a safe sleep discussion with a health educator (HE). Based on the mothers' responses during each encounter, this study assesses the disclosure rates for unsafe sleep practices. (Author)

20190918-9*

Maternal Knowledge and Unsafe Baby Sleep Position: A Cross-Sectional Survey in Southern Brazil. Cesar JA, Marmitt LP, Carpena MX, et al (2019), *Maternal and Child Health Journal* vol 23, no 2, February 2019, pp 183-190

Objective to evaluate women's knowledge about the best baby sleeping position and to identify factors associated with a greater probability of putting infants to sleep in an unsafe position, in Rio Grande, Southern Brazil. Method This is a cross-sectional population-based study that included all women who bore children in 2013 in this municipality. A single, standardized questionnaire was given within 48 h after delivery in the only two local maternity hospitals. The

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outcome was that women reported the lateral and the ventral decubitus as the best sleeping positions for babies. A Chi square test was used for proportions and Poisson regression was used with robust variance adjustment in the multivariate analysis. The prevalence ratio was the measure of effect used. Results We included 2624 women in this study. Of these, 82.1% (95% CI 80.6-83.6) stated that the baby should sleep in the lateral or ventral decubitus positions. 76.4% reported having acquired this knowledge from their mothers and 34.7% were willing to adopt the correct (supine) sleeping position for their child if recommended by doctors. The adjusted analysis showed that the lower the schooling of the mothers and the greater the number of people per bedroom and number of children, the greater the probability of women choosing an unsafe baby sleeping position. Conclusions for Practice This study showed that the percentage of women who are unaware of the correct baby sleeping position is very high, that doctors should be convinced to recommend the supine baby sleeping position, and that campaigns on this subject should also include grandparents as a priority intervention group. (Author)

20190628-60*

Facilitators and Barriers to Implementation of Safe Infant Sleep Recommendations in the Hospital Setting. Colson ER, Schaeffer P, Hauck FR, et al (2019), JOGNN: Journal of Obstetric, Gynecologic and Neonatal Nursing vol 48, no 3, May 2019, pp 332-340

Objective

To identify facilitators and barriers to the implementation of safe sleep recommendations from the American Academy of Pediatrics from the perspective of hospital staff as part of a needs assessment that was used to design a successful quality improvement intervention to change clinical practice.

Design

Qualitative design.

Setting

Multiple sites of three hospitals in the northeastern and southern United States.

Participants

We used purposeful sampling to identify 46 participants who cared for infants on inpatient hospital units (nurses and other staff members).

Methods

A qualitative researcher used grounded theory to moderate the focus groups. We constructed the initial interview guide and then changed it as needed to capture more information about new ideas as they arose. Researchers from diverse backgrounds participated in the analysis and used the constant comparative method to select important concepts and to develop codes and subsequent themes. We continued to collect data until saturation was reached.

Results

We identified themes and subthemes, and the taxonomy fit into the Grol and Wensing framework for change in clinical practice. The six primary themes included The Innovation Itself, The Individual Health Care Professional, The Patient, The Social Context, The Organizational Context, and The Economic and Political Context.

Conclusion

Participants described facilitators and barriers to the implementation of the American Academy of Pediatrics recommendations for safe infant sleep. Identification of these themes informed our quality improvement intervention to promote safe infant sleep. Findings can be used by others when faced with the need for similar change. (26 references) (Author)

20190613-69*

Sudden unexpected infant death characteristics in the French region of West Provence-Alpes-Côte d'Azur. Tuchtan L, Delteil C, Levrat F, et al (2019), Paediatrics and International Child Health vol 39, no 2, 2019, pp 104-110

Background: Although the incidence of sudden unexpected infant death (SUID) has decreased since the 'Back to Sleep' campaign in English-speaking countries and other preventive campaigns, the circumstances of such deaths remain unclear.

Aim: To analyse infant deaths recorded at the referral centre for sudden infant death of the West

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Provence-Alpes-Côte d'Azur region of France (West PACA) and the forensic medicine department of Marseille University Hospital.

Methods: Information on all SUID cases from 2000 to 2017 was extracted from the referral centre for sudden infant deaths in West PACA and the forensic medicine department of Marseille.

Results: The study included 130 infants over the 17 years with a very similar distribution. There was a marked male preponderance, with 61.6% of boys whatever the age at death (sex ratio 1.6). Half of the deaths occurred in the first 6 months of life and the majority (61%) of infants died during autumn and winter. Nearly one-third (33.2%) had presented with minor infections and 21% had been seen by a doctor or had been admitted to hospital. Most deaths (86.4%) occurred during sleep (night or day). Nearly half of the infants (47.7%) were discovered in a prone position. A large majority of parents (90.7%) agreed to a post-mortem examination. Only 6.2% of deaths led to legal proceedings. Nearly 16.9% remained unexplained after compiling all the data included in the protocol and 9.2% remained unexplained because of incomplete investigation, including refusal of post-mortem examination. Abuse was involved in 2.3% of cases.

Conclusions: Asymptomatic infectious conditions were associated with a high proportion of SUID cases. Non-supine sleep positions were still practised. There is a need to increase SUID prevention campaigns. (40 references) (Author)

20190613-38*

Prevalence and associated factors of supine sleep position in 3-month-old infants: findings from the 2015 Pelotas (Brazil) Birth Cohort. da Silva BGC, da Silveira MF, de Oliveira PD, et al (2019), BMC Pediatrics vol 19, no 165, 24 May 2019

Background

Non-supine infant sleep position is an important modifiable risk factor for sudden unexpected death in infancy. The aim of this study was to assess the prevalence of supine sleep position and associated factors among 3-month-old infants from a birth cohort in the city of Pelotas, southern Brazil.

Methods

The present study evaluated longitudinal data from the 2015 Pelotas Birth Cohort. Study outcome was supine infant sleep position, defined as the appropriate position, among 3-month-old children. Demographic, socioeconomic, behavioral, and health characteristics collected at birth and at the 3-month follow-up were investigated as possible associated factors. The prevalence of each associated factor was investigated, and crude and hierarchical adjusted analyses were performed using Poisson regression.

Results

Among the 4108 infants assessed in this study, 2274 (55.4%) slept in supine position at 3 months and only 66 (1.6%) in prone position. Maternal white skin color, higher family income and maternal schooling, advanced maternal age, maternal cohabiting with a partner, receiving counseling from health care professionals and non-bed-sharing were associated with higher prevalence of infants sleeping in supine position at 3 months. All these variables remained associated in our hierarchical adjusted analyses except maternal cohabitation with a partner. Participants with white mothers were more likely to sleep in supine position (PR: 1.23; 95%CI: 0.75-0.89) compared to participants with black mothers. Those belonging to the richest quintile were more likely to sleep in supine position (PR: 1.49; 95%CI: 1.35-1.65) compared to those who belong to the poorest. Mothers aged 31-36 years were more likely to choose supine sleep position (PR: 1.65; 95%CI: 1.42-1.92) compared to mothers younger than 19 years.

Conclusions

The findings of the present study showed the influence of maternal age, socioeconomic status, and counseling on infant sleep habits as predictors of choice of infant sleep position in a Brazilian population. It is recommended to implement informative campaigns and public policies to at-risk population and to improve recommendations from health care professionals.


(36 references) (Author) [Please note: this article is a digital version which may undergo minor changes in the future]

Full URL: <https://doi.org/10.1186/s12887-019-1534-3>


20190612-50*

Sudden Infant Death Syndrome: A Global Public Health Issue and Nursing's Response. Pretorius K, Rew L. Comprehensive

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Sudden unexplained death in infancy, including sudden infant death syndrome (SIDS), is a global public health challenge. Despite public health campaigns and efforts, SIDS remains the leading cause of postneonatal mortality in many developed countries. In this article, we review SIDS, describe nursing's unique professional position in addressing this problem, and explore how the principles of social justice can inform nursing's response. Motivated by nursing's ethical and moral obligations, the profession is called to take an active role in educating others regarding this phenomenon, to participate in research, and to develop or advocate for policy that aims to reduce the incidence of SIDS on an international scale. (Author)

20190606-9*

The use of post-mortem lividity to determine sleep position in sudden unexpected deaths in infancy. Shipstone R, Thompson JMD, Young J, et al (2020), *Acta Paediatrica* vol 109, no 6, June 2020, pp 1162-1165

Aim

To compare parental reports of position found in sudden unexpected deaths in infancy (SUDI) to autopsy reports of lividity and to more accurately classify infant sleep position.

Methods

Cases of SUDI in Queensland between 2010 and 2014 were reviewed to determine the position in which infants were reported to have been placed and found. This was compared to the distribution of post-mortem lividity at autopsy. Evidence of lividity present during early death scene investigation was also recorded.

Results

There was a discordance between the position an infant was reported to have been found and the position of lividity at autopsy in 22/228 SUDI (9.6%). All infants had anterior lividity despite 13 reportedly found supine, three on their side and six in an unknown position. Using anterior lividity at autopsy to change the position found increased the proportion of prone infants from 37.7% to 47.4%. In 47.8% cases, anterior or lateral lividity reported at the scene was no longer present at autopsy.

Conclusion

Previously published odds ratios may have underestimated the risk of sudden infant death associated with prone sleep position. SUDI death scene investigation protocols should require photographic documentation of lividity prior to transporting an infant. (Author)

20190605-56*

Nurses Leading Safe Infant Sleep Initiatives in the Hospital Setting. Hitchcock SC, Ruhl C (2019), *Nursing for Women's Health* vol 23, no 2, April 2019, pp 148-162

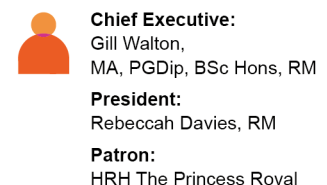
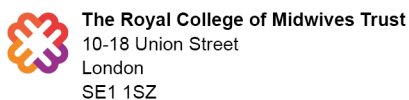
Every day, 10 otherwise healthy infants die from sleep-related deaths in the United States. These deaths, termed sudden unexpected infant death, remain the leading cause of post-neonatal death in the United States despite known modifiable risk factors and prevention recommendations. In birthing hospitals, many parents report being given incorrect and sometimes no information about infant sleep safety, which creates immediate and long-term safety concerns. In this article, we provide an overview of sudden unexpected infant death, including sudden unexpected postnatal collapse, and the latest safe sleep recommendations from the American Academy of Pediatrics. We also offer practical guidelines for nurses—those working at the bedside and those in leadership positions—who may be seeking to improve the quality of infant sleep practices in their organizations. (62 references) (Author)

20190530-11

Conversations with families about reducing the risk of sudden infant death syndrome. Pease A, Blair PS, Ingram J, et al (2019), *Journal of Health Visiting* vol 7, no 5, May 2019, pp 226-231

Inequalities in the burden of sudden and unexpected deaths in infancy make targeted action by health professionals a viable option for intervention. Most of the deaths that now occur have at least one known modifiable risk factor present, so the potential impact of supporting families with implementing safer sleep strategies is great and may

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bring about a further reduction in infant deaths. This article describes the latest evidence for action on three of the major risk factors for SIDS: sleeping position; smoking; and co-sleeping. It will go on to discuss how to translate this evidence into effective communication strategies for families, including giving information about why or how the messages increase safety for sleeping babies. (Author)

20190429-30*

Sleep-Related Infant Suffocation Deaths Attributable to Soft Bedding, Overlay, and Wedging. Lambert ABE, Parks SE, Cottengim C, et al (2019), *Pediatrics* vol 143, no 5, May 2019

BACKGROUND: Unintentional suffocation is the leading cause of injury death among infants <1 year old in the United States, with 82% being attributable to accidental suffocation and strangulation in bed. Understanding the circumstances surrounding these deaths may inform prevention strategies.

METHODS: We analyzed data from the population-based Sudden Unexpected Infant Death Case Registry from 2011 to 2014. Cases categorized as explained suffocation with unsafe sleep factors (suffocation), per the Centers for Disease Control and Prevention's Sudden Unexpected Infant Death Case Registry classification system, were included and assigned a mechanism of obstruction, including soft bedding, overlay, or wedging. We calculated frequencies and percentages of suffocation deaths by mechanism and selected demographic and sleep-environment characteristics.

RESULTS: Fourteen percent of sudden unexpected infant death cases were classified as suffocation; these cases were most frequently attributed to soft bedding (69%), followed by overlay (19%) and wedging (12%). Median age at death in months varied by mechanism: 3 for soft bedding, 2 for overlay, and 6 for wedging. Soft-bedding deaths occurred most often in an adult bed (49%), in a prone position (82%), and with a blanket (or blankets) obstructing the airway (34%). Overlay deaths occurred most often in an adult bed (71%), and infants were overlaid by the mother (47%). Wedging deaths occurred most often when the infant became entrapped between a mattress and a wall (48%).

CONCLUSIONS: Safe sleep environments can reduce infant suffocation deaths. Increased knowledge about the characteristics of suffocation deaths can help inform prevention strategies by targeting highest-risk groups.

Accepted January 23, 2019.

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20190429-28*

Mediators of Improved Adherence to Infant Safe Sleep Using a Mobile Health Intervention. Moon RY, Corwin MJ, Kerr S, et al (2019), *Pediatrics* vol 143, no 5, May 2019

OBJECTIVES: To determine mediators of improvements in infant safe-sleep (SS) practices in a mobile health intervention.


METHODS: In a cluster-randomized controlled trial, mothers received SS intervention or breastfeeding control videos for 60 days. Maternal responses about infant sleep position and location (outcomes) and mediators (attitudes, perceived social norms, and perceived control) from the theory of planned behavior were assessed. Intervention effects on mediators and association between mediators and outcomes were examined.

RESULTS: Of 1600 recruited, 1263 mothers participated. Mothers receiving SS videos were more likely to have positive attitudes and norms for supine sleep (attitudes: adjusted odds ratio [aOR] = 2.35 [95% confidence interval (CI) 1.72 to 3.20]; norms: aOR = 1.75 [95% CI 1.27 to 2.42]) and recommended sleep location (attitudes: aOR = 1.91 [95% CI 1.54 to 2.36]; norms: aOR = 1.37 [95% CI 1.13 to 1.66]). Positive attitudes and norms toward supine sleep and room-sharing without bed-sharing were associated with higher odds of both practices (supine: aOR = 8.25 [95% CI 4.72 to 14.43] for positive attitudes and aOR = 6.67 [95% CI 4.25 to 10.46] for norms; room-sharing: aOR = 7.14 [95% CI 5.35 to 9.53] for positive attitudes and aOR = 4.44 [95% CI 3.03 to 6.51] for norms). Both positive attitudes and positive norms mediated the effect of the intervention.


CONCLUSIONS: The intervention achieved success in improving adherence to SS recommendations by changing maternal attitudes and norms about supine sleeping and room-sharing without bed-sharing. Recognition that these attitudes and norms appear to be the main drivers of mothers' choices regarding infant-sleep practices should inform health messaging strategies to promote SS.

Accepted February 1, 2019.

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20190425-56*

Facilitators and Barriers to Implementation of Safe Infant Sleep Recommendations in the Hospital Setting. Colson ER, Schaeffer P, Hauck FR, et al (2019), JOGNN: Journal of Obstetric, Gynecologic and Neonatal Nursing 8 April 2019, online

Objective

To identify facilitators and barriers to the implementation of safe sleep recommendations from the American Academy of Pediatrics from the perspective of hospital staff as part of a needs assessment that was used to design a successful quality improvement intervention to change clinical practice.

Design

Qualitative design.

Setting

Multiple sites of three hospitals in the northeastern and southern United States.

Participants

We used purposeful sampling to identify 46 participants who cared for infants on inpatient hospital units (nurses and other staff members).

Methods

A qualitative researcher used grounded theory to moderate the focus groups. We constructed the initial interview guide and then changed it as needed to capture more information about new ideas as they arose. Researchers from diverse backgrounds participated in the analysis and used the constant comparative method to select important concepts and to develop codes and subsequent themes. We continued to collect data until saturation was reached.

Results

We identified themes and subthemes, and the taxonomy fit into the Grol and Wensing framework for change in clinical practice. The six primary themes included The Innovation Itself, The Individual Health Care Professional, The Patient, The Social Context, The Organizational Context, and The Economic and Political Context.

Conclusion

Participants described facilitators and barriers to the implementation of the American Academy of Pediatrics recommendations for safe infant sleep. Identification of these themes informed our quality improvement intervention to promote safe infant sleep. Findings can be used by others when faced with the need for similar change. (26 references) (Author)

[Please note: this article is a digital version which may undergo minor changes in the future]

20190418-29*

Mother 'felt suicidal' after baby death news reports. Baker K (2019), BBC News 18 April 2019

Reports that a young mother whose baby son died from sudden infant death syndrome is seeking a change in the law after misleading headlines in the media left her feeling suicidal. States that all explained infant deaths are investigated by child protecting teams but reports that 'child abuse officers' were involved in the case led to her being accused of abusing her baby, sworn at in the street by strangers, spat on and shunned by friends. (JSM)

Full URL: <https://www.bbc.co.uk/news/uk-47960564>

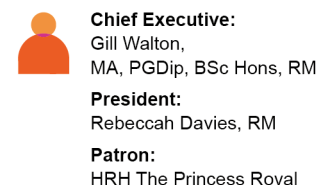
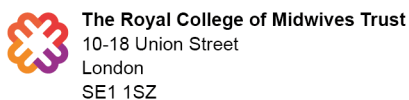
20190205-129

Nursing student knowledge and compliance with SIDS prevention strategies. Graham J, Peoples M (2019), Infant vol 15, no 1, January 2019, pp 29-32

Excessive preventable sleep-related deaths require that every nurse encounter with infant caregivers should include safe sleep education and role modelling. Adequate training on sudden infant death syndrome (SIDS) prevention, including safe infant sleep, may be lacking in some nursing schools. The purpose of this study was to assess SIDS prevention knowledge and compliance among nursing students. Many students did not accurately identify modifiable SIDS risk factors, ethnic groups with higher SIDS incidence, or optimal education methods. These findings could be helpful for assuring that nursing curricula adequately prepare new nurses for preventing future SIDS events. (17

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20190129-59*

Creating a Safe Sleep Environment for the Infant: What the Pediatric Nurse Needs to Know. Newberry JA (2019), Journal of Pediatric Nursing vol 44, January-February 2019, pp 119-122

Despite the release of guidelines by the American Academy of Pediatrics (AAP) on safe infant sleep and public service campaigns aimed at reducing risk factors over the past 25 years, deaths due to Sudden Infant Death Syndrome (SIDS) and Sudden Unexplained Infant Death (SUID) are still the 4th leading causes of infant death in the United States.

Findings from several studies demonstrate that nurses do not consistently model safe sleep practices with infants due to a lack of education on evidence-based practice and misconceptions regarding safe infant sleep. The aim of this paper is to demonstrate the need for expanded education to both nurses and parents on the principles of safe infant sleep and the impact it can have on decreasing risk factors for SIDS and SUID. Strategies are outlined for additional education for nurses and parents to enhance adherence to safe sleep guidelines and quality improvement projects aimed at the implementation of culture change are discussed. Going forward it is critical that nurses take an active role in seeking additional education on modifiable risk factors linked to SIDS and SUID and use that education to model and teach safe infant sleep practices with every infant at every encounter. (28 references) (Author)

Full URL: <https://doi.org/10.1016/j.pedn.2018.12.001>

20190125-2*

Child death review. Statutory and operational guidance (England). HM Government (2018), London: Cabinet Office October 2018. 71 pages

This guidance sets out key features of what a good child death review process should look like. This process combines best practice with statutory requirements that must be followed. The purpose of setting out key features of a robust child death review process in one document is to ensure that the outputs from reviews are standardised as far as possible and of a uniform quality. This will enable effective thematic learning from reviews, i.e. a local review may be able to identify specific learning but trends analysis at a national level may identify modifiable factors that could be altered to prevent future deaths. This requires a degree of standardisation that this document aims to outline; however, clinical commissioning groups (CCGs) and local authorities (the child death review partners) are able to make arrangements for child death reviews as they see fit in order to meet the statutory requirements under the Children Act 2004 (the Act). The process set out in this document runs from the moment of a child's death to the completion of the review by the Child Death Overview Panel (CDOP) or any equivalent arrangements put in place by child death review partners. This includes the immediate actions that should be taken after a child's death; the local review of a child's death by those who interacted with the child during life, and with the investigation after the child's death; through to the final stage of the child death review process which is the statutory review arranged by child death review partners. The process is designed to capture the expertise and thoughts of all individuals who have interacted with the case in order to identify changes that could save the lives of children. (Author)

Full URL: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/773431/Child_death_review_statutory_and_operational_guidance_England.pdf

20190122-78*

Infants who die in shared sleeping situations differ from those who die while sleeping alone. Collins-Praino LE, Byard RW (2019), Acta Paediatrica vol 108, no 4, April 2019, pp 766-767

Aim

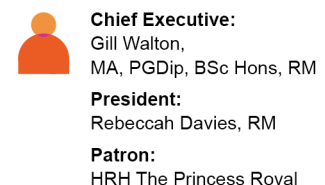
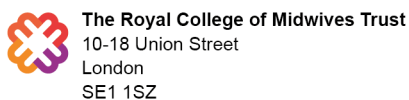
To determine whether there are differences between infants who are sharing a sleeping surface with others, compared to those who die alone.

Methods

A literature review was undertaken of PubMed and Google Scholar databases using search terms: sudden infant death syndrome, SIDS, co-sleeping and overlaying.

Results

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Statistically significant differences were found between the two groups in the sex ratios, and in staining of brain sections for β -amyloid precursor protein (β -APP), glial fibrillary acidic protein (GFAP) and terminal deoxynucleotidyl transferase-mediated dUTP nick-end labelling (TUNEL). There were also higher numbers of nucleated red blood cells (nRBCs) in the peripheral blood of infants who died while co-sleeping.

Conclusion

The results demonstrate differences between infants who are sharing a sleeping surface with others, compared to those who die alone. It is likely, therefore, that lethal mechanisms for some shared sleepers are not the same as for SIDS infants sleeping alone, and may involve suffocation.

(Author) [Please note: this article is a digital version which may undergo minor changes in the future]

20181205-11*

Chrissy Teigen and the baby helmet photos. Bramwell K (2018), BBC News 4 December 2018

Reports on pictures of her baby son wearing a head shaping helmet posted by model Chrissy Teigen on Twitter. The helmets are used to treat plagiocephaly and brachycephaly or flat head syndrome, a common condition which affects one in every five babies. The NHS says many babies get flat heads from sleeping on their backs, which is recommended in order to reduce the risk of sudden infant death syndrome (SIDS). However, helmets are generally not recommended by the NHS because there is no clear evidence to suggest they work. (CAP)

Full URL: <https://www.bbc.co.uk/news/blogs-trending-46440239>

20181204-83

Caring about Preemies' Safe Sleep (CaPSS): An Educational Program to Improve Adherence to Safe Sleep

Recommendations by Mothers of Preterm Infants. Dowling DA, Barsman SG, Forsythe P, et al (2018), The Journal of Perinatal and Neonatal Nursing vol 32, no 4, October/December 2018, pp 366-372

Preterm infants born before 37 weeks' gestation die of sudden infant death syndrome (SIDS) at a rate more than double that of term infants. There is a need for SIDS prevention programs tailored to the specific needs of parents of high-risk infants. The purpose of this study was to pilot test an online educational module addressing SIDS risk-reduction recommendations (RRRs) for parents of preterm infants. This study was conducted in a 44-bed transitional care unit at a level IV NICU in the Midwest. A repeated-measures design was used. Two weeks before discharge, mothers completed a survey, addressing knowledge and plans for caring for their baby at home. Mothers then viewed the 5-section Caring about Preemies' Safe Sleep (CaPSS) education module and completed the postmodule evaluation. A discharge survey was completed 4 weeks postdischarge. Fifteen mothers, mean age 26.4 years, participated; 8 (53%) returned the postdischarge survey. Module evaluation rated clarity and completeness of information high. Mothers' ratings of SIDS knowledge were significantly higher after viewing the module ($P = .000$) and 4 weeks after discharge home ($P = .012$). Mothers found the use of a pacifier at sleep times to be new information and changed their plans for caring for their infant, with 28.6% of mothers always offering a pacifier before sleep after discharge compared with the 6.7% who had planned to do this before discharge. However, only 71% of infants slept in parents' room after discharge and only 41% were receiving at least some breast milk, which are not consistent with SIDS RRRs. (38 references) (Author)

20181127-62*

The effects of sleeping position, maternal smoking and substance misuse on the ventilatory response to hypoxia in the newborn period. Rossor T, Ali K, Bhat R, et al (2018), Pediatric Research vol 84, no 3, September 2018, pp 411-418

BACKGROUND:

Maternal smoking, substance misuse in pregnancy and prone sleeping increase the risk of sudden infant death syndrome (SIDS). We examined the effect of maternal smoking, substance misuse and sleeping position on the newborn response to hypoxia.

METHODS:

Infants born between 36 and 42 weeks of gestational age underwent respiratory monitoring in the prone and

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MA, PGDip, BSc Hons, RM
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Rebecca Davies, RM
Patron:
HRH The Princess Royal

supine sleeping position before and during a hypoxic challenge. Minute ventilation (MV) and end-tidal carbon dioxide (ETCO₂) levels were assessed.

RESULTS:

Sixty-three infants were studied: 22 controls, 23 whose mothers smoked and 18 whose mothers substance-misused and smoked. In the supine position, baseline MV was higher and ETCO₂ levels were lower in infants of substance-misusing mothers compared to controls ($p = 0.015$, $p = 0.017$, respectively). Infants of substance-misusing mothers had a lower baseline MV and higher ETCO₂ levels in the prone position ($p = 0.005$, $p = 0.004$, respectively). When prone, the rate of decline in minute ventilation in response to hypoxia was greater in infants whose mothers substance-misused and smoked compared to controls ($p = 0.002$) and infants of smoking mothers ($p = 0.016$).

CONCLUSION:

The altered response to hypoxia in the prone position of infants whose mothers substance-misused and smoked in pregnancy may explain their increased vulnerability to SIDS. (24 references) (Author)

20181123-6*

Response to a national issue: moving beyond 'Back to Sleep' at three hospitals. Sleutel MR, True B, Gustus H, et al (2018), Journal of Pediatric Nursing vol 43, November-December 2018, pp 16-22

Purpose

To measure changes in registered nurse (RN) knowledge/beliefs and practices, parents' recall of infant safe sleep (ISS) teaching, and inpatient infant sleep environments and safety after implementing an ISS initiative.

Design and Methods

This longitudinal quasi-experimental study took place in three hospitals in the United States. An existing infant safe sleep tool was revised and updated to align with current recommendations on sleep environments. A bundled intervention included educating nurses, changing unit processes and implementing crib cards and room signs. Paired questionnaires surveyed 62 nurses before and 2 months after the intervention. Audits of 462 cribs/sleep environments with parent conversations assessed infant sleep conditions and parents' recall of RN teaching before and after the intervention.

Results

After Bonferroni correction, eight of 19 items for RN knowledge/beliefs and self-reported practice showed statistically significant improvements with moderate effect sizes. All 11 items for parents' recall of RN teaching showed statistically significant improvements, with odds ratios ranging from 7 to 76. Five of six real-time sleep safety conditions (from crib/sleep environment audits) had statistically significant improvements. Odds ratios ranged from eight to 83.

Conclusion

An updated educational tool improved nurses' and parents' knowledge and practices related to current and updated safety factors for infant sleep conditions. Inpatient adherence to infant sleep safety recommendations improved.

Practice Implications

A two-hour investment of nurses' time yielded statistically significant improvements. Factors critical to the success of the ISS project roll-out are reported. Improvements in parents' recall of teaching and actual sleep environments suggest potential for long-term changes in infant safety at home. (24 references) (Author)

20181115-3

The bitterest loss. Windell J (2018), Community Practitioner vol 91, no 9, November 2018, pp 28-30

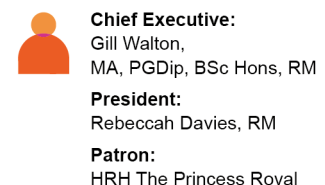
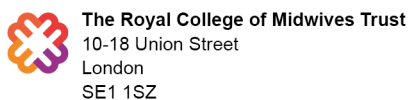
The number of unexpected and unexplained infant deaths has plummeted since the 1990s, but making further reductions now requires more intense and targeted work, writes journalist John Windell. (Author)

20181024-35*

Concerns about cardboard baby boxes. Blair PS, Pease A, Bates F, et al (2018), BMJ vol 363, no 8172, 18 October 2018, p 111

In this letter to the BMJ, Professor Peter Blair from the University of Bristol and colleagues including representatives

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from the Lullaby Trust and the American SIDS Institute argue that, without supporting evidence, cardboard baby boxes should not be promoted as a safe sleeping place. (CI)

20181018-44*

Baby box safety doubts raised by experts. Therrien A (2018), BBC News 18 October 2018

Reports that concerns have been raised about the safety of baby boxes: cardboard boxes offered to new mothers in Scotland and some parts of England, containing clothes, blankets and other useful items, and which can be used as a bed for newborns. Explains that the boxes, which come equipped with a mattress, have been given to every pregnant woman in Finland since the 1930s, and the Royal College of Midwives (RCM) are asking for the scheme to be rolled out across the UK. However, Professor Peter Blair from the University of Bristol, and colleagues including representatives of the Lullaby Trust charity, have questioned the safety of the boxes for sleeping in because it is harder for parents to see their babies when are sleeping in them, compared with cots, bassinets and Moses baskets. They have said that the boxes should only be used as beds as a temporary measure and only if there is no suitable alternative available, but the RCM say the boxes offer a 'more equal start to life' and can reduce the risk of babies having to sleep in unsafe conditions, such as on a surface like a sofa, or with parents who smoke, drink alcohol or take drugs, and could be of particular benefit to babies born into deprived environments. The Royal College of Paediatrics and Child Health have acknowledged that the effectiveness of the scheme is still being debated but are convinced that the boxes provide parents with the essential items needed to ensure the best start in life for their newborn baby. (JSM)

20180927-77

Evaluability Assessment of Scotland's Baby Box - Report to the Scottish Government. The Scottish Government (2018), Edinburgh: The Scottish Government 27 September 2018

This independent report to the Scottish Government presents the Evaluability Assessment (EA) of Scotland's Baby Box. The Scottish Government is committed to evaluating the impact of the Baby Box initiative in Scotland and requested an EA to seek the advice of independent experts in identifying priorities for, and approaches to, evaluation. An EA is systematic, collaborative approach to the planning of an evaluation that involves engaging stakeholders, clarifying intervention goals, developing a theory of change or a logic model and deciding whether and how a useful evaluation could be carried out at a reasonable cost.

The Baby Box EA was conducted over the course of three workshops, between January and March 2018. Stakeholders who participated in the workshops were from the Midwifery profession, Scottish Government, third sector and charitable organisations, and academic researchers. The EA was conducted by the Evaluability Assessment Collaborative on behalf of the Scottish Government. (Publisher)

Full URL: <https://www.gov.scot/Publications/2018/09/3660>

20180823-25*

Protecting Infants From Sleep-Related Deaths: A Wake-up Call. Quinlan KP, Roehler DR, Silvestri J (2018), JAMA Pediatrics vol 172, no 8, August 2018, pp 714-715

An overview of the lack of progress being made in preventing sleep-related infant deaths in the United States and a call to action. Approximately 3700 infants (aged ≤ 1 year) died each year in the past 15 years, most before the age of 6 months. The author suggests ways to tackle the issue, including awareness of the risks of bed-sharing and better information on death certificates. (CAP)

20180814-78*

Royal college recommends universal provision of 'baby boxes' in UK. Ford S (2018), Nursing Times 2 August 2018

The Royal College of Midwives has announced that it supports the universal provision of baby boxes in the UK. (Author)

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20180810-33

Barriers to and Interventions that Increase Nurses' and Parents' Compliance With Safe Sleep Recommendations for Preterm Infants. Naugler MR, DiCarlo K (2018), *Nursing for Women's Health* vol 22, no 1, February 2018, pp 24-39

The purpose of this integrative review was to identify interventions that increase compliance of nurses and of parents with safe sleep recommendations for premature infants. Ten studies were included in the final sample, including three studies with a prospective descriptive design, five quality improvement initiatives with an interventional research design, one secondary analysis, and one retrospective medical chart review. Study samples included neonatal nurses and parents of premature infants in NICUs and transitional care nurseries in Massachusetts, Missouri, New York, North Carolina, Ohio, Pennsylvania, and Texas. Sample sizes ranged from 5 to 259 NICU parents and 86 to 658 neonatal nurses. The categories of interventions we identified include identifying barriers to compliance, changing hospital policy, and providing safe sleep education for nurses and parents. We conclude that hospitals should have current, evidence-based safe sleep policies with clear transition guidelines for premature infants and that consistent and comprehensive nursing and parental education related to safe sleep should include current American Academy of Pediatrics recommendations and should address potential barriers to compliance. (37 references) (Author)

Full URL: <https://doi.org/10.1016/j.nwh.2017.12.009>

20180807-67*

Characteristics of Infant Deaths during Sleep While Under Nonparental Supervision. Lagon E, Moon RY, Colvin JD (2018), *Journal of Pediatrics* vol 197, June 2018, pp 57-62.e36

Objective

To compare risk factors for infant sleep-related deaths under the supervision of parents and nonparents.

Study design

We conducted a secondary analysis of sleep-related infant deaths from 2004 to 2014 in the National Center for Fatality Review and Prevention Child Death Review Case Reporting System. The main exposure was supervisor at time of death. Primary outcomes included sleep position, location, and objects in the environment. Risk factors for parental vs nonparental supervisor were compared using χ^2 and multivariable logistic regression models. Risk factors associated with different nonparental supervisors were analyzed using χ^2 .

Results

Of the 10 490 deaths, 1375 (13.1%) occurred under nonparental supervision. Infants who died under nonparental supervision had higher adjusted odds of dying outside the home (OR 12.87, 95% CI 11.31-14.65), being placed prone (OR 1.61, 95% CI 1.39-1.86) or on their side (OR 1.35, 95% CI 1.12-1.62), or being found prone (OR 1.74, 95% CI 1.50-2.02). Among infants who died under nonparental supervision, those supervised by relatives or friends were more often placed on an adult bed or couch for sleep and bed sharing ($P < .0001$), and to have objects in the sleep environment ($P = .01$).

Conclusions

Infants who died of sleep-related causes under nonparental supervision were more likely to have been placed nonsupine. Among nonparental supervisors, relatives and friends were more likely to use unsafe sleep environments, such as locations other than a crib or bassinet and bed sharing. Pediatricians should educate parents that all caregivers must always follow safe sleep practices. (29 references) (Author)

20180806-21*

Factors That Influence Parents' Adherence to Safe Sleep Guidelines. Raines DA (2018), *JOGNN: Journal of Obstetric, Gynecologic and Neonatal Nursing* vol 47, no 3, May 2018, pp 316-323

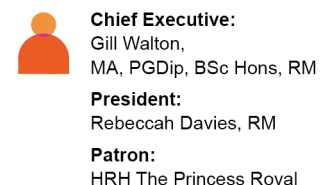
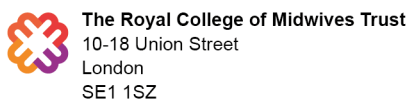
Objective

To explore factors that influence parental behaviors related to newborn sleep positions and environments in the home after hospital discharge.

Design

A descriptive qualitative study conducted by telephone.

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Setting

A 290-bed academic teaching hospital in an urban setting with a Level 3 perinatal center and approximately 4,500 births per year.

Participants

Participants (N = 60) were recruited from the patient population of the mother-baby unit. All participants were scheduled to be discharged simultaneously with their newborns.

Methods

Qualitative interviews with grand tour-style questions were conducted by telephone. An inductive analysis process was used to identify themes and meaning.

Results

Participants described three consistent factors that influenced how the newborn slept at home. The most frequently mentioned influence was Other People followed by Nobody/No One and Images from sources such as books, pictures, television, and the Internet.

Conclusion

New parents need education about the rationale for the safe sleep guidelines from the American Academy of Pediatrics (AAP) as well as knowledge of the potential harm of behaviors such as bed sharing and prone or side-lying positions for sleeping. The images to which parents are exposed send mixed messages. Health care professionals should portray safe sleep for infants in media, marketing materials, and other graphic representations. Nurses should help parents understand the AAP's recommendations for safe sleep position and environment for infants so that they can become advocates for their newborns' well-being. (25 references) (Author)

20180803-9*

Position statement: Baby boxes. Royal College of Midwives (2018), London: RCM July 2018

Sets out the Royal College of Midwives' position on universal baby box schemes. Reports that currently, all newborn babies in Scotland are given baby boxes, while the last two years have seen the introduction of pilot schemes or full baby box schemes by some NHS trusts in England. Stresses that all baby boxes and their contents must be safe and of high quality, with the box and mattresses meeting the minimum UK safety standards. (14 references) (JSM)

Full URL: https://www.rcm.org.uk/media/3415/baby-boxes_2.pdf

20180702-9*

Sudden infant death and sleep practices in the Black community. Stiffler D, Ayres B, Fauvergue C, et al (2018), Journal for Specialists in Pediatric Nursing vol 23, no 2, April 2018, pp e12213

1 Purpose

A Black infant dies every 13 hours in the state of Indiana. The overall infant mortality rate in 2013 was 7.2 deaths per 1000 live births, but for Black infants, the rate was 15.3 deaths per 1000 live births. For over 20 years, placing an infant to sleep on his back has decreased the death rate from sudden unexpected infant death (SUID) and sudden infant death syndrome (SIDS), but many Black families continue to advocate bed sharing, prone sleeping, and inappropriate bedding/sleep surfaces, predisposing an infant to a significantly higher risk for SUID/SIDS. Therefore, the purpose of this study is to understand why Black women are less likely than White women to follow safe sleep recommendations for their infants.

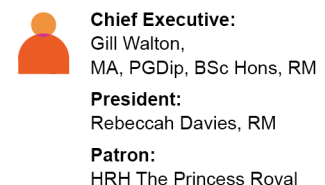
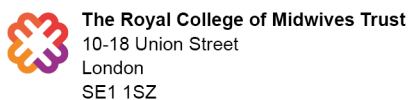
2 Design

A rigorous search of the literature was performed by searching the Web of Science, OVID, CINAHL, PsychINFO, and PubMed using the search terms: infant or child, death, loss, SIDS, SUID, qualitative, African American, Black, culture, safe sleep, experiences, and United States. A total of 217 articles were obtained. After review of inclusion and exclusion criteria and critical appraisal, only seven articles remained for the research study.

3 Methods

The meta-synthesis of these seven original qualitative studies was performed using the Qualitative Assessment and Review Instrument from the Joanna Briggs Institute to assist with data management. Data were extracted and representative quotations were categorized. Categories were arranged into like themes. Themes were then

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synthesized with meta-aggregation.

4 Results

A total of 17 subthemes were identified and were formulated into three primary themes: convenience, safety, and culture. The final synthesized theme was that Black mothers are motivated by their beliefs.

5 Practice Implications

Black mothers tend to believe that SUIDS/SIDS is a random occurrence and is not preventable, so they see a little reason to make their infant sleep in a cold, hard crib, when they could sleep in a warm, comfortable bed with them. Nurses should work with Black mothers to understand their cultural beliefs while educating them about safe sleep practices. (Author)

20180606-12*

The Pēpi-Pod study: Overnight video, oximetry and thermal environment while using an in-bed sleep device for sudden unexpected death in infancy prevention. Tipene-Leach D, Baddock SA, Williams SM, et al (2018), Journal of Paediatrics and Child Health vol 54, no 6, June 2018, pp 638-46

Aim

The aim of this study was to identify the potential risks and benefits of sleeping infants in a Pēpi-Pod distributed to families with high risk of sudden unexpected death in infancy compared to a bassinet.

Methods

Forty-five mostly indigenous Māori mothers who were referred by local health providers to receive a Pēpi-Pod were surveyed at recruitment, 1 and 3 months. A sleep study at 1 month included infrared video, oximetry and temperature measures.

Results

When compared with 89 historical bassinet controls, an intention-to-treat analysis of questionnaires showed no increase in direct bed sharing but demonstrated significantly less sharing of the maternal bedroom at both interviews, with the majority of those not sleeping in the maternal bedroom, actually sleeping in the living room. The 1 month 'as-used' analysis showed poorer maternal sleep quality. The 'as-used' analysis of video data (24 Pēpi-Pod and 113 bassinet infants) also showed no increase in direct bed sharing, head covering or prone/side sleep position. Differences in oxygen saturation were not significant, but heart rate was higher in the Pēpi-Pod infants by 8.37 bpm (95% confidence interval 4.40, 12.14). Time in the thermal comfort zone was not different between groups despite Pēpi-Pod infants being situated in significantly warmer rooms.

Conclusions

Overall, we found that most differences in infant risk behaviours in a Pēpi-Pod compared to a bassinet were small, with confidence intervals excluding meaningful differences. We noted poorer maternal sleep quality at 1 month. Higher infant heart rates in the Pēpi-Pod group may be related to higher room temperatures. The Pēpi-Pod appears physiologically safe but is associated with lower reported maternal sleep quality.

(Author)

20180522-19*

Sleep: Babies and Children [written answer]. House of Commons (2018), Hansard Written question 143753, 14 May 2018

Jackie Doyle-Price responds to a written question asked by Nic Dakin to the Secretary of State for Health and Social Care asking whether he plans to review national guidance on the importance of sleep to babies and children to include (a) good sleep hygiene, (b) consistent bedtimes, (c) safe infant sleeping, (d) screen-based usage for parents; and provide initial training and CPD for Health Visitors and Early Years teachers. (MB)

Full URL: <https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2018-05-14/143753/>

20180508-73

Certified Nurse-Midwives' Knowledge, Attitudes, and Behaviors About Infant Safe Sleep. Hodges NL, Anderson SE, McKenzie LB, et al (2018), Journal of Midwifery & Women's Health vol 63, no 2, March/April 2018, pp 196-204

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Introduction

Little is known about the knowledge, attitudes, and behaviors of certified nurse-midwives related to sudden infant death syndrome and infant safe sleep. However, this population is an important and trusted source of information for pregnant women and may provide guidance on infant care. We explored these topics with certified nurse-midwives to identify potential barriers as well as enabling and reinforcing factors associated with providing infant safe sleep education in the prenatal health care environment.

Methods

Participants in this cross-sectional survey study were certified nurse-midwives who provide prenatal health care to women in Ohio. Surveys were mailed to all certified nurse-midwives listed with the licensing registry of the Ohio Board of Nursing (N = 333).

Results

A total of 153 eligible respondents completed the survey for a response rate of 55%. Most participants had at least some knowledge of the infant safe sleep recommendations from the American Academy of Pediatrics, and two-thirds had positive attitudes about providing infant safe sleep education in the prenatal environment. Many participants (61%) perceived that there were barriers to providing prenatal infant safe sleep education, but nearly all (94%) indicated that they were interested in providing this education to their patients. Positive attitudes about providing infant safe sleep education were predictive of whether they discussed this topic with their patients.

Discussion

Certified nurse-midwives routinely provide guidance on infant care, and it is important that they are familiar with current evidence-based recommendations on infant safe sleep. They should be supported in their desire to provide infant safe sleep education to their prenatal patients. In addition, efforts should be made to improve attitudes and social norms related to providing infant safe sleep education in the prenatal environment. (39 references) (Author)

20180405-52*

Infant Mortality Due to Unintentional Suffocation Among Infants Younger Than 1 Year in the United States, 1999-2015.

Gao Y, Schwebel DC, Hu G (2018), JAMA Pediatrics vol 172, no 4, April 2018, pp 388-390

Unintentional suffocation is largely preventable, but it caused 87% of deaths due to unintentional injury among children younger than 12 months in the United States in 2015.¹ During the past 2 decades, substantial public and private efforts have been devoted to preventing mortality from infant suffocation, especially through safer sleeping. Based on recently updated data, we examined mortality from unintentional suffocation from 1999 to 2015 in the United States among infants younger than 1 year. (Author)

20180213-2*

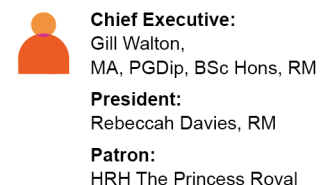
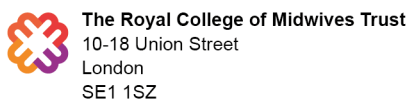
National and State Trends in Sudden Unexpected Infant Death: 1990-2015. Lambert ABE, Parks SE, Shapiro-Mendoza CK (2018), Pediatrics vol 141, no 3, March 2018

BACKGROUND: Sharp declines in sudden unexpected infant death (SUID) in the 1990s and a diagnostic shift from sudden infant death syndrome (SIDS) to unknown cause and accidental suffocation and strangulation in bed (ASSB) in 1999-2001 have been documented. We examined trends in SUID and SIDS, unknown cause, and ASSB from 1990 to 2015 and compared state-specific SUID rates to identify significant trends that may be used to inform SUID prevention efforts.

METHODS: We used data from US mortality files to evaluate national and state-specific SUID rates (deaths per 100 000 live births) for 1990-2015. SUID included infants with an underlying cause of death, SIDS, unknown cause, or ASSB. To examine overall US rates for SUID and SUID subtypes, we calculated the percent change by fitting Poisson regression models. We report state differences in SUID and compared state-specific rates from 2000-2002 to 2013-2015 by calculating the percent change.

RESULTS: SUID rates declined from 154.6 per 100 000 live births in 1990 to 92.4 in 2015, declining 44.6% from 1990 to 1998 and 7% from 1999 to 2015. From 1999 to 2015, SIDS rates decreased 35.8%, ASSB rates increased 183.8%, and there was no significant change in unknown cause rates. SUID trends among states varied widely from 41.5 to 184.3 in 2000-2002 and from 33.2 to 202.2 in 2013-2015.

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CONCLUSIONS: Reductions in SUID rates since 1999 have been minimal, and wide variations in state-specific rates remain. States with significant declines in SUID rates might have SUID risk-reduction programs that could serve as models for other states. (Author)

Full URL: http://pediatrics.aappublications.org/content/early/2018/02/09/peds.2017-3519?utm_source=highwire&utm_medium=em ail&utm_campaign=Pediatrics_papetoc

20180130-168*

Improving Safe Sleep Modeling in the Hospital through Policy Implementation. Heitmann R, Nilles, EK, Jeans A, et al (2017), Maternal and Child Health Journal vol 21, no 11, November 2017, pp 1995-2000

Introduction Sleep-related infant deaths are major contributors to Tennessee's high infant mortality rate. The purpose of this initiative was to evaluate the impact of policy-based efforts to improve modeling of safe sleep practices by health care providers in hospital settings across Tennessee. Methods Safe sleep policies were developed and implemented at 71 hospitals in Tennessee. Policies, at minimum, were required to address staff training on the American Academy of Pediatrics' safe sleep recommendations, correct modeling of infant safe sleep practices, and parent education. Hospital data on process measures related to training and results of crib audits were compiled for analysis. Results The overall observance of infants who were found with any risk factors for unsafe sleep decreased 45.6% ($p \leq 0.001$) from the first crib audit to the last crib audit. Significant decreases were noted for specific risk factors, including infants found asleep not on their back, with a toy or object in the crib, and not sleeping in a crib. Significant improvements were observed at hospitals where printed materials or video were utilized for training staff compared to face-to-face training. Discussion Statewide implementation of the hospital policy intervention resulted in significant reductions in infants found in unsafe sleep situations. The most common risk factors for sleep-related infant deaths can be modeled in hospitals. This effort has the potential to reduce sleep-related infant deaths and ultimately infant mortality. (Author)

20180112-2*

Vital Signs: Trends and Disparities in Infant Safe Sleep Practices - United States, 2009-2015. Bombard JM, Kortsmit K, Warner L, et al (2018), Morbidity and Mortality Weekly Report (MMWR) vol 67, no 1, 12 January 2018, pp 39-46

Introduction: There have been dramatic improvements in reducing infant sleep-related deaths since the 1990s, when recommendations were introduced to place infants on their backs for sleep. However, there are still approximately 3,500 sleep-related deaths among infants each year in the United States, including those from sudden infant death syndrome, accidental suffocation and strangulation in bed, and unknown causes. Unsafe sleep practices, including placing infants in a nonsupine (on side or on stomach) sleep position, bed sharing, and using soft bedding in the sleep environment (e.g., blankets, pillows, and soft objects) are modifiable risk factors for sleep-related infant deaths.


Methods: CDC analyzed 2009-2015 Pregnancy Risk Assessment Monitoring System (PRAMS) data to describe infant sleep practices. PRAMS, a state-specific and population-based surveillance system, monitors self-reported behaviors and experiences before, during, and shortly after pregnancy among women with a recent live birth. CDC examined 2015 data on nonsupine sleep positioning, bed sharing, and soft bedding use by state and selected maternal characteristics, as well as linear trends in nonsupine sleep positioning from 2009 to 2015.

Results: In 2015, 21.6% of respondents from 32 states and New York City reported placing their infant in a nonsupine sleep position; this proportion ranged from 12.2% in Wisconsin to 33.8% in Louisiana. Infant nonsupine sleep positioning was highest among respondents who were non-Hispanic blacks. Nonsupine sleep positioning prevalence was higher among respondents aged <25 years compared with ≥ 25 years, those who had completed ≤ 12 years compared with >12 years of education, and those who participated in the Special Supplemental Nutrition Program for Women, Infants, and Children during pregnancy. Based on trend data from 15 states, placement of infants in a nonsupine sleep position decreased significantly from 27.2% in 2009 to 19.4% in 2015. In 2015, over half of respondents (61.4%) from 14 states reported bed sharing with their infant, and 38.5% from 13 states and New York City reported using any soft bedding, most commonly bumper pads and thick blankets.


Conclusions and Implications for Public Health Practice: Improved implementation of the safe sleep practices recommended by the American Academy of Pediatrics could help reduce sleep-related infant mortality.

Evidence-based interventions could increase use of safe sleep practices, particularly within populations whose infants

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might be at higher risk for sleep-related deaths. (16 references) (Author)

Full URL: https://www.cdc.gov/mmwr/volumes/67/wr/mm6701e1.htm?s_cid=mm6701e1_w

20180104-80

Mothers' knowledge and attitudes to sudden infant death syndrome risk reduction messages: results from a UK

survey. Pease AS, Blair PS, Ingram J, et al (2018), Archives of Disease in Childhood vol 103, no 1, January 2018, pp 33-38

Objective To investigate mothers' knowledge of reducing the risks for sudden infant death syndrome (SIDS) and attitudes towards safer sleep practices.

Design and setting A cross-sectional survey was carried out in deprived areas of Bristol, UK. Recruitment took place in 2014 at local health visitor-led baby clinics.

Participants Of 432 mothers approached, 400 (93%) completed the face-to-face survey. Participants with infants at 'higher' risk of SIDS (using an algorithm based on a previous observational study) were compared with those at 'lower' risk.

Main outcome measures The survey asked participants to recall three SIDS risk reduction strategies (unprompted), and scored responses to 14 SIDS risk-related infant sleep scenarios (prompted).

Results Overall, 48/400 (12%) mothers were classified as higher risk. Mothers in the higher risk group were less likely to breast feed (multivariate OR=3.59(95% CI 1.46 to 8.86)), less likely to be able to cite two or more unprompted correct SIDS risk reduction strategies (multivariate OR=2.05(95% CI 1.02 to 4.13)) and scored lower on prompted safer sleep scenarios overall.

Notably, only 206/400 (52%) of all mothers surveyed (33% in the higher risk group) from these deprived areas in Bristol identified infant sleep position as a risk reduction strategy for SIDS, despite 25 years of campaigns.

Conclusions Mothers in the higher risk group were disadvantaged when it came to some aspects of knowledge of SIDS risk reduction and attitudes to safer sleep. The initial 'Back-to Sleep' message that dramatically reduced these deaths a generation ago needs more effective promotion for today's generation of mothers. (15 references) (Author)

20180104-46

Outcomes of a Quality Improvement Project: An Implementation of Inpatient Infant Safe Sleep Practices. Rholdon RD (2017), Pediatric Nursing vol 43, no 4, Sept/Oct 2017, pp 229-232

Safe sleep practices in the inpatient setting are important to further reinforce behaviors that parents should practice in the home environment. Improving the knowledge of inpatient pediatric nurses may translate to improved safe sleep practices while infants are hospitalized. In this 28-bed inpatient pediatric unit, practices were assessed for congruence with current recommendations by the American Academy of Pediatrics for a safe sleep environment. Staff nurses were then educated on the proper safe sleep environment for infants. After this intervention was completed, the environment was reassessed to determine if any improvements in safe sleep practices were noted. Improvements were seen in all areas assessed. However, the only improvement statistically significant was a decrease in the number of patients found with soft objects and loose bedding. Education for inpatient nurses may improve behaviors for safe sleep practices in inpatients. (13 references) (Author)

20171205-7

Voice of a mother: A safe place to sleep. Ewers H (2017), Midwives vol 20, Winter 2017, p 27

Hollie Ewers describes her experience using a baby box for her daughter Violet. (Author)

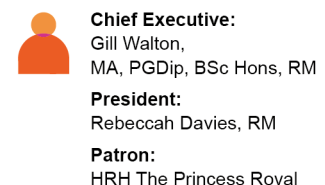
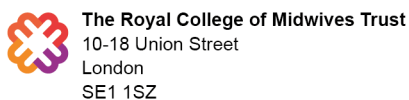
20171115-82*

Collaborating with obstetrical providers to promote infant safe sleep guidelines. Kuhlmann Z, Kuhlmann S, Schunn C, et al (2016), Sleep Health vol 2, no 3, September 2016

Objectives

To partner with obstetrical providers to increase promotion of the American Academy of Pediatrics guidelines for infant safe sleep. Specifically, this study evaluates the effectiveness of the Safe Sleep Toolkit during obstetrical visits.

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Secondary objectives include improving provider and maternal knowledge of safe sleep.

Methods

Obstetrical providers (n = 11) and staff at an outpatient clinic were trained using the Safe Sleep Toolkit and encouraged to discuss infant safe sleep with pregnant women at their 28- or 36-week gestation appointment (n = 111, 56 pre- and 55 post-intervention). Provider-reported time spent counseling women on safe sleep recommendations and safe sleep knowledge was measured before and after the intervention. Surveys were conducted with women assessing safe sleep knowledge, intention to follow guidelines, and whether safe sleep was discussed at the appointment.

Results

Significantly more post-intervention women reported their provider had discussed safe sleep (78% vs 32%) (P < .001). Similarly, provider-reported discussion with women increased significantly for all safe sleep guidelines (82%-90% vs 8%-12%) (all P < .001). Maternal knowledge, especially surrounding unsafe sleep practices, improved significantly post-intervention.

Conclusion

Training obstetricians to use a toolkit to promote infant safe sleep guidelines increases the prenatal delivery of this information, and improves pregnant women's knowledge and intentions regarding safe infant sleep. (Author)

20171114-8

Changes in cardiac output and cerebral oxygenation during prone and supine sleep positioning in healthy term

infants. Wu T-W, Lien R-I, Seri I, et al (2017), Archives of Disease in Childhood: Fetal and Neonatal Edition vol 102, no 6, November 2017, pp F483-F489

Objective To investigate the changes in systemic and cerebral haemodynamics between supine and prone sleep in healthy term infants during the early postnatal period.

Design/methods Healthy term infants without congenital anomalies, patent ductus arteriosus and/or small for gestational age status were enrolled. Infants were placed in supine (SP1), prone (PP) and back in supine (SP2) position for 15 min each while asleep. Cardiac output (CO) and stroke volume (SV) were assessed by electrical velocimetry (EV) and echocardiography (echo), and cerebral regional oxygen saturation (CrSO₂) in the frontal lobes was monitored by near-infrared spectroscopy. Heart rate (HR) and SpO₂ were continuously monitored by conventional monitoring.

Results In 34 healthy term infants (mean age 3.7±1.2 days; 16 females), 66 sets of serial CO measurements (34 EV and 32 echo) in three sleep positions were obtained. Mean COEV and COecho were 182±57 (SP1), 170±50 (PP) and 177±54 (SP2), and 193±48 (SP1), 174±40 (PP) and 192±50 (SP2) mL/kg/min, respectively. Mean SVEV and SVEcho were 1.46±0.47 (SP1), 1.36±0.38 (PP) and 1.37±0.39 (SP2), and 1.54±0.40 (SP1), 1.38±0.38 (PP) and 1.51±0.41 (SP2) mL/kg, respectively. Repeated measures analysis of variance revealed a decrease in CO and SV during prone positions by both EV and echo, while HR, SpO₂ and CrSO₂ did not change. Thirty-eight per cent of the CO measurements decreased ≥10% during prone positioning.

Conclusions In healthy term infants, CO decreases in prone position due to a decrease in SV and not HR. CO recovers when placed back in supine. However, frontal lobe CrSO₂ does not change in the different positions. (33 references) (Author)

20171114-5

Why or how does the prone sleep position increase the risk of unexpected and unexplained infant death?. Fleming P,

Blair P, Pease A (2017), Archives of Disease in Childhood: Fetal and Neonatal Edition vol 102, no 6, November 2017, pp F472-F473

Outlines the reasons why healthcare professionals believe that infants are at a greater risk of sudden infant death syndrome if placed to sleep in the prone sleeping position. Highlights evidence from physiological studies to consolidate this theory. (18 references) (AB)

20171103-2*

Parent decision factors, safety strategies, and fears about infant sleep locations. Doering JJ, Marvin A, Strook S (2017),

Applied Nursing Research vol 34, April 2017, pp 29-33

Infant sleep safety is a primary concern of parents. Infant sleep locations vary around the world. Purpose: This pilot

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study investigated the decision factors, fears, and safety strategies reported by parents internationally. Methods: participants (n = 49) recruited online from 10 countries completed an anonymous Internet survey in English and submitted a picture of the infant's primary nighttime sleep location. Pictures were coded into 'shared' (29%) or 'separate' (71%) sleep surfaces. Results: primary decision factors about infant sleep location were safety, comfort, family sleep quality, and overall ease. Parents maximized safety by providing a clear sleep surface, no blankets, no toys, sleep sack use, and a firm mattress. Different worries and fears emerged depending on the sleep surface. Conclusion: differences in the specific worries and strategies used by parents when deciding whether to share or not share a sleep surface with an infant may be used to tailor future interventions. (Author)

20171031-84*

Adherence to Safe Sleep Recommendations by Families With Higher-order Multiples. Haas M, Dowling D, Damato EG (2017), *Advances in Neonatal Care* vol 17, no 5, October 2017, pp 407-416

Background: More than 95% of higher-order multiples are born preterm and more than 90% are low birth weight, making this group of infants especially vulnerable to sudden infant death syndrome (SIDS). Emerging evidence suggests that families with twins face challenges adhering to the American Academy of Pediatrics (AAP) recommendations to reduce SIDS risks. Adherence to the AAP recommendations in families with higher-order multiples has not been described.

Purpose: This study describes SIDS risk reduction infant care practices for higher-order multiples during the first year of life.

Methods: Mothers caring for higher-order multiple-birth infants were recruited from an online support group. An online survey was used to assess infant care practices when the infants were first brought home from the hospital as well as at the time of the survey.

Results: Ten mothers of triplets and 4 mothers of quadruplets responded. Less than 80% of the mothers practiced 'back to sleep' immediately postdischarge. Supine sleep positioning decreased over time, particularly during daytime naps. Only 50% of the infants shared the parents' bedroom and approximately 30% bed-shared with their siblings. Sleep-time pacifier use was low.

Implications for Practice: Safe sleep education must include specific questions regarding home sleeping arrangements, encouragement of breast milk feedings, supine positioning, and pacifier use at every sleep for higher-order multiple infants well before discharge in order for parents to plan a safe sleep environment at home.

Implications for Research: Prospective studies to identify barriers and facilitators can inform future strategies supporting adherence to safe sleep practices for higher-order multiple infants.

(84 references) (Author)

Full URL: http://journals.lww.com/advancesinneonatalcare/Fulltext/2017/10000/Adherence_to_Safe_Sleep_Recommendations_by.13.aspx

20171016-2*

Today'sBaby Quality Improvement: Safe Sleep Teaching and Role Modeling in 8 US Maternity Units. Kellams A, Parker MG, Geller NL, et al (2017), *Pediatrics* vol 140, no 5, November 2017

BACKGROUND AND OBJECTIVES: Nursing education and role modeling can increase adherence to safe sleep practices. Eight US hospital maternity units with variable baseline approaches to education participated in a national multicenter nursing quality improvement (QI) intervention to promote safe sleep practices. The goals at participating maternity units were to (1) increase the rate of mothers who reported receiving safe sleep information from nurses to $\geq 90\%$ and (2) increase the rates of infants observed sleeping supine in a safe environment to $\geq 90\%$.

METHODS: A safe sleep QI toolkit, designed for and provided to all sites, included an educational curriculum and tools to use for staff and parent education. Local teams implemented safe sleep education using the tools as plan-do-study-act cycles. After each cycle, audits assessing maternal report of nursing education on safe sleep and inpatient infant sleep position and environment were performed.

RESULTS: The QI interventions lasted a median of 160 days (range, 101-273). Mothers reported receiving information on 4 primary safe sleep topics 72% to 95% of the time (a 24%-57% increase over the baseline). Additionally, 93% of infants were observed in a supine sleep position, and 88% of infants were observed in a safe sleep environment (a

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24% and 33% increase over baseline, respectively). These rates were sustained up to 12 months later.

CONCLUSIONS: Implementation of a multisite QI intervention for safe sleep parenting education and role modeling led to increased knowledge of and compliance with safe sleep practices during postpartum hospitalization.

Accepted August 16, 2017.

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20171010-19*

An update on Safe Infant Sleep. Hitchcock SC (2017), Nursing for Women's Health vol 21, no 4, August-September 2017, pp 307-311

In October 2016, the American Academy of Pediatrics published updated guidelines for safe infant sleep. Although there are no major changes to the recommendations, there are many small additions and clarifications important to the work of nurses. Topics addressed in this article include breastfeeding, skin-to-skin contact, swaddling, room-sharing, bed-sharing, new products, pacifiers, loose bedding, and sitting devices. It is important for nurses and other clinicians to model recommended behaviors with regard to safe infant sleep and to have conversations with parents and caregivers about safe infant sleep throughout the hospital stay. (Author)

20171006-1*

Baby sleep positioners dropped by shops after deaths warning. Anon (2017), BBC News 6 October 2017

Some UK retailers have stopped selling baby sleep positioners amid concerns over their safety. A US health regulator said they 'can cause suffocation that can lead to death' and have been linked to 12 infant deaths in the US. The positioners, aimed at infants under six months, are intended to keep a baby in a specific position while sleeping. Mothercare and Tesco have stopped selling sleep positioners, but they are still available from other retailers. (Author)

Full URL: <http://www.bbc.co.uk/news/uk-41516239>

20171004-74*

Understanding the risks sitting and carrying devices pose to safe infant sleep. Rhodon R (2017), Nursing for Women's Health vol 21, no 3, June-July 2017, pp 225-230

There have been various campaigns and recommendations to decrease the incidence of sudden unexpected infant death. Despite this, caregivers continue to place infants in unsafe sleeping environments. These environments, such as sitting devices, slings, carriers, and car seats, pose a significant risk to an infant's safety because of the risk from suffocation and cardiorespiratory instability. It is important for health care providers to understand the appropriate use of car seats, slings, and other sitting devices, to model appropriate behaviors, and to educate parents and caregivers. All parents, hospital staff, and other caregivers should understand the potential dangers associated with the inappropriate use of sitting devices for routine sleep. (Author)

20170919-23

Sudden Infant Death Syndrome (SIDS): our finest hour?. Morgan V (2017), The Practising Midwife vol 20, no 8, September 2017, pp 10-14

Unexplained infant deaths have reached the lowest level on record in England and Wales - 212 deaths in 2014, a rate of 0.3 deaths per 1,000 live births (Office for National Statistics [ONS] 2016).


Here, I trace this remarkable public health success story, consider the current situation and ask what midwives might learn from the SIDS story to help tackle current public health challenges. (10 references) (Author)

20170908-3*


Older babies 'sleep better' in their own room. NHS Choices (2017), NHS Choices: Behind the Headlines 5 September 2017

Examines the research behind headlines reporting that babies who slept in separate rooms from their parents slept better and were more likely to have a better bedtime routine, than babies who were sleeping in a room with their

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parents. This study didn't taken in to account a range of other factors such as the babies being breastfed, or their environment, and goes against recommended NHS guidelines which recommends keeping babies in the same room but in their own cot for six months. (AB)

20170907-49*

Messaging Affects the Behavior of African American Parents with Regards to Soft Bedding in the Infant Sleep

Environment: A Randomized Controlled Trial. Mathews A, Joyner BL, Oden RP, et al (2016), The Journal of Pediatrics vol 175, August 2016, pp 79-85.e2

Objective

To evaluate the impact of specific health messages on the decisions of African American parents regarding soft bedding use, specifically related to the high degree of self-efficacy that African American parents have with regards to preventing infant suffocation vs low self-efficacy with regards to sudden infant death syndrome (SIDS) risk reduction.

Study design

We conducted a randomized, controlled clinical trial of African American mothers of infants. The control group received standard messaging emphasizing safe sleep practices recommended by the American Academy of Pediatrics for the purposes of SIDS risk reduction. The intervention group received enhanced messaging emphasizing safe sleep practices for both SIDS risk reduction and suffocation prevention. Participants completed interviews at 2-3 weeks, 2-3 months, and 5-6 months after the infant's birth.

Results

Of 1194 mothers enrolled, 637 completed all interviews. The use of soft bedding both in the past week and last night declined with age ($P < .001$). Infants in the enhanced group had a lower rate of use of soft bedding in the past week ($P = .006$) and last night ($P = .013$). Mothers who received the enhanced message were more likely to state that they avoided soft bedding to protect their infant from suffocation.

Conclusions

African American mothers who receive an enhanced message about SIDS risk reduction and suffocation prevention are less likely to use soft bedding in their infant's sleep environment.

(42 references) (Author)

20170830-66*

Unexplained deaths in infancy, England and Wales: 2015. Office for National Statistics (2017), London: ONS 17 August 2017

This statistical bulletin gives details of deaths to children under the age of one year, including sudden infant deaths, and deaths of undetermined cause, with associated risk factors. States that unexplained infant deaths in 2015 were the lowest on record, which might have been due to a greater awareness of safe sleeping practices and a drop in the rate of maternal smoking in pregnancy. (Author, edited)

Full URL: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/unexplaineddeathsininfancyenglandandwales/2015>

20170823-1*

Factors Associated With Choice of Infant Sleep Position. Colson ER, Geller NL, Heeren T, et al (2017), Pediatrics vol 140, no 3, September 2017

BACKGROUND AND OBJECTIVES: The American Academy of Pediatrics recommends infants be placed supine for sleep.

Our objectives in this study were to, in a nationally representative sample, examine (1) prevalence of maternal intention regarding infant sleeping position and of actual practice and (2) factors associated with their choices.

METHODS: We recruited mothers from 32 US hospitals, oversampling African American and Hispanic mothers, in a nationally representative sample of mothers of infants aged 2 to 6 months. Survey questions assessed choice of usual infant sleeping position, all sleeping positions, intention for sleep position, as well as actual practice. Multivariable logistic regression analyses controlled for demographic, receipt of doctor advice, and theory of planned behavior variables (attitudes, subjective norms, and perceived control).

RESULTS: Of the 3297 mothers, 77.3% reported they usually placed their infants in the supine position for sleep, but

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fewer than half reported that they exclusively did so. Only 43.7% of mothers reported that they both intended to and then actually placed their infants exclusively supine. African American mothers and those who did not complete high school were more likely to intend to use the prone position. Theory of planned behavior factors (attitudes, subjective norms, and perceived control) and doctor advice were associated with maternal choice.

CONCLUSIONS: Not all mothers place their infants exclusively supine for sleep. Many mothers intend to place their infants supine yet often do not do so in actual practice. Factors potentially amenable to intervention including attitudes, subjective norms, and doctor advice are associated with intention and practice. (Author)

20170814-14*

The combination of bed sharing and maternal smoking leads to a greatly increased risk of sudden unexpected death in infancy: the New Zealand SUDI Nationwide Case Control Study. Mitchell EA, Thompson JM, Zuccollo J, et al (2017), New Zealand Medical Journal vol 130, no 1456, 2 June 2017, pp 52-64

BACKGROUND:

Despite a major reduction in overall infant mortality, sudden unexpected death in infancy (SUDI) continues to be of concern in New Zealand, as the rate is high by international standards, and is even higher in indigenous Māori.

AIM:

To identify modifiable risk factors for SUDI.

METHODS:

A three-year (1 March 2012-28 February 2015) nationwide case-control study was conducted in New Zealand.

RESULTS:

There were 137 SUDI cases, giving a SUDI mortality rate of 0.76/1,000 live births. The rate for Māori was 1.41/1,000, Pacific 1.01/1,000 and non-Māori non-Pacific (predominantly European) 0.50/1,000. The parent(s) of 97% of the SUDI cases were interviewed. Six hundred and forty-nine controls were selected and 258 (40%) were interviewed. The two major risk factors for SUDI were: maternal smoking in pregnancy (adjusted OR=6.01, 95% CI=2.97, 12.15) and bed sharing (aOR=4.96, 95% CI=2.55, 9.64). There was a significant interaction (p=0.002) between bed sharing and antenatal maternal smoking. Infants exposed to both risk factors had a markedly increased risk of SUDI (aOR=32.8, 95% CI=11.2, 95.8) compared with infants not exposed to either risk factor. Infants not sharing the parental bedroom were also at increased risk of SUDI (aOR=2.77, 95% CI=1.45, 5.30). Just 21 cases over the three-year study were not exposed to smoking in pregnancy, bed sharing or front or side sleeping position.

CONCLUSIONS:

This study has shown that many of the risk factors that were identified in the original New Zealand Cot Death Study (1987-1989) are still relevant today. The combination of maternal smoking in pregnancy and bed sharing is extremely hazardous for infants. Furthermore, our findings indicate that the SUDI prevention messages are still applicable today and should be reinforced. SUDI mortality could be reduced to just seven p.a. in New Zealand (approximately one in 10,000 live births). (32 references) (Author)

20170803-3*

Cot death charity raises concerns over baby boxes. BBC (2017), BBC News 3 August 2017

The Lullaby Trust is concerned that baby boxes may be being marketed as a way to reduce sudden infant death, when there is insufficient evidence to support it. Includes recommendations by the charity related to the use of baby boxes, such as only using the box for daytime naps, not nighttime sleeping, keeping pets away from the box, and complying with maximum age and weight instructions. (KRB)

Full URL: <http://www.bbc.co.uk/news/uk-40810110>

20170727-99*

The Effect of Nursing Quality Improvement and Mobile Health Interventions on Infant Sleep Practices: A Randomized Clinical Trial. Moon RY, Hauck FR, Colson ER, et al (2017), JAMA (Journal of the American Medical Association) vol 318, no 4, July 2017, pp 351-359

IMPORTANCE:

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Inadequate adherence to recommendations known to reduce the risk of sudden unexpected infant death has contributed to a slowing in the decline of these deaths.

OBJECTIVE:

To assess the effectiveness of 2 interventions separately and combined to promote infant safe sleep practices compared with control interventions.

DESIGN, SETTING, AND PARTICIPANTS:

Four-group cluster randomized clinical trial of mothers of healthy term newborns who were recruited between March 2015 and May 2016 at 16 US hospitals with more than 100 births annually. Data collection ended in October 2016.

INTERVENTIONS:

All participants were beneficiaries of a nursing quality improvement campaign in infant safe sleep practices (intervention) or breastfeeding (control), and then received a 60-day mobile health program, in which mothers received frequent emails or text messages containing short videos with educational content about infant safe sleep practices (intervention) or breastfeeding (control) and queries about infant care practices.

MAIN OUTCOMES AND MEASURES:

The primary outcome was maternal self-reported adherence to 4 infant safe sleep practices of sleep position (supine), sleep location (room sharing without bed sharing), soft bedding use (none), and pacifier use (any); data were collected by maternal survey when the infant was aged 60 to 240 days.

RESULTS:

Of the 1600 mothers who were randomized to 1 of 4 groups (400 per group), 1263 completed the survey (78.9%). The mean (SD) maternal age was 28.1 years (5.8 years) and 32.8% of respondents were non-Hispanic white, 32.3% Hispanic, 27.2% non-Hispanic black, and 7.7% other race/ethnicity. The mean (SD) infant age was 11.2 weeks (4.4 weeks) and 51.2% were female. In the adjusted analyses, mothers receiving the safe sleep mobile health intervention had higher prevalence of placing their infants supine compared with mothers receiving the control mobile health intervention (89.1% vs 80.2%, respectively; adjusted risk difference, 8.9% [95% CI, 5.3%-11.7%]), room sharing without bed sharing (82.8% vs 70.4%; adjusted risk difference, 12.4% [95% CI, 9.3%-15.1%]), no soft bedding use (79.4% vs 67.6%; adjusted risk difference, 11.8% [95% CI, 8.1%-15.2%]), and any pacifier use (68.5% vs 59.8%; adjusted risk difference, 8.7% [95% CI, 3.9%-13.1%]). The independent effect of the nursing quality improvement intervention was not significant for all outcomes. Interactions between the 2 interventions were only significant for the supine sleep position.

CONCLUSIONS AND RELEVANCE:

Among mothers of healthy term newborns, a mobile health intervention, but not a nursing quality improvement intervention, improved adherence to infant safe sleep practices compared with control interventions. Whether widespread implementation is feasible or if it reduces sudden and unexpected infant death rates remains to be studied. (Author)

20170726-54*

Differences in Infant Care Practices and Smoking among Hispanic Mothers Living in the United States. Provini LE, Corwin MJ, Geller NL, et al (2017), Journal of Pediatrics vol 182, March 2017, pp 321-326.e1

Objective

To assess the association between maternal birth country and adherence to the American Academy of Pediatrics safe sleep recommendations in a national sample of Hispanic mothers, given that data assessing the heterogeneity of infant care practices among Hispanics are lacking.


Study design

We used a stratified, 2-stage, clustered design to obtain a nationally representative sample of mothers from 32 US intrapartum hospitals. A total of 907 completed follow-up surveys (administered 2-6 months postpartum) were received from mothers who self-identified as Hispanic/Latina, forming our sample, which we divided into 4 subpopulations by birth country (US, Mexico, Central/South America, and Caribbean). Prevalence estimates and aORs were determined for infant sleep position, location, breastfeeding, and maternal smoking.


Results

When compared with US-born mothers, we found that mothers born in the Caribbean (aOR 4.56) and Central/South

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America (aOR 2.68) were significantly more likely to room share without bed sharing. Caribbean-born mothers were significantly less likely to place infants to sleep supine (aOR 0.41). Mothers born in Mexico (aOR 1.67) and Central/South America (aOR 2.57) were significantly more likely to exclusively breastfeed; Caribbean-born mothers (aOR 0.13) were significantly less likely to do so. Foreign-born mothers were significantly less likely to smoke before and during pregnancy.

Conclusions

Among US Hispanics, adherence to American Academy of Pediatrics safe sleep recommendations varies widely by maternal birth country. These data illustrate the importance of examining behavioral heterogeneity among ethnic groups and have potential relevance for developing targeted interventions for safe infant sleep. (14 references)

(Author)

20170523-8*

Safe sleeping positions: practice and policy for babies with cleft palate. Davies K, Bruce IA, Bannister P, et al (2017), European Journal of Pediatrics vol 176, no 5, May 2017, pp 661-667

Guidance recommends 'back to sleep' positioning for infants from birth in order to reduce the risk of sudden infant death. Exceptions have been made for babies with severe respiratory difficulties where lateral positioning may be recommended, although uncertainty exists for other conditions affecting the upper airway structures, such as cleft palate. This paper presents research of (i) current advice on sleep positioning provided to parents of infants with cleft palate in the UK; and (ii) decision making by clinical nurse specialists when advising parents of infants with cleft palate. A qualitative descriptive study used data from a national survey with clinical nurse specialists from 12 regional cleft centres in the UK to investigate current practice. Data were collected using semi-structured telephone interviews and analysed using content analysis. Over half the regional centres used lateral sleep positioning based on clinical judgement of the infants' respiratory effort and upper airway obstruction. Assessment relied upon clinical judgement augmented by a range of clinical indicators, such as measures of oxygen saturation, heart rate and respiration.

Conclusion: Specialist practitioners face a clinical dilemma between adhering to standard 'back to sleep' guidance and responding to clinical assessment of respiratory effort for infants with cleft palate. In the absence of clear evidence, specialist centres rely on clinical judgement regarding respiratory problems to identify what they believe is the most appropriate sleeping position for infants with cleft palate. Further research is needed to determine the best sleep position for an infant with cleft palate. (35 references) (Author)

Full URL: <https://link.springer.com/article/10.1007/s00431-017-2893-0>


20170518-25

Factors Associated with Parental Compliance with Supine Infant Sleep: An Integrative Review. Zudo K, Richards EA, Ahmed AH, et al (2017), Pediatric Nursing vol 43, no 2, March/April 2017, pp 83-91


Despite educational programs, sudden infant death syndrome (SIDS) rates remain unacceptably high, especially among low-income and African-American populations. The purpose of this review is to examine reasons for parental noncompliance with supine sleep recommendations. A database search in Cochrane Database of Systematic Reviews, PubMed, EBSCOhost, and CINAHL was conducted using keywords SIDS, prevention and control, parental compliance, nursing, supine position, Back to Sleep campaign, and Safe to Sleep campaign. Literature was included from 2002 to 2014. Types of studies included randomized control trials, literature reviews, and descriptive studies. Literature from academic journals was also included. Included literature discussed parental knowledge, the Back to Sleep and the Safe to Sleep campaigns, compliance with recommendations from the American Academy of Pediatrics (AAP), and interventions and education. Seventeen studies were included that used data collection methods, including surveys, focus groups, face-to-face interviews, and questionnaires. Major trends identified as being associated with noncompliance included parent knowledge, sources of advice, infant comfort and quality of infant sleep, safety concerns (i.e., choking), race/ethnicity, education level, and income. Noncompliance was highest among single, less-educated, low-income, or African-American parents. (25 references) (Author)

20170517-49*

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The Interface Among Poverty, Air Mattress Industry Trends, Policy, and Infant Safety. Doering JJ, Salm Ward TC (2017), American Journal of Public Health vol 107, no 6, June 2017, pp 945-949

Infants can suffocate on air mattresses, even when the mattress is fully inflated. The interfacing issues of poverty, the bedbug epidemic, and changes in the design and marketing of air mattresses may be increasing consumer use of air mattresses as primary sleep environments and thus increasing the potential for infant death. Despite recent changes to improve air mattress safety labeling, the National Child Death Review Case Reporting System found that between 2004 and 2015 across 24 states, an air mattress was the incident sleep place for 108 infants whose deaths were either during sleep or in a sleep environment. At the same time, design components such as inflatable headboards and memory foam pillow tops potentially increase the hazard to infants, and marketing changes represent air mattresses as a preferred low-cost primary sleep environment. Analysis of current data surveillance systems, published position statements, and consumer materials from national organizations and federal agencies reveal opportunities for changing policy to better protect infants from this hazard. (36 references) (Author)

20170512-74

Baby boxes: Improving wellbeing outcomes in Scotland. Ross LA (2017), Journal of Health Visiting vol 5, no 4, April 2017, pp172-175

The introduction of a Finnish-style baby box to Scotland could assist in closing the inequality gap by providing all children with the same start in life and careful planning and support from health visitors, says Lindsay A Ross. (26 references) (Author)

20170412-46*

Infant bed-sharing: supporting parents to make an informed decision. Lavallee L, Scannell M (2017), Nursing Standard vol 31, no 30, 22 March 2017, p 42-51

The practice of infant bed-sharing remains controversial in countries such as the UK and the US, despite its prevalence, and healthcare professionals are often faced with the task of advising parents on bed-sharing without the support of consistent or up-to-date guidelines. This article explores UK and US recommendations on infant bed-sharing, considering the existing evidence. The possible relationship between infant bed-sharing and sudden infant death syndrome (SIDS) is explored, alongside other factors that may be linked to SIDS. Areas where further research is required are identified and appropriate resources are provided, with a view to empowering healthcare professionals to support parents in making an informed and proactive decision about infant bed-sharing. (Author)

20170406-3

Sharing a room: updated recommendations for a safe infant sleeping environment. Rollins JA (2017), Pediatric Nursing vol 43, no 1, January/February 2017, p 7

Editorial providing an overview of the American Academy of Pediatrics' updated recommendations for safe infant sleeping. (4 references) (MB)

20170329-130

Integration of safe sleep and sudden infant death syndrome (SIDS) education among parents of preterm infants in the Neonatal Intensive Care Unit (NICU). Dufer H, Godfrey K (2017), Journal of Neonatal Nursing vol 23, no 2, April 2017, pp 103-108


Purpose

The aims of this quality improvement initiative were to increase parental knowledge of safe sleep recommendations and sudden infant death syndrome (SIDS) prevention and assess parental compliance with safe sleep recommendations for preterm infants discharged from the Neonatal Intensive Care Unit (NICU).


Methods

Parents received an educational session and a safe sleep handout. Pre-test, post-test, and one-month follow-up questionnaires were completed by parents. Scores were recorded before and after the educational session and one

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month after hospital discharge.

Results

Safe sleep educational sessions before hospital discharge resulted in higher post-test scores compared with pre-test scores and a high percentage of compliance to safe sleep practices at home.

Conclusion

The educational session and safe sleep handout increased parental knowledge of safe sleep recommendations and SIDS prevention and resulted in significant compliance to safe sleep practices at home. (5 references) (Author)

20170328-39*

Evolution and significance of the triple risk model in sudden infant death syndrome. Spinelli J, Collins-Praino L, Van Den Heuvel C, et al (2017), Journal of Paediatrics and Child Health vol 53, no 2, February 2017, pp 112-115

Sudden infant death syndrome (SIDS) is a leading cause of death in infants, although the mechanisms leading to death remain unclear. Multiple theories have emerged over time, with one of the most influential hypotheses being the triple risk model. This model, first devised in 1972 and later revised in 1994 by Filiano and Kinney, is still widely used in assisting with conceptualising and understanding sudden death in infancy. This model has evolved over time, with each version stressing that SIDS is likely to occur when certain risk factors coincide, suggesting that the lethal mechanisms in SIDS are likely to be multifactorial. All versions of the triplerisk model from 1972 to the present have emphasised the complexity of SIDS and serve as useful guides for current and future research into the enigma of sudden and unexpected death in infancy.

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20170327-57*

Area-based study shows most parents follow advice to reduce risk of sudden infant death syndrome. Strömberg Celind F, Wennergren G, Möllborg, et al (2017), Acta Paediatrica vol 106, no 4, April 2017, pp 579-585

AIM:

Guidance on reducing the risk of sudden infant death syndrome (SIDS) was successfully introduced to a number of countries in the early 1990s. The most important recommendations were supine sleeping for infants and non-smoking for mothers. This 2012-2014 study examined adherence to the national Swedish SIDS advice.

METHODS:

We asked 1000 parents with infants registered at child healthcare centres in western Sweden to complete a questionnaire on infant care from birth to 12 months of age.

RESULTS:

We analysed 710 responses and found that, in the first three months, 1.3% of the infants were placed in the prone sleeping position and 14.3% were placed on their side. By three to five months, this had risen to 5.6% and 23.6%. In the first three months, 83.1% were breastfed, 84.1% used a pacifier and 44.2% shared their parents' bed, while 5.8% slept in another room. Bed sharing was more likely if infants were breastfed and less likely if they used pacifiers. During pregnancy, 2.8% of the mothers smoked and the mothers who had smoked during pregnancy were less likely to bed share.

CONCLUSION:

Overall adherence to the SIDS advice was good, but both prone and side sleeping practices should be targeted.

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20170327-1*

Do baby boxes really save lives?. Cassin E (2017), BBC News 25 March 2017

News article examining the potential reasons why the Finnish baby box scheme might have assisted in lowering the infant mortality rate. The package consists of a cardboard box filled with useful items such as nappies, clothes, a sleeping bag, mattress and sheets and the box can be used as a bed for the newborn. (AB)

Full URL: <http://www.bbc.co.uk/news/magazine-39366596>

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20170317-84*

Risk Factors, Protective Factors, and Current Recommendations to Reduce Sudden Infant Death Syndrome: A Review.

Carlin RF, Moon RY (2017), JAMA Pediatrics vol 171, no 2, February 2017, pp 175-180

IMPORTANCE:

Sudden infant death syndrome remains the leading cause of death in infants aged 1 month to 1 year in the United States.

OBSERVATIONS:

While its exact cause is unknown, sudden infant death syndrome is believed to be multifactorial, ie, occurs in infants with underlying biological vulnerability who experience an exogenous stressor, such as prone/side sleeping or soft bedding, during a critical developmental period. Much genetic and physiologic evidence points to impaired arousal responses to hypercarbia and hypoxia, which ultimately leads to asphyxia. Known risk factors for infants include prone and side sleeping, soft bedding, bed sharing, inappropriate sleep surfaces (including sofas), exposure to tobacco smoke, and prematurity; protective factors include breastfeeding, pacifier use, room sharing, and immunizations.

CONCLUSIONS AND RELEVANCE:

Despite our improved understanding of the physiologic mechanisms that cause sudden infant death, the mainstay of risk reduction continues to be a safe sleep environment, as most infants who die suddenly and unexpectedly do so in unsafe sleep environments. (Author)

20170315-6*

Survey by The Lullaby Trust shows more than half of parents still unsure how to sleep their baby safely.

The Lullaby Trust (2017), London: The Lullaby Trust March 2017

Presents a summary of a survey conducted by The Lullaby Trust involving 500 parents with children between the ages of 0-2 years, which looked at parents' knowledge around sudden infant death syndrome and safer sleep. Reports that 38% of those surveyed were unsure if they could sleep a baby on their front, and 55% did not know if they should sleep a baby on their side, indicating that parents are not well-informed about safer sleep practices as promoted by the 'Back to Sleep' campaign in 1991. The Lullaby Trust 'Safer Sleep Week' takes place from 13th-19th March 2017. (JSM)

Full URL: <https://www.lullabytrust.org.uk/safer-sleep-week-2017-half-of-parents-unsure-how-to-sleep-baby-safely>

20170313-10*

How to put your baby to sleep safely.

Anon (2017), BBC News 13 March 2017

Short film with subtitles demonstrating how babies should be put to bed on their backs, in order to lower the risk of cot death. (JSM)

Full URL: <http://www.bbc.co.uk/news/education-39237718>

20170308-8*

Do women of reproductive age presenting with pelvic floor dysfunction have undisclosed anal incontinence: A

retrospective cohort study. Tucker J, Grzeskowiak L, Murphy EMA, et al (2017), Women and Birth: Journal of the Australian College of Midwives vol 30, no 1, February 2017, pp 18-22

Background

Indirect and direct trauma following vaginal birth can negatively impact on the pelvic floor function increasing the risk of anal incontinence. It is often difficult for women to openly disclose that they have anal incontinence and there are limited data collection tools available for the identification of these women in a clinical setting.

Aim

This study aims to describe the prevalence of undisclosed anal incontinence in antenatal and postnatal women with pelvic floor dysfunction.

Methods

Retrospective cohort study of 230 antenatal and postnatal women referred to a Continence Nursing Service in a large

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tertiary hospital in South Australia, Australia, with pelvic floor dysfunction. A criteria list was utilised to access the primary reason for referral, anal incontinence assessments and attendance to an appointment.

Results

Anal incontinence was identified in 26% of women (n = 59). Anal incontinence was the primary reason for referral amongst 8 women, with the remaining 51 women identified as having anal incontinence following clinical screening via phone consultation. Eighty six percent of women stated they had not previously disclosed anal incontinence to health professionals. Overall, 71% of symptomatic women (n = 28 antenatal and n = 14 postnatal women) attended appointments to a service specialising in pelvic floor dysfunction.

Conclusion

Women presenting with urinary incontinence or other markers of pelvic floor dysfunction should be actively screened for anal incontinence as the prevalence of this condition is high amongst childbearing women. (33 references)

(Author)

Full URL: <http://www.sciencedirect.com/science/article/pii/S1871519216300488>

20170222-62*

The EASE Quality Improvement Project: Improving Safe Sleep Practices in Ohio Children's Hospitals. Macklin JR, Gittelman MA, Denny SA, et al (2016), *Pediatrics* vol 138, no 4, October 2016, pp 67

BACKGROUND: Despite American Academy of Pediatrics (AAP) recommendations, many hospitalized infants are not observed in the appropriate safe sleep environment. Caregivers tend to model sleep patterns observed in a hospital setting. This project assessed the change in infant safe sleep practices within 6 children's hospitals after the implementation of a statewide quality improvement program.

METHODS: The AAP recruited hospitalists from each of the state's children's hospitals and asked them to form 'safe sleep teams' within their institutions. Teams used a standardized data tool to collect information on the infant's age and sleep position/environment. They collected baseline data and then weekly for the duration of the 12-month project. Teams were required to implement at least 3 Plan-Do-Study-Act cycles. We calculated changes in safe sleep practices over time. Providers received Maintenance of Certification Part IV credit for participation.

RESULTS: Teams collected 5343 audits at all participating sites. At baseline, only 279 (32.6%) of 856 of the sleeping infants were observed to follow AAP recommendations, compared with 110 (58.2%) of 189 (P < .001) at the project's conclusion. The presence of empty cribs was the greatest improvement (38.1% to 67.2%) (P < .001). Removing loose blankets (77.8% to 50.0%) (P < .001) was the most common change made. Audits also showed an increase in education of families about safe sleep practices from 48.2% to 75.4% (P < .001).

CONCLUSIONS: Multifactorial interventions by hospitalist teams in a multi-institutional program within 1 state's children's hospitals improved observed infant safe sleep behaviors and family report of safe sleep education. These behavior changes may lead to more appropriate safe sleep practices at home. (Author) (18 references)

Full URL: <https://doi.org/10.1542/peds.2015-4267>

20170103-26*

Wahakura Versus Bassinet for Safe Infant Sleep: A Randomized Trial. Baddock SA, Tipene-Leach D, Williams SM, et al (2017), *Pediatrics* vol 139, no 2, February 2017


OBJECTIVES: To compare an indigenous sleep device (wahakura) for infants at high risk for sudden unexpected death with a bassinet, for measures of infant sleep position, head covering, breastfeeding, bed-sharing, and maternal sleep and fatigue.

METHODS: A total of 200 mainly Māori pregnant women were recruited from deprived areas of New Zealand. They were randomized to receive a bassinet or wahakura and asked to sleep the infant in this device from birth.


Questionnaires at 1, 3, and 6 months and an overnight infrared video in the home at 1 month were completed.

RESULTS: An intention-to-treat and an 'as-used' analysis of questionnaires showed no group differences at 1, 3, and 6 months in infant-adult direct bed-sharing (7% vs 12%, P = .24 at 1 month), and at the 6-month interview, the wahakura group reported twice the level of full breastfeeding (22.5% vs 10.7%, P = .04). Maternal sleep and fatigue were not significantly different between groups. Video identified no increase in head covering, prone/side sleep position, or

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bed-sharing in the wahakura group, either from intention-to-treat analysis, or when analyzed for actual sleep location. CONCLUSION There were no significant differences in infant risk behaviors in wahakura compared with bassinets and there were other advantages, including an increase in sustained breastfeeding. This suggests wahakura are relatively safe and can be promoted as an alternative to infant-adult bed-sharing. Policies that encourage utilization are likely to be helpful in high-risk populations. (Author)

20161121-6*

Cot death: How Anne Diamond helped save thousands of babies. Midgley E (2016), BBC News 21 November 2016

News item reporting on how TV presenter Anne Diamond campaigned to inform parents of the dangers of putting their babies to sleep on their fronts after her son died from cot death in 1991. (MB)

Full URL: <http://www.bbc.co.uk/news/uk-england-berkshire-37908627>

20161121-41*

Exploring Safe Sleep and SIDS Risk Perception in an African-American Community: Focused Ethnography. Stastny PF, Keens TG, Alkon A (2016), Public Health Nursing vol 33, no 3, May/June 2016, pp 242-248

Objectives

Explore the cultural influences of safe sleep practices by African-American caregivers of children under 2 years old.

Explore the role of health care professionals in promoting safe sleep.

Design and Sample

A focused ethnography was used to understand the contextual cultural meaning and experiences of safe sleep practices of African-American caregivers of children under 2 years. Nineteen African-Americans participated in this study.

Measures

Demographic data were collected and semi-structured interviews were conducted with individuals and small groups. Saturation of the data occurred after 17 interviews. Data were analyzed using Leininger's four Phases of qualitative data analysis.

Results

(Themes): (1) The informants expressed both accurate and inaccurate knowledge of Sudden Infant Death Syndrome (SIDS) and safe sleep practices influenced by personal experiences, hospital education, family, extended family and television; (2) Sleeping with infants and children was viewed as a cultural caring behavior promoting comfort, closeness and protection for infants, children, parents and caregivers; (3) The informants want and are seeking collaboration with nurses and health care professionals who are viewed as important in promoting accurate information about SIDS and safe sleep practices.

Conclusion

The role of the nurse can impact accurate outcomes about SIDS and safe sleep practices. (Author)

20161121-37*

The high price of being labelled 'high risk': social context as a health determinant for sudden unexpected infant death in Māori communities. Houkamau C, Tipene-Leach D, Clarke K (2016), New Zealand College of Midwives Journal no 52, December 2016, pp 56-61

Background: For over 25 years, nationwide efforts to address sudden infant death in New Zealand have focused on advising parents to avoid four risk factors labelled as modifiable. But Māori infants still have sudden unexpected death in infancy (SUDI) at five times the rate of non-Māori.

Aim: This paper expands the conceptualisation of SUDI risk factors and suggests a reconsideration of the use of risk factor terminology.

Discussion: Working from the assumption that health outcomes are influenced by social determinants, we put forward two key propositions. Firstly, we argue (using maternal smoking as a case in point) that greater attention must be paid to the role of social and socio-economic factors in the prevention of SUDI in Māori communities. Secondly, we propose that the language of risk reduction impedes Māori engagement with health services because the discourse associated

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with being 'at risk' and 'vulnerable' casts Māori in a deficit framework affecting how Māori are perceived by health professionals and, more importantly perhaps, how Māori see themselves. (59 references) (Author) [Full article available online at: <https://www.midwife.org.nz/resources-events/nzcom-journal/>]

20161115-59*

The recent fall in postperinatal mortality in New Zealand and the Safe Sleep programme. Mitchell EA, Cowan S, Tipene-Leach D (2016), *Acta Paediatrica* vol 105, no 11, November 2016, pp 1312-1320

Postneonatal mortality rates changed very little from 2000 until recently. There has been a decrease in mortality in New Zealand from 2009 to 2015. This study describes an infant Safe Sleep programme and postulates it is the cause for the recent decrease in deaths.

Methods

The Safe Sleep programme involved as follows: a focus on preventing accidental suffocation, a 'blitz' approach to SUDI education, the targeted provision of portable infant Safe Sleep devices (ISSD) and the development of Safe Sleep policy across all district health boards (DHBs).

Results

Participation in the education 'blitz' by health professionals exceeded one in 23 live births, distribution of Safe Sleep leaflets exceeded two for every live birth, and over 16 500 ISSDs have been distributed to vulnerable infants.

Postperinatal mortality fell 29% from 2009 to 2015 (2.8 to 2.0/1000 live births). The fall has been greatest for Māori and in regions with the most intensive programmes.

Conclusion

The recent fall in postperinatal mortality has not happened by chance. It is likely that the components of end-stage prevention strategy, a focus on preventing accidental suffocation, the education 'blitz', the targeted supply of ISSDs and strengthened health policy, have all contributed to varying degrees. (30 references) (Author)

20161025-5*

SIDS and Other Sleep-Related Infant Deaths: Updated 2016 Recommendations for a Safe Infant Sleeping Environment. TASK FORCE ON SUDDEN INFANT DEATH SYNDROME (2016), *Pediatrics* vol 138, no 5, November 2016

Approximately 3500 infants die annually in the United States from sleep-related infant deaths, including sudden infant death syndrome (SIDS; International Classification of Diseases, 10th Revision [ICD-10], R95), ill-defined deaths (ICD-10 R99), and accidental suffocation and strangulation in bed (ICD-10 W75). After an initial decrease in the 1990s, the overall death rate attributable to sleep-related infant deaths has not declined in more recent years. Many of the modifiable and nonmodifiable risk factors for SIDS and other sleep-related infant deaths are strikingly similar. The American Academy of Pediatrics recommends a safe sleep environment that can reduce the risk of all sleep-related infant deaths. Recommendations for a safe sleep environment include supine positioning, the use of a firm sleep surface, room-sharing without bed-sharing, and the avoidance of soft bedding and overheating. Additional recommendations for SIDS reduction include the avoidance of exposure to smoke, alcohol, and illicit drugs; breastfeeding; routine immunization; and use of a pacifier. New evidence is presented for skin-to-skin care for newborn infants, use of bedside and in-bed sleepers, sleeping on couches/armchairs and in sitting devices, and use of soft bedding after 4 months of age. The recommendations and strength of evidence for each recommendation are included in this policy statement. The rationale for these recommendations is discussed in detail in the accompanying technical report (www.pediatrics.org/cgi/doi/10.1542/peds.2015-3147). (Author)

Full URL: http://pediatrics.aappublications.org/content/early/2016/10/20/peds.2016-2938?utm_source=highwire&utm_medium=email&utm_campaign=Pediatrics_papetoc

20161025-2*

Risk Factors for Sleep-Related Infant Deaths in In-Home and Out-of-Home Settings. Kassa H, Moon RY, Colvin JD (2016), *Pediatrics* vol 138, no 5, November 2016

BACKGROUND AND OBJECTIVE: Multiple environmental risk factors are associated with sleep-related infant deaths.

Little is known about differences in risk factors for deaths occurring in-home and out-of-home. We sought to compare

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risk factors for in-home and out-of-home infant deaths.

METHODS: We conducted a cross-sectional analysis of sleep-related infant deaths from 2004 to 2014 in the National Child Fatality Review and Prevention database. The main exposure was setting (in-home versus out-of-home) at time of death. Primary outcomes were known risk factors: sleep position, sleep location (eg, crib), objects in the environment, and bed sharing. Risk factors for in-home versus out-of-home deaths were compared using the χ^2 test and multivariate logistic regressions.

RESULTS: A total of 11 717 deaths were analyzed. Infants who died out-of-home were more likely to be in a stroller/car seat (adjusted odds ratio, 2.6; 95% confidence interval, 2.1-3.4; $P < .001$) and other locations (adjusted odds ratio, 1.9; 95% confidence interval, 1.5-2.3; $P < .001$), and placed prone (adjusted odds ratio, 1.1; 95% confidence interval, 1.02-1.27; $P = .02$). Bed sharing was less common out-of-home (adjusted odds ratio, 0.7; 95% confidence interval, 0.6-0.7; $P < .001$). There were no differences in sleeping in an adult bed/on person, on a couch/ chair, or objects in the sleep environment.

CONCLUSIONS: Sleep-related infant deaths in the out-of-home setting have higher odds of having certain risk factors, such as prone placement for sleep and location in a stroller/car seat, rather than in a crib/bassinet. Caregivers should be educated on the importance of placing infants to sleep supine in cribs/bassinets to protect against sleep-related deaths, both in and out of the home. (Author)

20160928-19

Supine sleep positioning in preterm and term infants after hospital discharge from 2000 to 2011. Hwang SS, Smith RA, Barfield WD, et al (2016), Journal of Perinatology vol 36, no 9, September 2016, pp 787-793

OBJECTIVE:

Supine sleep positioning (SSP) has been shown to reduce the risk of sudden infant death syndrome (SIDS) and preterm infants are at higher risk for SIDS. Population-based estimates of SSP are lacking for the preterm population. The objectives of this study are: (1) compare the prevalence of SSP after hospital discharge for preterm and term infants in the United States; and (2) assess racial/ethnic disparities in SSP for preterm and term infants.

STUDY DESIGN:

We analyzed the 2000 to 2011 data from the Pregnancy Risk Assessment Monitoring System of Centers for Disease Control and Prevention from 35 states. We measured prevalence of SSP by preterm and term gestational age (GA) categories. We calculated adjusted prevalence ratios (APR) to evaluate the likelihood of SSP for each GA category compared with term infants and the likelihood of SSP for non-Hispanic black (NHB) and Hispanic infants compared with non-Hispanic white (NHW) infants.

RESULTS:

Prevalence of SSP varied by GA: 27, 59.7%; 28 0/7 to 33 6/7, 63.7%; 34 0/7 to 36 6/7 (late preterm), 63.6%; and 37 0/7 to 42 6/7 (term) weeks, 66.8% ($P < 0.001$). In the adjusted analyses, late preterm infants were slightly less likely to be placed in SSP compared with term infants (APR: 0.96, confidence interval: 0.95 to 0.98). There were racial/ethnic disparities in SSP for all GA categories when NHB and Hispanic infants were compared with NHW infants.

CONCLUSIONS:

All infants had suboptimal adherence to SSP indicating a continued need to better engage families about SSP. Parents of late preterm infants and families of NHB and Hispanic infants will also require greater attention given their decreased likelihood of SSP.

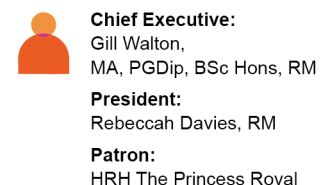
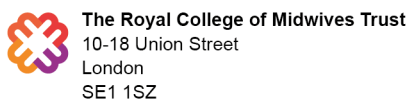
(19 references) (Author)

20160816-28*

Grandmothers' beliefs and practices in infant safe sleep. Aitken ME, Rose A, Mullins SH, et al (2016), Maternal and Child Health Journal vol 20, no 7, July 2016, pp 1464-1471

Background Sudden infant death syndrome (SIDS) and suffocation are leading causes of infant mortality. Supine sleep position and use of appropriate sleep surfaces reduce SIDS risk but are not universally practiced. Mothers' decisions about sleep position and environment may be influenced by guidance provided by infants' grandmothers and other caregivers. **Methods** A survey was conducted of a convenience sample of grandmothers aged 30-70 years who provide

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care at least weekly for an infant grandchild <6 months old. The survey was distributed through community partners of a university-based research team. Respondents received home safety items as compensation. Analyses focused on the relationship of grandmother demographic characteristics and beliefs on their reported practices related to infant sleep. Results Among the 239 grandmothers, 45 % reported placing infants to sleep supine on an appropriate sleep surface at the grandmother's house, while 58 % reported doing so when the infant was sleeping in the mother's house. After adjusting for other factors, respondents were less likely to adhere to recommended guidelines when they believed supine position increased choking risk (OR 0.34, 95 % CI 0.18-0.62) or believed infants are more comfortable or sleep longer when on their stomachs (OR 0.51, 95 % CI 0.28-0.93). Discussion Grandmothers do not universally observe evidence-based safe sleep practices, particularly if the infant is not sleeping in the home of the parent. Interventions for senior caregivers focused on perceived choking risk, infant comfort in the supine position, and other recent changes in recommended safety practices are warranted. (33 references) (Author)

20160816-2*

Nocturnal Video Assessment of Infant Sleep Environments. Batra EK, Teti DM, Schaefer EW, et al (2016), Pediatrics vol 138, no 3, September 2016, p25

BACKGROUND AND OBJECTIVE: Reports describing factors associated with sleep-related infant death rely on caregiver report or postmortem findings. We sought to determine the frequency of environmental risk factors by using nocturnal sleep videos of infants.

METHODS: Healthy, term newborns were recruited for a parent study examining the role of parenting in the development of nighttime infant sleep patterns. For 1 night at ages 1, 3, and 6 months, video recordings were conducted within family homes. Videos were coded for sudden infant death syndrome risk factors in post hoc secondary analyses after the parent study was completed.

RESULTS: Among 160 one-month-olds, initially 21% were placed to sleep on nonrecommended sleep surfaces and 14% were placed nonsupine; 91% had loose/nonapproved items on their sleep surface, including bedding, bumper pads, pillows, stuffed animals, and sleep positioners. Among 151 three-month-olds, 10% were initially placed on a nonrecommended sleep surface, 18% were placed nonsupine, and 87% had potentially hazardous items on their sleep surface. By 6 months, 12% of the 147 infants initially slept on a nonrecommended surface, 33% were placed to bed nonsupine, and 93% had loose/nonrecommended items on their surface. At 1, 3, and 6 months, 28%, 18%, and 12% changed sleep locations overnight, respectively, with an increased likelihood of bed-sharing and nonsupine position at the second location at each time point.

CONCLUSIONS: Most parents, even when aware of being recorded, placed their infants in sleep environments with established risk factors. If infants were moved overnight, the second sleep environment generally had more hazards.

(Author)

Full URL: <http://pediatrics.aappublications.org/content/early/2016/08/11/peds.2016-1533.full-text.pdf>

20160729-10*

Reducing child mortality in London. Korkodilos M (2016), London: Public Health England July 2016

Although there have been significant reductions in child deaths in the past 3 decades in England, too many children are still dying unnecessarily. This document includes: important child mortality statistics for children and young people (CYP) in London; national findings from Child Death Overview Panels (CDOP); actions to reduce child deaths.

(Publisher)


Full URL: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/541697/Reducing_child_deaths_in_London.pdf

20160523-4


Nurses' knowledge and adherence to sudden infant death syndrome prevention guidelines. Bartlow K (2016), Pediatric Nursing vol 42, no 1 January/February 2016, pp 7-13

The American Academy of Pediatrics (AAP) defines standard guidelines for infant positioning and sleep environment to reduce the rate of sudden infant death syndrome (SIDS), but recent data on nurses' knowledge and adherence to

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these guidelines in hospital settings are limited. An observational, quantitative, and descriptive study was conducted on well-baby postpartum nurseries at two urban Washington, DC, hospitals. Sixty-six direct observations of infant position and crib environment were conducted, and a 17-question survey was administered to determine nurses' knowledge and practice regarding AAP SIDS prevention guidelines. Of observed sleeping conditions, 69.7% failed the guidelines for infant positioning, crib environment, or both, despite nurses' reporting knowledge of the AAP guidelines. Further research is needed to determine if the study's findings are consistent with hospitals elsewhere, and to better understand the disconnect between nurses' knowledge and behavior regarding SIDS prevention guidelines. (18 references) (Author)

20160510-5*

Swaddling and the risk of sudden infant death syndrome: A meta-analysis. Pease AS, Fleming PJ, Hauck FR, et al (2016), Pediatrics vol 137, no 6, June 2016, p e20153275

CONTEXT: Swaddling is a traditional practice of wrapping infants to promote calming and sleep. Although the benefits and risks of swaddling in general have been studied, the practice in relation to sudden infant death syndrome remains unclear.

OBJECTIVE: The goal of this study was to conduct an individual-level meta-analysis of sudden infant death syndrome risk for infants swaddled for sleep.

DATA SOURCES: Additional data on sleeping position and age were provided by authors of included studies.

STUDY SELECTION: Observational studies that measured swaddling for the last or reference sleep were included.

DATA EXTRACTION: Of 283 articles screened, 4 studies met the inclusion criteria.

RESULTS: There was significant heterogeneity among studies ($I^2 = 65.5\%$; $P = .03$), and a random effects model was therefore used for analysis. The overall age-adjusted pooled odds ratio (OR) for swaddling in all 4 studies was 1.58 (95% confidence interval [CI], 0.97-2.58). Removing the most recent study conducted in the United Kingdom reduced the heterogeneity ($I^2 = 28.2\%$; $P = .25$) and provided a pooled OR (using a fixed effects model) of 1.38 (95% CI, 1.05-1.80). Swaddling risk varied according to position placed for sleep; the risk was highest for prone sleeping (OR, 12.99 [95% CI, 4.14-40.77]), followed by side sleeping (OR, 3.16 [95% CI, 2.08-4.81]) and supine sleeping (OR, 1.93 [95% CI, 1.27-2.93]). Limited evidence suggested swaddling risk increased with infant age and was associated with a twofold risk for infants aged >6 months.

LIMITATIONS: Heterogeneity among the few studies available, imprecise definitions of swaddling, and difficulties controlling for further known risks make interpretation difficult.

CONCLUSIONS: Current advice to avoid front or side positions for sleep especially applies to infants who are swaddled. Consideration should be given to an age after which swaddling should be discouraged. (Author) (The full text of this article is available at <http://pediatrics.aappublications.org/content/pediatrics/137/6/e20153275.full.pdf>)

Full URL: <http://pediatrics.aappublications.org/content/pediatrics/137/6/e20153275.full.pdf>

20151203-40

An analysis of attitude toward infant sleep safety and SIDS risk reduction behavior among caregivers of newborns and infants. Varghese S, Gasalberti D, Ahern K, et al (2015), Journal of Perinatology vol 35, no 11, November 2015, pp 970-973

OBJECTIVE:

To explore beliefs and attitude toward infant sleep safety and sudden infant death syndrome (SIDS) risk reduction behaviors among caregivers of newborns and infants.

STUDY DESIGN:

A convenience sample comprised of 121 caregivers of newborns at Staten Island University Hospital completed a questionnaire.

RESULTS:

Despite an overall favorable attitude toward safe sleep practices, a majority disagreed with use of pacifiers (53%) and believed that swaddling (62%) as well as the use of home monitors (59%) are acceptable practices. The caregivers who recalled being taught about safe sleep had higher perception of infant vulnerability ($P < 0.001$), more confidence in their ability to implement safe sleep behaviors ($P < 0.0006$) and stronger belief that safe sleep behaviors are effective

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(P<0.01).

CONCLUSION:

Active caregiver education may result in more effective demonstration of safe sleep and SIDS risk reduction behaviors. Further study is needed to assess if favorable attitudes toward safe sleep practices correlate with actual demonstrated behaviors. (13 references) (Author)

20151103-9

Safe sleep practices and discharge planning. Andreotta J, Hill C, Eley S, et al (2015), The Journal of Neonatal Nursing vol 21, no 5, October 2015, pp 195-199

The recommendation to place infants on their backs to sleep has been widely known since the mid-1990s. Upon implementation of this recommendation, sudden infant death syndrome (SIDS) and sudden unexplained infant death (SUID) were dramatically decreased. However since that time, further reduction in the death rates has not been evident. This literature review focused on implementation of safe sleep practices in the inpatient setting prior to discharge of the mother and infant. Evidence supports staff consistency as it relates to educational strategies and role modeling, as this is integral in parental compliance of the recommendations. Additionally, tailoring the educational components specific to parental ethnicity and socioeconomics may influence their perceptions of safe sleep and its value in the safe care of their infant. (15 references) (Author)

20151030-17

Home care practices for preterm and term infants after hospital discharge in Massachusetts, 2007 to 2010. Hwang S, Lu E, Cui X, et al (2015), Journal of Perinatology vol 35, no 10, October 2015, pp 880-884

The objective of this study was to compare the prevalence of home care practices in very to moderately preterm (VPT), late preterm (LPT) and term infants born in Massachusetts.

Using 2007 to 2010 Massachusetts Pregnancy Risk Assessment Monitoring System data, births were categorized by gestational age (VPT: 23 to 33 weeks; LPT: 34 to 36 weeks; term: 37 to 42 weeks). Home care practices included breastfeeding initiation and continuation, and infant sleep practices (supine sleep position, sleeping in a crib, cosleeping in an adult bed). We developed multivariate models to examine the association of infant sleep practices and breastfeeding with preterm status, controlling for maternal sociodemographic characteristics.

Supine sleep position was more prevalent among term infants compared with VPT and LPT infants (77.1%, 71.5%, 64.4%; P=0.02). In the adjusted model, LPT infants were less likely to be placed in supine sleep position compared with term infants (adjusted prevalence ratio=0.86; 95% confidence interval: 0.75 to 0.97). Breastfeeding initiation and continuation did not differ among preterm and term groups. Nearly 16% of VPT and 18% of LPT and term infants were not sleeping in cribs and 14% of LPT and term infants were cosleeping on an adult bed.

Compared with term infants, LPT infants were less likely to be placed in supine sleep position after hospital discharge. A significant percent of preterm and term infants were cosleeping on an adult bed. Hospitals may consider improving their safe sleep education, particularly to mothers of LPT infants. (21 references) (Author)

20151030-15

Implementation of safe sleep practices in the neonatal intensive care unit. Hwang SS, O'Sullivan A, Fitzgerald E, et al (2015), Journal of Perinatology vol 35, no 10, October 2015, pp 862-866

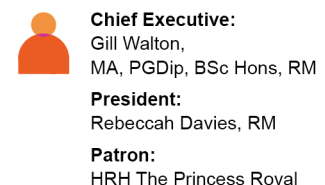
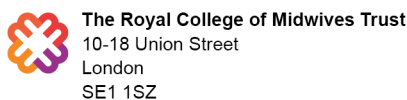
OBJECTIVE:

To increase the percentage of eligible infants engaging in safe sleep practices (SSP) in two level III neonatal intensive care units (NICUs) in the Boston, Massachusetts area.

STUDY DESIGN:

On the basis of eligibility criteria (≥34 weeks or ≥1800 g without acute medical conditions), all infants were eligible for two sleep practices: SSP or NICU therapeutic positioning (NTP) depending on their gestational age, weight, clinical illness and need for therapeutic interventions. Compliance with SSP was defined as: (1) supine positioning, (2) in a flat crib with no incline, (3) without positioning devices and (4) without toys, comforters or fluffy blankets. NTP comprised usual NICU care. Nursing education was comprised of a web-based learning module and in-person teaching sessions

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with a study team member. Double-sided crib cards (SSP one side and NTP on the other) were attached to the bedside of every infant. Pre- and post intervention audits of all infants were carried out at both study sites. We compared compliance across all time points using generalized estimating equations to account for correlated data (SAS v9.3, Cary, NC, USA).

RESULT:

Of 755 cases, 395 (52.3%) were assessed to be eligible for SSP. From the pre- to post-intervention period, there was a significant improvement in overall compliance with SSP (25.9 to 79.7%; P-value<0.001). Adherence to each component of SSP also improved significantly following the intervention.

CONCLUSION:

Safe infant sleep practices can be integrated into the routine care of preterm infants in the NICU. Modeling SSP to families far in advance of hospital discharge may improve adherence to SSP at home and reduce the risk of sleep-related morbidity and mortality in this vulnerable population of infants. (11 references) (Author)

20150905-3*

Infant care practices related to sudden unexpected death in infancy: a 2013 survey. Hutchinson BL, Thompson JMD, Mitchell EA (2015), New Zealand Medical Journal vol 128, no 1408, 28 January 2015, pp 15-22

Aim:

This survey aimed to evaluate mothers' knowledge of, and practices related to, risk factors for sudden unexpected death in infancy (SUDI) and to compare results with a similar survey conducted in 2005.

Method:

400 randomly selected women with infants between the ages of 6 weeks and 4 months were sent a postal questionnaire asking about their knowledge and infant care practices related to SUDI risk factors. Included were questions on sleep position, bed sharing, room sharing, smoking, and breastfeeding. Results were compared with a similar survey conducted in 2005.

Results:

There were 172 (43%) responses. Compared with 2005, more women in this survey cited avoiding bed sharing, keeping the face clear, avoiding soft bedding, and room sharing as SUDI prevention factors. Compared with 2005, more mothers usually used the supine sleep position and shared the parental bedroom, while fewer mothers reported smoking. Eight percent said the infant usually shared a bed, down from 15% in 2005. Of the five main protective factors promoted by New Zealand's Ministry of Health (supine sleep, own bed, room sharing, smoke free, breastfeeding), 43% were implementing all of these practices.

Conclusion:

There has been an increased knowledge of SUDI risk factors. Also evident are an increase in supine positioning and room sharing and a decrease in smoking and bed sharing. These results suggest possible reasons for the falling rate of SUDI in New Zealand. [Full article available from:

https://www.nzma.org.nz/__data/assets/pdf_file/0019/39142/Hutchison.pdf] (16 references) (Author)

20150827-23

Neonatal nurses' beliefs, knowledge, and practices in relation to sudden infant death syndrome risk-reduction recommendations. Barsman SG, Dowling DA, Damato EG (2015), Advances in Neonatal Care vol 15, no 3, June 2015, pp 209-219

BACKGROUND:

Sudden infant death syndrome (SIDS) remains the third leading cause of infant death in the United States and the leading cause of death beyond 1 month of age. In 2011, the American Academy of Pediatrics (AAP) released the newest SIDS risk-reduction recommendations, which address healthcare providers in neonatal intensive care units (NICUs). Little is known about neonatal nurses' SIDS prevention strategies since the release of these newest recommendations.

PURPOSE:

To assess neonatal nurses' beliefs, knowledge, and practices regarding SIDS prevention in both the NICU and step-down transitional care unit (TCU).

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METHODS:

A prospective-descriptive design was used. The 33-item SIDS Risk-Reduction Questionnaire was distributed to a convenience sample of nurses in a level III NICU/TCU in the Midwest.

RESULTS:

Two hundred questionnaires were distributed; 96 (48%) were returned completed. Fifty-three percent of nurses strongly agreed that SIDS recommendations make a difference in preventing SIDS and 20% strongly believed that parents model SIDS prevention practices employed by staff. A majority of nurses correctly identified 2011 recommendations. Sixty-three percent of nurses often or always gave parents verbal information and 28% often or always gave parents written information regarding SIDS. Differences were seen between NICU and TCU nurses concerning beliefs and practices, suggesting that TCU nurses more consistently follow SIDS recommendations.

IMPLICATIONS FOR PRACTICE:

Increased neonatal nursing and parental education regarding SIDS prevention and updated hospital policies promoting safe sleep are paramount.

IMPLICATIONS FOR RESEARCH:

Larger multicenter studies in level II/III NICUs are needed to provide further data on SIDS attitudes and practices. (30 references) (Author)

20150824-17*

Bed sharing is more common in sudden infant death syndrome than in explained sudden unexpected deaths in infancy. Möllborg P, Wennergren G, Almqvist P, et al (2015), *Acta Paediatrica* vol 104, no 8, August 2015, pp 777-783

AIM:

Despite its declining incidence, sudden infant death syndrome (SIDS) is still an important cause of death in infancy. This study investigated the environmental circumstances associated with SIDS, by analysing data from all sudden unexpected deaths in infancy (SUDI) in Sweden from 2005 to 2011.

METHODS:

All Swedish infants forensically autopsied up to the age of 365 days from 2005 to 2011 were included. Medical records were obtained from the hospitals and supplementary data from the Swedish Medical Birth Register.

RESULTS:

Of the 261 infants, 136 were defined as SIDS and 125 as explained SUDI. The documentation in the medical records was poor when it came to issues such as bed sharing, sleep position, smoking, breastfeeding and pacifier use. The main findings were a significantly higher prevalence of bed sharing in SIDS than in explained deaths (odds ratio 7.77, 95% confidence interval 2.36-25.57) and that prone sleeping was still overrepresented. Bronchopneumonia, other infections and congenital anomalies were the most common causes of explained SUDI.

CONCLUSION:

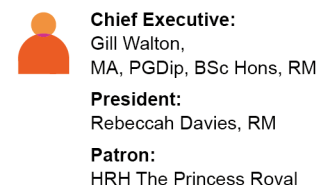
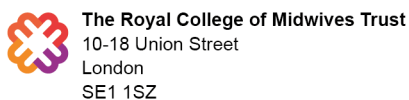
Bed sharing and prone sleeping were more common in SIDS than in explained SUDI. Sparse data in medical records were a problem, and the authors are now working with the National Board of Health and Welfare on a project to establish new routines. [Full article available at: <http://onlinelibrary.wiley.com/doi/10.1111/apa.13021/full>] (30 references) (Author)

20150818-21*

Sudden infant death syndrome. Adams SM, Ward CE, Garcia K (2015), *American Family Physician* vol 91, no 11, June 2015, pp 778-783

Sudden infant death syndrome (SIDS) is the sudden unexpected death of a child younger than one year during sleep that cannot be explained after a postmortem evaluation including autopsy, a thorough history, and scene evaluation. The incidence of SIDS has decreased more than 50% in the past 20 years, largely as a result of the Back to Sleep campaign. The most important risk factors relate to the sleep environment. Prone and side sleeping positions are significantly more dangerous than the supine position. Bed sharing with a parent is strongly correlated with an increased risk of SIDS, especially in infants younger than 12 weeks. Apparent life-threatening events are not a risk

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factor for SIDS. Parents should place infants on their backs to sleep, should not share a bed, and should avoid exposing the infant to tobacco smoke. Other risk-reducing measures include using a firm crib mattress, breastfeeding, keeping vaccinations up to date, avoiding overheating due to overbundling, avoiding soft bedding, and considering the use of a pacifier during sleep once breastfeeding is established. One consequence of the Back to Sleep campaign is a significant increase in the incidence of occipital flattening. Infants who develop a flat spot should be placed with the head facing alternating directions each time he or she is put to bed. Supervised prone positioning while the infant is awake, avoiding excessive use of carriers, and upright positioning while awake are also recommended. (Author)

20150623-15

Updated Swedish advice on reducing the risk of sudden infant death syndrome. Wennergren G, Nordstrand K, Alm B, et al (2015), Acta Paediatrica vol 104, no 5, May 2015, pp 444-448

This article reviews updated advice and factual material from the Swedish National Board of Health and Welfare on reducing the risk of sudden infant death syndrome. Issues covered by the guidance for parents and healthcare professionals include sleeping positions, smoking, breastfeeding, bed sharing and using pacifiers. (56 references) (Author)

20150623-13

Updating SIDS risk reduction advice has the potential to further reduce infant deaths in Sweden. Moon RY, Hauck FR (2015), Acta Paediatrica vol 104, no 5, May 2015, pp 434-435

Examines the evidence for sudden infant death prevention and argues that sleep safety recommendations should be updated. (10 references) (Author)

20150505-38*

Sudden infant death syndrome and advice for safe sleeping. Horne RSC, Hauck FR, Moon RY (2015), BMJ vol 350, no 8006, 2 May 2015, pp 29-32

Clinical review which aims to provide health professionals with the most up to date information about sudden infant death syndrome and infant safety while sleeping. Information in the review results from a review of the literature and from the policy statements and technical reports of the American Academy of Pediatrics' Task Force of Sudden Infant Death Syndrome and consensus statements from the International Society for the Study and Prevention of Perinatal and Infant Death. (CI)

20150430-19*

Comprehensive review of sleep-related sudden unexpected infant deaths and their investigations: Florida 2008.

Sauber-Schatz EK, Sappenfield WM, Brooks-Gunn J (2015), Maternal and Child Health Journal vol 19, no 2, February 2015, pp 381-390

To describe 2008 Florida sleep-related sudden unexpected infant deaths (SUIDs) by describing (a) percentage distribution of medical examiner (ME) cause-of-death determinations; (b) mortality rates by maternal and infant characteristics; (c) prevalence of selected suffocation or sudden infant death syndrome (SIDS) risk and protective factors; (d) frequency of selected scene investigation and autopsy components (including extent of missing data); and (e) percentage with public health program contact. In this population-based study, we identified sleep-related SUIDs occurring among Florida residents from the 2008-linked Florida infant death and birth certificates. Information about the circumstances of death was abstracted from ME, law enforcement, and hospital records. We used frequencies and percentages to describe characteristics of sleep-related SUID cases. Of 215 sleep-related SUID cases, MEs identified 47.9 % as accidental suffocation and strangulation in bed, 35.4 % as unknown or undetermined cause, and 16.7 % as SIDS. Sleep-related SUID most frequently occurred in an adult bed (n = 108; 50.2 %). At death, 82.4 % of sleep-related SUIDs had ≥ 1 suffocation or SIDS risk factor with 54.4 % infants sharing a sleep surface, 38.1 % placed nonsupine, 24.2 % placed on a pillow, and 10.2 % having head covering. Missing data frequently resulted from incomplete scene investigation and autopsy components. SUID contributed to ≥ 1 in seven Florida infant deaths in 2008. Approximately

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80 % of sleep-related SUIDs were reported among infants placed in unsafe sleeping environments. Effective interventions are needed to promote safe sleep among caregivers of Florida infants. These interventions must reach infant caregivers at highest risk and change unsafe sleep practices. The substantial percentage of missing investigation data reinforces the need for standardized reporting. (27 references) (Author)

20150422-44*

Association between sudden infant death syndrome and diphtheria-tetanus-pertussis immunisation: an ecological study. Muller-Nordhorn J, Hettler-Chen C-M, Keil T, et al (2015), BMC Pediatrics vol 15, no 1, 28 January 2015

Background:

Sudden infant death syndrome (SIDS) continues to be one of the main causes of infant mortality in the United States. The objective of this study was to analyse the association between diphtheria-tetanus-pertussis (DTP) immunisation and SIDS over time.

Methods:

The Centers for Disease Control and Prevention provided the number of cases of SIDS and live births per year (1968-2009), allowing the calculation of SIDS mortality rates. Immunisation coverage was based on (1) the United States Immunization Survey (1968-1985), (2) the National Health Interview Survey (1991-1993), and (3) the National Immunization Survey (1994-2009). We used sleep position data from the National Infant Sleep Position Survey. To determine the time points at which significant changes occurred and to estimate the annual percentage change in mortality rates, we performed joinpoint regression analyses. We fitted a Poisson regression model to determine the association between SIDS mortality rates and DTP immunisation coverage (1975-2009).

Results:

SIDS mortality rates increased significantly from 1968 to 1971 (+27% annually), from 1971 to 1974 (+47%), and from 1974 to 1979 (+3%). They decreased from 1979 to 1991 (-1%) and from 1991 to 2001 (-8%). After 2001, mortality rates remained constant. DTP immunisation coverage was inversely associated with SIDS mortality rates. We observed an incidence rate ratio of 0.92 (95% confidence interval: 0.87 to 0.97) per 10% increase in DTP immunisation coverage after adjusting for infant sleep position.

Conclusions:

Increased DTP immunisation coverage is associated with decreased SIDS mortality. Current recommendations on timely DTP immunisation should be emphasised to prevent not only specific infectious diseases but also potentially SIDS. (41 references) (Author) [Please note: BMC initially publish articles in a provisional format. If there is a note on the document to indicate that it is still provisional, it may undergo minor changes]

Full URL: <http://www.biomedcentral.com/1471-2431/15/1>

20150324-28

Improving infant sleep safety through a comprehensive hospital-based program. Goodstein MH, Bell T, Krugman SD (2015), Clinical Pediatrics vol 54, no 3, March 2015, pp 212-221

We evaluated a comprehensive hospital-based infant safe sleep education program on parental education and safe sleep behaviors in the home using a cross-sectional survey of new parents at hospital discharge (HD) and 4-month follow-up (F/U). Knowledge and practices of infant safe sleep were compared to the National Infant Sleep Position Study benchmark. There were 1092 HD and 490 F/U surveys. Supine sleep knowledge was 99.8% at HD; 94.8% of families planned to always use this position. At F/U, 97.3% retained supine knowledge, and 84.9% maintained this position exclusively ($P < .01$). Knowledge of crib as safest surface was 99.8% at HD and 99.5% F/U. Use in the parents' room fell to 91.9% (HD) and 68.2% (F/U). Compared to the National Infant Sleep Position Study, the F/U group was more likely to use supine positioning and a bassinet or crib. Reinforcing the infant sleep safety message through intensive hospital-based education improves parental compliance with sudden infant death syndrome risk reduction guidelines. (17 references) (Author)

20150224-9*

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An evidence-based safe sleep teaching program. Povenelli T, Manquen D, Wagner A, et al (2014), Neonatal Network: the Journal of Neonatal Nursing vol 33, no 6, November/December 2014, pp 353-355

This column describes the experience of the units practice council in developing an evidence-based practice teaching program focused on safe sleep for newborn infants. (Author)

20150126-35*

Proposal for mechanisms of protection of supine sleep against sudden infant death syndrome: an integrated mechanism review. Bergman NJ (2015), Pediatric Research vol 77, no 1-1, 2015, pp 10-19

Supine sleep decreases sudden infant death syndrome (SIDS) incidence, however the mechanisms for this are unclear. The triple risk model for SIDS requires that one or more underlying abnormalities of breathing or autonomic control are present; these are rare, but brainstem defects are found in most SIDS cases. Supine sleep increases sympathetic nervous system tone, and level of state organization, and may therefore act as a stressor. This is evidenced by physiological arousal, and by delayed neurodevelopment in supine compared to prone sleepers. It is argued here that prone sleep position is the biological normative standard in healthy infants, supporting autonomic regulation. During rapid eye movement (REM) sleep (and other circumstances), a parasympathetic-mediated adverse autonomic event (AAE) may be spontaneously triggered. In healthy infants, gasping initiates autoresuscitation and recovery. HYPOTHESIS: the underlying vulnerability to SIDS is specific to autoresuscitation from an AAE, the initial serotonin-dependent gasp is commonly compromised. Serotonin metabolism defects also influence sleep architecture, increasing the likelihood of AAE. The mechanism whereby supine sleep decreases SIDS may therefore be a stressor effect, disturbing sleep architecture to decrease REM and AAEs, and increasing sympathetic tone, which may prevent and counteract the purely parasympathetic-mediated AAE, thereby decreasing the risk of SIDS. (Author)

20141212-29*

Infant deaths in slings. Madre CI, Rambaud C, Avran D, et al (2014), European Journal of Pediatrics vol 173, no 12, 2014, pp 1659-1661


Although the incidence of sudden unexpected death in infancy (SUDI) decreased markedly after campaigns to promote supine positioning during sleeping, it has remained unchanged over the last decade. Epidemiological data suggest a role for new causes such as suffocation, asphyxia, and entrapment. Health authorities in several countries have issued warnings about slings used to carry infants. However, few reports of infant deaths in slings have been published in medical journals. Our paediatric intensive care unit has admitted two infants who experienced cardiorespiratory arrest while carried in a sling. Diagnostic investigations including a post-mortem examination established asphyxia as the mechanism of death. In conclusion, baby slings may carry a risk of SUDI, either by compression of the baby into a forward-flexed position or by direct suffocation. European recommendations for the cautious use of baby slings should be disseminated to families and professionals involved in caring for infants, as done recently in Australia, Canada, and the USA. (Author)

20141107-56


To improve safe sleep, more emphasis should be placed on removing inappropriate items from cribs. Ahlers-Schmidt CR, Kuhlmann S, Kuhlmann Z, et al (2014), Clinical Pediatrics vol 53, no 13, November 2014, pp 1285-1287

INTRODUCTION: Current recommendations to prevent sleep-related death include that infants be placed on their back in a crib with a firm mattress and fitted sheet. Bumpers, pillows, loose blankets, stuffed toys, and other suffocation hazards are not recommended. However, sleep-related infant deaths continue to occur. As part of a university, physician, and nonprofit collaboration, a Safe Sleep Toolkit was developed to improve consistency in safe sleep communication. METHODS: The toolkit was implemented at two resident physician clinics, obstetric and pediatric, and included: 1) parent checklist regarding sleep position, location, environment, and intentions to share information; 2) a brief health care provider script; and 3) nationally available resources. Approval was received from two local institutional review boards. RESULTS: Checklists were completed by 309 parents, 64% at the pediatric and 36% at the

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obstetric clinic. The majority were female (83%) with a high school diploma or less (66%). Nearly half (48%) were white. Most parents reported appropriate sleep location (88%) and position (79%); however, only 37% reported no inappropriate items in the sleep environment. Health care providers engaged in discussion regarding safe sleep with most parents. CONCLUSIONS: Most parents were aware of and implementing the American Association of Pediatrics' recommendations for safe sleep location and position. However, more than 60% reported at least one item in the crib that would increase the infant's risk of accidental asphyxiation. Although this assessment has limitations in process and scope, our toolkit may assist in identifying gaps in parent knowledge and practice and may be useful in prompting health care provider communication regarding safe sleep. (10 references) (Author)

20141105-3*

Safe sleep practices in a New Zealand community and development of a Sudden Unexpected Death in Infancy (SUDI) risk assessment instrument. Galland BC, Gray A, Sayers RM, et al (2014), BMC Pediatrics vol 14, no 263, 13 October 2014

Background

Interventions to prevent sudden unexpected death in infancy (SUDI) have generally been population wide interventions instituted after case-control studies identified specific childcare practices associated with sudden death. While successful overall, in New Zealand (NZ), the rates are still relatively high by international comparison. This study aims to describe childcare practices related to SUDI prevention messages in a New Zealand community, and to develop and explore the utility of a risk assessment instrument based on international guidelines and evidence.

Methods

Prospective longitudinal study of 209 infants recruited antenatally. Participant characteristics and infant care data were collected by questionnaire at: baseline (third trimester), and monthly from infant age 3 weeks through 23 weeks. Published meta-analyses data were used to estimate individual risk ratios for 6 important SUDI risk factors which, when combined, yielded a 'SUDI risk score'.

Results

Most infants were at low risk for SUDI with 72% at the lowest or slightly elevated risk (combined risk ratio ≤ 1.5). There was a high prevalence of the safe practices: supine sleeping (86-89% over 3-19 weeks), mother not smoking (90-92% over 3-19 weeks), and not bed sharing at a young age (87% at 3 weeks). Five independent predictors of a high SUDI risk score were: higher parity ($P = 0.028$), younger age ($P = 0.030$), not working or caring for other children antenatally ($P = 0.031$), higher depression scores antenatally ($P = 0.036$), and lower education ($P = 0.042$).

Conclusions

Groups within the community identified as priorities for education about safe sleep practices beyond standard care are mothers who are young, have high parity, low educational levels, and have symptoms of depression antenatally. These findings emphasize the importance of addressing maternal depression as a modifiable risk factor in pregnancy.

(Author) [Please note: BMC initially publish articles in a provisional format. If there is a note on the document to indicate that it is still provisional, it may undergo minor changes]

Full URL: <http://www.biomedcentral.com/1471-2431/14/263>

20141014-6*


Sofas and infant mortality. Rechtman LR, Colvin JD, Blair PS, et al (2014), Pediatrics vol 134, no 5, November 2014, pp e1283-e1300

OBJECTIVE: Sleeping on sofas increases the risk of sudden infant death syndrome and other sleep-related deaths. We sought to describe factors associated with infant deaths on sofas.


METHODS: We analyzed data for infant deaths on sofas from 24 states in 2004 to 2012 in the National Center for the Review and Prevention of Child Deaths Case Reporting System database. Demographic and environmental data for deaths on sofas were compared with data for sleep-related infant deaths in other locations, using bivariate and multivariable, multinomial logistic regression analyses.

RESULTS: 1024 deaths on sofas made up 12.9% of sleep-related infant deaths. They were more likely than deaths in other locations to be classified as accidental suffocation or strangulation (adjusted odds ratio [aOR] 1.9; 95% confidence interval [CI], 1.6-2.3) or ill-defined cause of death (aOR 1.2; 95% CI, 1.0-1.5). Infants who died on sofas were less likely

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to be Hispanic (aOR 0.7; 95% CI, 0.6-0.9) compared with non-Hispanic white infants or to have objects in the environment (aOR 0.6; 95% CI, 0.5-0.7) and more likely to be sharing the surface with another person (aOR 2.4; 95% CI, 1.9-3.0), to be found on the side (aOR 1.9; 95% CI, 1.4-2.4), to be found in a new sleep location (aOR 6.5; 95% CI, 5.2-8.2), and to have had prenatal smoke exposure (aOR 1.4; 95% CI, 1.2-1.6). Data on recent parental alcohol and drug consumption were not available.

CONCLUSIONS: The sofa is an extremely hazardous sleep surface for infants. Deaths on sofas are associated with surface sharing, being found on the side, changing sleep location, and experiencing prenatal tobacco exposure, which are all risk factors for sudden infant death syndrome and sleep-related deaths. (Author) (Only the abstract is published in the print journal. Full article available online at

<http://pediatrics.aappublications.org/content/134/5/e1293.abstract>)

Full URL: <http://pediatrics.aappublications.org/content/134/5/e1293.abstract>

20140917-12

Parents' choice of non-supine sleep position for newborns: a cross-sectional study. Wright C, Beard H, Cox J, et al (2014), British Journal of Midwifery vol 22, no 9, September 2014, pp 625-629

The objective of this study was to investigate the sleeping position of infants attending an outpatient clinic, considering the influences of the back to sleep (BTS) campaign. A paper survey was given to 678 parents who presented their infant (under 1 year of age) to the paediatric chiropractic clinic for care asking their infant's sleep position. Of the total survey sample, 50% of parents selected the supine position as the preferred position they placed the baby to sleep, 19% of parents preferred to place their babies prone, 34% on the babies' side and 2% selected other. Some mothers selected more than one preferred sleeping position. The initial decline of mothers using non-supine positioning, seen shortly after the implementation of the BTS campaign, is no longer evident. Recent research implies approximately half of infants are now placed in a non-compliant sleeping position. If an infant's most preferred sleeping position is not that of current guidelines, manual therapy such as chiropractic care should be sought to help infants sleep supine with comfort. (34 references) (Author)

20140903-25*

Sleep environment risks for younger and older infants. Colvin JD, Collie-Akers V, Schunn C, et al (2014), Pediatrics vol 134, no 2, August 2014, pp e406-12

OBJECTIVE:

Sudden infant death syndrome and other sleep-related causes of infant mortality have several known risk factors. Less is known about the association of those risk factors at different times during infancy. Our objective was to determine any associations between risk factors for sleep-related deaths at different ages.

METHODS:

A cross-sectional study of sleep-related infant deaths from 24 states during 2004-2012 contained in the National Center for the Review and Prevention of Child Deaths Case Reporting System, a database of death reports from state child death review teams. The main exposure was age, divided into younger (0-3 months) and older (4 months to 364 days) infants. The primary outcomes were bed-sharing, objects in the sleep environment, location (eg, adult bed), and position (eg, prone).

RESULTS:

A total of 8207 deaths were analyzed. Younger victims were more likely bed-sharing (73.8% vs 58.9%, $P < .001$) and sleeping in an adult bed/on a person (51.6% vs 43.8%, $P < .001$). A higher percentage of older victims had an object in the sleep environment (39.4% vs 33.5%, $P < .001$) and changed position from side/back to prone (18.4% vs 13.8%, $P < .001$). Multivariable regression confirmed these associations.

CONCLUSIONS:

Risk factors for sleep-related infant deaths may be different for different age groups. The predominant risk factor for younger infants is bed-sharing, whereas rolling into objects in the sleep area is the predominant risk factor for older infants. Parents should be warned about the dangers of these specific risk factors appropriate to their infant's age. (Author) (Only the abstract/summary is published in the print journal, even where additional comments and clinical

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20140902-43

Cerebral oxygenation in preterm infants. Fyfe KL, Yiallourou SR, Wong FY, et al (2014), *Pediatrics* vol 134, no 3, September 2014, pp 435-445

BACKGROUND AND OBJECTIVE:

Prone sleeping is a major risk factor for sudden infant death syndrome (SIDS) and preterm infants are at significantly increased risk. In term infants, prone sleeping is associated with reduced mean arterial pressure (MAP) and cerebral tissue oxygenation index (TOI). However, little is known about the effects of sleeping position on TOI and MAP in preterm infants. We aimed to examine TOI and MAP in preterm infants after term-equivalent age, during the period of greatest SIDS risk.

METHODS:

Thirty-five preterm and 17 term infants underwent daytime polysomnography, including measurement of TOI (NIRO-200 spectrophotometer, Hamamatsu Photonics KK, Japan) and MAP (Finapres Medical Systems, Amsterdam, Netherlands) at 2 to 4 weeks, 2 to 3 months, and 5 to 6 months postterm age. Infants slept prone and supine in active and quiet sleep. The effects of sleep state and position were determined by using 2-way repeated measures analysis of variance and of preterm birth by using 2-way analysis of variance.

RESULTS:

In preterm infants, TOI was significantly lower when prone compared with supine in both sleep states at all ages ($P < .05$). Notably, TOI was significantly lower in preterm compared with term infants at 2 to 4 weeks, in both positions ($P < .05$), and at 2 to 3 months when prone ($P < .001$), in both sleep states. MAP was also lower in preterm infants in the prone position at 2 to 3 months ($P < .01$).

CONCLUSIONS:

Cerebral oxygenation is reduced in the prone position in preterm infants and is lower compared with age-matched term infants, predominantly in the prone position when MAP is also reduced. This may contribute to their increased SIDS risk. (Author)

20140826-120*

Release: Unexplained Deaths in Infancy, England and Wales, 2012. Office for National Statistics (2014), London: ONS 20 August 2014

Includes: Statistical bulletin: Unexplained Deaths in Infancy, England and Wales, 2012, and references tables. Presents data on sudden infant deaths, unascertained deaths and all unexplained infant deaths occurring annually in England and Wales. Also contains data on sex and age at death plus analyses by some of the key risk factors affecting sudden infant death such as birthweight, mother's age, mother's country of birth and the National Statistics Socio-economic classification (NS-SEC) of the parents. (Author, edited)

Full URL: http://www.ons.gov.uk/ons/dcp171778_374881.pdf

20140808-2*

The Lullaby Trust: Evidence base. The Lullaby Trust (2014), London: Lullaby Trust January 2014

Information for parents on the risk factors associated with sudden infant death syndrome (SIDS) such as: sleeping position, smoking, bed sharing, temperature and bedding, and also the factors that decrease the risk of SIDS: room sharing, breastfeeding, and use of pacifiers.

(180 references) (JSM)

Full URL: <http://www.lullabytrust.org.uk/evidencebase>

20140424-101*

Fact sheet 1. Back to sleep. The Lullaby Trust (2014), London: The Lullaby Trust 2014. 2 pages

Information for parents giving advice on safe sleeping positions for babies, with the aim of reducing the risk of sudden

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20140401-17*

Socioeconomic position and factors associated with use of a nonsupine infant sleep position: findings from the Canadian Maternity Experiences Survey. Smylie J, Fell DB, Chalmers B, et al (2014), American Journal of Public Health vol 104, no 3, 2014, pp 539-547

OBJECTIVES:

With a focus on socioeconomic position, we examined the association between maternal education and nonsupine infant sleep position, and examined patterns of effect modification with additional sociodemographic, maternal, infant, and health services predictors.

METHODS:

Data were from the Maternity Experiences Survey, a national population-based sample of 76 178 new Canadian mothers (unweighted n = 6421) aged 15 years or older interviewed in 2006-2007. Using logistic regression, we developed multivariate models for 3 maternal education strata.

RESULTS:

Level of maternal education was significantly and inversely related to nonsupine infant sleep position. Stratified analyses revealed different predictive factors for nonsupine infant sleep position across strata of maternal education. Postpartum home visits were not associated with use of this sleep position among new mothers with less than high school completion. Adequacy of postpartum information regarding sudden infant death syndrome was not associated with nonsupine infant sleep position in any of the educational strata.

CONCLUSIONS:

These findings suggest a need to revisit Back to Sleep health promotion strategies and to ensure that these interventions are tailored to match the information needs of all families, including mothers with lower levels of formal education. (Author)

20140103-89

Safe sleep practices and sudden infant death syndrome risk reduction: NICU and well-baby nursery graduates. Fowler AJ, Evans PW, Etchegaray JM, et al (2013), Clinical Pediatrics vol 52, no 11, November 2013, pp 1044-1053

Our primary objective was to compare parents of infants cared for in newborn intensive care units (NICUs) and infants cared for in well-baby ('general') nurseries with regard to knowledge and practice of safe sleep practices/sudden infant death syndrome risk reduction measures and guidelines. Our secondary objective was to obtain qualitative data regarding reasons for noncompliance in both populations. Sixty participants (30 from each population) completed our survey measuring safe sleep knowledge and practice. Parents of NICU infants reported using 2 safe sleep practices-(a) always placing baby in crib to sleep and (b) always placing baby on back to sleep-significantly more frequently than parents of well infants. Additional findings and implications for future studies are discussed. (16 references) (Author)

20131223-29*

Sudden infant death syndrome in an urban Aboriginal community. Knight J, Webster V, Kemp L, et al (2013), Journal of Paediatrics and Child Health vol 49, no 12, 2013, pp 1025-1031

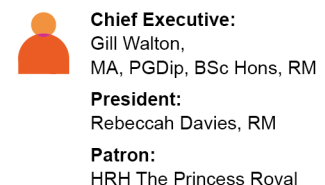
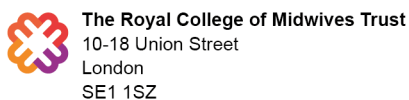
AIM:

The study aims to understand sudden infant death syndrome (SIDS) risk and preventive practices in an urban Aboriginal community, through exploration of mothers' knowledge and practices and examination of coroner case records.

METHODS:

Data were collected from the mothers of Aboriginal infants participating in the Gudaga Study, a longitudinal birth cohort study. At 2-3 weeks post-natal, mothers were asked about SIDS risk-reduction practices, infant sleeping position and smoking practices within the home. Questions were repeated when study infants were 6 months of age. During the first 18 months of the study, three infants within the cohort died. All deaths were identified as SIDS

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related. The Coroner reports for these infants were reviewed.

RESULTS:

At the 2-3 weeks data collection point, approximately 66.2% (n = 98) of mothers correctly identified two or more SIDS risk-reduction strategies. At this same data point, approximately 82% (n = 122) of mothers were putting their infants to sleep on their backs (supine). Higher maternal education was significantly associated (P < 0.01), with identification of two or more correct SIDS risk-reduction strategies and supine sleeping position at 2-3 weeks. The Coroner considered two infants who had been sleeping in an unsafe sleeping environment.

CONCLUSION:

Rates of SIDS deaths within the study community were much higher than the national average. Most mothers were putting their infant to sleep correctly even though they may be unaware that their practice was in accordance with recommended guidelines. Best practice safe sleeping environments are difficult to achieve for some families living in low socio-economic settings. (Author)

20131206-135

Improving safe sleep environments for well newborns in the hospital setting. Mason B, Ahlers-Schmidt CR, Schunn C (2013), Clinical Pediatrics vol 52, no 10, October 2013, pp 969-975

OBJECTIVE: Following the 'Back to Sleep' campaign, deaths from sudden infant death syndrome (SIDS) were reduced. However, SIDS and sleep-related deaths continue to occur. Studies demonstrate that modeling by health care workers influences parents to place infants supine for sleep. Recently, additional emphasis has been placed on environment. The purpose of this study was to improve sleep position and environment in the hospital. **METHODS:** A Plan-Do-Study-Act cycle was initiated. Sleeping infants were observed at baseline. A bundled intervention was implemented; infants were again observed. Parents were surveyed. **RESULTS:** At baseline, 25% (36/144) of sleeping infants were safe; the majority of unsafe sleep was a result of environment. Postintervention, significantly more (58%; 145/249) had safe sleep (P < .0001). Most parents planned to use the supine position (95%; 96/101); none planned to cosleep. Many intended to adjust their infants' home sleep environment. **CONCLUSION:** Using a multifaceted approach significantly improved infant safe sleep practice in the hospital setting. (16 references) (Author)

20130524-11

Expanded back to sleep guidelines. Meadows-Oliver M, Hendrie J (2013), Pediatric Nursing vol 39, no 1, January-February 2013, pp 40-42, 49

Reviews the recently expanded 'Back to Sleep' recommendations of the American Academy of Pediatrics. (20 references) (SB)

20130422-77*

Infant rolling abilities - the same or different 20years after the back to sleep campaign?. Darrah J, Bartlett DJ (2013), Early Human Development vol 89, no 5, 2013, pp 311-314

AIM:

To compare the order and age of emergence of rolling prone to supine and supine to prone before the introduction of back to sleep guidelines and 20years after their introduction.

METHODS:

The original normative data for the Alberta Infant Motor Scale (AIMS) were collected just prior to the introduction of back to sleep guidelines in 1992. Currently these norms are being re-evaluated. Data of rolling patterns of infants 36weeks of age or younger from the original sample (n=1114) and the contemporary sample (n=351) were evaluated to compare the sequence of appearance of prone to supine and supine to prone rolls (proportion of infants passing each roll) and the ages of emergence (estimated age when 50% of infants passed each roll).

RESULTS:

The sequence of emergence and estimated age of appearance of both rolling directions were similar between the two time periods.

CONCLUSION:

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The introduction of the supine sleep position to reduce the prevalence of Sudden Infant Death Syndrome (SIDS) has not altered the timing or sequence of infant rolling abilities. This information is valuable to health care providers involved in the surveillance of infants' development. Original normative age estimates for these two motor abilities are still appropriate. (Author)

20130403-21*

Midwives key to relaunched charity's life-saving ambitions. Bates F (2013), MIDIRS Essence April 2013

Francine Bates, chief executive of the Foundation for the Study of Infant Deaths (FSID) talks about why the charity is relaunching as The Lullaby Trust in April 2013 and explains how, with the support of the charity, midwives can play an invaluable role in helping to reduce the number of cot deaths. (MB)

20130305-9*

Integrating 'Back to Sleep' recommendations into neonatal ICU practice. Gelfer P, Cameron R, Masters K, et al (2013), Pediatrics vol 131, no 4, April 2013, p 817

BACKGROUND AND OBJECTIVES: The American Academy of Pediatrics stresses that NICUs should endorse and model the sudden infant deaths syndrome risk-reduction recommendations significantly before anticipated discharge of the infant. Medical personnel are critical role models for parents, and the way they position infants in the hospital strongly influences parental practices at home. The aims of this project were to increase the percentage of infants following safe sleep practices in the NICU before discharge and to determine if improving compliance with these practices would influence parent behavior at home.

METHODS: An algorithm detailing when to start safe sleep practices, a 'Back to Sleep' crib card, educational programs for nurses and parents, a crib audit tool, and postdischarge telephone reminders were developed as quality improvement intervention strategies.

RESULTS: NICU compliance with supine positioning increased from 39% to 83% ($P < .001$), provision of a firm sleeping surface increased from 5% to 96% ($P < .001$), and the removal of soft objects from the bed improved from 45% to 75% ($P = .001$). Through the use of a postdischarge telephone survey, parental compliance with safe sleep practices was noted to improve from 23% to 82% ($P < .001$).

CONCLUSIONS: Multifactorial interventions improved compliance with safe sleep practices in the NICU and at home. (Author) Only the abstract is published in the print journal

20130220-29*

'Safe to sleep' campaign. Preventing sudden unexpected infant death. Hellwig JP (2012), Nursing for Women's Health vol 16, no 6, 2012, p 505

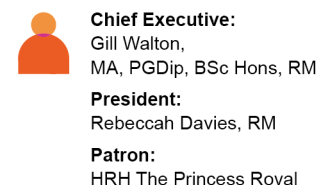
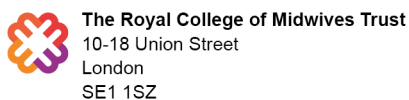
Reports that 'Back to sleep', the U.S. National campaign aimed at the prevention of sudden infant death syndrome (SIDS) is to be renamed the 'Safe to sleep' campaign, and will now encompass all sleep-related, sudden unexplained infant deaths. (JSM)

20130214-79*

Endorsing safe infant sleep. Hitchcock S (2012), Nursing for Women's Health vol 16, no 5, October/November 2012, pp 386-397

The American Academy of Pediatrics (AAP) safe sleep recommendations are considered best practice and are effective in preventing sudden infant death syndrome (SIDS). Yet studies have found that nurses' practice in newborn nurseries and neonatal intensive care units is often inconsistent with safe sleep recommendations. Such inconsistencies cause confusion and hinder SIDS prevention efforts. In 2011, the AAP added significant content to its 2005 safe sleep recommendations and neonatal nurses are now being asked to endorse the recommendations from birth. This article reviews the recommendations, examines barriers and controversies and offers suggestions for how an organization might initiate change and move toward a unified endorsement of safe sleep strategies. [Erratum: Nursing for Women's Health, vol 17, no 1, 2013, p 12.] (19 references) (Author)

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20130214-42

Transitioning premature infants supine: state of the science. McMullen SL (2013), MCN - American Journal of Maternal/Child Nursing vol 38, no 1, January/February 2013, pp 8-12

Safe infant sleep has been the focus of two decades of research. Improving supine sleep position in infants has coincided with a reduction in sudden infant death syndrome (SIDS). Premature infants spend time prone while hospitalized to promote appropriate growth and development; however, after hospitalization, infants should be positioned supine to reduce the risk of SIDS. Research has not been conducted on the optimal timing of transitioning the premature infant supine prior to hospital discharge. Infants transitioned too early are at risk for developmental delays, and infants not transitioned prior to discharge are at risk for being positioned in a nonsupine position, thereby increasing the risk of SIDS. Parents can observe appropriate role modeling of their infant while hospitalized and potentially improve the rate of supine sleep after discharge to reduce the risk of SIDS. This review explores the current literature on transitioning the premature infant to the supine position prior to hospital discharge to improve evidence-based practice and potentially further reducing the SIDS rate. (25 references) (Author)

20130211-147*

Nighttime parenting strategies and sleep-related risks to infants. Volpe LE, Ball HL, McKenna JJ (2013), Social Science and Medicine vol 79, 2013, pp 92-100

A large social science and public health literature addresses infant sleep safety, with implications for infant mortality in the context of accidental deaths and Sudden Infant Death Syndrome (SIDS). As part of risk reduction campaigns in the USA, parents are encouraged to place infants supine and to alter infant bedding and elements of the sleep environment, and are discouraged from allowing infants to sleep unsupervised, from bed-sharing either at all or under specific circumstances, or from sofa-sharing. These recommendations are based on findings from large-scale epidemiological studies that generate odds ratios or relative risk statistics for various practices; however, detailed behavioural data on nighttime parenting and infant sleep environments are limited. To address this issue, this paper presents and discusses the implications of four case studies based on overnight observations conducted with first-time mothers and their four-month old infants. These case studies were collected at the Mother-Baby Behavioral Sleep Lab at the University of Notre Dame USA between September 2002 and June 2004. Each case study provides a detailed description based on video analysis of sleep-related risks observed while mother-infant dyads spent the night in a sleep lab. The case studies provide examples of mothers engaged in the strategic management of nighttime parenting for whom sleep-related risks to infants arose as a result of these strategies. Although risk reduction guidelines focus on eliminating potentially risky infant sleep practices as if the probability of death from each were equal, the majority of instances in which these occur are unlikely to result in infant mortality. Therefore, we hypothesise that mothers assess potential costs and benefits within margins of risk which are not acknowledged by risk-reduction campaigns. Exploring why mothers might choose to manage sleep and nighttime parenting in ways that appear to increase potential risks to infants may help illuminate how risks occur for individual infants. (Author)

20130204-38*

SIDS prevention: 3000 lives saved but we can do better. Mitchell EA, Blair PS (2012), New Zealand Medical Journal vol 125, no 1359, 10 August 2012, u 5277

Mortality from sudden infant death syndrome (SIDS) has decreased substantially from the late 1980s. This has been attributed to the change in infant sleep position initially from prone (front) to side and then to predominantly supine (back). We calculate that this has saved over 3000 lives. However, we argue that we could save more infant lives, if more focus was given to the risks observed from parents sleeping in the same bed as their babies. (Author)

20121213-70

Relationship between sleep position and risk of extreme cardiorespiratory events. Lister G, Rybin DV, Colton T, et al (2012), Journal of Pediatrics vol 161, no 1, July 2012, pp 22-25

OBJECTIVE:

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To determine whether infants at sleep in the prone side positions are at higher risk for an extreme cardiorespiratory event compared with infants at sleep in the supine position.

STUDY DESIGN:

We used a case-control study to compare sleep position, determined with an accelerometer, in 116 infants during an extreme cardiorespiratory event with that in 231 matched control subjects (2 per case) who did not experience any extreme events during monitoring.

RESULTS:

From calculation of adjusted ORs and 95% CIs, infants placed in the prone or side position were no more likely to experience an extreme cardiorespiratory event compared with infants at sleep in the supine position. We used conditional logistic regression to account for the matched design of the study and to adjust for potential confounders or effect-modifiers.

CONCLUSION:

These findings, coupled with our earlier observation that the peak incidence of severe cardiorespiratory events occurred before the peak incidence of sudden infant death syndrome, strongly suggest that the supine sleeping position decreases the risk of sudden infant death syndrome by mechanisms other than by decreasing extreme cardiorespiratory events detected by monitoring. (8 references) (Author)

20121127-84

Safe infant sleep recommendations on the Internet: let's Google it. Chung M, Oden RP, Joyner BL, et al (2012), Journal of Pediatrics vol 161, no 6, December 2012, pp 1080-1084

OBJECTIVES: To determine the accuracy of information on infant sleep safety on the Internet using Google. We hypothesized that the majority of Web sites would accurately reflect the American Academy of Pediatrics (AAP) recommendations for infant sleep safety. **STUDY DESIGN:** We searched for advice using 13 key phrases and analyzed the first 100 Web sites for each phrase. Web sites were categorized by type and assessed for accuracy of information provided, based on AAP recommendations. The accuracy of information was classified as 'accurate,' 'inaccurate,' or 'not relevant.' **RESULTS:** Overall, 43.5% of the 1300 Web sites provided accurate information, 28.1% provided inaccurate information, and 28.4% were not relevant. The search terms 'infant cigarette smoking,' 'infant sleep position,' and 'infant sleep surface' yielded the highest percentage of Web sites with accurate information. 'Pacifier infant,' 'infant home monitors,' and 'infant co-sleeping' produced the lowest percentage of Web sites with accurate information. Government Web sites had the highest rate of accuracy; blogs, the lowest.

CONCLUSION: The Internet contains much information about infant sleep safety that is inconsistent with AAP recommendations. Health care providers should realize the extent to which parents may turn to the Internet for information about infant sleep safety. (29 references) (Author)

20121122-72*

Suffocation deaths associated with use of infant sleep positioners - United States, 1997-2011. Centers for Disease Control and Prevention (2012), Morbidity and Mortality Weekly Report (MMWR) vol 61, no 46, 23 November 2012, pp 933-937 Summarises 14 cases of infant death from suffocation associated with the use of infant sleep positioners. (9 references) (JSM)


Full URL: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6146a1.htm?s_cid=mm6146a1_e

20121023-18


Factors influencing infant sleep position: decisions do not differ by SES in African-American families. Robida D, Moon RY (2012), Archives of Disease in Childhood vol 97, no 10, October 2012, pp 900-905

OBJECTIVE: To investigate factors influencing African-American parents' knowledge, attitudes and practice regarding infant sleep position and determine if these differ by socioeconomic status (SES). **METHODS:** A cross-sectional sample of 412 parents with infants ≤6 months of age participated in a validated survey of knowledge, attitudes and practice. **RESULTS:** There was no significant difference in attitudes or practice, and knowledge was similar regarding infant sleep position between African-American parents of higher and lower SES. The healthcare provider recommendation of

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exclusive supine sleep position use was associated with increased knowledge, overall decreased use of the side position (5.0% vs 16.8%, $p < 0.01$) and increased occasional use of the supine position in the lower SES group (81.6% vs 68.6%, $p = 0.03$). It was not associated with increased positive parental attitudes about the supine sleep position in either group. Neither a senior caregiver living in the home nor observation of hospital personnel placing infants in a non-supine position was associated with differences in sleep position practices in either group. **CONCLUSIONS:** Sleep position practices in African-American families do not differ by SES. Improved attitudes toward positioning and increased use of supine positioning may result if healthcare providers address common concerns and misconceptions about sleep position. (36 references) (Author)

20120912-13

Scientific consensus forum to review the evidence underpinning the recommendations of the Australian SIDS and Kids Safe Sleeping Health Promotion Programme - October 2010. Mitchell EA, Freemantle J, Young J, et al (2012), Journal of Paediatrics and Child Health vol 48, no 8, August 2012, pp 626-633

This paper summarises a 1-day scientific consensus forum that reviewed the evidence underpinning the Australian SIDS and Kids Safe Sleeping Health Promotion Programme. The focus was on each of the potentially modifiable risk factors for sudden unexpected deaths in infancy, including sudden infant death syndrome (SIDS) and fatal sleeping accidents. In particular infant sleeping position, covering of the face, exposure to cigarette smoke, room sharing, unsafe sleeping environments, bed sharing, immunisation, breastfeeding, pacifier use and Indigenous issues were discussed in depth. The participants recommended that future 'Reducing the Risk' campaign messages should focus on back to sleep, face uncovered, avoidance of cigarette smoke before and after birth, safe sleeping environment, room sharing and sleeping baby in own cot. (120 references) (Author)

20120511-7

The Black and White of infant back sleeping and infant bed sharing in Florida, 2004-2005. Broussard DL, Sappenfield WM, Goodman DA (2012), Maternal and Child Health Journal vol 16, no 3, April 2012, pp 713-724

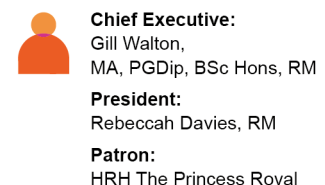
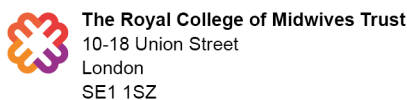
Not using the infant back sleep position is an established risk factor for sudden unexpected infant death (SUID). Infant bed sharing may also increase SUID risk, particularly under certain circumstances. Both of these infant sleeping behaviors are disproportionately higher among Black mothers. We explored the relationship between not using the infant back sleeping and infant bed sharing, developed separate risk factor profiles for these behaviors, and identified maternal characteristics contributing to racial differences in their practice. Merged 2004-2005 birth certificate and Pregnancy Risk Assessment Monitoring System data for 2,791 non-Hispanic Black and White Florida women were evaluated using univariable and multivariable analyses to develop risk factor profiles for infrequent back sleeping and frequent bed sharing. Cross-product interaction terms were introduced to identify factors contributing to racial differences. Infrequent back sleeping and frequent bed sharing were reported by two-thirds of Black women and one-third of White women. There was no association between the infant sleeping behaviors when adjusted for race (adjusted odds ratio [aOR], 1.04; 95% CI, 0.83-1.31). The infant sleeping behaviors shared no common independent maternal characteristics. Father acknowledgement on the birth certificate was a strong contributor to racial differences in infrequent back sleeping while breastfeeding, trimester of entry to prenatal care, and maternal depression revealed notable racial differences for bed sharing. Behavior-specific and race-specific public health messages may be an important public health strategy for reducing risky infant sleeping behaviors and decreasing SUIDs. (44 references) (Author)

20120125-21

Infant care practices related to sudden infant death syndrome in South Asian and White British families in the UK. Ball HL, Moya E, Fairley L, et al (2012), Paediatric and Perinatal Epidemiology vol 26, no 1, January 2012, pp 3-12

In the UK, infants of South Asian parents have a lower rate of sudden infant death syndrome (SIDS) than White British infants. Infant care and life style behaviours are strongly associated with SIDS risk. This paper describes and explores variability in infant care between White British and South Asian families (of Bangladeshi, Indian or Pakistani origin) in Bradford, UK (the vast majority of which were Pakistani) and identifies areas for targeted SIDS intervention. A

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cross-sectional telephone interview study was conducted involving 2560 families with 2- to 4-month-old singleton infants enrolled in the Born in Bradford cohort study. Outcome measures were prevalence of self-reported practices in infant sleeping environment, sharing sleep surfaces, breast feeding, use of dummy or pacifier, and life style behaviours. We found that, compared with White British infants, Pakistani infants were more likely to: sleep in an adult bed (OR = 8.48 [95% CI 2.92, 24.63]); be positioned on their side for sleep (OR = 4.42 [2.85, 6.86]); have a pillow in their sleep environment (OR = 9.85 [6.39, 15.19]); sleep under a duvet (OR = 3.24 [2.39, 4.40]); be swaddled for sleep (OR = 1.49 [1.13, 1.97]); ever bed-share (OR = 2.13 [1.59, 2.86]); regularly bed-share (OR = 3.57 [2.23, 5.72]); ever been breast-fed (OR = 2.00 [1.58, 2.53]); and breast-fed for 8+ weeks (OR = 1.65 [1.31, 2.07]). Additionally, Pakistani infants were less likely to: sleep in a room alone (OR = 0.05 [0.03, 0.09]); use feet-to-foot position (OR = 0.36 [0.26, 0.50]); sleep with a soft toy (OR = 0.52 [0.40, 0.68]); use an infant sleeping bag (OR = 0.20 [0.16, 0.26]); ever sofa-share (OR = 0.22 [0.15, 0.34]); be receiving solid foods (OR = 0.22 [0.17, 0.30]); or use a dummy at night (OR = 0.40 [0.33, 0.50]). Pakistani infants were also less likely to be exposed to maternal smoking (OR = 0.07 [0.04, 0.12]) and to alcohol consumption by either parent. No difference was found in the prevalence of prone sleeping (OR = 1.04 [0.53, 2.01]). Night-time infant care therefore differed significantly between South Asian and White British families. South Asian infant care practices were more likely to protect infants from the most important SIDS risks such as smoking, alcohol consumption, sofa-sharing and solitary sleep. These differences may explain the lower rate of SIDS in this population. (28 references) (Author)

20120111-72

SIDS and other sleep-related infant deaths: expansion of recommendations for a safe infant sleeping environment.

American Academy of Pediatrics (2012), Pediatrics vol 128, no 5, November 2011, pp 1030-1039

Despite a major decrease in the incidence of sudden infant death syndrome (SIDS) since the American Academy of Pediatrics (AAP) released its recommendation in 1992 that infants be placed for sleep in a nonprone position, this decline has plateaued in recent years. Concurrently, other causes of sudden unexpected infant death that occur during sleep (sleep-related deaths), including suffocation, asphyxia, and entrapment, and ill-defined or unspecified causes of death have increased in incidence, particularly since the AAP published its last statement on SIDS in 2005. It has become increasingly important to address these other causes of sleep-related infant death. Many of the modifiable and nonmodifiable risk factors for SIDS and suffocation are strikingly similar. The AAP, therefore, is expanding its recommendations from focusing only on SIDS to focusing on a safe sleep environment that can reduce the risk of all sleep-related infant deaths, including SIDS. The recommendations described in this policy statement include supine positioning, use of a firm sleep surface, breastfeeding, room-sharing without bed-sharing, routine immunizations, consideration of using a pacifier, and avoidance of soft bedding, overheating, and exposure to tobacco smoke, alcohol, and illicit drugs. The rationale for these recommendations is discussed in detail in the accompanying 'Technical Report--SIDS and Other Sleep-Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment,' which is included in this issue of Pediatrics (www.pediatrics.org/cgi/content/full/128/5/e1341). (92 references) (Author) (Full article available online at www.pediatrics.org/cgi/doi/10.1542/peds.2011-2284)


20120111-71*

SIDS and other sleep-related infant deaths: expansion of recommendations for a safe infant sleeping environment.


Moon RY (2012), Pediatrics vol 128, no 5, November 2011. e1341-67

Despite a major decrease in the incidence of sudden infant death syndrome (SIDS) since the American Academy of Pediatrics (AAP) released its recommendation in 1992 that infants be placed for sleep in a nonprone position, this decline has plateaued in recent years. Concurrently, other causes of sudden unexpected infant death occurring during sleep (sleep-related deaths), including suffocation, asphyxia, and entrapment, and ill-defined or unspecified causes of death have increased in incidence, particularly since the AAP published its last statement on SIDS in 2005. It has become increasingly important to address these other causes of sleep-related infant death. Many of the modifiable and nonmodifiable risk factors for SIDS and suffocation are strikingly similar. The AAP, therefore, is expanding its recommendations from being only SIDS-focused to focusing on a safe sleep environment that can reduce the risk of all

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sleep-related infant deaths including SIDS. The recommendations described in this report include supine positioning, use of a firm sleep surface, breastfeeding, room-sharing without bed-sharing, routine immunization, consideration of a pacifier, and avoidance of soft bedding, overheating, and exposure to tobacco smoke, alcohol, and illicit drugs. The rationale for these recommendations is discussed in detail in this technical report. The recommendations are published in the accompanying 'Policy Statement--Sudden Infant Death Syndrome and Other Sleep-Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment,' which is included in this issue (www.pediatrics.org/cgi/doi/10.1542/peds.2011-2220).

(Only the abstract is published in the print journal)

20111110-28*

Many infants at risk in unsafe sleep settings, poll shows. (2011), Medical News Today 9 November 2011

Reports that, despite the success of the 'Back to Sleep' campaign in reducing rates of sudden infant death syndrome, the rate of sudden unexpected infant deaths (SUIDs) has continued to climb in the United States. This is believed to be due to unsafe sleep habits. (CI)

20111031-20*

SIDS-related knowledge and infant care practices among Māori mothers. Tipene-Leach D, Hutchison L, Tangiora A, et al (2010), New Zealand Medical Journal vol 123, no 1326, 26 November 2010, u 4445

Aim: Māori have high SIDS rates and relevant information is needed to craft appropriate prevention strategies. The aim of the study was to determine what Māori mothers know about SIDS prevention, and to determine their SIDS-related child care practices. Methods: Māori mothers who gave birth in the Counties Manukau District Health Board area were surveyed about their SIDS related knowledge, and infant care practices and their reasons for using and their concerns about these practices. Results were compared with a similar 2005 survey of a largely European sample. Results: Knowledge of Māori mothers about SIDS prevention was much lower than for European mothers. More Māori infants slept prone and Māori mothers stopped breastfeeding significantly earlier. Although co-sleeping rates were similar, bedsharing increased to 65% for some part of the night. In addition, more than half of the Māori mothers had smoked in pregnancy and 21% of them were sharing a bed with their infant. Potentially unsafe soft objects such as rolled blankets or pillows were used by a third of mothers to help maintain the sleep position. Conclusions: Māori mothers have a poorer knowledge of SIDS prevention practices. The high rate of maternal smoking, the early cessation of breastfeeding, and co-sleeping where there was smoking in pregnancy were also areas of concern. Appropriate health promotion measures need to be developed for the high-risk Māori community. (18 references) (Author)

20110905-53

A review of images of sleeping infants in UK magazines and on the internet

A review of images of sleeping infants in UK magazines and on the internet. Epstein J, Jolly C, Mullan L (2011), Community Practitioner vol 84, no 9, September 2011, pp 23-26

This paper reports on findings of a survey of women's magazines and the internet looking at the extent to which images of babies reinforce or undermine safe infant care advice to reduce the risk of cot death. All images of babies printed in all issues of nine magazines over an eight-month period during 2009 to 2010 were reviewed. The review also included the first 20 pages of a Google search of UK sleeping babies conducted on one day in 2011. In total, 559 images were reviewed. A substantial proportion of images depicted unsafe situations, in particular side and prone sleeping and sleeping indoors with the head covered by a hat or other covering. There was a dearth of images of babies sleeping in the feet-to-foot position or with a dummy, both of which are included in FSID/Department to Health guidelines on reducing the risk of cot death. The findings are discussed in the context of health visitors' and other community practitioners' work and current government cuts in resources, and suggestions are made to respond to the situation. (15 references) (Author)

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20110803-5

SIDS: evidence on the risks. (2011), NCT Matters Spring 2011, pp 28-29

There can't be many new parents who haven't worried about the sudden death of their baby. Sudden Infant Death Syndrome - or SIDS - is when, devastatingly, a baby dies suddenly or unexpectedly, usually during the night or a daytime sleep, and no one can say why. Also known as cot death, it most often occurs between two and four months old and is one of the most common reasons in the UK for young babies dying. That said, there has been an 80% drop in SIDS deaths in the UK over the past two decades, largely due to the recognition of risk factors, such as smoking. Here, we take a look at some of those factors. (Author)

20110705-5*

Sudden unexpected infant death and bedsharing: referrals to the Wellington Coroner 1997-2006. Escott A, Elder DE, Zuccollo JM (2009), New Zealand Medical Journal vol 122, no 1298, 3 July 2009, u 3686

Aims: To describe the factors associated with sudden unexpected infant deaths, for which there was no clear medical diagnosis, referred to the Wellington-based coronial paediatric pathology service over the decade from 1997 to 2006. **Methods:** The postmortem report, Police 47 file, Coroner's findings and deceased infant's medical records were used to create a profile for each sudden and unexpected infant death. **Results:** There were 64 deaths in the period: 54 of these occurred during sleep and did not have a clear medical diagnosis. Māori and Pacific infants and infants from low decile areas were over-represented in the group. The majority (88.7%) of infants were < 6 months of age at death. Overall, 50% of infants had been placed to sleep in a non-recommended sleep position and 38% usually slept in a non-recommended location. Bedsharing was associated with 53.7% of deaths. There was a significant association between bedsharing and being found dead on a Sunday morning ($p=0.04$). **Conclusion:** Sudden unexpected death in infancy is associated with unsafe sleep environments and sleep positions. Every effort should be made to ensure that information about safe infant sleep practices reaches the caregivers of those particularly at risk. (28 references)

(Author)

Full URL: <http://www.nzma.org.nz/journal/122-1298/3686/>

20110602-19

Sudden unexpected deaths in infancy part II: Recommendations for practice. Crawford D (2011), Journal of Neonatal Nursing vol 17, no 3, June 2011, pp 83-88

This paper reviews some of the strategies for preventing the risk of SUID's from the perspective of the health care professional giving advice to mothers/families. The paper considers some lifestyle factors, environmental factors and aspects of care where there may be tensions between what is done in the hospital and what is recommended to be done at home. (26 references) (Author)

20110411-83

Studying sudden and unexpected infant deaths in a time of changing death certification and investigation practices: evaluating sleep-related risk factors for infant death in New York City. Senter L, Sackoff J, Landi K, et al (2011), Maternal and Child Health Journal vol 15, no 2, February 2011, pp 242-248

We describe an approach for quantifying and characterizing the extent to which sudden and unexpected infant deaths (SUIDs) result from unsafe sleep environments (e.g., prone position, bedsharing, soft bedding); and present data on sleep-related infant deaths in NYC. Using a combination of vital statistics and medical examiner data, including autopsy and death scene investigation findings, we analyzed any death due to accidental threat to breathing (ATB) (ICD-10 W75 & W84), and deaths of undetermined intent (UND) (Y10-Y34) between 2000 and 2003 in NYC for the presence of sleep-related factors (SRF). Homicide deaths were excluded as were SIDS, since in NYC SIDS is not a certification option if environmental factors were possibly contributors to the death. All 19 ATB and 69 (75%) UND had SRFs as per the OCME investigation. Black infants and infants born to teen mothers had higher SRF death rates for both ATB and UND deaths. Bedsharing was the most common SRF (53%-ATB; 72%-UND deaths); the majority of non-bedsharing infants were found in the prone position (60%-ATB; 78%-UND deaths). We found a high prevalence of SRFs among ATB and UND deaths. This is the first local study to illustrate the importance of knowing how SUIDs are

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certified in order to ascertain the prevalence of infant deaths with SRFs. Advancing the research requires clarity on the criteria used by local medical examiners to categorize SUIDs. This will help jurisdictions interpret their infant mortality statistics, which in turn will improve education and prevention efforts. (45 references) (Author)

20110404-19*

Safe sleep environment guideline for infants 0 to 12 months of age. Perinatal Services BC (2011), Vancouver: Perinatal Services BC February 2011. 32 pages

Guidelines from Perinatal Services British Columbia on creating a safe sleep environment for babies. Includes advice on sleeping position, exposure to tobacco and secondhand smoke, co-sleeping and bed-sharing, the protective effects of breastfeeding and thermoregulation. Also features information and keeping sleep surfaces safe and sleep in car seats and slings, the importance of cultural awareness, special cases such as multiple births and use of pacifiers. (136 references) (MB)

Full URL: http://www.perinataleservicesbc.ca/sites/brcrp/files/Guidelines/Health_Promotion_and_Prevention/Infant_Sleep_Environment.pdf

20110318-15*

[Foundation for the Study of Infant Deaths (FSID) responds to criticism of Eastenders' baby swap plotline]. (2011), FSID E-Newsletter 18 March 2011

Defends the FSIDs decision to assist the BBC with the Eastenders' controversial storyline involving the swapping of a baby who had suffered sudden infant death with a live baby. Explains that the FSID accepted the BBCs invitation to give advice on the plotline, which had been fixed by the BBC months before the FSIDs involvement, because of the importance of an accurate portrayal of the grief suffered by Kat, one of the central characters in the story, and the practical events and professional interventions which would inevitably take place. (JSM)

20110304-4*

Research uncovers clue to SIDS. Dotinga R (2011), Healthfinder 3 March 2011

Reports that a new study has shown that infants who sleep on their stomachs have lower levels of oxygen in their brains than babies who sleep on their backs. This finding could explain why babies in this position are at greater risk of sudden infant death syndrome (SIDS) while sleeping and also backs current recommendations on the prevention of SIDS that infants be put to sleep on their backs. (CR)

20110105-24

Translating infant safe sleep evidence into nursing practice. Shaefer SJM, Herman SE, Frank SJ, et al (2011), JOGNN: Journal of Obstetric, Gynecologic and Neonatal Nursing vol 39, no 6, November/December 2010, pp 618-626


The authors describe a 4-year demonstration project (2004-2007) to reduce infant deaths related to sleep environments by changing attitudes and practices among nurses who work with African American parents and caregivers in urban Michigan hospitals. An approach was developed for creating sustainable change in nursing practice by implementing nursing practice policies that could be monitored through quality improvement processes already established within the hospital organization. Following the policy change effort, nurses changed their behavior and placed infants on the back to sleep. (37 references) (Author)

20101101-14*


New campaign to cut infant baby deaths launched in Solihull. Dayani A (2010), Birmingham Post 1 November 2010

Reports that a new campaign has been launched by Solihull Local Safeguarding Children Board which aims to prevent sudden infant deaths. The West Midlands has one of the highest rates of death in the under twos in the UK and the campaign is set to address safety issues relating to sleeping and temperature control. (MB)

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20101027-66*

SIDS-protective infant care practices among Auckland, New Zealand mothers. Hutchison L, Stewart A, Mitchell E (2006), New Zealand Medical Journal vol 119, no 1247, 15 December 2006, u 2365

Aim: To survey the knowledge and implementation of sudden infant death syndrome (SIDS)-protective infant care practices in mothers of infants aged less than 4 months. **Methods:** A postal survey was carried out of knowledge of SIDS risk factors and infant care practices of 200 mothers with infants aged 6-8 weeks and 3-4 months. **Results:** Mothers who could cite supine sleeping as protective comprised 84%, while 73% knew that smoking was a risk factor. Fewer knew that room sharing, keeping the face clear of bedding, and avoiding bed sharing and overheating are also protective. Fifty-four percent of the infants usually room-share with a parent, while 39% both room-share and sleep in their own bed. Sixteen percent usually co-slept for part or all of the night. Nearly one-third used pacifiers. Mothers who smoked during pregnancy comprised 8%, while 7% had smoked in the last 24 hours. Most infants (97%) had been breastfed at some time. **Conclusions:** Maternal education of the benefits of supine sleeping, not smoking, and breastfeeding appear well understood by these mothers. However, more education is needed about other SIDS-protective behaviours such as keeping the face clear and sleeping the infant in their own bed in the parents' room. (33 references) (Author)

Full URL: <http://www.nzma.org.nz/journal/119-1247/2365/>

20101008-15

Qualitative analysis of beliefs and perceptions about sudden infant death syndrome in African-American mothers: implications for safe sleep recommendations. Moon RY, Oden RP, Joyner BL, et al (2010), Journal of Pediatrics vol 157, no 1, July 2010, pp 92-97

OBJECTIVE: To investigate, by using qualitative methods, perceptions about sudden infant death syndrome (SIDS) in African-American parents and how these influence decisions. **STUDY DESIGN:** Eighty-three mothers participated in focus groups or individual interviews. Interviews probed reasons for decisions about infant sleep environment and influences affecting these decisions. Data were coded, and themes were developed and revised in an iterative manner as patterns became more apparent. **RESULTS:** Themes included lack of plausibility, randomness, and vigilance. Many mothers believed that the link between SIDS and sleep position was implausible. Because the cause of SIDS was unknown, they did not understand how certain behaviors could be defined as risk factors. This confusion was reinforced by perceived inconsistency in the recommendations. Most mothers believed that SIDS occurred randomly ('God's will') and that the only way to prevent it was vigilance. **CONCLUSIONS:** Many African-American mothers may not understand the connection between SIDS and sleep behaviors or believe that behavior (other than vigilance) cannot affect risk. These beliefs, if acted on, may affect rates of safe sleep practices. Efforts to explain a plausible link between SIDS and safe sleep recommendations and to improve consistency of the message may result in increased adherence to these recommendations. (40 references) (Author)


20101008-12

Influence of swaddling experience on spontaneous arousal patterns and autonomic control in sleeping infants.


Richardson HL, Walker AM, Horne RSC (2010), Journal of Pediatrics vol 157, no 1, July 2010, pp 85-91

OBJECTIVE: To investigate the effects of swaddling experience on infant sleep, spontaneous arousal patterns and autonomic control. **STUDY DESIGN:** Twenty-seven healthy term infants, who were routinely swaddled at home (n=15) or 'naïve' to swaddling (n=12), were monitored with daytime polysomnography in swaddled and unswaddled conditions at 3 to 4 weeks and at 3 months after birth. **RESULTS:** Swaddling did not alter sleep time, spontaneous arousability, or heart rate variability in routinely swaddled infants at either age. During active sleep at 3 months, cortical arousal frequency was decreased, and total sleep time was increased by swaddling in infants who were naïve to swaddling. Heart rate variability when swaddled was also highest in the naïve group. **CONCLUSIONS:** The effects of infant swaddling on sleep time, arousability, and autonomic control are influenced by previous swaddling experience. Infants in the naïve to swaddling group exhibited decreased spontaneous cortical arousal, similar to responses observed in future victims of sudden infant death syndrome. Infants in unfamiliar sleeping conditions may therefore be more susceptible to cardiorespiratory challenges that fail to stimulate arousal and may lead to sudden infant death

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20100930-2*

Infant sleep positioners dangerous, U.S. health officials warn. Mozes A (2010), Healthfinder 30 September 2010

Warns of the dangers of infant sleep positioners following reports from the United States that 12 babies under four months of age have died from suffocation in the last 13 years after being placed in a cot fitted with a sleep positioner. Explains that the positioners, which are usually flat or wedge mats with side bolsters, have been sold in the US since the 1980s as a way of preventing infant gastroesophageal reflux and plagiocephaly, but parents have used the device to help keep babies on their backs following suggestions that this sleeping position reduces the risk of sudden infant death syndrome. (JSM)

20100915-86*

Hong Kong case-control study of sudden unexpected infant death. Nelson T, To K-F, Wong Y-Y, et al (2010), New Zealand Medical Journal vol 118, no 1227, 16 December 2010, u 1788

Aim: To document causes of all unexpected child deaths under 2 years of age during a 4-year period (1999-2003), and to identify factors associated with sudden infant death syndrome (SIDS) in Hong Kong. Methods: The case-control component of the study compared information from SIDS deaths (n=16) with healthy controls (n=223) identified randomly from all births in Hong Kong. Coroner records of all deaths under 2 years of age were later reviewed. Results: SIDS risk factors included prone sleep position, smoking by mother, bedsharing with someone other than the parents, and baby found with head covered. Eighteen deaths were officially classified as SIDS but, on review of the coroner records, there were 33 potential SIDS deaths (many labelled as unascertained/unknown). Conclusion: Hong Kong SIDS incidence has fallen from 0.3/1000 (95% CI: 0.18-0.46 in 1987) to 0.16/1000 (95% CI: 0.11-0.22 in 1999-2002). Despite the small number of cases, key SIDS risk factors are shown to be important in this population. Hong Kong needs to take steps to standardise the investigation and management of these deaths and to establish a child mortality review mechanism to provide feedback to the public, to the health authorities, and to health professionals. [The full text of this article can be accessed at: <http://www.nzma.org.nz/journal/118-1227/1788/>] (16 references) (Author)

Full URL: <http://www.nzma.org.nz/journal/118-1227/1788/>

20100805-81

Teaching resuscitation to parents. Warwood G (2010), In: Lumsden H and Holmes D editors. Care of the newborn by ten teachers. London: Hodder Arnold 2010, pp 168-177

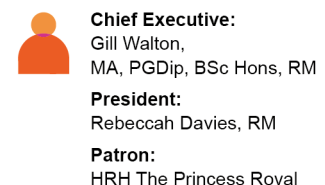
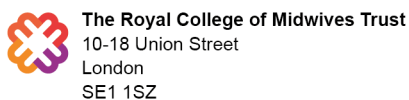
Discusses the provision and timing of training for parents and carers in basic infant life support. Includes the guidelines for parents issued by the Foundation for the Study of Infant Deaths, which are designed to reduce the risks thought to be associated with unexplained infant deaths. Details the four stages of training that should be included in parent education sessions. (7 references) (CR)

20100427-26

Concurrent risks in sudden infant death syndrome. Ostfeld BM, Esposito L, Perl H, et al (2010), Pediatrics vol 125, no 3, March 2010, pp 447-453

BACKGROUND: Despite improved education on safe sleep, infants are still exposed to multiple risks for sudden infant death syndrome (SIDS). Variability among health care providers continues to exist regarding knowledge of risk factors and the provision of education to caregivers. OBJECTIVE: To enhance the content and delivery of SIDS risk-reduction initiatives by physicians and other health care providers and to provide them with a context for evaluating their discussions of risks and compensatory strategies, we sought to raise awareness of the frequency of risk factors in SIDS cases, patterns of co-occurrence, associations between modifiable and nonmodifiable risks, and the rarity of cases without risk. DESIGN AND METHODS: In a population-based retrospective review of 244 (97%) New Jersey SIDS cases (1996-2000), we assessed the frequencies and co-occurrences of modifiable (maternal and paternal smoking,

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nonsupine sleep or prone status at discovery, bed-sharing, or scene risks) and nonmodifiable (upper respiratory infection or <37 weeks' gestational age) risks. RESULTS: Nonsupine sleep occurred in 70.4% of cases with data on position (159 of 226). Thirteen cases were of infants who were discovered prone, with an increased positional risk to 76.1%, in which 87% contained additional risks. Maternal smoking occurred in 42.6% (92 of 216) of the cases with data on this risk, and 98% among those cases had additional risks. At least 1 risk was found in 96% of the cases, and 78% had 2 to 7 risks. Of the 9 of 244 risk-free cases (3.7%), 7 lacked data on 2 to 5 risks per case. On the basis of the complete data, only 2 (0.8%) of all 244 cases were risk free. When nonmodifiable risks were excluded, 5.3% of the cases met this definition. CONCLUSIONS: Risk-free and single-risk SIDS cases are rare, and most contain multiple risks. Parent education should be comprehensive and address compensatory strategies for nonmodifiable risks. (54 references) (Author)

20100408-1*

Advice, Mothers' Beliefs Associated With Infant Sleep Position. (2010), Medical News Today 7 April 2010

Reports on a study which suggests some babies may be being put at risk of sudden infant death syndrome because their mothers are not placing them on their backs to sleep, fearing they may be uncomfortable or more likely to choke by sleeping in the supine position. States that those mothers who have been consistently advised by doctors, nurses and the media to place their babies on their backs to sleep, are more likely to do so. (JSM)

20100406-15*

Sleep-related death rate higher among black infants. (2010), Healthfinder 2 April 2010

News item reporting that a study has found that African-American infants in Cook County, United States of America, are 12 times more likely to die of sleep-related causes than white infants. The study's authors call for more to be done to decrease the disparity between African-Americans and other ethnic groups. (CR)

20100331-16

Safe sleep - six principles for protecting a baby's life. (2009), Midwifery News (New Zealand College of Midwives) no 55, December 2009, pp 22-23

Discusses the confusion over safe sleeping practices, outlines recommendations that may help to prevent sudden infant death syndrome, and details aspects of 'Baby Essentials' education programme which cover this subject. (5 references) (JR)

20100305-13*

Study identifies that multiple risk factors existed in 78 percent of sudden infant death syndrome cases. Anon (2010), Medical News Today 16 February 2010


Reports the main findings from a study into the causes of sudden infant death syndrome (SIDS). States that SIDS is the third most common cause of infant death, as per data from the Centers for Disease Control and Prevention, despite a decrease in the number of cases of SIDS following campaigns promoting safe sleeping practices. Explains that in the study of 2,234 infants in the United States, 96% of children who died of SIDS were exposed to risk factors such as sleeping on their side or stomach, or tobacco smoke exposure, and in 78% of the cases there were multiple risk factors. (JSM)

20100223-5


Classification of sudden infant death vs., nursing practices addressed sleeping position: Configurative domains observed in key references. Brannstrom I (2010), Journal of Neonatal Nursing vol 16, no 1, February 2010, pp 7-16

This study illuminates discursive domains regarding definitions, measurement characteristics and gender configurations appearing in original articles concerning sudden infant death syndrome. In particular discourses in nursing and public health recommendations, related to sleeping positions among newborn children, are in focus

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within the review. Twelve internationally published references, repeatedly referred to in the Swedish Medical Journal from 1 January 1990 to 6 March 2007 was, thus, scrutinized by using a qualitative systematic review triangulated with a discourse analytical approach recognizing gender as socially constructed. The findings revealed that gender as socially constructed was ignored throughout the key references reviewed with minor exceptions, thus, dispersing a knowledge-mediated gender bias of the mothers, the fathers and other guardians/caregivers were totally out of the gaze. Lack of homogeneity and compatibility was discovered regarding both definitions and measurement characteristics used. Supine sleeping position of newborns was consistently recommended within the items scrutinized. The study advocates that the order of gender is important for the quality of health recommendations and has to be recognized in infant nursing practices and in child health research. Further studies are encouraged to examine the reliability in cause-of-death recordings, risk managements vs., nursing practices for newborn children. (40 references) (Author)

20100210-14

Interactions among peripheral perfusion, cardiac activity, oxygen saturation, thermal profile and body position in growing low birth weight infants. Sahni R, Schulze KF, Ohira-Kist K, et al (2010), Acta Paediatrica vol 99, no 1, January 2010, pp 135-139

AIMS: To investigate the correlation between the 'perfusion index' (PI) and other commonly used estimates of cutaneous blood flow [heart rate (HR), surface temperatures (ST) and central-to-peripheral thermal gradients (C-P grad)] and to use this new non-invasive tool to compare differences between prone and supine sleep position in low birth weight (LBW) infants. **METHODS:** Six-hour continuous recordings of pulse oximetry, cardiac activity and absolute ST from three sites (flank, forearm and leg), along with minute-to-minute assessment of behavioural states were performed in 31 LBW infants. Infants were randomly assigned to the prone or supine position for the first 3 h and then reversed for the second 3 h. PI data were correlated with HR and C-P grad, and compared across sleep positions during quiet sleep (QS) and active sleep (AS). **RESULTS:** Perfusion index correlated significantly with HR ($r(2) = 0.40$) and flank-to-forearm thermal gradient ($r(2) = 0.28$). In the prone position during QS, infants exhibited higher PI (3.7 ± 0.9 vs. 3.1 ± 0.7), HR (158.4 ± 8.9 vs. 154.1 ± 8.8 bpm), SpO₂ (95.8 ± 2.6 vs. $95.2 \pm 2.6\%$), flank (36.7 ± 0.4 vs. 36.5 ± 0.4 degrees C), forearm (36.1 ± 0.6 vs. 35.5 ± 0.4 degrees C) and leg (35.4 ± 0.7 vs. 34.7 ± 0.7 degrees C) temperatures and narrower flank-to-forearm (0.6 ± 0.4 vs. 0.9 ± 0.3 degrees C) and flank-to-leg (1.3 ± 0.6 vs. 1.8 ± 0.7 degrees C) gradients, compared to those of the supine position. Similar differences were observed during AS. **CONCLUSION:** Perfusion index is a good non-invasive estimate of tissue perfusion. Prone sleeping position is associated with a higher PI, possibly reflecting thermoregulatory adjustments in cardiovascular control. The effects of these position-related changes may have important implications for the increased risk for sudden infant death syndrome in prone position. (30 references) (Author)

20100204-19*

SIDS babies have low serotonin levels, study finds. Bonfield J (2010), CNN 3 February 2010

Reports on a study which has found that babies who died from cot death have 26% lower levels of the brain chemical serotonin in their brainstems than babies who died from other causes, and also had lower levels of tryptophan hydroxylase, the enzyme necessary to produce serotonin. Explains that serotonin regulates sleep, heart-rate and breathing in babies. Gives recommendations on sleeping position to promote uninterrupted breathing, and lessen the chances of cot death: babies should be placed on their backs to sleep so that they don't roll over, they should not be over 'bundled', and no loose bedding or stuffed toys should be left in the cot. (JSM)


Full URL: <http://edition.cnn.com/2010/HEALTH/02/03/sids.serotonin/index.html>

20100112-83


Socio-cultural perceptions of sudden infant death syndrome among migrant Indian mothers. Aslam H, Kemp L, Harris E, et al (2009), Journal of Paediatrics and Child Health vol 45, no 11, November 2009, pp 670-675

AIM: To explore socio-cultural influences on migrant mother decisions and beliefs regarding co-sleeping as a risk factor for sudden infant death syndrome (SIDS). **METHODS:** Semi-structured interviews with five Indian-born women

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in a socio-economically disadvantaged suburb in the south-west of Sydney were conducted between September and December 2007. Transcripts were analysed using principles of discourse analysis. RESULTS: Discourse analysis revealed that SIDS-related decisions and beliefs about co-sleeping as a risk factor for SIDS are constructed amid competing discourses of motherhood and child health. Mothers are either actively or unconsciously deciding how they negotiate or resist dominant Western discourses of motherhood and child health to make 'the best' health-related decisions for their children. Participants resisted acknowledging child sleep practices recommended by health practitioners, particularly recommendations to put to sleep the baby in its own cot. This resistance was expressed by constructing messages as 'inapplicable' and 'inappropriate'. Co-sleeping was constructed as a highly valued practice for its physical and social benefits to the child, mother and family by facilitating child security, breastfeeding, bonding and family connectedness. CONCLUSION: This study illustrates how decisions and behaviour are shaped by socio-cultural influences embedded in discourses and context. It also shows that in-depth investigation through a social constructivist lens is particularly useful for investigating influences on knowledge acquisition, interpretation and implementation among migrant groups. A greater appreciation of the social meanings and ideologies attached to behaviours can help to ensure that the correct messages reach the correct populations, and that child health outcomes can be achieved and maintained both for overseas and Australian-born populations. (29 references) (Author)

20091208-6*

Percentage of babies placed to sleep on their backs levels off. Archives of Pediatrics and Adolescent Medicine (2009), Medical News Today 7 December 2009

News item reporting that the number of infants being placed to sleep on their backs in the United States of America has not risen since 2001. Suggests that an ongoing campaign to educate parents about the links between sleeping position and sudden infant death is associated with the reduction in infant mortality rates, and considers the racial disparities in infant sleeping position. (TC)

20091120-2*

Baby's sleep position is the major factor in 'flat-headedness'. Anon (2009), Medical News Today 19 November 2009


Reports that a study by researchers at the Arizona State University has ascertained that deformational plagiocephaly, a condition where the infant's skull is misshapen or where flat spots develop on the head, is attributable to the baby's sleeping position. Explains that researchers noticed a huge rise in the number of infants with 'flat-headedness' since 1992, and this coincides with the 'back to sleep' campaign which aimed to reduce the incidence of sudden infant death syndrome by advising parents to place baby's on their backs to sleep. States that the study also found that boys were twice as likely to suffer from the condition as girls. (JSM)

20090924-18


Infant sleep environments depicted in magazines targeted to women of childbearing age. Joyner BL, Gill-Bailey C, Moon RY (2009), Pediatrics vol 124, no 3, September 2009. e416-e422

Objective: The goal was to evaluate pictures in magazines widely read by women of childbearing age, for adherence to American Academy of Pediatrics (AAP) guidelines for safe infant sleep practices. Methods: Magazines were included in this study if they had an average female readership of >5 million, circulation of >900 000, and median age of female readers of 20 to 40 years. Twenty magazines met these criteria. An additional 8 magazines targeted toward expectant parents and parents of young children were included, for a total of 28 magazines. Pictures of infant sleep environments and sleeping infants in articles and advertisements in issues of these 28 magazines were analyzed for adherence to AAP guidelines for decreasing the risk of sudden infant death syndrome. Results: A total of 391 unique pictures from 34 magazine issues were included in the analysis. Only 57 pictures (64%) portraying sleeping infants not being held by an adult portrayed the infants in the supine position, and 14.8% of sleeping infants were portrayed as sleeping with another person. Only 36 pictures (36.4%) of infant sleep environments portrayed a safe sleep environment, as recommended by the AAP. Conclusions: More than one third of pictures of sleeping infants in magazines geared toward childbearing women demonstrated infants in an inappropriate sleep position, and two

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thirds of pictures of infant sleep environments were not consistent with AAP recommendations. Messages in the media that are inconsistent with health care messages create confusion and misinformation about infant sleep safety and may lead inadvertently to unsafe practices. (Only the abstract is published in the print journal. Full article available online at <http://www.pediatrics.org/cgi/doi/10.1542/peds.2008-3735>) (Author)

20090827-4

Sudden infant deaths 'tumbling'. BBC News (2009), BBC News 26 August 2009

Reports the falling number of cases of unexplained infant deaths in England and Wales. Covers care strategies that may reduce the likelihood of sudden infant death, regional variations in figures, and profiles those at the greatest risk. (JR)

20090825-39

The Sudden Infant Death Syndrome. Kinney HC, Thach BT (2009), The New England Journal of Medicine vol 361, no 8, 20 August 2009, pp 795-805

This article looks in detail at the aetiology of sudden infant death syndrome. Placing an infant to sleep in the supine position reduced the incidence of SIDS drastically but it is still more prevalent in certain ethnic populations although how much poverty - a known risk factor - contributes to this is difficult to quantify. There are higher rates of prematurity, alcohol use and smoking in lower socioeconomic populations, all of which are risk factors for SIDS. Various causes of SIDS are identified including infection and asphyxia which are discussed in detail, as are known contributory factors such as maternal smoking in pregnancy, smoking around the infant. (110 references) (VDD)

20090701-65

Sudden unexpected neonatal death in the first week of life: autopsy findings from a specialist centre. Weber MA, Ashworth MT, Risdon RA, et al (2009), Journal of Maternal-Fetal and Neonatal Medicine vol 22, no 5, May 2009, pp 398-404

OBJECTIVE: Sudden unexpected early neonatal death (SUEND) in the first week of life shares features with sudden unexpected death in infancy (SUDI) but is not included as SUDI, which is limited to post-perinatal deaths. The aim of this study was to review SUEND autopsies performed in a single specialist centre over a 10-year period, (1996-2005). **METHODS:** Retrospective analysis of >1500 consecutively performed paediatric autopsies performed by paediatric pathologists at one centre conducted according to a standard protocol including ancillary investigations. SUENDs were identified and autopsy findings reviewed. **RESULTS:** Of 1516 post-mortem examinations, 180 were first-week neonatal deaths, 55 (31%) presenting as SUEND. Thirty-two (58%) were explained following autopsy, whilst the remainder were unexplained; most deaths during sleep were associated with adult co-sleeping. Around 40% of explained deaths were associated with undiagnosed congenital abnormalities, mainly congenital heart disease. In addition, there were nine infection-related deaths and three deaths from unsuspected metabolic disease (fatty acid oxidation defects). **CONCLUSION:** There are distinct differences between SUEND and SUDI, with significantly more explained deaths in the former and a much greater proportion due to congenital abnormalities and metabolic disease. (22 references) (Author)

20090623-39

Infant sleep position: a randomized clinical trial of an educational intervention in the maternity ward in Porto Alegre, Brazil. Issler RMS, Marostica PJ, Giugliani ERJ (2009), Birth vol 36, no 2, June 2009, pp 115-121

BACKGROUND: Few studies in Brazil have been published about sudden infant death syndrome (SIDS), and none has addressed the mother's orientation about placing the infant to sleep in the supine position. The aim of this study was to evaluate the effect on mothers of an individual educational intervention in the maternity ward about infant sleep position. **METHODS:** A randomized clinical trial was conducted with a study sample of 228 mother-infant pairs assigned to an intervention or a control group. The intervention consisted of an individual orientation session at the maternity ward, at which folders and an oral explanation were given to mothers at discharge about the importance of the supine position as a preventive measure for SIDS. The outcome was the sleeping position at 3 months of age assessed during

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a home visit. The variables with $p < 0.2$ at a bivariate analysis were included in a logistic regression model. RESULTS: Among mothers in the intervention group, 42.9 percent put their infants to sleep in a supine position at the 3-month visit, compared with 24 percent of mothers in the control group ($p = 0.009$). In a multivariate analysis, the intervention at the hospital was the only variable that influenced maternal practices with respect to infant sleep positioning (OR 2.22; 95% CI 1.17-4.19). CONCLUSIONS: An individual educational session in the maternity ward about infant sleep position significantly increased the prevalence of supine position for sleeping in the infant's third month. Nevertheless, the intervention was not sufficient to guarantee that most mothers would put their infants to sleep in the recommended position. (39 references) (Author)

20090527-70

Sleep environment risk factors for sudden infant death syndrome: the German Sudden Infant Death Syndrome Study.

Vennemann MM, Bajanowski T, Brinkmann B, et al (2009), Pediatrics vol 123, no 4, April 2009, pp 1162-1170

OBJECTIVE: Our goal was to investigate the risk factors for sudden infant death syndrome in the infants' sleep environment for a population in which few infants sleep prone as a result of education campaigns. METHODS: This was a population-based sudden infant death syndrome case-control study over 3 years (1998-2001) in Germany. RESULTS: There were 333 sudden infant death syndrome cases and 998 matched controls. Although only 4.1% of the infants were placed prone to sleep, those infants were at a high risk of sudden infant death syndrome. Those who were unaccustomed to sleeping prone were at very high risk, as were those who turned to prone. Bed sharing (especially for infants younger than 13 weeks); duvets; sleeping prone on a sheepskin; sleeping in the house of a friend or a relative (compared with sleeping in the parental home); and sleeping in the living room (compared with sleeping in the parental bedroom) increased the risk for sudden infant death syndrome; pacifier use during the last sleep was associated with a significantly reduced risk of sudden infant death syndrome. CONCLUSIONS: This study has clarified the risk factors for sudden infant death syndrome in a population where few infants sleep prone. This study supports the current recommendations of the American Academy of Pediatrics. This study has identified several novel risk factors for sudden infant death syndrome: an increased risk if the infants sleeps outside the parental home, death in the living room, and the high risk when sleeping prone on a sheepskin; however, because the numbers of cases in these groups are small, additional studies are needed to confirm these findings. (47 references) (Author)

20090515-52

Cot death DVD targets teenage mums. (2009), Infant vol 5, no 3, 2009, p 95

Very brief news item reporting that the Foundation for the Study of Infant Deaths (FSID) has released a DVD to promote safe sleep advice to parents whose babies are at greatest risk of cot death. (CR)

20090402-39

Sleeping position, oxygenation and lung function in prematurely born infants studied post term. Saiki T, Rao H, Landolfo F, et al (2009), Archives of Disease in Childhood: Fetal and Neonatal Edition vol 94, no 2, March 2009, pp F133-F137

OBJECTIVE: To determine the effect of sleeping position on the lung function of prematurely born infants when post term, whether any effect was similar to that before discharge from the neonatal unit, and if it differed according to bronchopulmonary (BPD) status. DESIGN: Prospective study. SETTING: Tertiary neonatal unit. PATIENTS: Twenty infants, median gestational age 30 weeks (range 25-32); 10 had BPD. INTERVENTIONS: Before neonatal unit discharge (median age 36 weeks postmenstrual age (PMA)) and when post term, infants were studied prone and supine, each position maintained for 3 h. MAIN OUTCOME MEASURES: Oxygen saturation was monitored continuously and, at the end of each 3 h period, functional residual capacity (FRC) and compliance (CRS) and resistance (RRS) of the respiratory system were measured. RESULTS: At a median of 36 weeks PMA and 6 weeks later (post term), respectively, oxygen saturation (98% vs 96%, $p = 0.001$; 98% vs 97%, $p = 0.011$), FRC (26 vs 24 ml/kg, $p < 0.0001$; 35 vs 31 ml/kg, $p = 0.001$) and CRS (3.0 vs 2.4 ml/cm H₂O, $p = 0.034$; 3.7 vs 2.5 ml/cm H₂O, $p = 0.015$) were higher in the prone than the supine position. In the prone position, both BPD and non-BPD infants had significantly greater FRCs on both occasions and oxygen saturation at 36 weeks PMA, but oxygen saturation was significantly better post term only in non-BPD infants. Twelve infants had

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superior oxygen saturation and 17 superior FRCs in the prone compared with the supine position at both 36 weeks PMA and post term. CONCLUSIONS: These results suggest that lung function impairment does not explain why prematurely born infants are at increased risk of sudden infant death syndrome in the prone compared with the supine position. (23 references) (Author)

20090211-1

Sudden infant death syndrome prevention: a model program for NICUs. McMullen SL, Lipke B, LeMura C (2009), Neonatal Network: the Journal of Neonatal Nursing vol 28, no 1, January/February 2009, pp 7-12

Health care providers' opinions can influence how parents place their infant to sleep. Neonatal nurses can improve how they teach and model safe infant sleep practices to parents. To increase neonatal nurses' knowledge, a sudden infant death syndrome (SIDS) prevention program was implemented. Program components included a computerized teaching tool, a crib card, sleep sacks, and discharge instructions. Initial program evaluation showed that 98 percent of infants slept supine and 93 percent slept in sleep sacks in open cribs. However, nurses continued to swaddle some infants with blankets to improve thermoregulation. To increase nursing compliance in modeling safe infant sleep practices, Halo SleepSack Swaddles were provided for nurses to use in place of a blanket to regulate infant temperature. Recent data show that 100 percent of infants in open cribs are now sleeping supine wearing a Halo Swaddle or a traditional Halo SleepSack. This model program can easily be replicated to enhance neonatal nurses' knowledge about SIDS prevention. (10 references) (Author)

20081218-104

The changing epidemiology of infantile hypertrophic pyloric stenosis in Scotland. Sommerfield T, Chalmers J, Youngson G, et al (2008), Archives of Disease in Childhood vol 93, no 12, December 2008, pp 1007-1011


BACKGROUND: The aetiology of infantile hypertrophic pyloric stenosis (IHPS) has not been fully elucidated. Since the 1990s, a sharp decline in IHPS has been reported in various countries. Recent research from Sweden reported a correlation between falling rates of IHPS and of sudden infant death syndrome (SIDS). This was attributed to a reduction in the number of infants sleeping in the prone position following the 'Back to Sleep' campaign. OBJECTIVES: To describe the changing epidemiology of IHPS in Scotland, to examine the relationship between IHPS and SIDS rates and to examine trends in other factors that may explain the observed reduction in IHPS incidence. DESIGN: Incidence rates of IHPS and SIDS were derived from routine data and their relationship analysed. Trends in mean maternal age, maternal smoking, mean birth weight and breastfeeding rates were also examined. SETTING: The whole of Scotland between 1981 and 2004. RESULTS: IHPS incidence fell from 4.4 to 1.4 per 1000 live births in Scotland between 1981 and 2004. Rates were consistently higher in males, although the overall incidence patterns in males and females were similar. Rates showed a positive relationship with deprivation. The fall in the incidence of IHPS preceded the fall in SIDS by 2 years and the incidence of SIDS displayed less variability than that of IHPS. Significant temporal trends were also observed in other maternal and infant characteristics. CONCLUSION: There has been a marked reduction in Scotland's IHPS incidence, but this is unlikely to be a consequence of a change in infant sleeping position. (15 references) (Author)

20081112-12


Reducing the risk of sudden infant death syndrome in child care and changing provider practices: lessons learned from a demonstration project. Moon RY, Calabrese T, Aird L (2008), Pediatrics vol 122, no 4, October 2008, pp 788-798

OBJECTIVE: The goal was to evaluate, through an American Academy of Pediatrics demonstration project, the effectiveness of a curriculum and train-the-trainer model in changing child care providers' behaviors regarding safe infant sleep practices. METHODS: Participating licensed child care centers and family child care homes were assigned randomly to intervention and control groups. Observers performed an initial unannounced visit to each site, to watch infants being placed for sleep, to inventory sleep policies, and to administer questionnaires to center staff members. Trainers then used the American Academy of Pediatrics curriculum in educational sessions at intervention sites. Three months later, observers conducted a follow-up observation at each site, and staff members completed a

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questionnaire about logistic barriers encountered in implementation of safe sleep recommendations. RESULTS: A total of 264 programs and 1212 providers completed the study; the care of 1993 infants was observed. Provider awareness of the American Academy of Pediatrics infant supine sleep position recommendation increased from 59.7% (both groups) to 64.8% (control) and 80.5% (intervention). Exclusive use of the supine position in programs increased from 65.0% to 70.4% (control) and 87.8% (intervention). Observed supine placement increased from 51.0% to 57.1% (control) and 62.1% (intervention). CONCLUSIONS: A sudden infant death syndrome risk reduction curriculum using a train-the-trainer model is effective in improving the knowledge and practices of child care providers. Perceived parental objections, provider skepticism about the benefits of supine positioning, and lack of program policies and training opportunities are important barriers to implementation of safe sleep policies. Continued education of parents, expanded training efforts, and statewide regulations, mandates, and monitoring are critical to ongoing efforts to decrease further the risk of sudden infant death syndrome in child care. (52 references) (Author)

20081105-72

Bassinet use and sudden unexpected death in infancy. Pike J, Moon RY (2008), Journal of Pediatrics vol 153, no 4, October 2008, pp 509-512

OBJECTIVE: To analyze risk factors in infants who die suddenly and unexpectedly in bassinets. STUDY DESIGN: A retrospective review of all deaths of infants involving bassinets reported to the Consumer Product Safety Commission (CPSC) between 1990 and 2004. RESULTS: For the 53 deaths analyzed, the mean age at death was 84 days. The cause of death was recorded as anoxia, asphyxiation, or suffocation in 85% and sudden infant death syndrome (SIDS) in 9.4%. In terms of position, 37% were placed prone for sleep, and 50% were prone when found dead. Additional items in the bassinet, including soft bedding, were noted in 74% of cases. Specific mechanical problems with the bassinets were noted in 17% of cases. CONCLUSIONS: The risk of sudden unexpected death in infants who sleep in bassinets can be reduced by following American Academy of Pediatrics guidelines, including positioning infants supine and avoiding soft bedding in bassinets. In addition, parents must ensure that the bassinet is mechanically sound and that no objects that can lead to suffocation are in or near the bassinet. (10 references) (Author)

20081105-71

Infant sleep location: associated maternal and infant characteristics with sudden infant death syndrome prevention recommendations. Fu LY, Colson ER, Corwin MJ, et al (2008), Journal of Pediatrics vol 153, no 4, October 2008, pp 503-508

OBJECTIVE: To identify factors associated with infant sleep location. STUDY DESIGN: Demographic information and infant care practices were assessed for 708 mothers of infants ages 0 to 8 months at Women, Infants and Children centers. Generalized linear latent mixed models were constructed for the outcome, sleeping arrangement last night (room-sharing without bed-sharing versus bed-sharing, and room-sharing without bed-sharing versus sleeping in separate rooms). RESULTS: Two-thirds of the mothers were African-American. A total of 48.6% mothers room-shared without bed-sharing, 32.5% bed-shared, and 18.9% slept in separate rooms. Compared with infants who slept in separate rooms, infants who room-shared without bed-sharing were more likely to be Hispanic (odds ratio [OR], 2.58, 95% CI 1.11-5.98) and younger (3.66- and 1.74-times more likely for infants 0-1 month old and 2-3 months old, respectively, as compared with older infants). Compared with infants who bed-shared, infants who room-shared without bed-sharing were more likely to be 0 to 1 month old (OR, 1.57; 95% CI, 1.05-2.35) and less likely to be African-American (OR, 0.43; 95% CI, 0.26-0.70) or have a teenage mother (OR, 0.37; 95% CI, 0.23-0.58). CONCLUSIONS: Approximately one-third of mothers and infants bed-share, despite increased risk of sudden infant death syndrome (SIDS). The factors associated with bed-sharing are also associated with SIDS, likely rendering infants with these characteristics at high risk for SIDS. (45 references) (Author)

20081021-70

Effects of sleeping position on development of infant cardiovascular control. Yiallourou SR, Walker AM, Horne RSC (2008), Archives of Disease in Childhood vol 93, no 10, October 2008, pp 868-872

OBJECTIVE: Sudden Infant Death Syndrome (SIDS) is associated with prone sleeping, and circulatory failure has been

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hypothesised to be a factor in the fatal event. We aimed to determine the effect of prone sleeping on heart rate (HR) and blood pressure (BP) control over the first 6 months of life. SUBJECTS: Term infants (n = 20) were studied longitudinally at 2-4 weeks, 2-3 months and 5-6 months with daytime polysomnography. MAIN OUTCOME MEASURES: A photoplethysmographic cuff (Finometer, FMS, Finapres Medical Systems, Amsterdam, The Netherlands) on the infant's wrist measured mean, systolic, and diastolic arterial pressure (MAP, SAP, DAP) and HR during quiet sleep (QS) and active sleep (AS) in both the supine and prone positions. RESULTS: BP in QS was lower compared to AS (by 3-9 mmHg) in both positions and at all three ages ($p < 0.05$). At 2-3 months, a change from supine to prone in QS induced a fall in SAP (6 mmHg, $p < 0.05$) and a rise in HR (4 bpm, $p < 0.05$). An overall effect of postnatal age (PNA) on BP was identified (ANOVA) with MAP and DAP consistently averaging less (by 1-9 mmHg) at 2-3 months in both sleep states and sleeping positions compared with both other ages. CONCLUSIONS: Infant BP is modified by sleep state and sleeping position. A tendency for BP to fall in the prone position appears to be prevented by elevated HR at 2-4 weeks and 5-6 months, but not at 2-3 months, coincident with the age of greatest risk for SIDS. An uncompensated fall in BP in the prone position at this age could increase the possibility of circulatory failure and SIDS in vulnerable infants. (30 references) (Author)

20080918-13*

Young Mums Cot Death Risk Higher. Foundation for the Study of Infant Deaths (2008), Foundation for the Study of Infant Deaths (FSID) News 28 August 2008

Press release highlighting aspects of a recent report from the Office of National Statistics showing an overall drop in cot deaths, although the death rate among babies of mothers under the age of 20 was six times higher than among older mothers. Emphasises the need for FSID's strategy of targeting young parents in order to provide them with safe sleep advice. (JSM)

20080910-71*

Time to get back to sleep: information for professionals on reducing the risk of cot death for premature babies.

Foundation for the Study of Infant Deaths (2008), London: Foundation for the Study of Infant Deaths June 2008. 4 pages

Leaflet on the campaign to reduce the increased risk of cot death for premature babies, aimed at health professionals, including action points: alerting parents when starting to sleep the baby on its back; giving parents the FSID advice card 'Time to get back to sleep', and reminding parents how important it is that their baby sleeps on its back, not on its front or side. Also includes some frequently asked questions to be prepared for from mothers and advice for community professionals visiting babies at home. (TM)

20080901-28*

Cot death warning for teen mums. BBC News (2008), BBC News 29 August 2008

Reports that the risk of sudden infant death is five times greater to babies of teenage parents in comparison with older mothers, because adolescents miss out on advice regarding prevention. (JSM)

20080821-82

SIDS, dummies and sleep. Pemberton D (2008), ABM [Association of Breastfeeding Mothers] Summer 2008, pp 11-13

Reports on a talk given by Dr Brian Palmer at the Lactation Consultants of Great Britain conference on the use of dummies and the incidence of sudden infant death. He describes the anatomy of healthy full-term babies, questions the published evidence on the association between the use of dummies and sudden infant death syndrome, and discusses the advice given by health bodies on the correct sleeping position for young infants. (TC)

20080807-14*

Head covering and the risk for SIDS: findings from the New Zealand and German SIDS case-control studies. Mitchell EA, Thompson JMD, Becroft DMO, et al (2008), Pediatrics vol 121, no 6, June 2008. e1478-83

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OBJECTIVES: The aim of this investigation was to identify risk factors for being found with the head covered in sudden infant death syndrome cases and determine whether head covering was likely to be an agonal event or potentially part of the causal pathway in some cases. By using the data from 2 sudden infant death syndrome case-control studies, consistency of the findings could be assessed. **METHODS:** Two case-control studies were assessed: (1) the New Zealand Cot Death Study (1987-1990, 393 sudden infant death syndrome cases) and (2) a German SIDS case-control study (1998-2001, 333 sudden infant death syndrome cases). **RESULTS:** The proportion of sudden infant death syndrome cases in which infants were found with their head covered was 15.6% in the New Zealand study and 28.1% in the German study. Being found with head covering was associated with older infant age. In both studies, being found with head covering was associated with being very sweaty when found. Head covering was also associated with the incidence and severity of thymic petechiae in both studies. Both the position in which the child was placed to sleep and the position in which the child was found were not associated with head covering. **CONCLUSIONS:** The finding that sudden infant death syndrome cases in which infants were found with their heads covered were often very sweaty suggests that head covering was not an agonal event and that it preceded the death and may have been causally related to the death. Infants who were found with their head covered were older, which probably reflects motor development. (Only the abstract is published in the print journal. Full article available online at <http://www.pediatrics.org/cgi/doi/10.1542/peds.2007-2749>) (Author)

20080716-70

Prematurely born infants and sudden infant death syndrome. Greenough A (2008), *Infant* vol 4, no 4, July 2008, pp 114-115


Explains that although premature infants are at increased risk of sudden infant death syndrome (SIDS), studies have shown that some babies, including those born prematurely, are still being slept prone at the high-risk age for SIDS and that only a minority of neonatal units have a written policy for staff. Highlights that parents are heavily influenced by the instructions of health care professionals regarding the position in which infants should sleep and that, unless there are exceptional circumstances, practitioners should be recommending supine sleeping for all prematurely born infants when discharged home.

20080619-52*


Mother-infant cosleeping, breastfeeding and sudden infant death syndrome: what biological anthropology has discovered about normal infant sleep and pediatric sleep medicine. McKenna JJ, Ball HL, Gettler LT (2007), *American Journal of Physical Anthropology* suppl 45, 2007, pp 133-161

Twenty years ago a new area of inquiry was launched when anthropologists proposed that an evolutionary perspective on infancy could contribute to our understanding of unexplained infant deaths. Here we review two decades of research examining parent-infant sleep practices and the variability of maternal and infant sleep physiology and behavior in social and solitary sleeping environments. The results challenge clinical wisdom regarding 'normal' infant sleep, and over the past two decades the perspective of evolutionary pediatrics has challenged the supremacy of pediatric sleep medicine in defining what are appropriate sleep environments and behaviors for healthy human infants. In this review, we employ a biocultural approach that integrates diverse lines of evidence in order to illustrate the limitations of pediatric sleep medicine in adopting a view of infants that prioritizes recent western social values over the human infant's biological heritage. We review what is known regarding infant sleeping arrangements among nonhuman primates and briefly explore the possible paleoecological context within which early human sleep patterns and parent-infant sleeping arrangements might have evolved. The first challenges made by anthropologists to the pediatric and SIDS research communities are traced, and two decades of studies into the behavior and physiology of mothers and infants sleeping together are presented up to the present. Laboratory, hospital and home studies are used to assess the biological functions of shared mother-infant sleep, especially with regard to breastfeeding promotion and SIDS reduction. Finally, we encourage other anthropologists to participate in pediatric sleep research using the unique skills and insights anthropological data provide. By employing comparative, evolutionary and cross-cultural perspectives an anthropological approach stimulates new research insights that influence the traditional medical paradigm and help to make it more inclusive. That this review will potentially stimulate similar research by other anthropologists is one obvious goal. That this article might do so makes it ever

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more possible that anthropologically inspired work on infant sleep will ultimately lead to infant sleep scientists, pediatricians, and parents becoming more informed about the consequences of caring for human infants in ways that are not congruent with their evolutionary biology. (Author)

20080603-49

Infection and sudden unexpected death in infancy: a systematic retrospective case review. Weber MA, Klein NJ, Hartley JC, et al (2008), *The Lancet* vol 371, no 9627, 31 May 2008, pp 1848-1853

BACKGROUND: The cause and mechanism of most cases of sudden unexpected death in infancy (SUDI) remain unknown, despite specialist autopsy examination. We reviewed autopsy results to determine whether infection was a cause of SUDI. **METHODS:** We did a systematic retrospective case review of autopsies, done at one specialist centre between 1996 and 2005, of 546 infants (aged 7-365 days) who died suddenly and unexpectedly. Cases of SUDI were categorised as unexplained, explained with histological evidence of bacterial infection, or explained by non-infective causes. Microbial isolates gathered at autopsy were classified as non-pathogens, group 1 pathogens (organisms usually associated with an identifiable focus of infection), or group 2 pathogens (organisms known to cause septicaemia without an obvious focus of infection). **FINDINGS:** Of 546 SUDI cases, 39 autopsies were excluded because of viral or pneumocystis infection or secondary bacterial infection after initial collapse and resuscitation. Bacteriological sampling was done in 470 (93%) of the remaining 507 autopsies. 2079 bacteriological samples were taken, of which 571 (27%) were sterile. Positive cultures yielded 2871 separate isolates, 484 (32%) of which showed pure growth and 1024 (68%) mixed growth. Significantly more isolates from infants whose deaths were explained by bacterial infection (78/322, 24%) and from those whose death was unexplained (440/2306, 19%) contained group 2 pathogens than did those from infants whose death was explained by a non-infective cause (27/243, 11%; difference 13.1%, 95% CI 6.9-19.2, $p < 0.0001$ vs bacterial infection; and 8.0%, 3.2-11.8, $p = 0.001$ vs unexplained). Significantly more cultures from infants whose deaths were unexplained contained *Staphylococcus aureus* (262/1628, 16%) or *Escherichia coli* (93/1628; 6%) than did those from infants whose deaths were of non-infective cause (*S aureus*: 19/211, 9%; difference 7.1%, 95% CI 2.2-10.8, $p = 0.005$; *E coli*: 3/211, 1%, difference 4.3%, 1.5-5.9, $p = 0.003$). **INTERPRETATION:** Although many post-mortem bacteriological cultures in SUDI yield organisms, most seem to be unrelated to the cause of death. The high rate of detection of group 2 pathogens, particularly *S aureus* and *E coli*, in otherwise unexplained cases of SUDI suggests that these bacteria could be associated with this condition. **FUNDING:** Foundation for the Study of Infant Deaths. (21 references) (Author)

20080528-4

SIDS diagnosis should not be put to bed. Alm B, Wennergren G, Lagercrantz H (2008), *Acta Paediatrica* vol 97, no 6, June 2008, pp 695-696


The finding that prone sleeping position and smoking are important risk factors for SIDS has considerably reduced the incidence. Although these risk factors can be found in many cases of SIDS, they cannot be regarded as causes of death. **Conclusion:** The diagnosis of SIDS must be adhered to, and risk factors must not be confused with diagnoses. A structured follow-up of all cases of SIDS can be a cost-effective mean to ensure that parents and researchers are given adequate information. (11 references) (Author)

20080515-43


Changing hospital newborn nursery practice: results from a statewide 'back to sleep' nurses training program. Price SK, Hillman L, Gardner P, et al (2008), *Maternal and Child Health Journal* vol 12, no 3, May 2008, pp 363-371

OBJECTIVE: In response to findings from a statewide survey of hospital nurses, the authors designed, conducted, and evaluated a 'Back to Sleep' nursing curriculum and training program in Missouri hospitals using two distinct training formats. This article evaluates the initial and follow-up outcomes for training participants and assesses the impact of training format on participant outcomes. **METHODS:** Participants selected training format by hospital site. In each training format, participants responded to a pre and post test questionnaire measuring knowledge, beliefs, and current infant care behaviors as well as satisfaction with the training. Three months after completion of all statewide trainings, the authors also conducted a follow-up survey. **RESULTS:** Nurses who participated in the training reported

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statistically significant improvements in knowledge and 'Back to Sleep' adherent beliefs. Over 98% of participants (N = 515) intended to place infants in back-only sleep positions following the training. Knowledge, attitudes, and practice intentions were significantly improved across both training formats. Additionally, follow-up survey respondents statewide (N = 295) reported lasting improvements, including 63% of nurses reportedly using supine-only sleep position for infants after the first 24 h of life, compared to 28% in the original statewide survey. CONCLUSIONS: Further research is needed to determine the long-term impact of this intervention and assess its applicability beyond this initial implementation. Ultimately, the findings from the evaluation of this pilot intervention and nursing-specific 'Back to Sleep' curriculum demonstrate that it has a promising effect on risk-reduction adherence in hospital settings where parent observations of safe sleep behavior first occur. (19 references) (Author)

20080514-13

Child care practice in the United Arab Emirates: the ESACCIPS study. Abdulrazzaq YM, Kendi AA, Nagelkerke N (2008), *Acta Paediatrica* vol 97, no 5, May 2008, pp 590-595

Aims: This study was undertaken to monitor infant care practice associated with SIDS and establish the incidence of SIDS in the UAE. **Methods:** A total of 996 families were recruited for the study. One questionnaire was completed during the first 7 days after delivery, and was used to collect information about the socio-demographic features, mother's medical history, delivery status and infant's medical history, and another questionnaire was completed after 12 weeks through telephone interviews of the mothers. 716 completed both questionnaires. Registers at the two hospitals, and at the Preventive Medicine Department were studied and all infant deaths in a 5-year period were recorded. **Results:** In all 18.9% of infants were placed in the prone position. Mothers preferred supine position (49.3%) to other positions when putting their babies to bed. Ninety eight percent preferred that their infant slept in the same room as the parents. On the whole, 40% occasionally shared their beds with their infants. Swaddling the babies was quite common (83.2%) and 91.9% of their mothers were also swaddled when they were babies. More than 80% of all infants used bedding duvets for their infants both in the summer and in the winter. SIDS mortality rate was 0.66 per thousand live births and contributed 7.25% to the infant mortality rate. **Conclusion:** These data provide useful baseline information on child care practice and should be of immense benefit to the understanding of the risks and causal mechanisms of SIDS and to the UAE health authorities should they wish to develop strategies to reduce the risk of SIDS. (30 references) (Author)

20080514-12


Prone sleeping position increases the risk of SIDS in the day more than at night. Mitchell EA, Bajanowski T, Brinkmann B, et al (2008), *Acta Paediatrica* vol 97, no 5, May 2008, pp 584-589

Background: SIDS mortality is higher during the night than in the day. **Aim:** (1) To examine risk factors for SIDS by time of day and (2) to see if the proportion of deaths at night has changed from prior to the 'Back to Sleep' campaign, which recommended infants sleep supine. **Methods:** A large population-based SIDS matched case-control (GeSID) study conducted from 1998 to 2001 (when the prevalence of infants placed prone to sleep was 4.1%). The reference sleep of the controls was matched for the estimated time of death for the case. Risk factors for SIDS were examined for night-time and day-time deaths. The estimated time of death was compared with that from an earlier study in Germany (1990-1994 when prevalence of prone sleeping was 32.2%). **Results:** There were 333 SIDS cases and 998 matched controls. The increased risk with placed prone to sleep was significantly different during the day [adjusted OR = 18.15 (95% CI = 5.91-55.69)] compared with during the night [adjusted OR = 3.49 (95% CI = 1.46-8.39; p-value for interaction = 0.011)]. There was no significant difference in the other risk factors examined by time of day in the multivariate analysis. The mean time found dead was 09:07. In the earlier study the mean time found dead was 08:54 and the difference was not significant (p = 0.57). **Conclusions:** This study confirms previous observations that prone sleeping position carries a greater risk during the day than at night. However, the reduction in infants sleeping prone has not been associated with a reduced number of deaths in the day in Germany. (14 references) (Author)


20080410-87

An analysis of deaths in portable cribs and playpens: what can be learned?. Jackson A, Moon RY (2008), *Clinical Pediatrics*

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MA, PGDip, BSc Hons, RM
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Rebecca Davies, RM
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To assess the risk of using portable cribs and playpens as sleep surfaces for infants, data from playpen/portable crib deaths occurring between January 1, 1999, and February 4, 2004, that were reported to the Consumer Product Safety Commission were retrospectively reviewed. Twenty-one playpen/portable crib deaths were identified. Two-thirds of the deaths were in infants. Asphyxia, positional asphyxia, and suffocation were the leading causes of death. Several deaths were the consequence of risks unique to playpens and portable cribs: playpen collapse, modifications to the playpen, and improper assembly. The data demonstrate some unique risks posed by playpens/portable cribs, including risks from improper assembly and setup. Programs recommending and using playpens/portable cribs as routine infant sleep surfaces must be aware of the need for additional guidance regarding use of playpens/portable cribs. (16 references) (Author)

20080222-68

SIDS is not a disease entity. Williams LH (2008), BMJ vol 336, no 7641, 23 February 2008, pp 404-405

A letter discussing sudden infant death, the terminology used and measures that could be taken monitor sleeping babies more closely. (1 reference) (CB)

20080213-8

Does cot death still exist?. Gornall J (2008), BMJ vol 336, no 7639, 9 February 2008, pp 302-304

With leading researchers saying smoking and other modifiable factors account for most sudden infant deaths, Jonathan Gornall asks whether it is time to put the diagnosis to bed. (23 references) (Author)

20071218-49*

Infant sleep position: discerning knowledge from practice. Mosley JM, Daily Stokes S, Ulmer A (2007), American Journal of Health Behavior vol 31, no 6, November-December 2007, pp 573-582

OBJECTIVE: To determine decision-making factors for infant sleep position among low-income parents and other relatives. METHODS: Data were collected from 18 focus groups conducted with low-income parents and relatives of infants across the state of Missouri. RESULTS: That the decision-making process regarding infant sleep practices was complex. CONCLUSION: Although most participants are familiar with the 'Back to Sleep' campaign, there was a lack of understanding over why nonprone sleep is necessary, and the change in this message over time added to the parents' uncertainty. (Author)

20071112-49

New online 'safe sleep for babies' video. (2007), Infant vol 3, no 6, November 2007, p 214

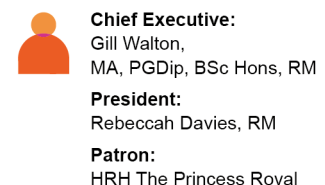
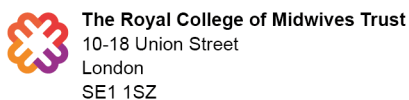
Brief news item reporting on a new video produced by the Foundation for the Study of Infant Deaths (FSID) in conjunction with www.videojug.com and child sleep specialist Andrea Grace, which aims to provide parents with information on safe sleeping practices. (MB)

20071108-73*

Sleep practices and environment and the risk of sudden infant death syndrome in Turkey. Efe E, Sarvan S, Kukulu K (2007), Journal for Specialists in Pediatric Nursing (JSPN) vol 12, no 4, October 2007, pp 253-263

PURPOSE. The aim of this study is to determine what mothers know about infant sleep practices and the environment. DESIGN AND METHODS. Data were collected with a semistructured questionnaire. The research was conducted with 231 mothers who delivered an infant and who agreed to participate between September and December 2005. RESULTS. It was determined that 70.6% (n = 163) of mothers would use a pillow with their sleeping infants, and 44.2% (n = 102) would cover their infants' faces. When infants were alone in a room, 96.5% of mothers would leave them in the supine position. PRACTICE IMPLICATIONS. Public health interventions should alert women to the increased risk of sudden infant death syndrome associated with identifiable risk factors, and specific intervention campaigns for safe

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sleeping can be developed for Turkish families. (Author)

20071105-34

Sudden infant death syndrome. Moon RY, Horne RSC, Hauck FR (2007), *The Lancet* vol 370, no 9598, 3 November 2007, pp 1578-1587

Despite declines in prevalence during the past two decades, sudden infant death syndrome (SIDS) continues to be the leading cause of death for infants aged between 1 month and 1 year in developed countries. Behavioural risk factors identified in epidemiological studies include prone and side positions for infant sleep, smoke exposure, soft bedding and sleep surfaces, and overheating. Evidence also suggests that pacifier use at sleep time and room sharing without bed sharing are associated with decreased risk of SIDS. Although the cause of SIDS is unknown, immature cardiorespiratory autonomic control and failure of arousal responsiveness from sleep are important factors. Gene polymorphisms relating to serotonin transport and autonomic nervous system development might make affected infants more vulnerable to SIDS. Campaigns for risk reduction have helped to reduce SIDS incidence by 50-90%. However, to reduce the incidence even further, greater strides must be made in reducing prenatal smoke exposure and implementing other recommended infant care practices. Continued research is needed to identify the pathophysiological basis of SIDS. (176 references) (Author)

20071026-42

Physician recommendations regarding SIDS risk reduction: A National Survey of Pediatricians and Family Physicians.

Moon RY, Kington M, Oden R, et al (2007), *Clinical Pediatrics* vol 46, no 9, November 2007, pp 791-800

Background: Sudden infant death syndrome (SIDS) is a leading cause of death among infants. Recently, new SIDS risk factors have emerged. Objective: To determine knowledge and recommendations of pediatricians and family physicians regarding SIDS-relevant practices. Methods: Cross-sectional survey of 3005 pediatricians and family physicians. Results: Of the 783 respondents, pediatricians comprised 64% and females 52%; 78% recognized supine as the recommended sleep position; 69% recommended supine. Almost all physicians recommended a firm mattress, 82% recommended a crib or bassinet, and 42% recommended a separate room for infants; 63% had no preference about or did not recommend restricting pacifier use. Pediatricians were more likely to discuss infant sleep position and room sharing at every well-child visit. Conclusions: Knowledge about recommended infant sleep position is relatively high, but there are gaps in physician knowledge regarding safe sleep recommendations. Greater dissemination of information is required, and barriers to implementation need to be identified and addressed. (44 references) (Author)

20070912-11

Giving babies the chance a lifetime. Peckett N (2007), *Journal of Neonatal Nursing* vol 13, no 4, August 2007, pp 134-136

Editorial offering advice on how to reduce the risk of cot death, including using a dummy, sleeping position, maintaining a non-smoking environment and avoiding bed-sharing. (MB)

20070727-56

The continuing decline in SDS mortality. Mitchell EA, Hutchison L, Stewart AW (2007), *Archives of Disease in Childhood* vol 92, no 7, July 2007, pp 625-626

The 'Back to Sleep' campaign resulted in a dramatic decrease in sudden infant death syndrome (SIDS) worldwide. SIDS mortality has continued to decline (in New Zealand by 63% from 1993 to 2004), but the reason for this has not been explained. A postal survey found that the proportion of infants sleeping on their back has increased substantially (from 24.4% in 1992 to 72.3% in 2005), and this could account for the 39%-48% decrease in SIDS mortality. (9 references) (Author)

20070725-38*

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Survey of sleeping position recommendations for prematurely born infants on neonatal intensive care unit discharge.

Rao H, May C, Hannam S, et al (2007), European Journal of Pediatrics vol 166, no 8, August 2007, pp 809-811

INTRODUCTION: Prematurely born infants are at an increased risk of sudden infant death syndrome (SIDS), particularly when sleeping prone. Parents are strongly influenced in their choice of sleeping position for their infant by practitioners. The aim of this study was to determine the neonatal units' recommendations regarding the sleeping position for premature infants prior to and after discharge and ascertain whether there had been changes from those recorded in a survey performed in 2001-2002. **MATERIALS AND METHODS:** A questionnaire survey was sent to all 229 neonatal units in the United Kingdom; 80% responded. **RESULTS AND DISCUSSION:** The majority (83%) of units utilized the supine sleep position for infants at least 1-2 weeks prior to discharge, but after discharge, only 38% of the units actively discouraged prone sleeping and 17% additionally recommended side sleeping. Compared to the previous survey, significantly more units started infants with supine sleeping 1-2 weeks prior to discharge ($p < 0.0001$) and fewer recommended side sleeping after discharge ($p = 0.0015$). However, disappointingly, less actively discouraged prone sleeping after discharge ($p = 0.0001$). **CONCLUSION:** Recommendations regarding sleeping position for prematurely born infants after neonatal discharge by some practitioners remain inappropriate. Evidence-based guidelines are required as these would hopefully inform all neonatal units' recommendations. (Author)

20070717-2*

Reduce the risk of cot death. Foundation for the Study of Infant Deaths (2007), London: Foundation for the Study of Infant Deaths 2007. 2 pages

Leaflet aimed at parents which gives an overview of how to reduce the risk of sudden infant death. The leaflet has been published in conjunction with the dummy manufacturer MAM. (MB)

20070619-175

Infant sleep position, head shape concerns, and sleep positioning devices. Hutchison L, Stewart A, Mitchell E (2007), Journal of Paediatrics and Child Health vol 43, no 4, April 2007, pp 243-248

AIM: The Back To Sleep campaign has successfully promoted the use of the supine sleep position for infants, with a corresponding decrease in sudden infant death syndrome death rates around the world. The aim of this study was to survey current infant sleep position practices, concerns about plagiocephaly, and the use of sleep positioning devices. **METHODS:** A postal survey of 400 mothers of infants aged 6 weeks to 4 months was carried out in Auckland, New Zealand. **RESULTS:** Of the 278 (69.5%) respondents, the supine position was usually used in 64.8%, the prone position in 2.9%, with 32.3% using the side position or a combination of side and back positions. Approximately one-third had a concern about their infant's head shape, and 80% described practices to help prevent head deformation. Thirty per cent reported they had changed their infant's sleep position because of head shape concerns. A third of the mothers used some sort of positioning system to maintain the infant's sleep position. **CONCLUSIONS:** Anxieties about plagiocephaly, aspiration of vomit, and poor quality sleep are the main concerns that parents have about sleeping their infants on their backs. Further education is needed to inform mothers about these issues and to alleviate their fears. (30 references) (Author)

20070618-95

Aspiration of gastric contents in sudden infant death syndrome without cardiopulmonary resuscitation. Krous HF, Masoumi H, Haas EA, et al (2007), Journal of Pediatrics vol 150, no 3, March 2007, pp 241-246

OBJECTIVES: (1) To compare demographic profiles among sudden infant death syndrome (SIDS) infants with or without gastric aspiration, for whom cardiopulmonary resuscitation (CPR) had not been attempted; (2) to review the severity and potential significance of aspiration in those SIDS cases; and (3) to assess the risk of supine sleep position with regard to gastric aspiration. **STUDY DESIGN:** Retrospective review of records and microscopic slides for all postneonatal SIDS cases (29 to 365 days of age) accessioned by the San Diego County Medical Examiner from 1991 to 2004. **RESULTS:** Ten (14%) of 69 cases of SIDS infants who had not undergone CPR before autopsy revealed microscopic evidence of gastric aspiration into the distal lung; this group was not otherwise clinically or pathologically different from cases of SIDS infants without aspiration. Similar proportions of infants were found supine or prone, regardless of gastric

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aspiration. **CONCLUSIONS:** Gastric aspiration is not uncommon in infants dying of SIDS, and supine sleep position does not increase its risk. Gastric aspiration may be a terminal event that some infants, representing a subset of SIDS cases, cannot overcome. (37 references) (Author)

20070607-140

Why do ALTE infants not die in SIDS? Edner A, Wennborg M, Alm B, et al (2007), *Acta Paediatrica* vol 96, no 2, February 2007, pp 191-194

AIM: To compare known risk factors for sudden infant death syndrome (SIDS) amongst infants with apparent life threatening events (ALTE) with their matched controls, and ALTE infants who subsequently died of SIDS with infants surviving an ALTE. **METHODS:** Questionnaires with replies were obtained from 58 ALTE infants and 56 sex and age matched ALTE control infants. 244 SIDS cases and 868 SIDS controls were used as comparison. **RESULTS:** The incidence of ALTE was found to be 1.9% among SIDS controls, but 7.4% among infants who later on died of SIDS. The parents sought medical advice in 0.9% vs 3.7%. ALTE infants did not differ from their matched controls. In the ALTE group 13.3% of the survivors had the combination of prone sleeping and maternal smoking compared with 33.3% of those who became SIDS victims. **CONCLUSIONS:** Our results show some major differences between the ALTE infants and SIDS victims not supporting that these conditions belong to the same entity. However, we cannot exclude the possibility that there is a subpopulation of ALTE infants who did not die in SIDS due to that they were sleeping on the back and not exposed to nicotine. (12 references) (Author)

20070606-26

Recommendations for sudden infant death syndrome prevention: a discussion document. Mitchell EA (2007), *Archives of Disease in Childhood* vol 92, no 2, February 2007, pp 155-159

This article reviews the evidence for the current UK Department of Health recommendations for prevention of sudden infant death syndrome (SIDS) and suggests other factors that should be considered. The wording of the Department of Health recommendations for SIDS prevention has changed over the past 6 years, but the specific recommendations are largely consistent with the scientific evidence. The emphasis on thermal and illness factors and immunisation could be reduced. Bed sharing and sharing the parental bedroom should be given more emphasis. Two major recommendations need to be discussed in greater detail: (1) breast feeding and (2) pacifier use. Meta-analyses or reviews looking at each risk factor or a combination of risk factors are required. Further, it is recommended that a committee is established that reviews the recommendations and publishes the evidence that leads to these recommendations, as is done by the American Academy of Pediatrics Taskforce on Sudden Infant Death Syndrome. (69 references) (Author)

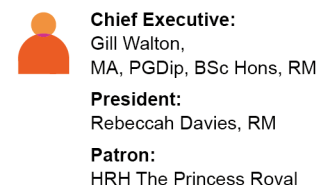
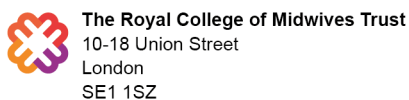
20070606-25

Do risk factors differ between explained sudden unexpected death in infancy and sudden infant death syndrome?

Vennemann M, Bajjanowski T, Butterfaß-Bahloul T, et al (2007), *Archives of Disease in Childhood* vol 92, no 2, February 2007, pp 133-136

Background: In Germany, 2910 infants died in 2004; for many infants the reason was clear, especially prematurity or congenital abnormalities. However, 394 babies die every year suddenly and unexpectedly. The cause may be immediately clear, but is often not obvious. **Aims:** (1) To describe the causes of explained sudden unexpected death in infancy (SUDI) and (2) to compare risk factors for sudden infant death syndrome (SIDS) and explained SUDI. **Methods:** A 3-year population-based case-control study in Germany, 1998-2001. **Results:** 455 deaths, of which 51 (11.2%) were explained. Most of these deaths were due to respiratory or generalised infections. The risk factors for SIDS and explained SUDI were remarkably similar except for sleep position and breast feeding. Prone sleeping position is a major risk factor for SIDS (adjusted odds ratio (OR) 7.16, 95% confidence interval (CI) 3.85 to 13.31) but not for explained SUDI (adjusted OR 1.71, 95% CI 0.25 to 11.57). Not being breast fed in the first 2 weeks of life is a risk factor for SIDS (adjusted OR 2.37, 95% CI 1.46 to 3.84) but not for explained SUDI (adjusted OR 0.39, 95% CI 0.08 to 1.83). **Conclusions:** Prone sleeping position is a unique risk factor for SIDS. Socioeconomic disadvantage and maternal smoking are risk factors for both SIDS and explained SUDI, and provide an opportunity for targeted intervention. (11 references) (Author)

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20070208-42

Effect of 'This Side Up' T-shirts on infant sleep position. Barnes-Josiah DL, Eurek P, Huffman S, et al (2007), Maternal and Child Health Journal vol 11, no 1, January 2007, pp 45-48

Objectives: To assess the impact of 'This Side Up' T-shirts on parental practices in Nebraska. Methods: A random sample of 3,210 Nebraska women who gave birth in 2004, stratified by race/ethnicity, was mailed a brief questionnaire on their receipt of a T-shirt and SIDS risk reduction materials at their birthing hospital, and on infant sleep position.

Results: Response rates were low (25.9%), ranging from 10.6% for Native American mothers to 46.4% for White mothers. Half (52.0%) had received a T-shirt and 71.6% had received SIDS information. Two-thirds (64.0%) reported that their infants slept on their backs; African-American and Hispanic infants were significantly less likely to back sleep. In univariate logistic regression models, African-American race, Hispanic ethnicity and maternal age 30-39 were significant negative predictors of back sleeping; White race and having received a SIDS brochure were positive predictors. In the fully controlled model African American and Asian race and Hispanic ethnicity were negative predictors of back sleeping; neither receiving SIDS information nor the infant T-shirt was significant. Effects of maternal age and a SIDS informational brochure appeared in models stratified by race/ethnicity. Conclusions: In these data, receiving an infant T-shirt was not related to how mothers placed their infants to sleep. Additional research is needed on effective methods of delivering targeted counseling and promoting safe sleep practices among families, particularly among racial and ethnic subgroups. (13 references) (Author)

20070126-117*

What are safe sleeping arrangements for infants?. Adler MR, Hyderi A, Hamilton A, et al (2006), Journal of Family Practice vol 55, no 12, December 2006, pp 1083-1087

Non-supine sleep position and parental tobacco use are known risk factors for sudden infant death syndrome (SIDS). Recent studies show that co-sleeping (bed sharing) slightly increases the overall risk of SIDS (strength of recommendation [SOR]: B) and is greatest for infants less than 11 weeks old (SOR: B). The relationship between bed sharing and SIDS is strongest for infants whose parents use tobacco (SOR: B). Infants who sleep in a room separate from their caregivers or on a couch or an armchair are at increased risk for SIDS (SOR: B). Using bedding accessories such as duvets or pillows may increase an infant's risk of SIDS (SOR: B). (Author)

20070104-61

Risk reduction and sudden infant death syndrome. Gurbutt D, Gurbutt R (2007), Community Practitioner vol 80, no 1, January 2007, pp 24-27

This article explores the concepts of 'risk' and 'risk reduction' in relation to sudden infant death syndrome (SIDS) and the implications for practice. Risk reduction is a term utilised in public health, which is usually linked to evidence-based outcomes. The Back to Sleep campaign is a high profile initiative which seeks to raise awareness of risk factors relating to SIDS and is largely credited with contributing to a significant reduction in the incidence of SIDS in the UK. Misunderstandings may occur between the terms 'risk reduction' and 'prevention' of health conditions and parents may feel that one equates to the other. There are also tensions which are inherent in defining risk in the context of SIDS. Certain measures may become 'shorthand' for a range of interventions and contributing factors. The practice of offering additional monitoring as support may reinforce a (mis)under-stand about risk reduction and SIDS. There are implications for practice regarding how health professionals approach this issue, explain the guidelines and offer support. A clearer understanding of risk reduction would potentially enable bereaved parents to articulate their experiences without becoming too self critical in questioning their own consistent adherence to the accepted guidelines. (17 references) (Author)

20070102-6

Sudden infant death syndrome: risk factors for infants found face down differ from other SIDS cases. Thompson JMD, Thach BT, Becroft DMO, et al (2006), Journal of Pediatrics vol 149, no 5, November 2006, pp 630-633

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OBJECTIVE: To test the hypothesis that infants with sudden infant death syndrome (SIDS) found face down (FD) would have SIDS risk factors different from those found in other positions (non-face-down position, NFD). **STUDY DESIGN:** We used the New Zealand Cot Death Study data, a 3-year, nationwide (1987 to 1990), case-control study. Odds ratios (univariate and multivariate) for FD (n = 154) and NFD SIDS (n = 239) were estimated separately, and statistical differences between the two groups were assessed. **RESULTS:** Of 12 risk factors for SIDS, there were 8 with a statistically significant difference between FD and NFD infants. After adjustment for the potential confounders, younger infant age, Maori ethnicity, low birth weight, prone sleep position, use of a sheepskin, and pillow use were all associated with a greater risk of SIDS in the FD than the NFD group. Sleeping during the nighttime, maternal smoking, and bed-sharing were associated with a risk of SIDS only in the NFD group. Pacifier use was associated with a decreased risk for SIDS only in the NFD group, whereas being found with the head covered was associated with a decreased risk for SIDS for the FD group. **CONCLUSIONS:** Infants with SIDS in the FD position appear to be a distinct subgroup of SIDS. These differences in risk factors provide clues to mechanisms of death in both SIDS subtypes. (27 references) (Author)

20061215-81

Apparently life threatening events in infant car safety seats. Tonkin SL, Vogel SA, Bennet L, et al (2006), BMJ vol 333, no 7580, 9 December 2006, pp 1205-1206

Young infants should not be left unattended to sleep in standard car safety seats. (14 references) (Author)

20061109-29

Cot death: the benefits and dangers of health promotion. Webb GP (2006), British Journal of Midwifery vol 14, no 11, November 2006, p 670

Comments that the rise in cot deaths in the 1970s and 1980s was due to misguided advice from health professionals to parents to place their babies on their fronts to sleep. (8 references) (MB)

20061107-24

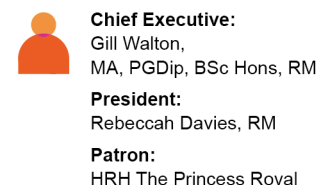
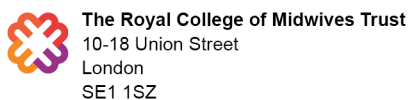
Increased incidence of apparently life-threatening events due to supine position. Maggio ABR, Schappi MG, Benkebil F, et al (2006), Paediatric and Perinatal Epidemiology vol 20, no 6, November 2006, pp 491-496

Gastro-oesophageal reflux (GOR) has a high prevalence in infancy. The supine position is among numerous aggravating factors. The exact relationship between GOR and apparently life-threatening events (ALTE) is not clear, although it has been repeatedly investigated. In 1992 the worldwide Back to Sleep campaign was implemented, which had a dramatic effect on the incidence of sudden infant death syndrome (SIDS) with a drop of 50%. Although the vast majority of children now sleep on their back, the effect of this position on ALTE has not been studied. In this retrospective study, we aim to define the potential association between GOR and ALTE. We hypothesise that the incidence of ALTE has increased since the 1992 recommendation. No bias in the population's selection was introduced, as our centre is the only one for paediatric emergencies in the county. A total of 107 children presenting with ALTE were identified during the study period (1987-99). A pH study was performed in the 75 patients presenting with ALTE in the last 6 years of the study (1994-99). Neither morbidity nor mortality was noted in a long-term 4-year follow-up. Our present results show that the frequency of ALTE increased sevenfold ($P < 0.005$) between 1992 and 1999. The ALTE episodes took place significantly more often in the post-prandial period. The prevalence of GOR was much higher in patients presenting with ALTE (nearly 75%) when compared with the general population. Furthermore, on medical treatment for GOR, very few patients presented with a second episode of ALTE. Consequently it is thought that GOR and ALTE are linked and that ALTE patients would benefit from GOR treatment. The worldwide marked decrease in SIDS since the implementation of the supine position possibly masks the negative effect of an increase in ALTE. (34 references) (Author)

20061106-36

NICU nurses' knowledge and discharge teaching related to infant sleep position and risk of SIDS. Aris C, Stevens TP,

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Infants requiring neonatal intensive care are often placed prone during their acute illness. After hospital discharge the American Academy of Pediatrics (AAP) recommends supine sleep position to reduce the risk of Sudden Infant Death Syndrome (SIDS). Little is known about nursing knowledge and practice regarding best sleep positions for infants as they transition from neonatal intensive care to home. **OBJECTIVE:** To explore and describe neonatal intensive care unit (NICU) nurses' knowledge and practice in the NICU, and to determine the content of parent instruction regarding infant sleep position at discharge. **STUDY DESIGN:** This survey was conducted in 2 phases. In Phase I, a questionnaire was designed and completed by 157 neonatal nurses currently practicing in Level III and IV NICUs in the state of New York. After content analysis of responses and item revisions, a panel of experts reviewed questionnaire items. Phase II involved completion of the final questionnaire by 95 NICU nurses in 4 additional hospitals. The combined results of Phase I and II are reported. **RESULTS:** Of 514 questionnaires distributed, 252 (49%) were completed and analyzed. During NICU hospitalization, nurse respondents identified prone position as the best general sleep position for preterm infants (65%) followed by either prone or side-lying (12%). The nurses' assessment of the infants' readiness for supine sleep position at the time of NICU discharge varied. Most nurses responded that preterm infants were ready to sleep supine anytime (29%), close to discharge (13%), when maintaining their body temperature in an open crib (25%), between 34 to 36 weeks postmenstrual age (PMA) (15%), after 37 weeks PMA (13%), and when the infant's respiratory status was stable (6%). Typical sleep positions chosen for full-term infants in the NICU were supine (40%), side or supine (30%), all positions (18%), side (8%), prone or side (3%), and prone (1%). Frequently cited reasons to place full-term infants to sleep prone were: reflux (45%), upper airway anomalies (40%), respiratory distress (29%), inconsolability (29%), and to promote development (17%). At NICU discharge, 52% of nurses instructed parents to place their infants in the supine position for sleep. The most common nonsupine sleep positions recommended by nurses at discharge were either supine or side (38%), and exclusive side positioning (9%). **CONCLUSIONS:** Nearly 95% of respondents identified a nonsupine sleep position as optimal for hospitalized preterm infants. Further, only 52% of neonatal nurses routinely provide discharge instructions that promote supine sleep positions at home. This study suggests that nursing self-reports of discharge teaching practices are inconsistent, and in some cases in direct conflict with the national 'Back to Sleep' recommendations, which emphasize that the supine position is the safest position for healthy full-term and preterm infants after hospital discharge. (41 references) (Author)

20061106-23*

Trying to prevent cot deaths gives babies flat heads. Maguire S (2006), *Times* 5 November 2006. 2 pages

News item reporting on the increasing number of 'flat-headed' infants in Ireland, thought to be a consequence of the adoption of supine sleeping recommendations to protect against cot deaths. The article discusses different therapies available for treating this condition. (CR)

20061026-42

SIDS risk factors and factors associated with prone sleeping in Sweden. Alm B, Mollborg P, Erdes L, et al (2006), *Archives of Disease in Childhood* vol 91, no 11, November 2006, pp 915-919

OBJECTIVE: To compare the current prevalence of risk factors for sudden infant death syndrome (SIDS) in Sweden with a decade earlier, and assess factors associated with prone sleeping. **METHODS:** The results of a cohort study (Infants of Western Sweden) and a population based case-control study (Nordic Epidemiological SIDS Study) were examined. Subjects were 5600 healthy 6 month old infants born in 2003 in the Western Sweden region and 430 healthy Swedish infants born between 1991 and 1995. **RESULTS:** Prone sleeping decreased from 31.8% to 5.6% and supine sleeping increased from 35.3% to 47.3%. Side or side/supine sleeping increased from 25.2% to 43.8%. Maternal smoking during pregnancy decreased from 23.5% to 9.5%. The risk for prone sleeping increased if the mother was unemployed (OR 2.4, 95% CI 1.5 to 4.0), if she was a heavy smoker in the third trimester (OR 44.1, 95% CI 1.6 to 1199.6), and if the child was irritable (OR 2.5, 95% CI 1.3 to 5.1), shared a bedroom with siblings (OR 2.6, 95% CI 1.0 to 6.6), or never used a dummy (OR 3.2, 95% CI 1.9 to 5.4). **CONCLUSIONS:** Parents have complied with advice to prevent SIDS given at infant welfare centres for the last 10 years. A change in the preferred sleeping position from side variants to exclusively supine, and reducing the number of pregnant women smoking may be beneficial. Use of a prone sleeping position

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was associated with maternal employment status, maternal smoking, temperament of the child, dummy use, and sharing a bedroom with siblings. (20 references) (Author)

20061002-30

New knowledge, new insights, and new recommendations. Fleming P, Blair P, McKenna J (2006), Archives of Disease in Childhood vol 91, no 10, October 2006, pp 799-801

Scientific controversy and media hype in unexpected infant deaths. The fall in numbers of unexpected infant deaths that followed 'Back to Sleep' intervention campaigns in many countries in the early 1990s has been one of the striking achievements of applied epidemiology in the field of child health in modern western society. The possibility that other modifiable risk factors might be amenable to similar interventions in this mysterious group of conditions has led to multiple studies of the epidemiology of the residual unexpected infant deaths. Having been central participants in the implementation of the 'Back to Sleep' campaigns in many countries, the media remain acutely alert to the possibility of any new or significant developments in this field. Thus any public pronouncements by professional organisations must be made in the knowledge that they will attract intense media attention. (27 references) (LB)

20060920-46

Sleep on the back. Play on the front. Playtime is tummytime.. Anon (2006), Foundation for the Study of Infant Deaths (FSID) News July 2006, pp 4-5

This year's Baby Safety Week launched a new campaign with a tummy theme. One in five babies are at increased risk of cot death because they are not slept on the back. (Author)

20060913-46*

Barriers to following the supine sleep recommendation among mothers at four centers for the Women, Infants, and Children Program. Colson ER, Levenson S, Rybin D, et al (2006), Pediatrics vol 118. no 2, August 2006, p 767

OBJECTIVES: The risk for sudden infant death syndrome in black infants is twice that of white infants, and their parents are less likely to place them in the supine position for sleep. We previously identified barriers for parents to follow recommendations for sleep position. Our objective with this study was to quantify these barriers, particularly among low-income, primarily black mothers. **DESIGN/METHODS:** We conducted face-to-face interviews with 671 mothers, 64% of whom were black, who attended Women, Infants, and Children Program centers in Boston, Massachusetts, Dallas, Texas, Los Angeles, California, and New Haven, Connecticut. We used univariate analyses to quantify factors that were associated with choice of sleeping position and multivariate logistic regression to calculate adjusted odds ratios for the 2 outcome variables: 'ever' (meaning usually, sometimes, or last night) put infant in the prone position for sleep and 'usually' put infant in the supine position to sleep. **RESULTS:** Fifty-nine percent of mothers reported supine, 25% side, 15% prone, and 1% other as the usual position. Thirty-four percent reported that they ever placed infants in the prone position. Seventy-two percent said that a nurse, 53% a doctor, and 38% a female friend or relative provided source of advice. Only 42% reported that a nurse, only 36% a doctor, and only 15% a female friend or relative recommended the supine position for sleep. When a female friend or relative recommended the prone position, mothers were more likely ever to place their infants in the prone position and less likely usually to choose supine compared with those who received no advice from friends or relatives. When a doctor or a nurse recommended a nonsupine position, the mothers were less likely to choose supine compared with those who received no advice from a doctor or a nurse. Mothers who trusted the opinion of a doctor or a nurse about infant sleeping position were more likely to place their infants in the supine position. Half of the mothers believed that infants were more likely to choke when supine, and they were less likely to place their infants supine. Mothers who believed that infants are more comfortable in the prone position (36%) were more likely to place their infants prone. Twenty-nine percent believed that having their infants sleep with an adult helps prevent sudden infant death syndrome, and only 43% believed that sudden infant death syndrome is related to sleeping position. **CONCLUSIONS:** We identified specific barriers to placing infants in the supine position for sleep (lack of or wrong advice, lack of trust in providers, knowledge and concerns about safety and comfort) in low-income, primarily black mothers that should

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be considered when designing interventions to get more infants onto their back for sleep.

(Only the abstract is published in the print journal. Full article available online at

<http://pediatrics.org/cgi/doi/10.1542/peds.2005-2517> (Author)

20060905-32

Safe sleeping promoted protective arousal responses. Horne RSC (2006), *Paediatrics and Child Health* vol 11, suppl A, May/June 2006, pp 4A-6A

Although many different factors that increase the risk for sudden infant death syndrome (SIDS) have been identified, the mechanism whereby SIDS risk is increased remains uncertain. The present paper reports on the effects the factors known to increase and decrease SIDS risk have on infant arousability from sleep. Studies were carried out in healthy, normal infants at three different ages over the first six months of life, in a sleep laboratory. It was found that arousal from sleep is depressed in quiet sleep compared with active sleep, and that prone sleeping, maternal smoking, prematurity and recent infection depress arousal responses, while breastfeeding increases arousability and immunization has no effect. These studies support the hypothesis that arousal from sleep may be compromised in SIDS victims. (19 references) (Author)

20060904-20

Effect of sleeping position on nasal patency in newborns. Olarinde O, Banerjee AR, O'Callaghan C (2006), *Archives of Disease in Childhood: Fetal and Neonatal Edition* vol 91, no 5, September 2006, pp F365-366

Sleeping posture has been implicated in the pathophysiology of sudden infant death syndrome. The effect of supine and lateral sleeping positions on nasal patency was investigated using acoustic rhinometry in 11 healthy newborns. The implications of the findings in sudden infant death syndrome are discussed. (8 references) (Author)

20060824-49

Effect of prone and supine position on sleep, apneas, and arousal in preterm infants. Bhat RY, Hannam S, Pressler R, et al (2006), *Pediatrics* vol 118, no 1, July 2006, pp 101-107

OBJECTIVE: Prematurely born compared with term born infants are at increased risk of sudden infant death syndrome, particularly if slept prone. The purpose of this work was to test the hypothesis that preterm infants with or without bronchopulmonary dysplasia being prepared for neonatal unit discharge would sleep longer and have less arousals and more central apneas in the prone position. **METHODS:** This was a prospective observational study in a tertiary NICU. Twenty-four infants (14 with bronchopulmonary dysplasia) with a median gestational age of 27 weeks were studied at a median postconceptional age of 37 weeks. Video polysomnographic recordings of 2-channel electroencephalogram, 2-channel electro-oculogram, nasal airflow, chest and abdominal wall movements, limb movements, electrocardiogram, and oxygen saturation were made in the supine and prone positions, each position maintained for 3 hours. The duration of sleep, sleep efficiency (total sleep time/total recording time), and number and type of apneas, arousals, and awakenings were recorded. **RESULTS:** Overall, in the prone position, infants slept longer, had greater sleep efficiency (89.5% vs 72.5%), and had more central apneas (median: 5.6 vs 2.2), but fewer obstructive apneas (0.5 vs 0.9). The infants had more awakenings (9.7 vs 3.5) and arousals per hour (13.6 vs 9.0) when supine. There were similar findings in the bronchopulmonary dysplasia infants. **CONCLUSIONS:** Very prematurely born infants studied before neonatal unit discharge sleep more efficiently with fewer arousals and more central apneas in the prone position, emphasizing the importance of recommending supine sleeping after neonatal unit discharge for prematurely born infants. (33 references) (Author)

20060824-46

State child care regulations regarding infant sleep environment since the Healthy Child Care America-Back to Sleep campaign. Moon RY, Kotch L, Aird L (2006), *Pediatrics* vol 118, no 1, July 2006, pp 73-83

BACKGROUND: Despite overall decreases in sudden infant death syndrome deaths and prone sleeping, the proportion of sudden infant death syndrome deaths that occurs in child care settings has remained constant at approximately

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20%. In 2003, the American Academy of Pediatrics' Healthy Child Care America program launched its own Back to Sleep campaign to promote the Back to Sleep message for those who care for young children. OBJECTIVES: The purpose of this study was to evaluate the effectiveness of the first 2 years of the Healthy Child Care America-Back to Sleep campaign in improving child care regulations by assessing the inclusion of the elements of a safe sleep environment in the individual state regulations for child care centers and family child care homes. METHODS: We examined regulations available in October 2005 for licensed child care centers and family child care homes in the 50 states and the District of Columbia for specific regulations pertaining to (1) sudden infant death syndrome risk-reduction training for child care providers, (2) infant sleep position, (3) crib safety, (4) bedding safety, (5) smoking, and (6) provision of information about sleep positioning policies and arrangements to parents before the infant is enrolled in child care. RESULTS: Since 2003, when the Healthy Child Care America-Back to Sleep campaign began, 60 of the 101 state regulations for either child care centers or FCCHs have been revised. More than half of these regulations written since 2003 mandate a nonprone sleep position and restrictions on soft bedding in the crib, and the change in these regulations since 2003 is statistically significant. However, of the 101 existing state regulations, only 49 require that infants sleep nonprone, 18 mandate sudden infant death syndrome training for child care providers, 81 have ≥ 1 crib safety standard, and 43 restrict soft bedding in the crib. Only 4 regulations require that parents be provided with sleep policy information. CONCLUSIONS: The initial 2 years of the Healthy Child Care America Back to Sleep campaign have been successful in promoting safe infant sleep regulations. Efforts must continue so that safe sleep regulations exist in all jurisdictions. (123 references) (Author)

20060621-47

Where should babies sleep?. Mace S (2006), Community Practitioner vol 79, no 6, June 2006, pp 180-183

An average of six babies die unexpectedly each week. Sudden infant death syndrome is the predominant cause but many deaths are recorded as unascertained. Medical experts continue to research the causes of these infant deaths, and advice to parents is constantly being evaluated and revised in an attempt to reduce the numbers even further. Bed sharing or co-sleeping is a topic that triggers debate and conflict of advice between health professionals, which may leave parents confused. Bed sharing is known to be dangerous when the mother smokes but there are other factors which are also dangerous and need to be considered before an informed decision is made. This article reviews some of the most relevant research in order to give health professionals the knowledge needed to aid parents in making their decision. Three main areas were studied because of their relevance to bed-sharing and sudden infant death syndrome. These were sleep position, smoking and alcohol consumption and breastfeeding. Recent concerns highlighting sofa sleeping are also considered. (22 references) (Author)

20060607-3

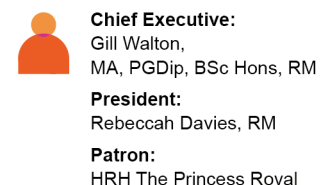
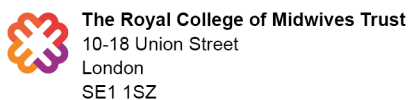
Fewer spontaneous arousals during prone sleep in preterm infants at 1 and 3 months corrected age. Ariagno RL, van Liempt S, Mirmiran M (2006), Journal of Perinatology vol 26, no 5, May 2006, pp 306-312

OBJECTIVE: This study was performed to determine if there were fewer spontaneous arousals in prone sleep than in supine sleep. STUDY DESIGN: Home polysomnography/video recordings were done during daytime naps in 14 preterm infants: four at corrected age of 1 month, nine at both 1 and 3 months, and one only at 3 months. A body movement lasting 3 to 60 s during sleep was used as an indicator of spontaneous arousals. RESULTS: Most arousals had a heart rate increase and change in respiration pattern. The mean duration of the intervals between successive arousals in active and quiet sleep was significantly longer in prone at 1 and 3 months of age. The duration of arousals was significantly shorter at 3 months corrected age compared with one month corrected age during active sleep. The duration of arousals was shorter during quiet sleep at one month compared with active sleep. CONCLUSION: There were fewer spontaneous arousals that is, longer interval between successive arousals in prone, which may, in part, explain the increase in risk of Sudden Infant Death Syndrome. (38 references) (Author)

20060605-28

One in five babies at increased risk of cot death. (2006), Practising Midwife vol 9, no 6, June 2006, p 11

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News item reporting on findings from a survey conducted by the Foundation for the Study of Infant Deaths that has found that more than a fifth of mothers do not always put newborn babies to sleep on their backs due to fears about 'flat head syndrome'. (MB)

20060516-41*

Parents ignoring cot death advice. BBC News (2006), BBC News 10 May 2006. 2 pages

A fifth of babies are being put at risk of cot death, often due to concerns over 'flat head syndrome', experts say.

(Author)

20060411-77

Prevention of sudden infant death syndrome (SIDS) due to an active health monitoring system 20 years prior to the public 'Back to Sleep' campaigns. Vennemann M, Fischer D, Jorch G, et al (2006), Archives of Disease in Childhood vol 91, no 4, April 2006, pp 324-326

BACKGROUND: Before reunification, the post-neonatal mortality rate was lower in East Germany than in West Germany. Moreover, the incidence of SIDS (sudden infant death syndrome) was much lower in the East. METHODS: Mortality data on sudden infant death syndrome (SIDS) from West and East Germany since 1980 as well as post-neonatal mortality data for both states since 1970 were examined. 95% Confidence intervals were calculated for the rates. Witnesses from the former East Germany who were involved at the time were also interviewed and archives were searched. RESULTS: We found that as early as 1972 active monitoring of infant and child mortality rates in East Germany had shown that the prone sleeping position was dangerous for infants: the post-neonatal mortality rate was approximately 1 per 1000 live births lower in East than in West Germany during the 20 years before reunification. In contrast, in the West, prone sleeping was only discovered to be a risk factor for SIDS in the early 1990s. CONCLUSIONS: Active monitoring is an effective tool in the early detection of risk factors and serves to prevent unnecessary deaths. (10 references) (Author)

20060314-5

First-time mothers' selection of infant supine sleep positioning. Goetter MC, Stepan MBF (2005), Journal of Perinatal Education vol 14, no 4, Fall 2005, pp 16-23

The incidence of Sudden Infant Death Syndrome (SIDS) has decreased dramatically since the inception of the 'Back to Sleep' campaign initiated by the American Academy of Pediatrics in 1992. However, that decrease has leveled off and many new parents cease to follow the recommendation to place their infants in the supine position for sleep between 1 and 3 months of age, the peak age for the incidence of SIDS. Shortened hospital stays for new mothers and the overwhelming amount of required patient teaching dictate the need to find the best method of instruction. The purpose of this study was to determine if a one-on-one teaching intervention improved the effectiveness of patient education and led to an increase in the desired behavior of placing the infant to sleep in the supine position. A quantitative experimental approach was used to examine the difference in compliance of supine infant positioning. Participants were drawn from a convenience sample of 61 primiparous women between the ages of 18 and 35 years with random assignment to either the experimental or control group. Compared to mothers in the control group, mothers in the experimental group demonstrated greater compliance in selecting supine sleep position in the first week home from the hospital and on the day of follow-up 6 weeks later. However, no difference in 'usual position' was reported at 6 weeks and for the night previous to follow-up. (13 references) (Author)

20060303-25

Stop SIDS - sleeping solitary supine, sucking soother, stopping smoking substitutes. Alm B, Lagercrantz H, Wennergren G (2006), Acta Paediatrica vol 95, no 3, March 2006, pp 260-262

The recognition of prone sleeping and maternal smoking as modifiable risk factors for sudden infant death syndrome (SIDS), has drastically decreased SIDS incidence. However, during the last years other factors have become necessary to consider to further reduce the risk of SIDS. Side sleeping implies a greater risk than supine sleeping but is still

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common. Bed sharing may increase the risk of SIDS, while use of a pacifier seems to be protective. Replacement of maternal smoking with nicotine substitutes is not harmless. Conclusion: To further reduce the risk of SIDS, exclusive supine sleeping should be encouraged and side sleeping discouraged. When the breast-feeding is established, a pacifier can very well be used at bedtime. Bed sharing can increase the risk of SIDS if the infant is below 2-3 months of age, especially if the mother is a smoker. Any nicotine use should be avoided during pregnancy and breast-feeding. (23 references) (Author)

20060221-31

Sudden infant death syndrome and sleeping position in pre-term and low birth weight infants: an opportunity for targeted intervention. Blair PS, Platt MW, Smith IJ, et al (2006), Archives of Disease in Childhood vol 91, no 2, February 2006, pp 101-106

AIMS: To determine the combined effects of sudden infant death syndrome (SIDS) risk factors in the sleeping environment for infants who were 'small at birth' (pre-term (<37 weeks), low birth weight (<2500 g), or both).
METHODS: A three year population based, case-control study in five former health regions in England (population 17.7 million) with 325 cases and 1300 controls. Parental interviews were carried out after each death and reference sleep of age matched controls. **RESULTS:** Of the SIDS infants, 26% were 'small at birth' compared to 8% of the controls. The most common sleeping position was supine, for both controls (69%) and those SIDS infants (48%) born at term or > or =2500 g, but for 'small at birth' SIDS infants the commonest sleeping position was side (48%). The combined effect of the risk associated with being 'small at birth' and factors in the infant sleeping environment remained multiplicative despite controlling for possible confounding in the multivariate model. This effect was more than multiplicative for those infants placed to sleep on their side or who shared the bed with parents who habitually smoked, while for those 'small at birth' SIDS who slept in a room separate from the parents, the large combined effect showed evidence of a significant interaction. No excess risk was identified from bed sharing with non-smoking parents for infants born at term or birth weight > or =2500 g. **CONCLUSION:** The combined effects of SIDS risk factors in the sleeping environment and being pre-term or low birth weight generate high risks for these infants. Their longer postnatal stay allows an opportunity to target parents and staff with risk reduction messages. (24 references) (Author)

20060126-32

Impacting infant head shapes. Hummel P, Fortado D (2005), Advances in Neonatal Care vol 5, no 6, December 2005, pp 329-340

Infant sleep position impacts the development of head shape. Changes in infant sleep position, specifically the movement toward supine sleep, have led to a redefinition of normal head shape for infants in the United States. Historically, a dolichocephalic (elongated) head shape was the norm. Currently the norm has changed to a more brachycephalic (shorter and broader) shape. Since the American Academy of Pediatrics' Back to Sleep Campaign, the incidence of positional plagiocephaly has increased dramatically with a concurrent rise in the incidence of torticollis. Infants who require newborn intensive care, particularly premature infants, are more prone to positional plagiocephaly and dolichocephaly. Both can be prevented or minimized by proper positioning. The infant with an abnormal head shape requires careful evaluation; treatment varies according to the etiology. Craniosynostosis, a less common but pathological etiology for plagiocephaly, should be considered in the diagnostic process. Successful treatment of positional plagiocephaly and dolichocephaly includes systematic positioning changes to overcome the mechanical forces of repetitive positioning, physical and/or occupational therapy to treat underlying muscle or developmental challenges, and in some cases, molding helmet therapy. (54 references) (Author) Editor's view: This is one of the articles where our new approach to comment or abstract applies. This is a descriptive article about the problems faced by some preterm infants which, if not corrected, will have a life-long effect on their appearance. The article is packed with information, relevant references to anatomy and physiology and links to clinical care scenarios and treatments, many of which are supported by clear and useful illustrations. There is a fascinating account of the use of head moulding helmet therapy and its effectiveness when used appropriately and early enough in infancy. The article should be of interest to those involved in paediatric care and in the follow-up of neonates, particularly where there have been periods of intensive therapy. The journal, Advances in Neonatal Care, is fairly accessible but if not available to you locally, you can obtain a copy from MIDIRS through our photocopy service. Although this is an

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American publication, I think it has much to offer all those interested in a more holistic approach to neonatal care and could also enhance the advice for parents whose babies might be affected by this condition.

Sally Marchant, editor. © MIDIRS 2006.

20060106-45

Use of a dummy (pacifier) during sleep and risk of sudden infant death syndrome (SIDS): population based case-control study. Li DK, Willinger M, Petitti DB, et al (2006), BMJ vol 332, no 7532, 7 January 2006, pp 18-21

OBJECTIVES: To examine the association between use of a dummy (pacifier) during sleep and the risk of sudden infant death syndrome (SIDS) in relation to other risk factors. **DESIGN:** Population based case-control study. **SETTING:** Eleven counties in California. **PARTICIPANTS:** Mothers or carers of 185 infants whose deaths were attributed to SIDS and 312 randomly selected controls matched for race or ethnicity and age. **MAIN OUTCOME MEASURE:** Use of a dummy during sleep determined through interviews. **RESULTS:** The adjusted odds ratio for SIDS associated with using a dummy during the last sleep was 0.08 (95% confidence interval 0.03 to 0.21). Use was associated with a reduction in risk in every category of sociodemographic characteristics and risk factors examined. The reduced risk associated with use seemed to be greater with adverse sleep conditions (such as sleeping prone or on side and sleeping with a mother who smoked), although the observed interactions were not significant. For example, infants who did not use a dummy and slept prone or on their sides (v on their back) had an increased risk of SIDS (2.61, 1.56 to 4.38). In infants who used dummies, there was no increased risk associated with sleeping position (0.66, 0.12 to 3.59). While cosleeping with a mother who smoked was also associated with increased risk of SIDS among infants who did not use a dummy (4.5, 1.3 to 15.1), there was no such association among those who did (1.1, 0.1 to 13.4). **CONCLUSIONS:** Use of a dummy seems to reduce the risk of SIDS and possibly reduces the influence of known risk factors in the sleep environment. (9 references) (Author)

20051219-3

Putting babies 'back to sleep': Can we do better? Raydo LJJ, Reu-Donlon CM (2005), Neonatal Network: the Journal of Neonatal Nursing vol 24, no 6, November/December 2005, pp 9-16

The American Academy of Pediatrics first recommended in 1992 that infants be placed on their backs for sleep to reduce the risk for sudden infant death syndrome (SIDS). Since that time, there has been a national drop in the incidence of SIDS of more than 40 per cent. Unfortunately, many parents and other caregivers are still receiving inconsistent information and observing varying practices regarding infant sleep position.


This article emphasizes the role of the health care professional in both teaching and modeling these potentially lifesaving practices consistently and unambiguously. Available literature is reviewed regarding attitudes and beliefs about infant sleep positioning, and specific concerns are addressed in order to allow for better tailoring of educational programs. (41 references) (Author)

20051213-4*


Case-control study of sudden infant death syndrome in Lithuania, 1997-2000. Bubnaitien V, Ramune K, Rimantas K (2005), BMC Pediatrics vol 5, no 41, 13 November 2005. 18 pages

Background: To identify risk factors for sudden infant death syndrome relevant in Lithuania. **Methods:** A nationwide case-control study surveying parents of 35 infants who died from sudden infant death syndrome during the period of 1997-2000 and parents of 145 control infants matched with SIDS infants for date of birth and for region of birth was carried out. **Results:** Deaths incidence was greater in the warm period (60%) vs. cold period (40%). Prone and side sleeping positions both carried no increased risk of sudden infant death syndrome compared with supine because of a rare prone sleeping (4.1% of controls vs. 0% of dead infants) and more prevalent side than supine sleeping (84.8% of controls vs. 94.3% of dead infants) in the controls as well as the cases. Bed sharing for the whole night as a risk factor for sudden infant death syndrome has not been confirmed, either, as bed sharing was common only for the controls (13.8% of controls vs. 0% of dead infants). Routine sleeping environment factors such as heavy wrapping (≥ 4 togs) of an infant (odds ratio 8.49; 95% confidence interval 2.38 to 30.32), sleeping in a bassinet (4.22; 1.16 to 15.38) and

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maternal factors such as maternal education ≤ 12 years (4.48; 1.34 to 14.94), unplanned pregnancy (5.22; 1.49 to 18.18) and ≥ 2 previous live births (3.90; 1.00 to 15.10) were significantly associated with sudden infant death syndrome on multivariate analysis. Conclusion: The results of this first population-based case-control study have shed some light on the epidemiology of the syndrome in Lithuania. Although the mortality of sudden infant death syndrome in Lithuania is not high, it might be lowered moreover by public informing about sudden infant death syndrome and related risk factors. Special attention must be paid to mothers with low education on potentially modifiable risk factors such as routine heavy wrapping of an infant during sleep, routine sleeping in a bassinet and unplanned pregnancy. The full text of this article is available at <http://www.biomedcentral.com/1471-2431/5/41>(18 references) (Author)

20051212-26

The changing concept of sudden infant death syndrome: diagnostic coding shifts, controversies regarding the sleeping environment, and new variables to consider in reducing risk. American Academy of Pediatrics. Task Force on Sudden Infant Death Syndrome (2005), Pediatrics vol 116, no 5, November 2005, pp 1245-1255


There has been a major decrease in the incidence of sudden infant death syndrome (SIDS) since the American Academy of Pediatrics (AAP) released its recommendation in 1992 that infants be placed down for sleep in a nonprone position. Although the SIDS rate continues to fall, some of the recent decrease of the last several years may be a result of coding shifts to other causes of unexpected infant deaths. Since the AAP published its last statement on SIDS in 2000, several issues have become relevant, including the significant risk of side sleeping position; the AAP no longer recognizes side sleeping as a reasonable alternative to fully supine sleeping. The AAP also stresses the need to avoid redundant soft bedding and soft objects in the infant's sleeping environment, the hazards of adults sleeping with an infant in the same bed, the SIDS risk reduction associated with having infants sleep in the same room as adults and with using pacifiers at the time of sleep, the importance of educating secondary caregivers and neonatology practitioners on the importance of 'back to sleep,' and strategies to reduce the incidence of positional plagiocephaly associated with supine positioning. This statement reviews the evidence associated with these and other SIDS-related issues and proposes new recommendations for further reducing SIDS risk. (137 references) (Author)

20051209-10


Stable prevalence but changing risk factors for sudden infant death syndrome in child care settings in 2001. Moon RY, Sprague BM, Patel KM (2005), Pediatrics vol 116, no 4, October 2005, pp 972-977

OBJECTIVE: A total of 20% of sudden infant death syndrome (SIDS) cases in the 1990s occurred in child care settings. This is much higher than the 8% expected from Census Bureau data. Factors that were associated with child care SIDS included older age; white race; older, more educated mothers; and unaccustomed prone position. Since these findings, much emphasis has been placed on promoting a safe sleep environment in child care. The objectives of this study were to determine the proportion of SIDS occurring in child care in 2001 and to assess risk factors for SIDS in child care. **METHODS:** We conducted a retrospective review of all SIDS deaths that occurred in 2001 in 13 US states. Information regarding demographics, SIDS risk factors, and child care arrangements were collected and analyzed. Deaths that occurred in child care were compared with deaths that occurred during parental care. **RESULTS:** Of 480 deaths, 79 (16.5%) occurred in child care settings. Of these child care deaths, 36.7% occurred in family child care homes, 17.7% occurred in child care centers, 21.3% occurred in relative care, and 17.7% occurred with a nanny/babysitter at home. Infants in child care were more likely to be older and to die between the hours of 8 am and 4 pm and less likely to be exposed to secondhand smoke. There was no difference in usual, found, or placed sleep position between child care and home deaths. Approximately one half of the infants who died of SIDS in both settings were found prone, and 20% of deaths in both settings were among infants who were unaccustomed to prone sleep. **CONCLUSIONS:** The proportion of SIDS deaths in child care has declined slightly but still remains high at 16.5%. Infants in child care are no more likely to be placed or found prone and no more likely to be on an unsafe sleep surface. Educational efforts with child care providers have been effective and should be expanded to unregulated child care providers. In addition, there may be other, yet-unidentified factors in child care that place infants in those settings at higher risk for SIDS. (51 references) (Author)

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20051128-37

Widening social inequalities in risk for sudden infant death syndrome. Pickett KE, Luo Y, Lauderlade DS (2005), American Journal of Public Health vol 95, no 11, November 2005, pp 1976-1981

OBJECTIVES: In 1994, the US Public Health Service launched the 'Back to Sleep' campaign, promoting the supine sleep position to prevent sudden infant death syndrome (SIDS). Studies of SIDS in the United States have generally found socioeconomic and race disparities. Our objective was to see whether the 'Back to Sleep' campaign, which involves an effective, easy, and free intervention, has reduced social class inequalities in SIDS. **METHODS:** We conducted a population-based case-cohort study during 2 periods, 1989 to 1991 and 1996 to 1998, using the US Linked Birth/Infant Death Data Sets. Case group was infants who died of SIDS in infancy (N = 21 126); control group was a 10% random sample of infants who lived through the first year and all infants who died of other causes (N=2241218). Social class was measured by mother's education level. **RESULTS:** There was no evidence that inequalities in SIDS were reduced after the Back to Sleep campaign. In fact, odds ratios for SIDS associated with lower social class increased between 1989-1991 and 1996-1998. The race disparity in SIDS increased after the Back to Sleep campaign. **CONCLUSIONS:** The introduction of an inexpensive, easy, public health intervention has not reduced social inequalities in SIDS; in fact, the gap has widened. Although the risk of SIDS has been reduced for all social class groups, women who are more educated have experienced the greatest decline. (38 references) (Author)

20051030-39

Management of deformational plagiocephaly: repositioning versus orthotic therapy. Graham JM, Gomez M, Halberg A, et al (2005), Journal of Pediatrics vol146, no 2, February 2005, pp 258-262


OBJECTIVES: We compare positioning with orthotic therapy in 298 consecutive infants referred for correction of head asymmetry. **STUDY DESIGN:** We evaluated 176 infants treated with repositioning, 159 treated with helmets, and 37 treated with initial repositioning followed by helmet therapy when treatment failed. We compared reductions in diagonal difference (RDD) between repositioning and cranial orthotic therapy. Helmets were routinely used for infants older than 6 months with DD >1 cm. **RESULTS:** For infants treated with repositioning at a mean age of 4.8 months, the mean RDD was 0.55 cm (from an initial mean DD of 1.05 cm). For infants treated with cranial orthotics at a mean age of 6.6 months, the mean RDD was 0.71 cm (from an initial mean DD of 1.13 cm). **CONCLUSIONS:** Infants treated with orthotics were older and required a longer length of treatment (4.2 vs 3.5 months). Infants treated with orthosis had a mean final DD closer to the DD in unaffected infants (0.3 +/- 0.1 cm), orthotic therapy was more effective than repositioning (61% decrease versus 52% decrease in DD), and early orthosis was significantly more effective than later orthosis (65% decrease versus 51% decrease in DD). (28 references) (Author)

20050920-23*


Risk factors associated with sudden unexplained infant death: a prospective study of infant care practices in Kentucky. Shields LBE, Hunsaker DM, Muldoon S, et al (2005), Pediatrics vol 116, no 1, July 2005. 8 pages

OBJECTIVE: To ascertain the prevalence of infant care practices in a metropolitan community in the United States with attention to feeding routines and modifiable risk factors associated with sudden unexplained infant death (specifically, prone sleeping position, bed sharing, and maternal smoking). **METHODS:** We conducted an initial face-to-face meeting followed by a telephone survey of 189 women who gave birth at a level I hospital in Kentucky between October 14 and November 10, 2002, and whose infants were placed in the well-infant nursery. The survey, composed of questions pertaining to infant care practices, was addressed to the women at 1 and 6 months postpartum. **RESULTS:** A total of 185 (93.9%) women participated in the survey at 1 month, and 147 (75.1%) mothers contributed at 6 months. The racial/ethnic composition of the study was 56.1% white, 30.2% black, and 16.4% biracial, Asian, or Hispanic. More than half of the infants (50.8%) shared the same bed with their mother at 1 month, which dramatically decreased to 17.7% at 6 months. Bed sharing was significantly more common among black families compared with white families at both 1 month (adjusted odds ratio [OR]: 5.94; 95% confidence interval [CI]: 2.71-13.02) and 6 months (adjusted OR: 5.43; 95% CI: 2.05-14.35). Compared with other races, white parents were more likely to place their infants on their back before sleep at both 1 and 6 months. Black parents were significantly less likely to place their infants on their back at 6 months compared with white parents (adjusted OR: 0.14; 95% CI: 0.06-0.33). One

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infant succumbed to sudden infant death syndrome at 3 months of age, and another infant died suddenly and unexpectedly at 9 months of age. Both were bed sharing specifically with 1 adult in the former and with 2 children in the latter. **CONCLUSIONS:** Bed sharing and prone placement were more common among black infants. Breastfeeding was infrequent in all races. This prospective study additionally offers a unique perspective into the risk factors associated with sudden infant death syndrome and sudden unexplained infant death associated with bed sharing by examining the survey responses of 2 mothers before the death of their infants combined with a complete postmortem examination, scene analysis, and historical investigation. (Only the abstract is published in the print journal. Full article available on line at <http://www.pediatrics.org/cgi/doi/10.1542/peds.2004-2333>) (Author)

20050919-25

Pulmonary aspiration of gastric contents and the sudden infant death syndrome. Alex N, Thompson JMD, Becroft DMO, et al (2005), Journal of Paediatrics and Child Health vol 41, no 8, August 2005, pp 428-431

OBJECTIVE: To determine ante-mortem and post-mortem risk factors for the finding of gastric contents in pulmonary airways (aspiration of gastric contents) at post-mortem examination in the sudden infant death syndrome (SIDS). **METHODS:** There were 217 post-neonatal deaths in the Auckland region of the New Zealand Cot Death Study. No deaths were certified as due to aspiration of gastric contents. There were 138 SIDS cases. The parents of 110 (80%) of these cases were interviewed. Histological sections from the periphery of the lungs in 99 of the 110 cases were reviewed for evidence of aspiration of gastric contents. A wide range of variables were analysed in SIDS cases with and without aspiration to determine risk factors. **RESULTS:** Aspiration of gastric contents was identified in 37 (37%) of SIDS cases. Aspiration was of mild-to-moderate degree and in no case was severe and a potential cause of death. Finding infants on their backs at death ($P = 0.024$) and conducting the post-mortem on the day after the death or subsequently ($P = 0.033$) were statistically significant variables linked to identification of aspiration. Position placed to sleep, symptoms of gastro-oesophageal reflux and other variables were not related to aspiration. **CONCLUSIONS:** The only determinants for aspiration of gastric contents identified were agonal or post-mortem events, supporting the contention that aspiration has limited relevance to the mechanism of SIDS. (13 references) (Author)

20050915-58*

Cot death advice variations found. BBC News (2005), BBC News 15 September 2005. 2 pages


Almost a third of parents with young babies do not receive, or do not remember, advice on how to prevent cot death, a survey has found. (Author)

20050825-26


Infant sleeping position and the sudden infant death syndrome: systematic review of observational studies and historical review of recommendations from 1940 to 2002. Gilbert R, Salanti G, Harden M, et al (2005), International Journal of Epidemiology vol 34, no 4, August 2005, pp 874-887

BACKGROUND: Before the early 1990s, parents were advised to place infants to sleep on their front contrary to evidence from clinical research. **METHODS:** We systematically reviewed associations between infant sleeping positions and sudden infant death syndrome (SIDS), explored sources of heterogeneity, and compared findings with published recommendations. **RESULTS:** By 1970, there was a statistically significantly increased risk of SIDS for front sleeping compared with back (pooled odds ratio (OR) 2.93; 95% confidence interval (CI) 1.15, 7.47), and by 1986, for front compared with other positions (five studies, pooled OR 3.00; 1.69-5.31). The OR for front vs the back position was reduced as the prevalence of the front position in controls increased. The pooled OR for studies conducted before advice changed to avoid front sleeping was 2.95 (95% CI 1.69-5.15), and after was 6.91 (4.63-10.32). Sleeping on the front was recommended in books between 1943 and 1988 based on extrapolation from untested theory **CONCLUSIONS:** Advice to put infants to sleep on the front for nearly a half century was contrary to evidence available from 1970 that this was likely to be harmful. Systematic review of preventable risk factors for SIDS from 1970 would have led to earlier recognition of the risks of sleeping on the front and might have prevented over 10 000 infant deaths in the UK and at least 50 000 in Europe, the USA, and Australasia. Attenuation of the observed harm with

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increased adoption of the front position probably reflects a 'healthy adopter' phenomenon in that families at low risk of SIDS were more likely to adhere to prevailing health advice. This phenomenon is likely to be a general problem in the use of observational studies for assessing the safety of health promotion. (111 references) (Author)

20050802-38

Health departments do it better: prenatal care site and prone infant sleep position. Lahr MB, Rosenberg KD, Lapidus JA (2005), Maternal and Child Health Journal vol 9, no 2, June 2005, pp 165-172

OBJECTIVES: Reduction of prone infant sleep position has been the main public health effort to reduce the incidence of Sudden Infant Death Syndrome (SIDS). **METHODS:** Oregon Pregnancy Risk Assessment Monitoring System (PRAMS) surveys a stratified random sample of women after a live birth. In 1998-1999, 1867 women completed the survey (64.0% unweighted response; 73.5% weighted response). **RESULTS:** Overall, 9.2% of all women 'usually' chose prone infant sleep position, while 24.2% chose side and 66.5% chose supine position. Women receiving care from private physicians or HMOs more often chose prone position (10.6%) than women receiving prenatal care from health department clinics (2.5%), hospital clinics (6.1%) or other sites (8.3%). Compared to health department prenatal clinic patients, private prenatal patients were more likely to choose prone infant sleep position, adjusted odds ratio = 4.78 (95% confidence interval [CI] 1.64-13.92). **CONCLUSIONS:** Health Department clinics have done a better job than private physicians in educating mothers about putting infants to sleep on their backs. Providers-especially private providers-should continue to stress the importance of supine sleep position for infants. (35 references) (Author)

20050719-13

Sleeping position and electrocortical activity in low birthweight infants. Sahni R, Schulze KF, Kashyap S, et al (2005), Archives of Disease in Childhood vol 90, no 4, July 2005, pp F311-F315


Objective: To evaluate the effects of prone and supine sleeping positions on electrocortical activity during active (AS) and quiet (QS) sleep in low birthweight infants. **Design:** Randomised/crossover study. **Setting:** Infant Physiology Laboratory at Children's Hospital of New York. **Patients:** Sixty three healthy, growing, low birthweight (birth weight 795-1600 g) infants, 26-37 weeks gestational age. **Interventions:** Six hour continuous two channel electrocortical recordings, together with minute by minute behavioural state assignment, were performed. The infants were randomly assigned to prone or supine position during the first three hours, and positions were reversed during the second three hours. **Outcome measures and results:** Fast Fourier transforms of electroencephalograms (EEGs) were performed each minute and the total EEG power (TP), spectral edge frequency (SEF), absolute (AP) and relative (RP) powers in five frequency bands (0.01-1.0 Hz, 1-4 Hz, 4-8 Hz, 8-12 Hz, 12-24 Hz) were computed. Mean values for TP, SEF, AP, and RP in the five frequency bands in the prone and supine positions during AS and QS were then compared. In the prone sleeping position, during AS, infants showed significantly lower TP, decreased AP in frequency bands 0.01-1.0 Hz, 4-8 Hz, 8-12 Hz, 12-24 Hz, increased RP in 1-4 Hz, and a decrease in SEF. Similar trends were observed during QS, although they did not reach statistical significance. **Conclusions:** The prone sleeping position promotes a shift in EEG activity towards slower frequencies. These changes in electrocortical activity may be related to mechanisms associated with decreased arousal in the prone position and, in turn, increased risk of sudden infant death syndrome. (43 references) (Author)

20050701-56*


'Back to sleep': parents compliance with the recommendation on the most appropriate sleeping position of infants, Haifa District, Israel, 2001. Inbar Z, Meibar R, Shehada S, et al (2005), Preventive Medicine vol 40, no 6, June 2005, pp 765-768

BACKGROUND: In 1993, the Israel Ministry of Health issued a formal recommendation to avoid placing healthy infants to sleep in the prone position in order to prevent sudden infant death. The objective of the study was to study parents' compliance with this recommendation and to identify characteristics of noncompliant parents of infants aged less than 6 months old. **METHODS:** The study population consisted of 1912 parents of infants aged 0-12 months who visited the Haifa District primary preventive health centers during the study week and answered the self-administered questionnaire. **RESULTS:** 15.6% of infants younger than 1 year were placed to sleep in the prone

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position: 12.4% among infants younger than 3 months, and 17.6% among infants 3-6 months old. Surprisingly, multiple logistic regression analysis demonstrated that Israeli-born Jewish mothers were more likely to place their babies prone than Israeli-born Arab mothers or mothers born in the former Soviet Union who had immigrated to Israel after 1990. CONCLUSIONS: At-risk behaviors are usually associated with minority and immigrant populations. Culture specific and other possible reasons for our unusual findings are discussed. (Author)

20050701-10

Sleep environment safety checklist. Anon (2005), Birthing Summer 2005, pp 8-9

Provides a list of recommendations for infant sleep environment to protect against sudden infant death. Includes advice on mattresses and bedding, sleep position, and co-sleeping. (SB)

20050627-26

Modifiable risk factors for SIDS in Germany: results of GeSID. Vennemann MMT, Findeisen M, Butterfaß-Bahloul T, et al (2005), Acta Paediatrica vol 94, no 6, June 2005, pp 655-660

Background: The incidence of sudden infant death syndrome (SIDS) has been falling in Germany over the last decade. However, little is known about the prevalence and the importance of well-known risk factors in Germany since a local prevention campaign in 1992. Design: A 3-y, population-based, case-control study was conducted in half of Germany, consisting of 333 cases. All sudden and unexpected deaths in infancy, if they fitted the inclusion criteria, were included in the study. Parental interview was carried out soon after the death, and three living control infants, matched for age, gender, region and sleep time, were recruited. Results: The prevalence of placing infants prone to sleep was only 4% in the control group, but this was associated with a markedly increased risk of SIDS (adjusted odds ratio, aOR=6.08). Other modifiable risk factors for SIDS were: maternal smoking during pregnancy, breastfeeding for less than 2?wk (aOR=1.71) and co-sleeping (aOR=2.71), while using a pacifier during the last sleep reduced the risk (aOR=0.39). Conclusions: Previously recognized risk factors for SIDS also occur in Germany. Despite knowledge about the major modifiable risk factors for SIDS, these factors are still present in Germany. To reduce the incidence of SIDS in Germany, a continued effort is needed to inform all parents about preventable risk factors for SIDS. (30 references) (Author)

20050602-31*

Modern mothers `have less sleep`. BBC News (2005), BBC News 2 June 2005. 2 pages


Reports on a survey that has found that modern parents get around 30% less sleep than their own parents. (SB)

20050601-36


Influence of swaddling on sleep and arousal characteristics of healthy infants. Franco P, Seret N, van Hees JN, et al (2005), Pediatrics vol 115, no 5, May 2005, pp 1307-1311

OBJECTIVE: Swaddling is an old infant care practice. It was reported to favor sleep and to reduce crying among irritable infants. There are few data on the physiologic effects of swaddling on infants' sleep-wake characteristics. This study was conducted to evaluate whether swaddling influences infants' arousal thresholds for environmental auditory stress. DESIGN: Sixteen healthy infants, with a median age of 10 weeks (range: 6-16 weeks), underwent polygraphic recording in their usual supine position during one night. The infants were successively recorded swaddled and nonswaddled, or vice versa. In both conditions, the infants were exposed to white noise of increasing intensity, from 50 to 100 dB(A), during rapid eye movement sleep, to determine their arousal thresholds. RESULTS: Swaddling was associated with increases in the infants' sleep efficiency and in the time spent in non-rapid eye movement sleep. When swaddled, the infants awakened spontaneously less often. However, significantly less-intense auditory stimuli were needed during rapid eye movement sleep to induce cortical arousals when swaddled than when not swaddled. CONCLUSIONS: Swaddling promotes more-sustained sleep and reduces the frequency of spontaneous awakenings, whereas induced cortical arousals are elicited by less-intense stimuli. These findings could indicate that, although swaddling favors sleep continuity, it is associated with increased responsiveness to environmental auditory stress. (42

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20050107-4

Implementation of the SIDS Guidelines in midwifery practice. Bredemeyer SL (2004), Australian Midwifery Journal vol 17, no 4, November 2004, pp 17-21

The literature suggests that midwives strongly influence parenting practices immediately after birth and during early postnatal management of the newborn. Midwives must therefore be aware of the current evidence and public health recommendations for reducing the risk of Sudden Infant Death Syndrome (SIDS) and provide consistent information about use of the supine position. Midwives must also include information about environmental factors that are also known to increase the risk of SIDS such as exposure to cigarette smoke, covering the infant's face during sleep and other potential unsafe sleeping practices such as co-sleeping and bed sharing with their infant. The position midwives use to settle infants and place them for sleep is an important example for parents. The position favoured by midwives when placing a newborn to sleep is an important example for parents. The position favoured by midwives when placing a newborn to sleep will have a significant impact on parental practice after discharge home. A standardised evidenced based approach to the SIDS Guidelines immediately after birth will facilitate consistency in practice and uniformity in the message parents are given about safe sleeping practices for their newborn infant. (66 references)

(Author)

20041019-60

Effect of religious observance on infants' sleep position in the Jewish population. Sivan Y, Reisner S, Amitai Y, et al (2004), Journal of Paediatrics and Child Health vol 40, no 9/10, September/October 2004, pp 534-539

Objectives: To describe the effect of the level of religiousness on infants' sleep position in the Jewish population.

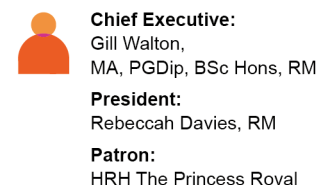
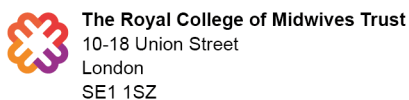
Methods: A longitudinal telephone survey of randomly selected 608 2-month-old Jewish infants repeated at 4 and 6 months. Results were analyzed versus the four levels of Jewish religion observance. Results: A significant correlation was found between the level of religious practice and sleep position ($P \leq 0.002$). 56.8% (50/88) of ultra-orthodox parents put their babies to sleep in the non-prone position, compared with 79% (411/520) in the other three groups ($P < 0.001$). Non-prone sleeping decreased when infants grew. Higher parity correlated with the level of religiousness and with prone sleeping in religious families (OR = 1.15, 95% CI 1.00-1.33, $P < 0.001$). Conclusions: Jews and especially the ultra-orthodox families comply significantly less with recommendations to avoid prone sleeping. Specific measures may be required in this population that rely more on personal experience and belief than on health care provider advice. (25 references) (Author)

20041007-16*

Infant sleep positioning by nursery staff and mothers in newborn hospital nurseries. Stastny P (2004), Nursing Research vol 53, no 2, March-April 2004, pp 122-129

BACKGROUND: Although advice from healthcare professionals may influence parental infant placement choice to reduce sudden infant death syndrome risk, literature on nursery staff infant placement behaviors and the degree to which they influence maternal infant sleep positioning is limited. OBJECTIVE: To assess newborn placement practices of the mother and nursery staff and their interrelationship in the hospital setting. METHODS: A cross-sectional survey-based study was conducted among hospital newborn nursery staff ($n = 96$) and mothers of newborns ($n = 579$) at eight perinatal hospitals in Orange County, California. RESULTS: Although a majority of sampled nursery staff (72%) identified the supine position as the placement that most lowers sudden infant death syndrome risk, only 30% reported most often placing infants to sleep in that position, with most staff (91%) citing fear of aspiration as the motivation for supine position avoidance. Only 34% of staff reported advising exclusive supine infant positioning to mothers. Approximately 36% of mothers reported using supine infant placement exclusively. Maternal infant placement choice varied by both the advice ($p < .01$) and the placement modeling ($p < .01$) provided by staff, with the highest proportion of usual supine infant placement found among mothers who reported receiving both. A mother's race/ethnicity also affected the reception of exclusive supine placement recommendations ($p < .01$). CONCLUSIONS: Exclusive supine infant placement appears to be underused by both nursery staff and mothers of newborn infants.

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20040819-10

A multivariate 'time based' analysis of SIDS risk factors. Matthews T, McDonnell M, McGarvey C, et al (2004), Archives of Disease in Childhood vol 89, no 3, March 2004, pp 267-271

AIMS: To investigate the influence of analytical design on the variability of published results in studies of sudden infant death syndrome (SIDS). **METHODS:** The results of a prospective case-control study, of 203 cases of SIDS, and 622 control infants are presented. All variables significant on univariate analysis were included in a multivariate model analysed in nine stages, starting with sociodemographic variables, then sequentially and cumulatively adding variables relating to pregnancy history, current pregnancy, birth, the interval from birth to the week prior to death, the last week, the last 48 hours, and the last sleep period. A ninth stage was created by adding placed to sleep prone for the last sleep period. **RESULTS:** As additional variables are added, previously published SIDS risk factors emerged such as social deprivation, young maternal age, > or =3 previous live births, maternal smoking and drinking, urinary tract infection in pregnancy, reduced birth weight, and the infant having an illness, regurgitation, being sweaty, or a history of crying/colic in the interval from birth to the week before death, with co-sleeping and the lack of regular soother use important in the last sleep period. As the model progressed through stages 1-9, many significant variables became non-significant (social deprivation, young maternal age, maternal smoking and drinking) and in stage 9 the addition of placed to sleep prone for the last sleep period caused > or =3 previous live births and a reduced birth weight to become significant. **CONCLUSION:** The variables found to be significant in a case-control study, depend on what is included in a multivariate model. (21 references) (Author)

20040706-49

Surveillance for disparities in maternal health-related behaviors - selected states, Pregnancy Risk Assessment Monitoring System (PRAMS), 2000-2001. Phares TM, Morrow B, Lansky A, et al (2004), Morbidity and Mortality Weekly Report (MMWR) vol 53, No SS-4, 2 July 2004, pp 1-13

PROBLEM/CONDITION: Disparities in maternal and infant health have been observed among members of different racial and ethnic populations and persons of differing socioeconomic status. For the Healthy People 2010 objectives for maternal and child health to be achieved (US Department of Health and Human Services. Healthy People 2010. 2nd ed. With understanding and improving health and objectives for improving health [2 vols.]. Washington DC: US Department of Health and Human Services, 2000), the nature and extent of disparities in maternal behaviors that affect maternal or infant health should be understood. Identifying these disparities can assist public health authorities in developing policies and programs targeting persons at greatest risk for adverse health outcomes. **REPORTING PERIOD COVERED:** 2000-2001. **DESCRIPTION OF THE SYSTEM:** The Pregnancy Risk Assessment Monitoring System (PRAMS) is an ongoing state- and population-based surveillance system designed to monitor selected maternal behaviors and experiences that occur before, during, and after pregnancy among women who deliver live-born infants. PRAMS employs a mixed mode data-collection methodology; up to three self-administered surveys are mailed to a sample of mothers, and nonresponders are followed up with telephone interviews. Self-reported survey data are linked to selected birth certificate data and weighted for sample design, nonresponse, and noncoverage to create annual PRAMS analysis data sets that can be used to produce statewide estimates of different perinatal health behaviors and experiences among women delivering live infants in 31 states and New York City. This report summarizes data for 2000-2001 from eight states (Alabama, Colorado, Florida, Hawaii, Illinois, Maine, Nebraska, and North Carolina) on four behaviors (smoking during pregnancy, alcohol use during pregnancy, breastfeeding initiation, and use of the infant back sleep position) for which substantial health disparities have been identified previously. **RESULTS:** Although the prevalence of each behavior varied by state, consistent patterns were observed among the eight states by age, race, ethnicity, education, and income level. Overall, the prevalence of smoking during pregnancy ranged from 9.0% to 17.4%. Younger (aged <25 years) women, white women, American Indian women, non-Hispanic women (except in Hawaii), women with a high school education or less, and women with low incomes consistently reported the highest rates of smoking. Overall, the prevalence of alcohol use during pregnancy ranged from 3.4% to

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9.9%. In seven states, women aged >35 years, non-Hispanic women, women with more than a high school education, and women with higher incomes reported the highest prevalence of alcohol use during pregnancy. Overall, the prevalence of breastfeeding initiation ranged from 54.8% to 89.6%. Younger women, black women, women with a high school education or less, and women with low incomes reported the lowest rates of breastfeeding initiation. The size of the black-white disparity in breastfeeding varied among states. Overall, use of the back sleep position for infants ranged from 49.7% to 74.8%. Use of the back sleep position was lowest among younger women, black women, women with lower levels of education, and women with low incomes. Ethnic differences in sleep position varied substantially by state. INTERPRETATION: PRAMS data can be used to identify racial, ethnic, and socioeconomic disparities in critical maternal health-related behaviors. Although similar general patterns by age, education, and income were observed in at least seven states, certain racial and ethnic disparities varied by state. Prevalence of the four behaviors among each population often varied by state, indicating the potential impact of state-specific policies and programs. PUBLIC HEALTH ACTION: States can use PRAMS data to identify populations at greatest risk for maternal behaviors that have negative consequences for maternal and infant health and to develop policies and plan programs that target populations at high risk. Although prevalence data cannot be used to identify causes or interventions to improve health outcomes, they do indicate the magnitude of disparities and identify populations that should be targeted for intervention. This report indicates a need for wider targeting than is often done. The results from this report can aid state and national agencies in creating more effective public health policies and programs. The data described in this report should serve as a baseline that states can use to measure the impact of policies and programs on eliminating these health disparities. (42 references) (Author)

20040512-16

Are nurses acting as role models for the prevention of SIDS. Bullock LFC, Mickey K, Green J, et al (2004), MCN - American Journal of Maternal/Child Nursing vol 29, no 3, May/June 2004, pp 172-177

PURPOSE: To examine nurses' knowledge, attitude, and practice in positioning healthy newborns for sleep in the hospital setting. **DESIGN AND METHODS:** A cross-sectional descriptive design was used to survey a convenience sample of practicing maternal child nurses in 58 Missouri hospitals. A 24-item investigator designed questionnaire was developed with input from SIDS Resources in Missouri. **RESULTS:** A total of 528 surveys were analyzed. These nurses reported no longer placing infants in the prone position for sleep, but almost 75% of those answering the survey used either the side-lying position or a mixture of side and back positioning, even though 96% of the nurses said they were aware of the AAP Guidelines recommending 'back to sleep.' Forty-five percent of the nurses thought the infant would be at risk for aspiration if only placed on his/her back. Only 53% of the nurses knew their hospital's policy about newborn positioning; 80% of those who knew about the policy said it included the lateral position as being acceptable practice. **CLINICAL IMPLICATIONS:** Nurses are the role models for new parents regarding newborn sleep position, and are in a unique position to influence parents' decisions about how to place their infants for sleep at home. Because nurses continue to worry about aspiration when newborns are placed on their backs, it is clear that more education is needed for hospital nurses about newborn sleep position and hospital policies, as well as AAP Guidelines. (15 references) (Author)

20040507-9*

Infant sleep positioning by nursery staff and mothers in newborn hospital nurseries. Stastny PF, Ichinose TY, Thayer SD, et al (2004), Nursing Research vol 53, no 2, March-April 2004, pp 122-129

BACKGROUND: Although advice from healthcare professionals may influence parental infant placement choice to reduce sudden infant death syndrome risk, literature on nursery staff infant placement behaviors and the degree to which they influence maternal infant sleep positioning is limited. **OBJECTIVE:** To assess newborn placement practices of the mother and nursery staff and their interrelationship in the hospital setting. **METHODS:** A cross-sectional survey-based study was conducted among hospital newborn nursery staff (n = 96) and mothers of newborns (n = 579) at eight perinatal hospitals in Orange County, California. **RESULTS:** Although a majority of sampled nursery staff (72%) identified the supine position as the placement that most lowers sudden infant death syndrome risk, only 30% reported most often placing infants to sleep in that position, with most staff (91%) citing fear of aspiration as the

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motivation for supine position avoidance. Only 34% of staff reported advising exclusive supine infant positioning to mothers. Approximately 36% of mothers reported using supine infant placement exclusively. Maternal infant placement choice varied by both the advice ($p < .01$) and the placement modeling ($p < .01$) provided by staff, with the highest proportion of usual supine infant placement found among mothers who reported receiving both. A mother's race/ethnicity also affected the reception of exclusive supine placement recommendations ($p < .01$). CONCLUSIONS: Exclusive supine infant placement appears to be underused by both nursery staff and mothers of newborn infants. Culturally grounded educational intervention with nursery staff regarding infant positioning and placement in the hospital setting is indicated. (Author)

20040507-34

Are the messages getting through? Nurses' perceptions of cot death education for parents and carers of babies with an increased risk. Welby J (2004), Journal of Neonatal Nursing vol 10, no 3, May 2004, pp 85-88

Although the incidence of cot death has fallen in recent years, it remains the highest cause of mortality in infants. There is still room for improvement in the adoption by parents of the recommendations of the 'Back go Sleep' campaign. This article reports on a study undertaken to identify the training needs of nurses responsible for caring for infants and parents on a neonatal unit, regarding passing on the cot death message. (13 references) (Author)

20040426-33

Supine and prone infant positioning: a winning combination. Jones MW (2004), Journal of Perinatal Education vol 13, no 1, Winter 2004, pp 10-20

Since 1992, the optimal sleeping position for infants in the United States has been supine. This position has been shown to greatly reduce the rate of Sudden Infant Death Syndrome (Skadberg, Morild, & Markestad, 1998). However the supine position may lead to other unintended consequences or complications. Through a review of literature, this article explores some of the complications associated with the 'Back to Sleep' campaign in the U.S. and discusses educational strategies for perinatal educators. (40 references) (Author)

20040423-63

Age at death, season, and day of death as indicators of the effect of the Back to Sleep program on sudden infant death syndrome in the United States, 1992-1999. Malloy MH, Freeman DH (2004), Archives of Pediatrics and Adolescent Medicine vol 158, no 4, April 2004, pp 359-365

BACKGROUND: In June 1992, the American Academy of Pediatrics Task Force on Infant Positioning and Sudden Infant Death Syndrome (SIDS) made its first recommendation concerning placing infants in a supine position. Since the publication of this recommendation, SIDS rates in the United States have declined 44%. Before this recommendation, SIDS had a marked seasonal pattern and was noted to occur more frequently on weekends. OBJECTIVE: The objective of this study was to determine if significant changes in SIDS rates have occurred in age at death (0-27 days vs 1-6 months vs 7-11 months), season of death, and weekday of death since the implementation of the recommendations for supine positioning of infants for sleep. DESIGN: United States natality and mortality data were used for the years 1992 through 1994. United States linked infant birth and death certificate files were used for the years 1995 through 1999. Season of death was calculated from month of death and was ordered for analysis from winter to fall to spring to summer; day of death was ordered from Monday to Sunday and additionally analyzed as weekend (Saturday and Sunday) vs weekday (Monday through Friday). RESULTS: During the 8 years, 28 548 deaths were attributed to SIDS among residents of the United States. The average annual decrease in the SIDS rate for neonates aged 0 to 27 days was 6.6%; for infants aged 1 to 6 months, 9.0%; and for infants aged 7 to 11 months, 6.1%. The average decline in seasonal rates from winter to summer was 11.2% per season. A significant interaction between year of death and season indicated a diminishing rate of seasonal variation. The odds ratio for weekend vs weekday SIDS deaths was 0.98 (95% confidence interval, 0.96-1.01). There was no significant interaction between year of death and weekday of death, which indicates no change in the relationship since the implementation of the supine sleeping recommendations. CONCLUSIONS: These data provide insights into the effect of the supine sleep recommendations on SIDS. The

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reduction in seasonal variation of SIDS suggests advantages conferred by supine sleeping in colder seasons. (47 references) (Author)

20040423-52

Sudden unexpected death in infancy and socioeconomic status: a systematic review. Spencer N, Logan S (2004), *Journal of Epidemiology and Community Health* vol 58, no 5, May 2004, pp 366-373

This paper aimed to systematically review observational studies documenting the relation between sudden unexpected death in infancy and socioeconomic status. A search of two electronic databases (Medline 1966 to November 2002; Embase 1981 to November 2002) yielded 52 case-control or cohort studies meeting the inclusion criteria. An increased risk of sudden unexpected death in infancy was reported in 51 studies and 32 of 33 studies reporting graded measures of socioeconomic status showed a dose-response relation of sudden death with socioeconomic status. Of the 10 studies in which adjustment was made for maternal smoking, socioeconomic status retained an independent effect on infant death in nine. The effect of socioeconomic status was also independent of birth weight in 10 of 11 studies and independent of sleeping position in two. The included studies reported a significant association of socioeconomic status with sudden unexpected death in infancy with risk of infant death increasing with greater exposure to adverse social circumstances. The findings support a significant role for adverse social circumstances in the pathways to sudden unexpected death in infancy. (76 references) (Author)

20040323-50

The politics of cot death. Robinson J (2003), *Association for Improvements in Maternity Services (AIMS)* vol 15, no 4, 2003/04, pp 1, 3-4

Recent court cases have shown that officials are all too quick to blame the mother in incidents of cot death. AIMS' Research Officer Jean Robinson argues that cot death has its roots in social inequalities and, to be understood, needs to be studied in this light. (10 references) (Author)

20040308-2

Changes in parental risk behaviour after an information campaign against sudden infant death syndrome (SIDS) in Norway. Hill SAR, Hjelmeland B, Johannessen NM, et al (2004), *Acta Paediatrica* vol 93, no 2, February 2004, pp 250-254

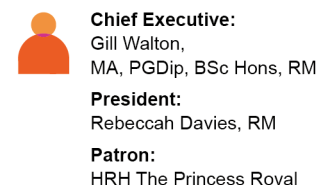
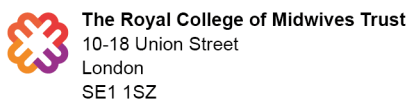
Aim: To assess parental risk behaviour before and after a sudden infant death syndrome (SIDS) information campaign with special emphasis on associations with maternal age, education, marital status and birth order. Methods: Data from questionnaires sent to all mothers who gave birth in Norway during a period before the campaign were compared with corresponding data obtained after the campaign. Results: Prevalence of non-supine sleeping position decreased from 33.7% to 13.6% while changes in smoking, non-breastfeeding and co-sleeping were disappointing. Risk factors were particularly prevalent in young mothers, but also in mothers with a minimum period of education, non-cohabitation and at birth order 2+. Conclusions: Non-supine sleeping decreased to a level that has never been reported before. In future campaigns, subgroup-specific measures may be needed. (12 references) (Author)

20040212-18*

Sudden unexplained infant death in 20 regions in Europe: case control study. Carpenter RG, Irgens LM, Blair PS, (2004), *The Lancet* vol 363, no 9404, 17 January 2004, pp 185-191

BACKGROUND: After striking changes in rates of sudden unexplained infant death (SIDS) around 1990, four large case-control studies were set up to re-examine the epidemiology of this syndrome. The European Concerted Action on SIDS (ECAS) investigation was planned to bring together data from these and new studies to give an overview of risk factors for the syndrome in Europe. METHODS: We undertook case-control studies in 20 regions. Data for more than 60 variables were extracted from anonymised records of 745 SIDS cases and 2411 live controls. Logistic regression was used to calculate odds ratios (ORs) for every factor in isolation, and to construct multivariate models. FINDINGS: Principal risk factors were largely independent. Multivariately significant ORs showed little evidence of intercentre

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heterogeneity apart from four outliers, which were eliminated. Highly significant risks were associated with prone sleeping (OR 13.1 [95% CI 8.51-20.2]) and with turning from the side to the prone position (45.4 [23.4-87.9]). About 48% of cases were attributable to sleeping in the side or prone position. If the mother smoked, significant risks were associated with bed-sharing, especially during the first weeks of life (at 2 weeks 27.0 [13.3-54.9]). This OR was partly attributable to mother's consumption of alcohol. Mother's alcohol consumption was significant only when baby bed-shared all night (OR increased by 1.66 [1.16-2.38] per drink). For mothers who did not smoke during pregnancy, OR for bed-sharing was very small (at 2 weeks 2.4 [1.2-4.6]) and only significant during the first 8 weeks of life. About 16% of cases were attributable to bed-sharing and roughly 36% to the baby sleeping in a separate room.

INTERPRETATION: Avoidable risk factors such as those associated with inappropriate infants' sleeping position, type of bedding used, and sleeping arrangements strongly suggest a basis for further substantial reductions in SIDS incidence rates.

20040126-26

Sudden infant death syndrome: a critical review of approaches to research. Goldwater PN (2003), Archives of Disease in Childhood vol 88, no 12, December 2003, pp 1095-1100

This review explores the various research approaches taken attempting to solve the problem of SIDS. It would appear that major clues provided by pathological findings have been largely overlooked and as a consequence much effort, time, and money has been wasted on projects that satisfy only sub-specialty and political needs. Close examination of the pathological clues would provide better insights into the mechanisms underlying this enigmatic and heartbreaking problem. (85 references) (Author)

20040126-22

Factors relating to the infant's last sleep environment in sudden infant death syndrome in the Republic of Ireland.

McGarvey C, McDonnell M, Chong A, et al (2003), Archives of Disease in Childhood vol 88, no 12, December 2003, pp 1058-1064

AIM: To identify risk factors for sudden infant death syndrome (SIDS) in the sleeping environment of Irish infants.

METHODS: A five year population based case-control study with parental interviews conducted for each case and three controls matched for age, place of birth, and last sleep period. A total of 203 SIDS cases and 622 control infants born 1994-98 were studied. RESULTS: In a multivariate analysis, co-sleeping significantly increased the risk of SIDS both as a usual practice (adjusted OR 4.31; 95% CI 1.07 to 17.37) and during the last sleep period (adjusted OR 16.47; 95% CI 3.73 to 72.75). The associated risk was dependent on maternal smoking (OR 21.84; 95% CI 2.27 to 209.89), and was not significant for infants who were > or =20 weeks of age (OR 2.63; 95% CI 0.49 to 70.10) or placed back in their own cot/bed to sleep (OR 1.07; 95% CI 0.21 to 5.41). The use of pillows, duvets, and bedding with tog value > or =10 were not significant risk factors when adjusted for the effects of confounding variables, including maternal smoking and social disadvantage. However, the prone sleeping position remains a significant SIDS risk factor, and among infants using soothers, the absence of soother use during the last sleep period also significantly increased the SIDS risk (OR 5.83; CI 2.37 to 14.36). CONCLUSION: Co-sleeping should be avoided in infants who are <20 weeks of age, or whose mothers smoked during pregnancy. The prone position remains a factor in some SIDS deaths, and the relation between soother use and SIDS is a complex variable requiring further study. (39 references) (Author)

20040113-40*

Racial disparity and modifiable risk factors among infants dying suddenly and unexpectedly. Unger B, Kemp JS, Wilkins D, et al (2003), Pediatrics vol 111, no 2, February 2003, pp e127-e131

BACKGROUND: Racial disparity in rates of death attributable to sudden infant death syndrome (SIDS) has been observed for many years. Despite decreased SIDS death rates following the 'Back to Sleep' intervention in 1994, this disparity in death rates has increased. The prone sleep position, unsafe sleep surfaces, and sharing a sleep surface with others (bedsharing) increase the risk of sudden infant death. The race-specific prevalence of these modifiable risk factors in sudden unexpected infant deaths-including SIDS, accidental suffocation (AS), and cause of death undetermined (UD)-has not been investigated in a population-based study. Death rates attributable to AS and UD are also higher in African Americans (AAs) than in other races (non-AA). The potential contribution of unsafe sleep

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practices to this overall disparity in death rates is uncertain. **OBJECTIVE:** The objective of this study was to compare death rates attributable to SIDS and related causes of death (AS and UD) in AA and non-AA infants and the prevalence of unsafe sleep practices at time of death. Our hypothesis was that there is a large racial disparity in these modifiable risk factors at the time of death, and that public awareness of this could lead to improved intervention strategies to reduce the disparity in death rates. **METHODS:** In this population-based study, we retrospectively reviewed death-scene information and medical examiners' investigations of deaths in St Louis City and County between January 1, 1994, and December 31, 1997. The deaths of all infants <2 years old with the diagnoses of SIDS, AS, or UD were included. Sleep surfaces other than those specifically designed and approved for infant use were termed nonstandard (adult beds, sofas, etc). Denominators for our rate estimates were the number of births (AA and non-AA) in St Louis City and County during the study period. **RESULTS:** The deaths of 119 infants were studied (81 AA and 38 non-AA). SIDS rates were much higher in AA than non-AA infants (2.08 vs 0.65 per 1000 live births), as was the rate of AS (0.47 vs 0.06). There was a trend for increased deaths diagnosed as UD in AA infants (0.36 vs 0.06). Bedsharing deaths were nearly twice as common in AAs (67.1% vs 35.1% of deaths), as were deaths on nonstandard sleep surfaces (79.0% vs 46.0%). Forty-nine percent (49.1%) of all infants who died while bedsharing were found on their backs or sides compared with 20.4% of infants who were not bedsharing. Overall, the fraction of infants found in these nonprone positions was not different for AA infants and non-AA infants (43.3% vs 38.5%). In AA and non-AA infants, factors that greatly increase the risk of bedsharing, such as sofa sharing or all-night bedsharing, were present in all or many bedsharing deaths. **CONCLUSION:** Among AA infants dying suddenly and unexpectedly, the high prevalence of nonstandard bed use and bedsharing may underlie, in part, their increased death rates. Public health messages tailored for the AA community have stressed first and foremost using nonprone sleep positions. The observation that there was no difference between AA and non-AA infants in position found at death suggests that racial disparity in sleep position is not the most important contributor to racial disparity in death rates. The finding that more infants died on their back or side while bedsharing than otherwise suggests that these sleep positions are less protective when associated with bedsharing. We conclude that public health information tailored for the AA community should give equal emphasis to risks and alternatives to bedsharing as to avoidance of the prone position. (Only the abstract is published in the print journal. Full article available online at <http://www.pediatrics.org/cgi/content/full/111/2/e127>) (Author)

20031210-22

Where should infants sleep? A comparison of risk for suffocation of infants sleeping in cribs, adult beds, and other sleeping locations. Scheers NJ, Rutherford GW, Kemp JS (2003), Pediatrics vol 112, no 4, pp 883-9

OBJECTIVES: To ascertain whether the number of sudden infant deaths as a result of suffocation in cribs, in adult beds, on sofas or chairs, and on other sleep surfaces was increasing whether attributable to increased reporting, diagnostic shift, or an actual increase in suffocation deaths and to compare the risk of reported accidental suffocation for infants on sleep surfaces designed for infants with the risk on adult beds. **METHODS:** We reviewed all accidental suffocation deaths among infants < or =11 months of age reported to the United States Consumer Product Safety Commission from 1980 through 1983 and 1995 through 1998. We compared infants' ages and other demographic data, the sleep location and surface used, and the reported mechanism or pattern of death. For 1995-1998, we used data on sleep location from an annual survey of randomly selected households of living infants younger than 8 months, collected as part of the National Infant Sleep Position Study at the National Institute of Child Health and Human Development, to calculate risk for death as a result of suffocation in cribs, in adult beds, and on sofas or chairs. **METHODS:** The number of reported suffocation deaths by location were compared between the 1980s and 1990s using logistic regression modeling to calculate odds ratios (OR), 95% confidence intervals (CI), and P values. Comparative risks for suffocation deaths on a given sleep surface for infants in the 1990s were examined by calculating rates of death per 100 000 exposed infants and comparing the 95% CI for overlap. **RESULTS:** From the 1980s, 513 cases of infant suffocation were considered; from the 1990s, 883 cases. The number of reported suffocation deaths in cribs fell from 192 to 107, the number of reported deaths in adult beds increased from 152 to 391, and the number of reported deaths on sofas or chairs increased from 33 to 110. Using cribs as the reference group and adjusting for potential confounders, the multivariate ORs showed that infant deaths in adult beds were 8.1 times more likely to be reported in the 1990s than in the 1980s (95% CI: 3.2-20.3), and infant deaths on sofas and chairs were 17.2 times more likely to be reported in the

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1990s than in the 1980s (95% CI: 5.0-59.3). The sleep location of a subset of cases from the 1990s, 348 infants younger than 8 months at death, was compared with the sleep location of 4220 living infants younger than 8 months. The risk of suffocation was approximately 40 times higher for infants in adult beds compared with those in cribs. The increase in risk remained high even when overlying deaths were discounted (32 times higher) or the estimate of rates of bedsharing among living infants doubled (20 times higher). **CONCLUSIONS:** Reported deaths of infants who suffocated on sleep surfaces other than those designed for infants are increasing. The most conservative estimate showed that the risk of suffocation increased by 20-fold when infants were placed to sleep in adult beds rather than in cribs. The public should be clearly informed of the attendant risks. (29 references) (Author)

20031210-20

Back to sleep: can we influence child care providers?. Moon RY, Oden RP (2003), *Pediatrics* vol 112, no 4, pp 878-82

OBJECTIVE: Despite the fact that 20% of sudden infant death syndrome (SIDS) deaths occur in child care settings, many child care providers continue to be unaware of the association of SIDS and infant sleep position and/or are misinformed as to the risks and benefits of the various sleep positions. The objective of this study was to determine whether an educational program for child care providers regarding SIDS and safe sleep environment is effective in 1) providing basic information and understanding regarding SIDS risk reduction practices, 2) changing child care provider behavior, and 3) promoting development of written sleep position policies. **METHODS:** We designed a 60-minute educational in-service for child care providers, to be led by a trained health educator. All providers who attended the in-service were asked to complete surveys before and after the in-service. Surveys assessed provider knowledge, beliefs, and practices. A 6-month follow-up interview was conducted with child care centers that had providers participating in the in-service. **RESULTS:** A total of 96 child care providers attended the educational in-service. Providers who were using the supine position exclusively increased from 44.8% to 78.1%. This change in behavior was sustained, with 85% of centers placing infants exclusively supine 6 months after the intervention. Awareness of the American Academy of Pediatrics recommendation of supine as the preferred position for infants increased from 47.9% to 78.1%, and 67.7% of centers continued to recognize supine as the recommended position 6 months later. The percentage of centers that reported written sleep position policies increased from 18.8% to 44.4%. **CONCLUSIONS:** A targeted educational in-service for child care providers is effective in increasing awareness and knowledge, changing child care provider behavior, and promoting development of written sleep position policies. This change is sustained over at least a 6-month period. (18 references) (Author)

20031027-71*

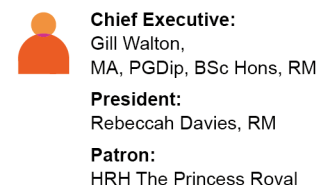
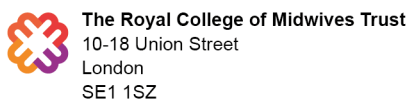
Infant sleeping position and the risk of sudden infant death syndrome in California, 1997-2000. Li DK, Petitti DB, Willinger M, et al (2003), *American Journal of Epidemiology* vol 157, no 5, March 2003, pp 578-579

To assess the association between infant sleeping position and risk of sudden infant death syndrome (SIDS) in an ethnically diverse US population, the authors conducted a population-based case-control study in 11 counties in California from May 1997 through April 2000. The authors conducted in-person interviews with the mothers of 185 SIDS cases and 312 randomly selected race/ethnicity- and age-matched controls to collect information on sleeping positions. Infants who had last been put down to sleep in the prone or side position were at greater risk of SIDS than were infants who had last been put down on their backs (adjusted odds ratio (AOR) = 2.6 (95% confidence interval (CI): 1.5, 4.5) and AOR = 2.0 (95% CI: 1.2, 3.4) for the prone and side positions, respectively). The risk of SIDS was especially high for an unstable side position in which an infant was placed on its side and found prone (AOR = 8.7, 95% CI: 3.3, 22.7). Infants who were usually placed on their backs to sleep but had last been put down in the prone or side position (an unaccustomed position) had a significantly high risk of SIDS (AOR = 8.2 (95% CI: 2.6, 26.0) and AOR = 6.9 (95% CI: 2.3, 20.6) for the prone and side positions, respectively). Infants placed in an unaccustomed prone or side sleeping position had a higher risk of SIDS than infants who were always placed prone or on the side. (Author)

20031014-45

Survey of sleeping positions for term or near term well babies in NSW hospitals. Jeffery HE, Reid S, Kent-Biggs J (2003), *Communique* vol 14, Spring 2003, pp 12-17

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Abstract of a survey that investigated the sleeping position policies and practices of neonates in postnatal wards and nurseries in New South Wales, Australia and level of awareness of sudden infant death risk factors. The selected sleeping position was almost always back in 61% of postnatal wards and 45% of nurseries; side sleeping was practised most or some of the time in 30% of postnatal wards and 32% of nurseries. The positive identification of risk factors for sudden infant death by respondents ranged from 10% to 95%, indicating that evidence-based education is required. (SB)

20031014-44

Sudden infant death syndrome (SIDS) and safe sleeping for infants. Kruk R (2003), *Communique* vol 14, Spring 2003, pp 8-11

Information bulletin from the New South Wales Health Department that provides guidance on safe sleeping arrangements and position for infant to reduce the risk of sudden infant death. (SB)


20031009-31*

Effect of a sudden infant death syndrome risk reduction education program on risk factor compliance and information sources in primarily black urban communities. Rasinski KA, Kuby A, Bzdusek SA, et al (2003), *Pediatrics* vol 111, no 4, April 2003. 8 pages


BACKGROUND: In the US, a higher incidence of sudden infant death syndrome (SIDS) and a slower decline in the incidence of SIDS has been found among blacks when compared with white infants. The continued racial disparity in SIDS is thought to be attributable to lack of compliance with SIDS risk reduction recommendations. **OBJECTIVES:** To better understand the disparities in SIDS risk reduction behaviors, we sought to study compliance and information sources related to SIDS among primarily black communities in a city with a high SIDS incidence rate before and after a targeted educational campaign. **DESIGN:** Pre- and post-SIDS Risk Reduction Education Program telephone surveys were performed in targeted Chicago communities with at least 86% blacks. Data collection for Survey 1 was from September 22 to November 4, 1999. Data collection for Survey 2 was from November 17, 2001, to January 12, 2002, 24 months after the aggressive implementation of a comprehensive, ethnically sensitive risk reduction program. **RESULTS:** Survey 1 analyzed data from 480 mothers with an infant <12 months of age (327 black, 66 white, and 87 Hispanic) and Survey 2 had 472 mothers (305 black, 77 white, and 90 Hispanic). The incidence of nighttime prone sleeping at Survey 1 was 25% among black respondents, 17% in whites, and 12% in Hispanics and decreased (but not significantly) among all groups by Survey 2. Overall, in Survey 2 compared with Survey 1, fewer mothers reported putting their infants on an adult bed, sofa, or cot both during the day and at night, with the biggest change seen in black mothers for daytime naps. Despite the same educational initiative, blacks increased the use of pillows, stuffed toys, and soft bedding in the sleep environment as compared with whites. More mothers in Survey 2 than in Survey 1 said that they noticed their infants sleeping on their back during the newborn hospitalization. Significantly more black and white mothers in Survey 2 compared with Survey 1 reported that a doctor or nurse had told them what the best position was for putting their infants to sleep, and all 3 groups said that the health care providers indicated that placing the infant on its back was the best sleep position. In examining the relationship between information sources and SIDS risk behaviors, among all groups observation of sleep position in hospital had no effect on behavior after newborn discharge; however, specific instruction by a nurse or doctor in the hospital about how to properly place the infant for sleep influenced behavior after the mother left the hospital. **CONCLUSIONS:** The Surveys indicate the greatest impact of the SIDS risk factor educational initiative targeted at black communities was changing behaviors regarding safe sleep locations by reducing the incidence of infants placed for nighttime and daytime sleep in adult beds, sofas, or cots. Although these data indicate considerable progress as a result of the targeted educational initiative, our findings suggest that cultural explanations for specific infant care practices must be more clearly understood to close the gap between SIDS risk factor compliance and apparent knowledge about SIDS risk factors. (Only the abstract is published in the print journal. Full article available online at <http://www.pediatrics.org/cgi/content/full/111/4/e347>) (19 references) (Author)

20031009-30*

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Spontaneous arousals in supine infants while swaddled and unswaddled during rapid eye movement and quiet

sleep. Gerard CM, Harris KA, Thach BT (2002), Pediatrics vol 110, no 6, December 2002. 6 pages

OBJECTIVE: Supine sleep is recommended for infants to decrease the risk of sudden infant death syndrome, but many parents report that their infants seem uncomfortable supine. Many cultures swaddle infants for sleep in the supine position. Swaddled infants are said to 'sleep better'; presumably they sleep longer or with fewer arousals. However, there have been no studies of the effect of swaddling on spontaneous arousals during sleep. Arousal is initiated in brainstem centers and manifests as a sequence of reflexes: from sighs to startles and then to thrashing movements. Such 'brainstem arousals' may progress to full arousal, but most do not. **METHODS:** Twenty-six healthy infants, aged 80 +/- 7 days, were studied during normal nap times. Swaddled (cotton spandex swaddle) and unswaddled trials were alternated for each infant. Sleep state (rapid eye movement [REM] or quiet sleep [QS]) was determined by behavioral criteria (breathing pattern, eye movements) and electroencephalogram/electrooculogram (10 infants). Respiration, submental and biceps electromyogram, and video recording were used to detect startles and sighs (augmented breaths). Full arousals were classified by eye opening and/or crying. Frequencies of sighs, startles, and full arousals per hour were calculated. Progression of events was calculated as percentages in each sleep state, as was duration of sleep state. **RESULTS:** Swaddling decreased startles in QS and REM, full arousal in QS, and progression of startle to arousal in QS. It resulted in shorter arousal duration during REM sleep and more REM sleep. **CONCLUSIONS:** Swaddling has a significant inhibitory effect on progression of arousals from brainstem to full arousals involving the cortex in QS. Swaddling decreases spontaneous arousals in QS and increases the duration of REM sleep, perhaps by helping infants return to sleep spontaneously, which may limit parental intervention. For these reasons, a safe form of swaddling that allows hip flexion/abduction and chest wall excursion may help parents keep their infants in the supine sleep position and thereby prevent the sudden infant death syndrome risks associated with the prone sleep position. (Only the abstract is published in the print journal. Full article available online at <http://www.pediatrics.org/cgi/content/full/110/6/e70>) (28 references) (Author)

20030926-21*

Incidence of cranial asymmetry in healthy newborns. Peitsch WK, Keefer CH, LaBrie RA, et al (2002), Pediatrics vol 110, no 6, December 2002. 87 pages

OBJECTIVE: During recent years, coincident with the recommendation to position infants supine, the incidence of posterior deformational plagiocephaly has increased dramatically. The purpose of our study was to determine whether early signs of cranial flattening could be detected in healthy neonates and to document incidence and potential risk factors. **DESIGN:** A cross-sectional study was performed in healthy newborns. Physical findings, anthropometric cranial measurements, and data on pregnancy and birth were recorded. **RESULTS:** The incidence of localized cranial flattening in singletons was 13%; other anomalous head shapes were found in 11% of single-born neonates. In twins, localized flat areas were much more frequent with an incidence of 56%. The following risk factors for cranial deformation were identified: assisted vaginal delivery, prolonged labor, unusual birth position, primiparity, and male gender. **CONCLUSION:** We propose that localized lateral or occipital cranial flattening at birth is a precursor to posterior deformational plagiocephaly. The infant lies supine, with the head turned to the flattened area, and is unable to roll. Intrauterine risk factors for localized cranial flattening are the same as for deformational plagiocephaly. To avoid postnatal progression from a localized cranial flattening to posterior-lateral deformational plagiocephaly, we suggest amending the recommendation of the American Academy of Pediatrics on sleep position: Alternate the head position and allow sleeping on the side and, when awake, supervise prone time. (Only the abstract is published in the print journal. Full article available online at <http://www.pediatrics.org/cgi/content/full/111/4/e72>) (39 references) (Author)

20030926-18*

Occurrence and mechanisms of sudden oxygen desaturation in infants who sleep face down. Patel AL, Paluszynska D, Harris KA, et al (2003), Pediatrics vol 111, no 4, April 2003. 5 pages

OBJECTIVE: Infants who sleep prone and face down on soft bedding are particularly vulnerable for sudden infant death syndrome. It has been suggested that 1 mechanism of death in this situation involves rebreathing of expired air. Many

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infants tolerate rebreathing while lying prone face down for long periods with stable saturations. Others occasionally have rapid desaturations and may require intervention to terminate rebreathing. The present study had 3 objectives: 1) to determine the frequency of rapid desaturations in a large group of healthy infants, 2) to elucidate the mechanism of these desaturations, and 3) to determine the timing of these events during periods of rebreathing. METHODS: We studied respiratory tracings and videotapes of 56 healthy 1- to 6-month-old infants who were sleeping face down and rebreathing on soft bedding in our laboratory. We compared the frequency of desaturations during rebreathing and nonrebreathing periods. We measured respiratory frequency and apnea occurrence before desaturation and nonrebreathing control episodes. We also measured minute ventilation during steady state before desaturation and just before desaturation. RESULTS: There were 25 desaturation episodes in infants while rebreathing, occurring in 11 (19.6%) of the 56 infants. Episodes were significantly more frequent during rebreathing than during nonrebreathing periods. Three desaturation episodes reached <85%; 2 required intervention to terminate rebreathing. The respiratory frequency was not different between nonrebreathing control and desaturation episodes. Brief apneas were significantly more frequent preceding desaturation than control episodes (44% vs 4%). Just before episodes, there was a transient decrease in minute volume despite increasing inspired carbon dioxide in 3 episodes. There was evidence of partial or complete pharyngeal airway obstruction in 3 episodes. Thirty-six percent of all episodes were immediately preceded by behavioral arousal. CONCLUSIONS: Rebreathing in prone sleeping infants is associated with an increased frequency of episodic desaturations. Desaturation may result from respiratory pattern changes such as brief apneas often associated with evidence of behavioral arousal or failure to increase ventilation in the face of rising inspired carbon dioxide, also associated with behavioral arousal. (Only the abstract is published in the print journal. Full article available online at <http://www.pediatrics.org/cgi/content/full/111/4/e328>) (23 references) (Author)

20030918-2*

Survey of sleeping position recommendations for prematurely born infants on neonatal intensive care unit discharge.

Bhat RY, Leipala JA, Rafferty GF, et al (2003), *European Journal of Pediatrics* vol 162, no 6, June 2003, pp 426-427

Prematurely born infants are at increased risk of sudden infant death syndrome, particularly if slept prone. Yet, some prematurely born infants are slept prone despite the high risk age for sudden infant death syndrome and this may reflect the advice given by neonatal unit staff. The aim of this study was to determine neonatal units' recommendations regarding sleeping positions for premature infants prior to and after discharge. A questionnaire survey was sent to all 224 neonatal units in the United Kingdom, of which 81% responded. Analysis of their responses demonstrated that 43% of units started to sleep infants supine 1 to 2 weeks prior to discharge, but oxygen-dependent infants were slept non-supine until an older age. Non-supine sleeping was recommended by 40% of units for infants with Pierre Robin syndrome or gastro-oesophageal reflux. All units advised supine sleeping at discharge, but 29% additionally recommended side sleeping and only 58% positively discouraged prone sleeping. Written information was given to parents by 70% of the units, but few provided information which was specifically about prematurely born infants. Conclusion: The worrying lack of consistency in recommending non-prone sleeping emphasises that evidence-based guidelines for the sleeping position of convalescent prematurely born infants are required. (Author)

20030828-16

The other side of 'back to sleep'. Jones MW (2003), *Neonatal Network: the Journal of Neonatal Nursing* vol 22, no 4, July/August 2003, pp 49-53

Reviews some of the morbidities that are associated with supine sleep position, the position now recommended for limiting the risk of sudden infant death syndrome (SIDS). Argues that the mantra 'back to sleep' which is taught to parents should be extended to include 'prone to play'. (28 references) (RM)

20030815-24

Sudden unexpected deaths after discharge from the neonatal intensive care unit. Fleming PJ, Blair PS (2003), *Seminars in Neonatology* vol 8, no 2, April 2003, pp 159-167

The published evidence on the risk of sudden unexpected death in infants after discharge from the neonatal intensive

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care unit (NICU) is reviewed, together with the relevance of the various identified potentially modifiable post-natal risk factors, particularly sleeping position. Infants of low birthweight, short gestation, and those with adverse perinatal histories are at substantially increased risk of sudden infant death syndrome (SIDS), but the potential benefits from following the measures designed to reduce the risk of SIDS are proportionally greater than for term infants. The use of home apnoea monitors has not been shown to be of value in preventing SIDS, but the importance of maintaining adequate oxygenation in infants with bronchopulmonary dysplasia is emphasised. Evidence based recommendations for care of infants after discharge from the NICU with a view to reducing the risk of SIDS are presented, and do not differ significantly from those for low-risk infants. (51 references) (Author)

20030805-45

Sleep environment and the risk of sudden infant death syndrome in an urban population: the Chicago Infant

Mortality Study. Hauck FR, Herman SM, Donovan M, et al (2003), Pediatrics vol 111, no 5, part 2, May 2003, pp 1207-1214

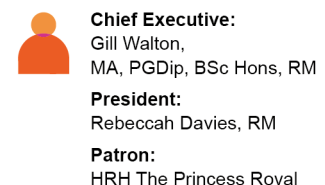
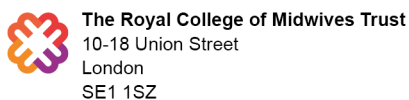
OBJECTIVE: To examine risk factors for sudden infant death syndrome (SIDS) with the goal of reducing SIDS mortality among blacks, which continues to affect this group at twice the rate of whites. **METHODS:** We analyzed data from a population-based case-control study of 260 SIDS deaths that occurred in Chicago between 1993 and 1996 and an equal number of matched living controls to determine the association between SIDS and factors in the sleep environment and other variables related to infant care. **RESULTS:** The racial/ethnic composition of the study groups was 75.0% black; 13.1% Hispanic white; and 11.9% non-Hispanic white. Several factors related to the sleep environment during last sleep were associated with higher risk of SIDS: placement in the prone position (unadjusted odds ratio [OR]: 2.4; 95% confidence interval [CI]: 1.7-3.4), soft surface (OR: 5.1; 95% CI: 3.1-8.3), pillow use (OR: 2.5; 95% CI: 1.5-4.2), face and/or head covered with bedding (OR: 2.5; 95% CI: 1.3-4.6), bed sharing overall (OR: 2.7; 95% CI: 1.8-4.2), bed sharing with parent(s) alone (OR: 1.9; 95% CI: 1.2-3.1), and bed sharing in other combinations (OR: 5.4; 95% CI: 2.8-10.2). Pacifier use was associated with decreased risk (unadjusted OR: 0.3; 95% CI: 0.2-0.5), as was breastfeeding either ever (OR: 0.2; 95% CI: 0.1-0.3) or currently (OR: 0.2; 95% CI: 0.1-0.4). In a multivariate model, several factors remained significant: prone sleep position, soft surface, pillow use, bed sharing other than with parent(s) alone, and not using a pacifier. **CONCLUSIONS:** To lower further the SIDS rate among black and other racial/ethnic groups, prone sleeping, the use of soft bedding and pillows, and some types of bed sharing should be reduced. (94 references) (Author)

20030711-29

Nighttime child care: inadequate sudden infant death syndrome risk factor knowledge, practice, and policies. Moon RY, Weese-Mayer DE, Silvestri JM (2003), Pediatrics vol 111, no 4, April 2003, pp 795-799

BACKGROUND: Millions of children in the US have parents who work alternative shifts. As a result, extended-hour and nighttime child care centers have increased in number to meet the needs of parents working nonstandard hours. Recognizing that 20% of sudden infant death syndrome (SIDS) occurs in child care settings and that child care providers may place infants prone, it is important to determine sleep position practices in nighttime child care centers. **OBJECTIVE:** To determine if nighttime child care centers 1) follow Back to Sleep recommendations; 2) are aware of the need for a safe sleep environment; and 3) have written policies directing proper SIDS risk reduction practices. **DESIGN:** A descriptive, cross-sectional survey of licensed child care centers in the US offering evening and nighttime care. All nighttime centers caring for infants <6 months old were recruited for the study. **RESULTS:** Out of 153 eligible centers, 110 centers in 27 states completed the survey. Infants were placed prone in 20% of centers, although only 1 center placed infants exclusively prone. Infants slept in cribs in 53.6% of centers, but slept in uncluttered sleep environments in only 18.2% of centers. Smoking was prohibited in 86.4% of centers. The most commonly cited reason for avoiding prone altogether was SIDS risk reduction; however, 10 centers that cited SIDS risk reduction continued to place infants prone at least some of the time, because of parental request or concerns about infant comfort. Over half (59%) of the centers had written policies; however, presence of written policy was not associated with avoidance of prone position. In over one third of centers with written policies, providers were unaware of the content of the policy. **CONCLUSIONS:** Twenty percent of nighttime child care centers place infants prone at least some of the time. Most providers who place infants prone do so because of lack of awareness or misinformation about safe sleep environment. Although the Back to Sleep campaign has been effective in communicating the risks of sleeping prone,

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nonprone positioning is not universal among nighttime child care providers. Additional educational efforts toward child care providers remain necessary. In addition, parents as advocates for their own infants need to be proactive in assuring that safe sleep practices are implemented in child care settings. (20 references) (Author)

20030625-8

Infant sleep position and associated health outcomes. Hunt CE, Lesko SM, Vezina RM, et al (2003), Archives of Pediatrics and Adolescent Medicine vol 157, no 5, May 2003, pp 469-474

BACKGROUND: The incidence of sudden infant death syndrome has decreased in the United States as the percentage of infants sleeping prone has decreased, but persisting concerns about the safety of supine sleeping likely contribute to prone sleeping prevalence rates that remain higher than 10%. **OBJECTIVE:** To document health outcomes in infants aged 1 to 6 months in relation to sleep position. **DESIGN:** Prospective cohort study. **SETTING:** Massachusetts and Ohio, from February 21, 1995, to December 31, 1998. **STUDY PARTICIPANTS:** A total of 3733 infants with consistent sleep positions at ages 1, 3, and 6 months. **MAIN OUTCOME MEASURES:** Descriptive statistics and multiple logistic regression analysis relating sleep position at each follow-up age to symptoms in the prior week (fever, cough, wheezing, stuffy nose, trouble breathing or sleeping, diarrhea, vomiting, or spitting up) and outpatient visits in the prior month (ear infection, breathing problem, vomiting, spitting up, colic, seizure, accident, or injury). **RESULTS:** No symptoms or outpatient visits were significantly more common among infants sleeping on the side or supine than in infants sleeping prone, and 3 symptoms were less common: (1) fever at 1 month in infants sleeping in the supine (adjusted odds ratio [OR], 0.56; 95% confidence interval [CI], 0.34-0.93) and side positions (OR, 0.48; 95% CI, 0.28-0.82); (2) stuffy nose at 6 months in the supine (OR, 0.74; 95% CI, 0.61-0.89) and side positions (OR, 0.82; 95% CI, 0.68-0.99); and (3) trouble sleeping at 6 months in the supine (OR, 0.57; 95% CI, 0.44-0.73) and side positions (OR, 0.69; 95% CI, 0.53-0.89). Also, outpatient visits for ear infections were less common at 3 and 6 months in infants sleeping in the supine position (OR, 0.64; 95% CI, 0.46-0.88; and OR, 0.73; 95% CI, 0.58-0.92, respectively) and at 3 months in the side position (OR, 0.68; 95% CI, 0.49-0.96). **CONCLUSIONS:** No identified symptom or illness was significantly increased among nonprone sleepers during the first 6 months of life. These reassuring results may contribute to increased use of the supine position for infant sleeping. (13 references) (Author)

20030625-69

What parents need to know about cot death. Kenyon S, Bacon C (2003), Nurse 2 Nurse vol 3, no 5, May 2003, pp 31-32

'Cot death' is a lay term often used to describe any sudden unexpected death in infancy (SUDI). In about 20% of SUDI a cause, such as meningitis or an unsuspected heart defect, is found at post-mortem examination, but the majority remain unexplained and may then be categorised as Sudden Infant Death Syndrome (SIDS). The term SIDS was introduced by the American pathologist Beckwith to encompass sudden and unexpected deaths in infancy that were thought to be natural but for which no specific cause could be demonstrated [Beckwith 1969]. Since that time there has been much research into all aspects of SIDS, and although the epidemiology is now better understood and various risk factors have been identified, the basic causes and mechanisms remain a mystery. (7 references) (Author)

20030417-4

Secular changes in sleep position during infancy: 1995-1998. Corwin MJ, Lesko SM, Heeren T, et al (2003), Pediatrics vol 111, no 1, January 2003, pp 52-60

Objective. Prone sleeping among infants has been associated with an increased risk of sudden infant death syndrome. The objective of this study was to compare factors associated with sleep position in 1995-1996 and 1997-1998 and to assess secular trends in use of prone infant sleep position from 1995 through 1998 among families stratified by race and education. **Methods.** A prospective cohort study was conducted in eastern Massachusetts and northwest Ohio of 12 029 mothers of infants who weighed ≥ 2500 g at birth. Descriptive statistics and multivariate odds ratios were used to relate maternal and infant characteristics to prone and supine sleeping. **Results.** A total of 14206 mothers (25% of those eligible) were enrolled. A total of 12 029 mothers (85% of enrolled) responded to the 1-month and 11 552 mothers (81% of enrolled) responded to the 3-month follow-up questionnaire. A decline in use of the prone sleep

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position and increase in use of the supine position was observed during the 4 years of the study. Factors associated with prone and supine sleep position were similar in 1995-1996 and 1997-1998. In 1997-1998, use of prone sleeping at 1 month of age reached the goal of $\leq 10\%$ only among infants of white and Asian women, married women, women who were older than 25 years, women who were college graduates, and women with incomes $> \$55000$ per year. At 3 months of age, however, prone sleeping increased to 12% to 17% in these groups. These same groups were most likely to use the supine position; 38% to 45% were supine at 1 month, increasing to 56% to 64% by 3 months of age. However, as of the end of 1998, approximately 27% of infants of non-college-educated black and Hispanic mothers were placed to sleep in the prone position and only 20% to 30% were being placed to sleep in the supine position at 3 months of age. Conclusions. Recommendations to avoid prone sleep position and especially the recommendation that supine sleep position is preferred have not been effectively delivered to black and Hispanic families and to families of low-income and less than a college education. (27 references) (Author)

20030410-24

Measures of cardiac repolarization and body position in infants. Baker SS, Milazzo AS, Valente AM, et al (2003), Clinical Pediatrics vol 42, no 1, January/February 2003, pp 67-70


Sudden Infant Death Syndrome (SIDS) is the most common cause of death in children between 1 and 6 months of age. Recent data suggest that a prolonged QTc interval on the 12-lead electrocardiogram (ECG) is associated with SIDS. Prone body position during sleep is also known to be a risk factor for SIDS; this has prompted the American Academy of Pediatrics to promote the 'Back to Sleep' campaign. We postulated that the QTc interval in infants might change as a function of body position, linking the observations relating body position and QTc interval to SIDS. We recorded ECGs in a group of infants in both the supine and prone position to determine if the QTc interval and QT dispersion differ between the 2 positions. Forty-seven standard 12-lead ECGs and high-amplitude, rapid-sweep 12-lead ECGs were performed on 45 healthy infants (mean age 26 ± 40 days) in both the supine and prone positions. The infants were asleep in a quiet, restful state. The ECGs were reviewed by 2 investigators blinded to the position of the infants during recording. Measurements included the average QTc interval (using Bazett's correction) and QT dispersion (the difference between the longest and the shortest QT intervals on a standard 12-lead EKG). The study was designed to detect a 3% difference in QTc interval with 80% power and $\alpha=0.05$. All subjects had telephone or clinical follow-up at 1 year. The average QTc interval was 403 ± 20 milliseconds (msec) in the supine position and 405 ± 27 msec in the prone position ($p=NS$). The QT dispersion was 20 ± 12 msec in the supine position and 22 ± 13 msec in the prone position ($p=NS$). One infant in the study group died of SIDS at the age of 3 months. The ECG of this patient revealed a QTc interval of 382 msec in the supine position and 407 msec in the prone position; the QT dispersion was 34 msec in the supine position and 34 msec in the prone position. We found no difference in QTc interval or QT dispersion as a function of body position in healthy infants resting quietly. Prolongation of the QTc interval is unlikely to explain the increased risk for SIDS associated with prone body position in the general population of healthy infants, unless patients with long QT syndrome are somehow more influenced by body position than normal patients are. (25 references) (Author)

20030402-2*


International Child Care Practices Study: infant sleep position and parental smoking. Nelson EA, Taylor BJ (2001), Early Human Development vol 64, no 1, August 2001, pp 7-20

The International Child Care Practices Study (ICCPs) collected descriptive data from 21 centres in 17 countries. In this report, data are presented on the key sudden infant death syndrome (SIDS) risk factors of infant sleep position and parental smoking. Methods: Using a standardised protocol, parents of infants were surveyed at birth by interview, and at 3 months of age mainly by postal questionnaire. Data entry and descriptive analysis were undertaken with Epi Info. Centres were grouped according to geographic location. Also indicated was the level of SIDS awareness in the community, i.e. whether any campaigns or messages to 'reduce the risks of SIDS' were available at the time of the survey. Results Birth interview data were available for 5488 individual families, and 4656 (85%) returned questionnaires at 3 months. Overall, 52.5% (95% CI, 43.5-61.3) of infants were placed in the supine or back sleep position, 37.8% (95% CI, 30.6-45.7) in the side position and 13% (95% CI, 9.3-17.9) in the prone or front position. The

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prevalence of supine sleeping ranged from 14% (Santiago, Chile) to 89% (Tokyo/Yokohama, Japan). The prevalence of reported smoking was between 0% and 34% for mothers and 10% and 64% for fathers. In samples from Western countries, there was a trend for rates of maternal smoking to be similar to paternal smoking, whereas in other samples, low rates of maternal smoking contrasted with high rates of paternal smoking. Conclusions These data highlight considerable variations and interesting patterns in the prevalence of these two important SIDS risk factors in these diverse samples. Impressive differences in rates of smoking within and between these communities may reflect different stages of the inevitable progression of the smoking epidemic, but may also provide some encouragement that reduction in smoking rates, in both mothers and fathers, is possible. (Author)

20030320-69*

Effects of body position on sleep and arousal characteristics in infants. Horne RSC, Franco P, Adamson TM, et al (2002), Early Human Development vol 69, no 1-2, 2002, pp 25-33


The prone sleeping position has been identified in world-wide epidemiological studies as a major risk factor for sudden infant death syndrome (SIDS). Public awareness campaigns throughout the western world have led to an over 50% reduction in postneonatal mortality and frequency of SIDS. This reduction in mortality has been mainly attributed to the avoidance of the prone sleep position. Various mechanisms have been postulated to explain the increased risk of SIDS associated with prone sleeping, among these, impairment of arousal from sleep. This paper reviews the effects of prone sleeping on infant sleep architecture, arousability from sleep and cardiorespiratory controls. Sleeping in the prone position has been shown to increase the amount of time spent sleeping, particularly time spent in quiet sleep (QS). Sleeping prone has also been demonstrated to be associated with a reduced responsiveness to a variety of arousal stimuli. Such impairment of arousal has been demonstrated to be associated with changes in control of autonomic cardiac function. During arousal, heart rate, blood pressure and breathing movements increase, while gross body movements occur to avoid the stimulus. Any impairment in arousability from sleep such as could occur when infants sleep in the prone position, could possibly contribute to the final pathway to SIDS. (66 references) (Author)

20030214-7


The contribution of prone sleeping position to the racial disparity in sudden infant death syndrome: the Chicago infant mortality study. Hauck FR, Moore CM, Herman SM, et al (2002), Pediatrics vol 110, no 4, October 2002, pp 772-780

Background: Rates of sudden infant death syndrome (SIDS) are over twice as high among African Americans compared with Caucasians. Little is known, however, about the relationship between prone sleeping, other sleep environment factors, and the risk of SIDS in the United States and how differences in risk factors may account for disparities in mortality. Objective: To assess the contribution of prone sleeping position and other potential risk factors to SIDS rise in a primarily high-risk, urban African American population. Design: Setting, and Population. Case-control study consisting of 260 infants ages birth to 1 year who died of SIDS between November 1993 and April 1996. The control group consists of an equal number of infant matched on race, age, and birth weight. Prospectively collected data from the death scene investigation and follow-up home interview for case infants were compared with equivalent questions for living control participants to identify risk factors for SIDS. Main Outcome Measures: Risk of SIDS related to prone sleeping position adjusting for potential confounding variables and other risk factors for SIDS, and comparisons by race-ethnicity. Results: Three quarters of the SIDS infants were African American. There was more than a twofold increase, risk of SIDS associated with being placed prone for last sleep compared with the nonprone positions (odds ratio [OR]: 2.4; 95% confidence interval [CI]: 1.6-3.7). This OR increased after adjusting for potential confounding variables and other sleep environment factors (OR: 4.0; 95% CI: 1.8-8.8). Differences were found for African Americans compared with others (OR: 1.8; 95% CI: 1.2-2.6 and OR: 10.3, 95% CI: 10.3 [3.2-33.8, respectively]). The population attributable risk was 31%. Fewer case mothers (46%) than control mothers (64%) reported being advised about sleep position in the hospital after delivery. Of those advised, a similar proportion of case mothers as control mothers were incorrectly told or recalled being told to use the prone position, but prone was recommended in a higher proportion of black mothers (cases and controls combined) compared with nonblack mothers. Conclusions: Prone sleeping was found to be a significant risk factor for SIDS in this primarily African American urban sample, and approximately one third of the SIDS deaths could be attributed to this factor. Greater and more effective educational

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outreach must be extended to African American families and the health personnel serving them to reduce prone prevalence during sleep, which appears, in part, to contribute to the higher rates of SIDS among African American infants. (73 references) (Author)

20021223-65*

Quality of diet, body position, and time after feeding influence behavioral states in low birth weight infants. Sahni R, Saluja D, Schulze KF, et al (2002), *Pediatric Research* vol 52, no 3, 2002, pp 399-404


The effects of variations in carbohydrate and fat intake and body position on behavioral activity states were evaluated in 64 healthy, growing low birth weight infants (birth weight, 750- 1600 g). The infants, enrolled in a prospective, randomized, double-blind, controlled study of effects of quality of dietary energy, were fed one of the five formulas. These formulas contained fixed intakes of protein (4 g/kg per day) but different intakes of carbohydrate (9.1 to 20.4 g/kg per day) and fat (4.3 to 9.5 g/kg per day). Six-hour daytime sleep studies were performed at 2-wk intervals from time of full enteral intake until discharge (mean postconceptional age at first study, 33.2 ±1.8 wk). Infants were randomly assigned to the prone or supine position for the first 3-h postprandial period; the position was reversed during the second 3 h. Behavioral activity state, i.e. quiet sleep (QS), active sleep, indeterminate sleep, awake, or crying was coded each minute throughout the postprandial period. The overall incidence of QS was almost double in the prone position versus the supine ($p < 0.0001$). In contrast, the probability of being in either of the two wakeful states (awake and crying) was increased when infants were placed in supine position ($p < 0.0001$). Increased likelihood of being in QS while prone was found only during the 30 min after and before feeding in a 150-min prandial cycle. In contrast, increased amounts of awake and crying in supine position were observed throughout the feeding interval. As carbohydrate intake increased, time spent in QS in supine position increased (from 8.6% to 12.5%, $p < 0.02$), and a trend in the same direction was noted for the prone position ($p = 0.06$). However, during postprandial minutes 10-100, when QS is likely to be entrained by the nutrient intake, enhancement of QS was found in the prone position only ($p < 0.02$). Carbohydrate intake influences the total time spent and the distribution of behavioral activity states within the postprandial period in low birth weight infants. The effect of nutrient intake on sleep profile is dependent on body position and time after feed. Mechanistic hypotheses relating sudden infant death syndrome to sleeping position may need to take these observations into account. (35 references) (Author)

20021220-39


Determinants of infant sleep position in an urban population. Moon RY, Omron R (2002), *Clinical Pediatrics* vol 41, no 8, October 2002, pp 569-573

The incidence of SIDS has decreased by 40% since the Back to Sleep campaign was initiated. However, the rate of SIDS in the District of Columbia continues to be approximately double the national rate. The purpose of this study was to determine the prevalence and determinants of prone sleeping among infants in the District of Columbia and to ascertain what information is being provided to parents by health care professionals by a cross-sectional survey of parents of infants 0-6 months of age presenting for well child care at Children's Health Center, Children's National Medical Center, in Washington, DC. We recruited a consecutive sample of 126 parent-infant pairs, of which 92.9% were African-American. The average infant was 73 days old, was 3,003 grams at birth, and was full term. When asked how the infants were placed for sleep the night before the interview, 34.1% of parents had placed the infant supine, 50.8% side, and 15.1% prone. Nearly half (48%) of infants slept in an adult bed with the mother. More than one third of the infants had been placed prone for sleep at least once since hospital discharge. Most common reasons for sleeping supine included SIDS risk reduction or health care professional advice. Side sleepers did so primarily because of concern about vomiting, health care provider advice, or SIDS. Infants were placed prone primarily because the infant slept better. When asked about information received from a health care provider, 70.6% of parents stated that they had received information about sleep position and 64.3% about the hazards of passive smoking. Eight parents observed nursery personnel placing their infants prone. Only 16.7% of the total study population had received a Back to Sleep brochure, read it, and recalled that it recommended back sleeping. Infants were more likely to sleep prone if there was a grandparent in the home (OR 2.9, $p < 0.05$) or if they were the firstborn (OR 2.17, $p < 0.05$). Infants were more likely to sleep supine if parents had heard a

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back recommendation from a health care professional (OR 5.7, $p < 0.001$). Infants were least likely to sleep supine if the parents had heard aside or a side/back recommendation (OR 0.26, $p = 0.001$). Infant sleep position was not affected by receiving or reading the Back to Sleep brochure. In conclusion, more than one third (35.7%) of infants in this predominantly African-American population have been placed prone for sleep at least once; 15% slept prone the night before the interview. Almost one third of parents received no information about sleep position, but parents receiving a verbal supine recommendation were most likely to place their infant supine. Receiving written information did not affect sleep position. Improved educational efforts for parents of African-American newborns should continue to focus on encouraging supine positioning, smoke cessation, and other safe sleep practices. (15 references) (Author)

20021216-24

Physiologic studies on swaddling: an ancient child care practice, which may promote the supine position for infant sleep. Gerard CM, Harris KA, Thach BT (2002), Journal of Pediatrics vol 141, no 3, September 2002, pp 398-404

OBJECTIVE: The calming effects of swaddling may help infants accept back sleeping and so reduce the risk of sudden infant death syndrome. We hypothesized that swaddling, with minimal leg restraint, would be accepted by postneonatal infants with minimal respiratory effects. STUDY DESIGN: Postneonatal infants ($n = 37$) were studied for the introduction of swaddling. Four infants were studied by using traditional swaddling techniques. Swaddle tightness was increased in 13 infants, simulating traditional swaddles. Respiratory variables-respiratory rate, tidal volume, oxygen saturation, heart rate, sigh rate, and 'grunting'-were measured. RESULTS: Hips were flexed and abducted in the swaddle. The majority of infants accepted swaddling while supine, including 78% of infants who slept prone at home. Acceptance decreased with increasing age. With increased swaddle pressure, respiratory rate increased during quiet sleep ($P < .05$). In rapid eye movement sleep, a slight effect on heart rate was observed ($P < .05$). Other variables did not change. CONCLUSIONS: Older infants including usual prone sleepers generally accept a form of swaddling that has minimal respiratory effects. The reintroduction of swaddling, without restricting hip movement or chest wall excursion, combined with supine sleeping, may promote further sudden infant death syndrome reduction. (31 references) (Author)

20021212-9

Belly up. Addley E (2002), Guardian Health 19 November 2002, pp 8-9

Since cot-death experts told parents to put babies down on their backs, most infants rarely get to spend time on their fronts. But could 'tummy time' be essential for healthy development? (Author)

20021202-2

Babies who want to move forward go on 'tummy time' exercise regime. Baxter S (2002), Sunday Times 17 November 2002, p 24

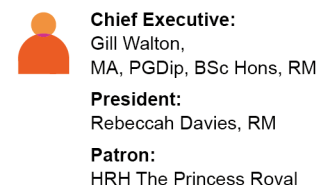
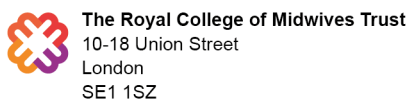
Brief newspaper article on the latest American craze for giving babies 'tummy time' - the idea being that because babies sleep on their backs to prevent cot death, it is important to increase muscle development by encouraging babies' crawling and exercise in the prone position. It is argued that this 'tummy time' leads to increased mental development too. (RGW)

20021111-47

Population trends in sudden infant death syndrome. Ponsonby AL, Dwyer T, Cochrane J (2002), Seminars in Perinatology vol 26, no 4, August 2002, pp 296-305

This review documents and assesses recent trends in sudden infant death syndrome. We review medical literature, Internet resources, and national governmental data. A striking reduction in SIDS incidence of more than 50% has been observed in various countries after interventions, particularly during the early 1990s, to reduce the prevalence of prone infant sleeping. A reduction in postneonatal mortality has accompanied these lower rates. Evaluation studies from several countries indicate that the SIDS rate drop is largely attributable to a decline in the proportion of babies

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sleeping prone. Within countries, the SIDS rate decline has not occurred to the same extent for different ethnic and socio-economic groups. Future public health activities must aim to address this issue. In the post-intervention era, the relative importance of the risk factors of side compared to supine sleeping and soft bedding near the infant's airway have become more evident. Recent death scene data indicate that a substantial proportion of the remaining SIDS deaths could be avoided by supine sleeping and by providing a safe sleeping environment for all infants. (40 references) (Author)

20021105-24

Physician beliefs and practices regarding SIDS and SIDS risk reduction. Moon RY, Giongras JL, Erwin R (2002), Clinical Pediatrics vol 41, no 6, July/August 2002, pp 391-395


The AAP has alerted pediatricians to the importance of safe sleep environment for infants. The elements of a safe sleep environment include supine sleep position, safe crib, and avoidance of smoke exposure, soft bedding, and overheating. With the Back to Sleep campaign, prone sleeping among all U.S. infants has decreased to less than 20%, and the incidence of SIDS has decreased 40%. However, the decline in SIDS and prone sleeping has leveled off in recent years. Further declines may be possible with decreasing other modifiable risk factors, such as prenatal and postnatal exposure to cigarette smoking. Prior studies have demonstrated that health care professional advice is influential in determining infant care practices. It is important that physicians caring for infants be aware of the importance of a safe sleep environment and understand other modifiable risk factors for SIDS. We surveyed a random sample of 3,717 physicians in North Carolina and the metropolitan Washington, DC, area to determine knowledge, beliefs, and practices regarding SIDS and SIDS risk reduction among physicians caring for pregnant women and infants. Twenty-three percent (835) responded. Most physicians are aware of prone sleeping and cigarette smoke exposure as risk factors for SIDS. Almost all physicians agree that there are measures that can be taken to reduce the risk of SIDS, and they consider it important to discuss SIDS and SIDS risk reduction strategies with parents of young infants. In spite of this belief, only 56% of family/general practitioners, 18% of obstetrician-gynecologists, and 79% of pediatricians discuss SIDS routinely. Only 35% of pediatricians, 15% of family/general practitioners, and 16% of obstetrician-gynecologists provide written information. In addition, only 38% of physicians recommend supine, while 50% recommend side or back, 6% side, and 7% prone. Only two thirds of pediatricians and one third of family/general practitioners are aware that the AAP recommends supine as the preferred sleep position for infants. Pediatricians are more likely to be aware of the AAP recommendation ($p < 0.0001$) and to discuss SIDS risk reduction strategies with parents ($p = 0.03$). We conclude that many physicians who care for infants are unaware of the AAP's most current recommendation for sleep position and are incorrectly recommending the side position. Physicians may also be unaware of other sleep environment hazards. Further educational efforts must continue for physicians who provide care to pregnant women and children to ensure a continued decline in the incidence of SIDS. (21 references) (Author)

20020919-51


Prone versus supine sleep position: a review of the physiological studies in SIDS research. Galland BC, Taylor BJ, Bolton DPG (2002), Journal of Paediatrics and Child Health vol 38, no 4, August 2002, pp 332-338

A number of physiological studies, published over the last 10 years, have investigated the links between prone sleeping and sudden infant death syndrome (SIDS). This review evaluates those studies and derives an overview of the different affects of sleeping prone or supine in infancy. Generally, compared with the supine, the prone position raises arousal and waking thresholds, promotes sleep and reduces autonomic activity through decreased parasympathetic activity, decreased sympathetic activity or an imbalance between the two systems. In addition, resting ventilation and ventilatory drive is improved in preterm infants, but in older infants (>1 month), there is no improvement in ventilation, and in 3-month-old infants, the position is adverse in terms of poorer ventilatory drive (in active sleep only). The majority of findings suggest a reduction in physiological control related to respiratory, cardiovascular and autonomic control mechanisms, including arousal during sleep in the prone position. Since the majority of these findings are from studies of healthy infants, continued reinforcement of the supine sleep recommendations for all infants is emphasized. (89 references) (Author)

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20020903-36

Changing nursery practice gets inner-city infants in the supine position for sleep. Colson ER, Joslin SC (2002), Archives of Pediatrics and Adolescent Medicine vol 156, no 7, July 2002, pp 717-720

Objective: To determine whether an educational intervention to change nursery practice would result in more inner-city parents placing their infants in the supine position for sleep. **Design:** We conducted semistructured interviews at the 2-week health supervision visit with 1 convenience sample of parents before and a different convenience sample of parents after an educational intervention was conducted to change nursery practice in positioning infants for sleep. **Setting:** University hospital clinic located in an urban setting. **Participants:** Parents of 2-week-old infants at their first health supervision visit in an urban, university-affiliated clinic. All parents who were approached agreed to participate. **Intervention:** Nurses were instructed to place infants exclusively in the supine position in the nursery and to instruct parents to exclusively place infants in the supine sleeping position at home. **Main Outcome Measure:** The usual sleeping position in which parents reported placing their 2-week old infants. **Results:** Before the intervention, 41% of parents reported that a clinician had told them to place their infants to sleep in the supine position compared with 81% after the intervention (odds ratio [OR], 6.1; 95% confidence interval [CI], 3.1-12.3). Before the intervention, 37% of parents reported that the nursery staff placed their infants to sleep in the supine position, compared with 88% after the intervention (OR, 12.5; 95% CI, 5.7-27.7). Before the intervention, 42% of parents reported that they usually placed their infants to sleep in the supine position at home compared with 75% after the intervention (OR, 4.2; 95% CI, 2.1-7.9). **Conclusion:** After an educational intervention to change practice in a well-newborn nursery, many more parents reported placing their infants in the supine position for sleep, which suggests that such an intervention may have an impact on the position in which parents place their children to sleep. (19 references) (Author)

20020903-29

Decreased arousals in infants who sleep with the face covered by bedclothes. Franco P, Lipshutz W, Valente F, et al (2002), Pediatrics vol 109, no 6, June 2002, pp 1112-1117

Objective. The risk of becoming a victim of sudden infant death syndrome is increased in infants who sleep with their face under bedding items. The present study was designed to evaluate auditory arousal thresholds of infants who sleep with their face covered by bedclothes. **Methods.** Twenty healthy infants with a median age of 11.5 weeks (range: 4-22 weeks) were recorded polygraphically for 1 night. Although they slept in their usual supine position, a bed sheet was placed over their face for 60 minutes. Fifteen of the 20 infants were chosen at random and were exposed to white noises of increasing intensities to determine their auditory arousal thresholds. All infants were challenged with the face covered and with the face free during both rapid eye movement (REM) and non-REM (NREM) sleep. Seven infants were first challenged with the face covered, and 8 were challenged with the face free. The following variables were recorded simultaneously: electroencephalogram, breathing and heart rates, and rectal and pericephalic temperatures. In 5 infants who were not exposed to the auditory challenges, end tidal CO₂ was recorded for 30 minutes while sleeping with the face covered. **Results.** During REM sleep, arousals occurred for significantly more intense auditory stimuli when the infant's face was covered than when free. No significant difference was seen in NREM sleep. Compared with the face-free periods, the face-covered sleep periods were characterized by greater rectal and pericephalic temperatures, a greater density of body movements, and a decrease in NREM sleep. Respiratory frequency was increased during the face-covered periods in both REM and NREM sleep. No differences were seen in the frequency or duration of apnea. There was a tendency for heart rate to increase during both sleep stages when the face was covered, compared with the face-free periods, but the changes were not statistically significant. A positive correlation was found between pericephalic temperatures and arousal thresholds ($r = 0.60$) during REM sleep. End tidal CO₂ values increased when the face was covered, reaching a maximum value during the first 5 minutes of the experiment. No fall in oxygen saturation was seen. **Conclusions.** Covering the infant's face with a bed sheet was associated with a significant increase in auditory arousal threshold. The finding could be related to an elevation in temperatures within the infant's micro-environment. (25 references) (Author)

20020719-13

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Trends in postneonatal aspiration deaths and reclassification of sudden infant death syndrome: impact of the 'Back to Sleep' program. Malloy MH (2002), Pediatrics vol 109, no 4, April 2002, pp 661-665

Objective. The introduction of the 'Back to Sleep' campaign for the prevention of sudden infant death syndrome (SIDS) brought with it concern that there might be an increase in the incidence of aspiration-related deaths. The objective of this analysis was to describe the trends in postneonatal mortality and proportionate mortality ratios for the United States for the years 1991 to 1996 for aspiration-related deaths and other causes to which a SIDS death could conceivably be reclassified. Methods. Linked birth and infant death vital statistic files for the United States were used for the years 1991, 1995, and 1996. US Vital Statistic Mortality files for the years 1992, 1993, and 1994 were used because of the absence of linked files for those years. Results. The overall postneonatal mortality rate between 1991 and 1996 declined 21.9%, whereas the SIDS rate declined 38.9%. The proportion of the postneonatal mortality (PNPMR) contributed by SIDS declined from 37.1% in 1991 to 28.8% in 1996. There was no significant increase in the PNPMR for aspiration, asphyxia, or respiratory failure. There was, however, a significant increase in the PNPMR for suffocation in bed or cradle from 0.9 to 1.3. Conclusions. These data show no evidence of an increased risk of death from aspiration as a result of the 'Back to Sleep' program. Although there has been an increase in the proportion of postneonatal mortality attributable to suffocation, this represents a very small proportion of postneonatal mortality and thus potentially a very small number of SIDS deaths reclassified as suffocation. (28 references) (Author)

20020619-47

Awareness of sudden infant death syndrome risk factors among mothers of Pacific infants in New Zealand. Paterson J, Tukuitonga C, Butler S, et al (2002), New Zealand Medical Journal vol 115, 8 February 2002, pp 33-35

Aim. To describe the awareness of Sudden Infant Death Syndrome (SIDS) risk factors among mother of Pacific infants in New Zealand. Methods. The data were gathered as part of the Pacific Islands Families Study in which 1376 mothers were interviewed when their infants were six weeks old. Included in this interview were questions designed to examine the mothers' awareness of SIDS risk factors. Results. Over one third (38.8%) of mothers were unable to accurately report a SIDS risk factor, 53.4% reported the risk associated with putting the baby to sleep in a prone position, 31.5% maternal smoking, and 19.5% correctly reported other SIDS risk factors. Lack of awareness of SIDS risk factors was significantly associated with Samoan and Cook Islands Maori ethnicity, being Pacific Islands born, having no post school qualifications, lower household income, not being fluent in English, having more than five children, and not attending antenatal classes. Conclusions. Despite SIDS prevention efforts, a considerable number of mothers in this cohort reported no awareness of SIDS risk factors. More effective methods are needed to provide consistent SIDS prevention information across Pacific ethnic groups. (24 references) (Author)

20020516-77

Epidemiology of SIDS and explained sudden infant deaths. Leach CAE, Blair PS, Fleming PJ, et al (1999), Pediatrics vol 104, no 4, October 1999. 10 pages

Objectives. To establish whether epidemiologic characteristics for sudden infant death syndrome (SIDS) have changed since the decrease in death rate after the 'Back to Sleep' campaign in 1991, and to compare these characteristics with sudden and unexpected deaths in infancy (SUDI) from explained causes. Design. Three-year, population-based, case-control study. Parental interviews were conducted soon after the death and for 4 controls matched for age and date of interview. All sudden unexpected deaths were included in the study and the cause of death was established by a multidisciplinary panel of the relevant health care professionals taking into account past medical and social history of the mother and infant, the circumstances of death, and a full pediatric postmortem examination. Contributory factors and the final classification of death were made using the Avon clinicopathologic system. Setting. Five regions in England, with a total population of >17 million people, took part in the study. The number of live births within these regions during the particular time each region was involved in the study was 473 000. Study Participants. Three hundred twenty-five SIDS infants (91.3% of those available), 72 explained SUDI infants (86.7% of those available), and 1588 matched control infants (100% of total for cases included). Results. Many of the epidemiologic features that characterize SIDS infants and families have remained the same, despite the recent decrease in SIDS incidence in the United Kingdom. These include the same characteristic age distribution, few deaths

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in the first few weeks of life or after 6 months, with a peak between 4 and 16 weeks, a higher incidence in males, lower birth weight, shorter gestation, and more neonatal problems at delivery. As in previous studies there was a strong correlation with young maternal age and higher parity and the risk increased for infants of single mothers and for multiple births. A small but significant proportion of index mothers had also experienced a previous stillbirth or infant death. The majority of the SIDS deaths (83%) occurred during the night sleep and there was no particular day of the week on which a significantly higher proportion of deaths occurred. Major epidemiologic features to change since the decrease in SIDS rate include a reduction in the previous high winter peaks of death and a shift of SIDS families to the more deprived social grouping. Just more than one quarter of the SIDS deaths (27%) occurred in the 3 winter months (December through February) in the 3 years of this study. In half of the SIDS families (49%), the lone parent or both parents were unemployed compared with less than a fifth of control families (18%). This difference was not explained by an excess of single mothers in the index group. Many of the significant factors relating to the SIDS infants and families that distinguish them from the normal population did not distinguish between SIDS and explained SUDI. In the univariate analysis many of the epidemiologic characteristics significant among the SIDS group were also identified and in the same direction among the infants dying as SUDI attributable to known causes. The explained deaths were similarly characterized by the same infant, maternal, and social factors, 48% of these families received no waged income. Using logistic regression to make a direct comparison between the two index groups there were only three significant differences between the two groups of deaths: 1) a different age distribution, the age distribution of the explained deaths peaked in the first 2 months and was more uniform thereafter; 2) more congenital anomalies were noted at birth (odds ratio [OR] = 3.14; 95% confidence intervals [CI]: 1.52-6.51) among the explained deaths (20%) compared with the SIDS (8%), which was not surprising given that 10% of these deaths were explained by congenital anomalies; and 3) a higher incidence of maternal smoking during pregnancy among the SIDS mothers, the proportion of smokers within the explained SUDI group was much higher (49%) than the controls (27%), but among SIDS mothers the proportion of smokers was higher still (66%) and this difference was significant (66% vs 49%; OR = 2.03; 95% CI: 1.16-3.54). The largest subgroup of explained SUDI deaths were those attributable to infection (46%). There was a winter peak of deaths from infection, the highest number occurring in December (21%) but this was not significant. A multivariate model of these deaths showed parental unemployment to be the most significant factor (OR = 27.74; 95% CI: 3.19-241.34). Short gestational age (OR = 11.67; 95% CI: 1.84-74.14), neonatal problems (OR = 14.27; 95% CI: 1.89-107.81), and higher prevalence of males (OR = 9.26; 95% CI: 1.63-52.52) were also significant. Half of the deaths from infection occurred in crowded households (>1 adult or child per room excluding hallways, toilets, bathrooms, and kitchens if not used as a dining room) which was also a significant factor (OR = 10.37; 95% CI: 1.08-99.59).

Conclusions. The study identifies changes in the epidemiologic characteristics of SIDS that have followed the 'Back to Sleep' campaign, and confirms that many underlying factors are similar between infants who die as SIDS and those dying suddenly of explained causes. Many studies investigating SIDS have reported numerous epidemiologic characteristics and risk factors strongly associated with SIDS when compared with live control infants. It has been generally assumed that these factors are specific to SIDS to the extent that the syndrome has been described as an 'epidemiologic entity.' Many of the factors associated with SIDS that were significantly different from the control population were not significantly different when compared with the explained deaths. This suggests that some share some of the same underlying factors irrespective of the clinical or pathologic findings, and challenges a rigid concept of SIDS as an epidemiologic entity. The particular finding that the incidence of maternal smoking during pregnancy, although high among mothers of explained SUDI infants, was significantly higher among SIDS mothers, lends weight to the mounting evidence that the association between smoking and SIDS may be part of a causal mechanism. (Only the abstract is published in the print journal. Full article available online at www.pediatrics.org/cgi/content/full/104/4/e43 or from MIDIRS subject to usual copyright restrictions). (28 references) (Author)

20020514-40

Consequences of getting the head covered during sleep in infancy. Skadberg BT, Markestad T (1997), Pediatrics vol 100, no 2, August 1997. 7 pages

Objective. To study the consequences of getting the head covered by bedding (fiber quilt) on carbon dioxide (CO₂) accumulation around the face, behavior, and physiologic responses during prone and supine sleep in infants to add

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understanding to why victims of sudden infant death syndrome are often found under the bedding. Methodology. Of 33 healthy term, usually nonprone sleeping infants, behavior and computerized polysomnography were successfully recorded for 30 during prone and supine sleep at 21/2 months and for 23 prone and 25 supine at 5 months. Results. For both ages and body positions, covering the head resulted in significant CO2 accumulation around the face, fewer apneas (3 to 10 seconds), shorter duration of apneas after sighs, higher heart and respiratory rates, and peripheral skin temperature. Differences were generally greater at 2V2 than at 5 months. While covered, the prone position was associated with higher CO2 levels close to the face, slightly higher transcutaneous PCO2 and higher heart rates and peripheral skin temperatures than the supine position. In the supine position 23% were able to remove the cover from the head at 21/2 and 60% at 5 months, whereas only 1 infant of 5 months managed to remove the cover when prone. Conclusions. The observed responses are consistent with a potential for distress when the head is covered, particularly when placed prone. Probably most important with respect to sudden infant death syndrome is the infants' inability to remove the bedding from the head upon awakening from prone sleep. (Only the abstract is published in the print journal. Full article available online at www.pediatrics.org/cgi/content/full/100/2/e6 or from MIDIRS subject to usual copyright restrictions). (40 references) (Author)

20020514-33

Does the supine sleeping position have any adverse effects on the child?: 1. Health in the first six months. Hunt L, Fleming P, Golding J, and others (1997), *Pediatrics* vol 100, no 1, July 1997. 9 pages

Objective. To assess whether the recommendations that infants sleep supine could have adverse health consequences. Design. A prospective study of infants, delivered before, during, and after the Back to Sleep Campaign in the United Kingdom (UK), followed to 6 months of age. The children were part of the Avon Longitudinal Study of Pregnancy and Childhood (ALSPAC). Subjects. Singletons born to mothers resident in the three former Bristol-based health districts of Avon in the period June 1991 to December 1992, and for whom questionnaires were completed on sleeping position at 4 to 6 weeks of age (n = 9777); for these infants 8524 questionnaires were also completed at 6 to 8 months of age. Main Outcome Measures. Subjective measures of health, the presence of specific signs and symptoms, duration of sleep at night, and calling the family doctor to the home. Results. Of 43 outcomes considered, after adjustment for 12 factors using logistic regression only 2 were associated with raised risk among infants put to sleep on their back (diaper rash and cradle cap). Infants put to sleep prone had increased risk of a number of health outcomes, including cough and possibly pyrexia. Conclusions. There is no evidence that putting infants to sleep in the supine position results in increased morbidity, although changes in prevalence of rare disorders would not have been identified. (Only the abstract is published in the print journal. Full article available online at www.pediatrics.org/cgi/content/full/100/1/e11 or from MIDIRS subject to usual copyright restrictions). (14 references) (Author)

20020411-35*

Infant sleeping positioning and SIDS. American Academy of Pediatrics (1996), Illinois: American Academy of Pediatrics 1996. 1 page


This fact sheet alerts parents and caregivers to the AAP recommendation that most healthy infants should be placed to sleep on their backs. (Publisher)

20020404-19


Risk factors for sudden infant death syndrome: changes associated with sleep position recommendations. Paris CA, Remler R, Daling JR (2001), *Journal of Pediatrics* Vol 139, No 6, December 2001, pp 771-777

Objective: to quantify the decreased incidence of sudden infant death syndrome (SIDS) and investigate risk profile changes associated with changes in infant sleep position. Design: A population-based case-control study that used birth and death certificates from Washington State. Cases (n=1515) were all singletons born in Washington between 1985 and 1995 (excluding 1991) who died of SIDS. Control cases (n=6060) were randomly selected singletons born in the same period who did not die of SIDS. Multivariate logistic regression compared changes in the magnitude of associations between risk factors and SIDS before and after 1991. Results: The incidence of SIDS in Washington

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declined from 2.6 (1985) to 1.0 (1998) per 1000 births. Over time, the risk of SIDS increased for low birth weight infants (odds ratio [OR] 2.1 rose to 3.6), and infants born to mothers who were smokers (OR 2.7 rose to 3.7), unmarried (OR 1.4 rose to 2.0), black (OR 1.4 rose to 2.5), or received limited prenatal care (OR 1.5 rose to 2.5). Conclusion: Five exposures were associated with increased risks of SIDS. these may not require a prone sleep position for their deleterious impact being associated with distinct causal pathways, or possibly indicating subpopulations yet to recognize the importance of the supine sleep position. (30 References) (Author)

20020311-15

Prevention of postpartum stress incontinence in primigravidae with increased bladder neck mobility: a randomised controlled trial of antenatal pelvic floor exercises. Reilly ETC, Freeman RM, Waterfield MR, and others (2002), BJOG: An International Journal of Obstetrics and Gynaecology vol 109, no 1, January 2002, pp 68-76

Objective To test whether supervised pelvic floor exercises antenatally will reduce the incidence of postpartum stress incontinence in at-risk primigravidae with bladder neck mobility, ultrasonically proven. Design Single blind, randomised controlled trial. Setting Antenatal clinic in a UK NHS Trust Hospital. Sample Two hundred and sixty-eight primigravidae attending an antenatal clinic at approximately 20 weeks of gestation with bladder neck mobility, on standardised valsalva, of 5mm or more linear movement. The median age was 28, ranging from 16 to 47 years. Intervention Patients randomised to supervised pelvic floor exercises (n = 139) attended a physiotherapist at monthly intervals from 20 weeks until delivery. The exercises comprised three repetitions of eight contractions each held for six seconds, with two minutes rest between repetitions. These were repeated twice daily. At 34 weeks of gestation the number of contractions per repetition was increased to 12. Both the untreated control group and the study group received verbal advice on pelvic floor exercises from their midwives antenatally. Main outcome measures Subjective reporting of stress incontinence at three months postpartum. Pelvic floor strength, using perineometry, and bladder neck mobility measured by perineal ultrasound. Results Of the 268 women enrolled, information on the main outcome variable was available for 110 in the control group and 120 in the study group. Fewer women in the supervised pelvic floor exercise group reported postpartum stress incontinence, 19.2% compared with 32.7% in the control group (RR 0.59 [0.37 -0.92]). There was no change in bladder neck mobility and no difference in pelvic floor strength between groups after exercise, although all those developing postpartum stress incontinence had significantly poorer perineometry scores than those who were continent. Conclusions The findings suggest that antenatal supervised pelvic floor exercises are effective in reducing the risk of postpartum stress incontinence in primigravidae with bladder neck mobility. (43 references) (Author)

20020206-47

Progress in reducing risky infant sleeping position - 13 states, 1996-1997. (1999), Morbidity and Mortality Weekly Report (MMWR) vol 48, no 39, 8 October 1999, pp 878-882

Report which summarises the results of an analysis of population-based data on infant sleeping positions. The report indicates that from 1996 to 1997 placement of infants in the back sleeping position increased significantly in nine states. However, the percentage of infants placed on their stomachs continued to differ by state, maternal demographics, and type of insurance coverage (10 references) (MS)

20020206-35

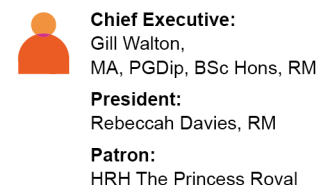
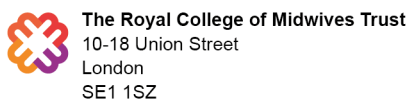
Assessment of infant sleeping position - selected states, 1996. (1998), Morbidity and Mortality Weekly Report (MMWR) vol 47, no 41, 23 October 1998, pp 873-877

Report which summarises the results of a study that sought to assess adherence to recommendations for infant sleeping positions to prevent sudden infant death syndrome (SIDS). The report indicates that infant sleeping position differs by state and race (9 references) (MS)

20020118-4

The influence of grandmothers and other senior caregivers on sleep position used by African American infants. Flick L,

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Vemulapalli C, Stulac BB, and others (2001), Archives of Pediatrics and Adolescent Medicine vol 155, no 11, November 2001, pp 1231-1237

Objectives: To describe beliefs about infant sleep position among African American grandmothers and other older caregivers (senior caregivers [SCGs]) and to measure the incremental effect on the rates of prone sleep after educating a group of African American SCGs. **Design:** Survey of sleep practices and beliefs. Randomized, controlled trial of a teaching intervention. **Setting:** Managed care prenatal clinic for normal risk obstetrics patients. **Participants:** Low-income pregnant women, self-identified as African American. An SCG is an older family member or friend to whom they would go for advice about routine child care. Pregnant women randomly assigned to the control group (educated about safe sleep practices) or the experimental group (education for both pregnant women and their SCG). **Intervention:** During the third trimester, 2 teaching sessions for pregnant women (both control and experimental groups) and for the experimental group's SCGs. One-on-one teaching emphasizing that infants should sleep supine. **Main Outcome Measures:** During the third trimester, description of rate of preference for prone sleep for infants among pregnant women and SCGs. Effects of teaching SCGs on (1) SCGs' postnatal beliefs about sleep position as a means to reduce the risk of sudden infant death syndrome, and (2) the eventual rate of prone sleeping among study infants. **Results:** One hundred twenty-five women were in the control group; 98 pregnant women and SCG pairs were in the experimental group. Senior caregivers were 47.1± 12.4 years old (mean ± SD). Most were grandmothers (either maternal, 72.5%, or paternal, 14.3%) or aunts or sisters (10.2%). No differences were noted in the pre-natal rates of the prone preference (controls, 36.3%; experimental group, 35.7%; and SCGs, 34.7%). Teaching SCGs did not increase the rate of the usual prone sleep in the experimental vs the control group (13.3% vs 17.3%, $X^2=0.59$, $P=.44$, 95% confidence interval for difference from -5.8% to +13.8%). After the teaching and during the pregnancy, the SCGs became less worried that the infant was susceptible to sudden infant death syndrome ($X^2 = 16.6$, $P = .003$) or likely to die of sudden infant death syndrome ($X^2 = 24.7$, $P < .001$). Their concerns about sudden infant death syndrome were significantly less postnatally, in particular when the infant was placed supine ($X^2= 19.4$, $P < .001$). **Conclusions:** Most African American women and SCGs endorsed the supine sleeping position for infants. Among a group of African American infants, prenatal teaching of their grandmothers and other SCGs did not have a statistically significant incremental effect on the rates of the usual prone sleeping position. Contrary to our starting hypothesis, the SCGs of pregnant women who receive prenatal care seemed responsive to messages about supine sleeping. The Back-to-Sleep message should be delivered prenatally, but special prenatal interventions should attempt to reach women who do not receive prenatal care and SCGs who persist in their opposition to the supine sleeping position. (25 references) (Author)

20020118-2

Specific dangers associated with infants sleeping on sofas. Byard RW, Beal S, Blackbourne B, and others (2001), Journal of Paediatrics and Child Health vol 37, no 5, October 2001, pp 476-478

Aim: The United Kingdom CESDI study found a significantly increased risk of sudden infant death syndrome (SIDS) where infants shared sleep with adults on sofas - but noted that, although classified as SIDS, at least four of the 20 infants who died in this location were found wedged between the adult and the back of the sofa. In other cases, occasional deaths of infants sleeping on sofas with adults have been attributed to accidental asphyxia. The study reviewed here was undertaken to examine the specific circumstances that may have led to accidental asphyxiation of infants on sofas. **Methods:** The authors examined coroners' files from 1989 to 1998 in South Australia, and medical examiners' files from 1991 to 1998 in San Diego, United States of America (USA) for cases of infants who died unexpectedly while sleeping on sofas. All cases in both study sites had undergone police investigations, and both epidemiological and pathological information were usually available. The authors reviewed each case file, particularly examining the details of the sleeping arrangements in each case, and the position of the infant's body when found relative to the sofa and sleeping partner. Using predetermined criteria the authors designated each death as SIDS, wedging, or overlaying. Overlaying was designated when an infant was found dead underneath a sleeping adult, wedging was designated when the infant was found between cushions and the back of a sofa, and SIDS was designated when the National Institute of Child Health and Human Development standard published criteria were met. **Results:** Of 442 unexpected infant deaths in these two locations, 23 cases were identified where infants had died on sofas/couches. Ten of these deaths on sofas involved detailed death scene descriptions, while 13 cases lacked

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particular information and so could not be included in the study. Of the 10 cases, examined infants were aged from 1-6 weeks, were born at term (37-40 weeks gestation), and comprised equal numbers of males and females. Five were exposed to cigarette smoke. Four of the 10 detailed cases involved shared sleeping with an adult. The authors describe these four cases as two of overlaying, one of being wedged between an adult and the back of the sofa, and one of sleeping with an intoxicated adult. In addition to this mother who had consumed excessive amounts of alcohol, in another case an empty alcohol bottle was next to the couch, and in a third the mother fell asleep twice during the police interview suggesting sedation of some form or extreme exhaustion. In addition to these four sofa-sharing deaths, two further infants who died while sleeping alone on sofas were found wedged against the back of the sofa, while in each of the four deaths attributed to SIDS the infant was found alone in a face-down position. Discussion: The authors suggest that the soft and yielding nature of sofa cushions causes easy obstruction of an infant's airways should its face be pushed against them, with CO2 re-breathing also potentially involved. Crush asphyxia is also suggested in the context of an infant being trapped under an adult on a backwards-sloping sofa seat. In these instances infants may have been placed or slipped between the adult and the back of the sofa. The authors speculate that cradling an infant against the chest while sleeping on a sofa might also be dangerous if the airways become covered, although no infants in this study were found to have died while sleeping on an adult's chest. Abstract writer's comments: The potential for an infant to become trapped or wedged between the seat and back of a sofa or sofa cushion make this one of the more risky environments for infant sleep. The presence of a sleeping adult adds another element of risk - that of the infant becoming crushed or trapped between the adult and the sofa-back. The authors of this report acknowledge that there are no data available on the prevalence of infants sleeping on sofas in either the communities where these deaths occurred, or elsewhere, and so relative risks of sofa sleeping versus other infant sleep environments cannot presently be calculated. However, the circumstances of the sofa-sharing infant deaths reported in this paper bring to my mind one conclusion that the authors fail to draw - one of the most dangerous elements of this sleep environment for an infant is a care-giver whose vigilance is compromised. Ref: 1. Blair PS, Fleming PJ, Smith IJ et al. Babies sleeping with parents: case control study of factors influencing the risk of the sudden infant death syndrome. British Medical Journal 1999;319:1457-60. Abstract written for MIDIRS by Dr Helen Ball, Parent-Infant Sleep Lab, Dept of Anthropology, University of Durham. © MIDIRS 2002.

20020115-30

Position for newborn sleep: associations with parents' perceptions of their nursery experience. Colson ER, Bergman DM, Shapiro E, and others (2001), Birth vol 28, no 4, December 2001, pp 249-253

Background: In the United States, sudden infant death syndrome is the leading cause of death among infants between the ages of 1 and 12 months. Although its etiology is unclear; infants who sleep in the prone or side positions are at increased risk. The objective of this study was to examine the association between the perceptions of inner city parents about teaching and modeling during the postpartum period of infant sleeping position, and their choice of sleeping position for their infants. Methods: A convenience sample of parents of 100 healthy infants who came for the 2-week well-child visit at an urban primary care center were invited to complete a questionnaire and to report on the position in which infants were placed for sleep. Results: Forty-two percent of parents reported that they usually placed their infants in the supine position for sleep; 26 percent placed their infants to sleep in the prone position at least some of the time. Parents who reported being told by a doctor or a nurse to have their infants sleep in the supine position were more likely to choose that position. Similarly, those who reported seeing their infants placed to sleep exclusively in the supine position in the hospital were also more likely usually to choose that position. Parents who reported that they both were told by a doctor or a nurse to put their infants to sleep in the supine position and reported seeing their infants exclusively placed that way in the nursery were the most likely usually to choose that position for their infants to sleep. Conclusions: Perceptions by parents of instructions from a doctor or a nurse of the position in which the infants were placed in the nursery were associated with the position parents reported placing their infants to sleep at home. Efforts to promote the supine sleeping position in the inner-city setting should address both practices and education provided to parents in the nursery during the postpartum hospital stay and should be sufficiently powerful to align their perceptions of the postpartum experience with current American Academy of Pediatrics recommendations. (16 references) (Author)

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20020115-13

Association between sudden infant death syndrome and prone sleep position, bed sharing, and sleeping outside an infant crib in Alaska. Gessner BD, Ives GC, Perham-Hester KA (2001), Pediatrics vol 108, no 4, October 2001, pp 923-927

To determine the contribution of prone sleeping, bed sharing, and sleeping outside an infant crib to sudden infant death syndrome (SIDS). Methods. We conducted a retrospective descriptive study of all SIDS cases in Alaska from January 1, 1992, through December 31, 1997. Reviewed data sources included maternal and infant medical records, autopsy reports, birth and death certificates, police and state trooper death scene investigations, and occasionally home interviews. Results. The death certificate identified SIDS as a cause of death for 130 infants (cause-specific infant mortality rate: 2.0 per 1000 live births). Among infants for whom this information was known, 113 (98%) of 115 were found in the prone position, sleeping outside an infant crib, or sleeping with another person. By contrast, 2 (1.7%) were found alone and supine in their crib (1 of whom was found with a blanket wrapped around his face). Of 40 infants who slept with a parent at the time of death, only 1 infant who slept supine with a non-drug-using parent on an adult nonwater mattress was identified. Conclusion. Almost all SIDS deaths in Alaska occurred in association with prone sleeping, bed sharing, or sleeping outside a crib. In the absence of other risk factors, SIDS deaths associated with parental bed sharing were rare. (24 references) (Author)

20011106-47

Reducing the incidence of sudden infant death syndrome in the Delta region of Mississippi: a three-pronged approach. Kum-Nji P, Mangrem CL, Wells PJ (2001), Southern Medical Journal vol 94, no 7, July 2001, pp 704-710

Since the 'Back to Sleep' campaign in 1994, which encouraged positioning infants on their backs for sleeping, the incidence of sudden infant death syndrome (SIDS) has decreased dramatically in the United States but remains high in some rural Mississippi communities. We discuss some of the hypotheses and etiologic factors of SIDS. The high incidence of SIDS in the Delta region of Mississippi could be dramatically reduced, primarily through an intensified Back to Sleep campaign. Furthermore, the importance of health education in increasing breast-feeding rates and reducing passive smoke exposure rates in this community is emphasized. (109 references). (Author).

20010914-2

Are you talking to parents about SIDS? Moon RY (2001), Journal of Paediatrics, Obstetrics and Gynaecology vol 27, no 4, July/August 2001, pp 5-12

Advice aimed at American paediatricians, giving advice on how they can talk to parents about the risk of sudden infant death syndrome (SIDS). The causes of SIDS are outlined, and ways of reducing the risk are briefly discussed. Common questions that parents might ask are presented, particularly in relation to infant sleeping position. (21 references) (MS)

20010831-5

The prone sleeping position impairs arousability in term infants. Horne RSC, Ferens D, Watts AM, and others (2001), Journal of Pediatrics vol 138, no 6, June 2001, pp 811-816

Objective: To investigate whether the prone sleeping position impaired arousal from sleep in healthy infants and whether this impairment was related to cardiorespiratory variables, temperature, or age. Design: Healthy term infants (n = 24) were studied with daytime polygraphy on 3 occasions: 2 to 3 weeks after birth, 2 to 3 months after birth, and 5 to 6 months after birth. Multiple measurements of arousal threshold (cm H₂O) in response to air-jet stimulation applied alternately to the nares were made in both active sleep and quiet sleep when infants slept both prone and supine. Results: arousal thresholds were significantly higher in both active sleep and quiet sleep when infants slept prone at 2 to 3 weeks and 2 to 3 months, but not at 5 to 6 months. These increases were independent of any sleep position-related change in either rectal or abdominal skin temperature, respiratory rate, oxygen saturation, or heart rate. Conclusions: The prone position significantly impairs arousal from both active sleep and quiet sleep in healthy term infants. This impairment in arousability occurred with no clinically significant changes in cardiorespiratory variables or body temperature. Decreased arousability from sleep in prone position provides an important insight into

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20010831-2

Sleep, sleep position, and the sudden infant death syndrome: to sleep or not to sleep? That is the question. Thach BT (2001), Journal of Pediatrics vol 138, no 6, June 2001, pp 793-795

Editorial commentary on an article published in this journal issue (1) which investigates a potential cause of sudden infant death - failure to arouse from sleep under a life-threatening situation. 1. Horne RSC, Ferens, D, Watts A, and others. The prone sleeping position impairs arousability in healthy term infants. Journal of Pediatrics, vol 138, 2001, pp 811-816. (20 references) (KL)

20010611-18

Effect of sleep position on apnea and bradycardia in high-risk infants. Hershberger ML, Peeke KL, Levett J, and others (2001), Journal of Perinatology vol 21, no 2, March 2001, pp 85-89

Objective: The purpose of this investigation was to investigate, in high-risk infants, the occurrence of abnormalities in documented monitor downloads during the side versus prone position. Study Design: Forty infants admitted to the A. I. duPont hospital for children with diagnoses associated with sudden infant death syndrome were included in this investigation. During an overnight hospitalization, infants were placed on home apnea monitors, with computer memory to capture alarms for apnea >20 seconds, age-defined bradycardia, and tachycardia. Infants were studied for 12 hours. Each infant was assigned to 6 hours of prone and side during the 12-hour period, with order of position randomly assigned by random number generation. Differences between the two positions in alarm frequency and significant events, as determined by a blinded interpreting physician were analyzed by Fisher exact test, with $p < 0.05$. Power analysis necessitated 20 patients in each group, with beta error of 0.2. Results: Eleven episodes of apnea occurred in the prone position, and 16 in the side position ($p = \text{NS}$). The mean numbers of apnea events per tracing in the prone position was 0.27 ± 0.84 and 0.39 ± 1.1 in the side position ($p = 0.58$). The mean number of bradycardia events per tracing in the prone position was 0.44 ± 1.45 and 0.49 ± 1.94 in the side position ($p = 0.9$). Conclusion: Clinicians need to be cautious when recommending the side or prone position in this group of high-risk infants. The results in this investigation provide support for the Back to Sleep Campaign recommendations to be applied, not only to healthy term infants, but higher risk infants as well. Studies of the high-risk infant in the supine position are warranted. (19 references) (Author)

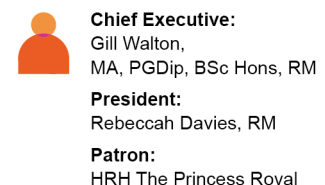
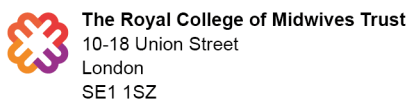
20010511-8

Back to sleep: good advice for parents but not for hospitals?. Hein H, Pettit SF (2001), Pediatrics vol 107, no 3, March 2001, pp 537-539

Background: In October 1998, when we surveyed nurses working in Iowa obstetric units about infant sleeping position in the hospital and recommendations for infant sleeping position at home, we learned that the side position was used frequently in the hospital and also was considered to be an acceptable alternative for sleeping position at home.

Objective: The purpose of our present study was to determine why nurses continued to use and endorse the side sleeping position rather than the supine position. Design: We surveyed all Iowa hospitals that had an obstetric service as of July 1999 to learn why the side position was used. Results: All 94 hospitals with obstetric services responded to the survey and revealed that 2 major factors were considered when an infant was put to sleep on his/her side. The most frequent response was fear of aspiration (57 responses or 51.4%) and the second was adherence to a federal brochure that lists side sleeping as a reasonable alternative (38 responses or 34.2%). Conclusion: We conclude that the reasons reported for use of the side position in Iowa maternity hospitals do not justify its continuing use. We believe that information about the importance of placing an infant on his/her back to sleep and its superiority over placing an infant on his/her side to sleep is sufficient to warrant its availability in every maternity hospital. We speculate that if the infant sleeping position used in the hospital is not different from that taught to parents, there will be less parental confusion and greater adherence to infant positioning shown to reduce sudden infant death syndrome. (20 references) (Author)

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20010405-17

Sleep position and bed-sharing in sudden infant deaths: an examination of autopsy findings. Thogmartin JR, Siebert CF, Pellan WA (2001), Journal of Pediatrics vol 138, no 2, February 2001, pp 212-217

Objective: To determine the effect of sleep position, sleep location, and bed-sharing on the incidence of sudden unexpected death in infancy and the frequency of significant autopsy findings. Methods: We evaluated the cause of death in infants < 1 year of age who died during sleep from January 1, 1986, through September 30, 1999. This retrospective series was compiled from log books and files of the Medical Examiner Office, Palm Beach County, Florida. Results: The incidence of sudden unexpected infant death decreased 60% over the study period ($P < .01$). Of the 217 infants that fit the study criteria, 62.7% were sleeping prone (on the stomach), 9.7% were supine (on the back), 5.5% were on their side, 22.1% were in an unknown position, and 40.1% were bed-sharing. Significant autopsy findings that could explain death were documented by autopsy in 37.5% of all supine and side sleeping infants and only 14.0% of all prone sleeping infants ($P < .001$). Deaths of supine and side sleeping infants were more likely to be classified as a natural disease process other than sudden infant death syndrome ($P < .01$). Significant autopsy findings that could explain death were found in 47.6% of the infants sleeping alone in the supine or side position ($P < .01$), 18.2% of infants bed-sharing in the supine or side position, 16.5% of infants sleeping alone while prone, and 9.3% of infants bed-sharing while prone. Conclusions: Infant deaths associated with the prone position were less frequently explained by illness or disease than infant deaths associated with non-prone sleeping positions. Bed-sharing appears to increase the proportion of unexplained deaths, regardless of the position of the infant. The 'Back to Sleep' campaign appears to be effective in reducing the incidence of unexpected sleeping infant deaths regardless of the certified cause of death. (29 references) (Author)

20010403-01

Sudden infant death syndrome in South Australia 1968-97. Part 1: changes over time. Beal SM (2000), Journal of Paediatrics and Child Health volume 36, number 6, December 2000, pp 540-547


Objective: To compare the epidemiology of sudden infant death syndrome (SIDS) over three consecutive decades. Methodology: The birth history, infant's developmental and health history, infant care practices for the infant, death scene investigation and autopsy findings for all infants dying suddenly and unexpectedly in South Australia (SA) between January 1968 and December 1997 were studied. Results: The incidence of SIDS in SA rose through the 1970s and early 1980s with the highest incidence being in infants born in 1986 at 2.4 per 1000 live births (LB). Two factors felt to be dangerous for some infants were identified being left unobserved in the prone position and having the head covered by bed clothes. Publicity about the risk of prone sleeping has been accompanied by a fall in SIDS deaths, to an incidence of 0.5 per 1000 LB in 1997. The incidence in Aboriginal infants, and infants living in lower socio-economic conditions has always been high, but the over-representation of these groups has increased in the last 5 years. Conclusion: If no infant under 8 months of age was placed prone or was able to get to prone unobserved before the age when they can easily get back to supine, and no infant was able to get the head completely covered while unobserved, the incidence of SIDS in SA should fall below 0.2 per 1000 LB. (22 references) (Author)

20010321-44


Circumstances leading to a change to prone sleeping in sudden infant death syndrome victims. Cote A, Gerez T, Brouillette RT, and others (2000), Pediatrics vol 106, no 6, December 2000, 5 pages

In addition to usual prone sleeping, unaccustomed prone sleeping represents a significant risk factor for sudden infant death syndrome (SIDS). However, little information is available regarding the circumstances leading caretakers to change the infant's sleep position to prone position in SIDS victims. Objective. To determine, in a population of SIDS victims, the timing of a change to prone sleeping and the reason for that change in infants who were originally nonprone sleepers. Design and Setting. Case series analysis from a questionnaire administered between 1991 and 1997 to parents and other caretakers of SIDS victims in the province of Quebec (Canada). Subjects. One hundred fifty-seven SIDS cases occurring in the province during the study. Results. Of the 157 SIDS cases studied, 139 were found in the prone position, although only 93 infants usually slept prone. Of the 64 nonprone sleepers, 34 had been

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changed to prone by the parents or another caretaker before death, and 18 had apparently turned to prone for the first time. In the 34 cases changed to prone, the change occurred <1 week before death for 21 infants; for 16 of those infants, death occurred the first or second time that they slept prone. In 56% of the cases changed from a nonprone to prone sleeping position, a caretaker other than the parents had precipitated the change. Conclusions. Ongoing campaigns to decrease the risk of SIDS should emphasize the risk of unaccustomed prone sleeping to both parents and secondary caretakers. (29 references) (Author) (Only the abstract is published in the print journal. Full article available online at www.pediatrics.org/cgi/content/full/106/6/e86 or from MIDIRS subject to usual copyright restrictions).

20010302-10

Ventilatory sensitivity to mild asphyxia: prone versus supine sleep position. Galland B C, Bolton D P G, Taylor B J, and others (2000), Archives of Disease in Childhood vol 83, no 5, November 2000, pp 423-428

Aims: To compare the effects of prone and supine sleep position on the main physiological responses to mild asphyxia: increase in ventilation and arousal. **Methods:** Ventilatory and arousal responses to mild asphyxia (hypercapnia hypoxia) were measured in 53 healthy infants at newborn and 3 months of age, during quiet sleep (QS) and active sleep (AS), and in supine and prone sleep positions. The asphyxial test mimicked face down rebreathing by slowly altering the inspired air: CO₂, maximum 5% and O₂ minimum 13.5%. The change in ventilation with inspired CO₂ was measured over 5-6 minutes of the test. The slope of a linear curve fit relating inspired CO₂ to the logarithm of ventilation was taken as a quantitative measure of ventilatory asphyxial sensitivity (VAS). Sleep state and arousal were determined by behavioural criteria. **Results:** At 3 months of age, prone positioning in AS lowered VAS (0.184 prone v 0.269 supine, p = 0.050). At newborn age, sleep position had no effect on VAS. Infants aged 3 months were twice as likely to arouse to the test than newborns (p = 0.013). Placing infants prone as opposed to supine increased the chances of arousal 1.57-fold (p = 0.035). **Conclusion-**Our findings show 3 month old babies sleeping prone compared to supine have poorer ventilatory responses to mild asphyxia, particularly in AS, but the increased prevalence of arousal is a protective factor. (39 references) (Author)

20001213-42

Maternity advice survey: sleeping position in Eastern Europe. Nelson EAS, Serra A, Cowan S, and others (2000), Archives of Disease in Childhood vol 83, no 4, October 2000, pp 304-306

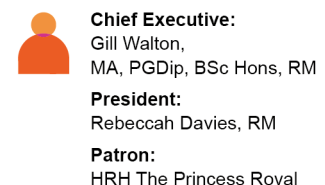
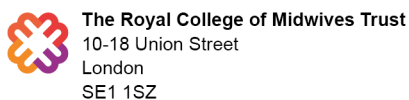
Aim: To identify hospitals in Eastern Europe promoting front infant sleeping position. **Methods:** Questionnaires were distributed to maternity units in 22 countries during July to November 1999. **Results:** A total of 489 hospitals in 20 countries responded. Preferred position in normal care units was back (26.6%), front (1.8%), side (65%), or combination/none (6.6%). Corresponding recommendations at discharge were 17.4%, 3.5%, 73%, and 6.1%. (6 references) (Author)

20001204-03

Effects of the supine and prone position on diaphragm thickness in healthy term infants. Rehan VK, Nakashima JM, Gutman A, and others (2000), Archives of Disease in Childhood vol 83, no 3, September 2000, pp 234-238

Background: The physiological basis underlying the decline in the incidence of sudden infant death syndrome (SIDS) associated with changing the sleep position from prone to supine remains unknown. **Aims:** To evaluate diaphragm thickness (tdi) and shortening in healthy term infants in the prone and supine positions in order to determine whether changes in body position would affect diaphragm resting length and the degree of diaphragm shortening during inspiration. **Methods:** In 16 healthy term infants, diaphragm thickness at the level of the zone of apposition on the right side was measured using ultrasonography. Heart rate (HR), breathing frequency (f), and transcutaneous oxyhaemoglobin saturation (Sao₂) were recorded simultaneously during diaphragm imaging with the infants in the supine and prone positions during quiet sleep. **Results:** At end expiratory (EEV) and at end inspiratory lung volumes (EIV), tdi increased significantly in the prone position. The change in tdi during tidal breathing was also greater when the infant was prone. Sao₂, HR, and f were not significantly different at EEV and at EIV in both positions. **Conclusion:** In healthy term infants, placed in the prone position, the diaphragm is significantly thicker and, therefore, shorter, both

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at EEV and EIV. Diaphragm shortening during tidal breathing is greater when the infant is prone. In the prone position, the decreased diaphragm resting length would impair diaphragm strength, and the additional diaphragm shortening during tidal breathing represents added work performed by the diaphragm. This may compromise an infant's capacity to respond to stressful situations when placed in the prone position and may contribute to the association of SIDS with prone position. (39 references) (Author)

20001203-16

Infant sleep position instruction and parental practice: comparison of a private pediatric office and an inner-city clinic. Ray BJ, Metcalf SC, Franco SM, and others (1997), *Pediatrics* vol 99, no 5, May 1997. 4 pages

Objective. To determine infant sleep instructions that hospital personnel in our community were giving to parents and actual positions practiced after the April 15, 1992 American Academy of Pediatrics recommendation for nonprone positioning. Design. Survey of mothers of infants 4 months of age from November 1993 to March 1994 with follow-up survey of selected birth hospitals. Setting. A private practice (PP) serving predominantly white middle- and upper-income children and a pediatric clinic (CY) serving inner-city predominantly African-American low-income children in Louisville, Kentucky. Patients. Fifty infants from each practice site. Outcome Measure. The sleep instructions given and practiced, and other risk factors for sudden infant death syndrome (SIDS). Results. Nonprone sleeping instructions were received by 72% of the PP and only 48% of the CY parents, with 72% of the PP and 54% of the CY following the nonprone recommendations. Infants were more likely to be in smoking households (60% vs 12%) from the CY practice than the PP practice. Conclusions. Our study showed that, despite having a higher prevalence of SIDS risk factors, there was a greater delay in discontinuing prone positioning instructions in the hospital serving the CY infants. The evidence suggests that this population is as likely as the PP group to follow medical advice given. (29 references) (Author)

20001203-06

Sleeping position, infant apnea, and cyanosis: a population-based study. Ponsonby AL, Dwyer T, Couper D (1997), *Pediatrics* vol 99, no 1, January 1997. 7 pages

Objectives. To examine the relationship between usual infant sleeping position and the parental report of infant cyanosis, pallor, breath-holding, and breathing difficulties; and to document hospital admission rates for apnea/cyanosis over time and to describe how admission rates vary by usual sleeping position. Methods. A prospective cohort study was conducted. It involved the one fifth of Tasmanian live births that were assessed, using a perinatal score, as being at higher risk for sudden infant death syndrome (SIDS). From May 1, 1988 to April 30, 1993, 6213 infants participated in the hospital (4 days postnatal age) and home interview (5 weeks postnatal age) (89% of eligible infants). Data on usual sleep position and infant history of cyanosis were collected at home interview. Hospital admission records for apnea/cyanosis in the first year of life were linked to data on cohort infants in southern Tasmania. Results. Infants who slept supine were not more likely to have been reported to experience cyanosis, pallor, or breathing problems at 1 month of age, when compared with infants sleeping in other positions. In fact, the risk of cyanosis was higher in the prone, face-down sleeping position than in the supine sleeping position (adjusted odds ratio = 4.21, 95% confidence interval [1.33, 13.281]). Among cohort infants in southern Tasmania. hospital admission rates for apnea/cyanosis did not differ by usual sleeping position or year of birth. Conclusions. Infants usually sleeping supine do not have increased rates of morbidity in relation to parental reports or hospital admissions for apnea/cyanosis. In a location where SIDS and total postneonatal mortality has fallen after intervention to reduce the prevalence of the prone position, rates of hospital admission for apnea/cyanosis have not changed. (24 references) (Author)

20001120-21

Trends and predictors of infant sleep positions in Georgia, 1990 to 1995. Saraiya M, Serbanescu F, Rochat R, and others (1998), *Pediatrics* vol 102, no 3, September 1998. 6 pages

Background. In recent years, the prone sleeping position has emerged as the strongest modifiable risk factor for

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sudden infant death syndrome, the leading cause of infant mortality between 1 month and 1 year of age in the United States. Since April 1992, sudden infant death syndrome risk-reduction strategies have included the promotion of the back or side sleeping position (nonprone) for healthy infants younger than 1 year of age. Most recently, the back position has been advocated as the best sleeping position and the side position as an alternative. Methods. To evaluate trends in prevalence of the prone position from 1990 to 1995, we used data available from the Georgia Women's Health Survey, a random digit-dialed telephone survey of 3130 women 15 to 44 years of age. We examined the position in which women put their infant to sleep in the first 2 months of life for their most recent live birth (N = 868) and determined independent predictors of prone sleep position among women who consistently used the prone or the back/side position (n = 636) using multiple logistic regression. Results. The prevalence of mothers who put their infant to sleep in the prone position significantly decreased, from 49% in 1990 to 15% in 1995. This decrease is primarily attributable to a major shift to the side position rather than to the back. Using multiple logistic regression, we found the prone sleeping position to be significantly higher among women who entered prenatal care after the first trimester (odds ratio [OR], 16; 95% confidence interval [CI], 1.4-9.2), were black (OR, 21; 95% CI, 1.4-3.1), had less than a high school education (OR, 2.2; 95% CI, 1.4-3.4), and were living in rural Georgia (OR, 1.9; 95% CI, 1.3-2.7). For the period after April 1992, women who had previous children were 2.6 (OR, 95% CI, 1.7-4.1) times more likely to use the prone sleep position than were first-time mothers. Conclusions. The prevalence of the use of the prone sleep position for infants decreased significantly over the study period. This decrease coincided with national efforts to promote the back or side sleeping position. Increased efforts should target groups who are more likely to use the prone position to attain the national goal of \leq 10% of prone position prevalence by the year 2000, with emphasis on placing the infant on the back. (Only the abstract is published in the print journal. Full article available online at www.pediatrics.org/cgi/content/full/102/3/e33 or from MIDIRS subject to usual copyright restrictions). (33 references) (Author)

20001118-37


Infant sleep position policies in licensed child care centers after Back to Sleep campaign. Moon RY, Biliter WM (2000), Pediatrics vol 106, no 3, September 2000, pp 576-580

Background: Since the Back to Sleep (BTS) campaign was initiated in 1994, the rate of prone sleeping has decreased to approximately 20%. However, child care centers may have an increased rate of prone sleeping in infants. In 1996, a study of licensed child care centers demonstrated that 43% were unaware of the association between sudden infant death syndrome (SIDS) and prone sleeping and that 49% positioned infants prone. Objective: To determine effectiveness of a mailing from the BTS campaign to licensed child care centers by assessing the following: 1) child care center awareness of the recommendations of the American Academy of Pediatrics regarding infant sleep position and 2) implementation of the recommendations of the American Academy of Pediatrics in child care center practice. Design: A descriptive, cross-sectional survey of licensed child care centers in the metropolitan Washington, DC, region. All licensed child care centers caring for infants <6 months old in Washington, DC, and Montgomery, Prince Georges, Howard, Anne Arundel, Frederick and Charles Counties in Maryland were recruited for the study. Results: Out of 236 eligible centers, 172 completed the survey. Seventy-five percent (129) of the centers were aware of recommendations regarding infant sleep position. Infants were placed prone in 27.9% of centers, although only 2.9% placed infants exclusively in the prone position. The most common reasons for avoiding prone position entirely were SIDS risk reduction and licensing regulations. Half of the centers had a written policy regarding sleep position. Twenty centers who were aware of the dangers of prone sleeping continued to place infants prone at least some of the time, largely because of parental request. Only 56.9% of centers had heard of the BTS campaign despite the mass mailing. The mailing resulted in policy change for 14 centers. Conclusions: Since 1996, the percentage of licensed child care centers in the greater Washington, DC, area that are aware of the association between SIDS and infant sleep position has increased from 57% to 75%. In addition, the rate of placing infants prone in these centers has declined from 49% in 1996 to 27.9% in this study. When child care centers are aware of the risk of prone sleeping, the most likely reason for continued prone placement is parental request. Although media and mailings have been largely effective in communicating BTS information to many child care centers, nonprone positioning is not universal among child care providers. Additional educational efforts toward child care providers and parents remain necessary. (15 references) (Author)

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20001113-46

SIDS sleeping information for health care professionals: update 2000. SIDS Foundation, Health Canada (2000), Association of Ontario Midwives Journal vol 6, no 3, Fall 2000, pp 16-17

This article reiterates the advice about placing a baby in the supine position for sleep in order to reduce the risk of SIDS. (17 references) (VDD)

20001008-17

'Sleep on the back, play on the front, sit up and watch the world'. Leading cot death charity launches new baby care campaign. Foundation for the Study of Infant Deaths (2000), London: Foundation for the Study of Infant Deaths 14 September 2000. 2 pages

The Foundation for the Study of infant Deaths (FSID), the UK's leading cot death charity, today launched new baby care advice: 'sleep on the back, play on the front, sit up and watch the world'. With this new campaign message, FSID is alerting parents that their babies need supervised time playing on their tummy to encourage their developmental stages. It also reinforces the all-important back sleeping advice to reduce the risk of cot death. (Author)

20000920-03

Infant mechanical suffocation deaths in the United States, 1980-1997. Drago DA, Dannenberg AL (1999), Pediatrics vol 103, no 5, May 1999. 8 pages

Purpose. To document specific patterns and products associated with mechanical suffocation among infants younger than 13 months of age for the period 1980 to 1997. Methodology. A total 2178 case summaries from the US Consumer Product Safety Commission's Death Certificate File were reviewed. A computerized database was created for information about the infants, products, and patterns of suffocation. The relationships among products, patterns, and age groups were analyzed by X2. Thirty-eight investigations conducted on a subset of cases involving cribs were reviewed for details on crib age, structural integrity, and compliance with the federal crib regulation. Mortality rates were calculated based on the US population younger than 1 year old. Results. The most frequent causes of suffocation were 1) wedging between a bed or mattress and a wall and 2) oronasal obstruction by plastic bag. Patterns of suffocation were significantly related to age group, but not to sex. Pattern-specific mortality rates comparing three time frames for the 16-year period from 1980 to 1995 showed continued increases for overlain and oronasal obstruction; an increase followed by a plateau for wedging, a decrease for hanging, and no substantial change for entrapment with suspension. Conclusions. Suffocation hazards presented by beds, bedding, pillows, and plastic bags continue to be under recognized by parents and caregivers. Bed-sharing and use of adult beds for infants should be discouraged. Only complying cribs should be used and maintained properly to ensure structural integrity. Suffocation deaths involving plastics should be investigated to determine the specific material characteristics and use patterns to design more effective interventions than selective labeling. (Only the abstract is published in the print journal. Full article available online at www.pediatrics.org/cgi/content/full/103/5/e59 or from MIDIRS subject to usual copyright restrictions). (25 references) (Author)

20000918-17

Gastric aspiration and sleeping position in infancy and early childhood. Byard RW, Beal SM (2000), Journal of Paediatrics and Child Health vol 36, no 4, August 2000, pp 403-405

Concern has been expressed that the recommendation of supine sleeping position for infants would result in an increase in deaths due to gastric aspiration. A review of 196 cases of infant and early childhood death in children under 3 years of age, occurring over a 9-year period (September 1989 to August 1998) was undertaken to ascertain how many cases of significant gastric aspiration had occurred. Extensive and widespread filling of the airways/alveoli with gastric contents was found in three infants/young children aged 5, 6 and 30 months, respectively. In each instance the body had been found lying face down (prone), with the face in a pool of vomitus in at least one case. No cases of significant gastric aspiration were found in infants who had been found lying on their sides or backs (supine). In

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addition, no significant increase in numbers of infant and early childhood deaths in South Australia due to gastric aspiration over this time could be demonstrated. Concerns that the supine rather than the prone position is more likely to result in significant gastric aspiration are not supported by this study. (14 references) (Author)

20000908-01

Prevalence of SIDS risk factors: before and after the 'back to sleep' campaign in North Dakota Caucasian and American Indian infants. McCulloch K, Dahl S, Johnson S, and others (2000), *Clinical Pediatrics* vol 39, no 7, July 2000, pp 403-410

The objective of this study was to compare rates of infant sleeping position and other risk factors for sudden infant death syndrome from 1991 before the 'Back to Sleep' campaign to rates in 1998 after the campaign. We used a cross-sectional risk factor prevalence study of risk factors for the years 1991 and 1998. In North Dakota the prevalence rates of prone sleeping declined 72% for American Indian infants and 62% for Caucasian infants. We were unable to identify a corresponding decline in SIDS in North Dakota for this time period. The relationship between sleeping position and SIDS may be more complex in rural and frontier settings and in American Indian populations than in urban and majority populations. The generalizability of this study is limited by the rural setting and small sample size. Longer term surveillance and additional reports from sites with pre 'Back to Sleep' data as a baseline for both SIDS rates and sleeping position will be important to clarify the rate of prone sleeping position and SIDS. (24 references) (Author)

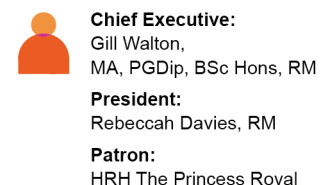
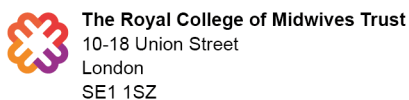
20000905-25

Factors associated with caregivers' choice of infant sleep position, 1994-1998: the National Infant Sleep Position Study. Willinger M, Ko CW, Hoffman HJ, and others (2000), *JAMA (Journal of the American Medical Association)* vol 283, no 16, 26 April 2000, pp 2135-2142

Context The success and simplicity of the 1994 national 'Back to Sleep' campaign to reduce sudden infant death syndrome provides an opportunity to study which elements determine whether a behavior will change in the desired direction in response to a public health intervention. **Objective** To examine sociodemographic characteristics, motivation, and message exposure to ascertain which factors influenced a caregiver's choice of infant sleep position after implementation of the campaign. **Design** Annual nationally representative telephone surveys conducted between 1994 and 1998. **Setting** The 48 contiguous United States. **Participants** Nighttime caregivers of infants born within the 7 months prior to interview between 1994 and 1998. Approximately 1000 interviews were conducted each year. **Main Outcome Measures** The position the infant was usually placed in for sleep, sleep position recommendations received from specific sources, and reasons reported for position choice. **Results** Between 1994 and 1998, prone placement declined from 44% to 17% among white infants and from 53% to 32% among black infants. Supine placement increased from 27% to 58% among white infants and from 17% to 31% among black infants. During this period, reports of supine recommendations from at least 1 source doubled from 38% to 79%. From 1995 to 1998, 86% of caregivers who placed the infant prone reported receiving only nonprone recommendations. Infant comfort was given as a reason for prone placement by 82% of these caregivers. In multivariate analysis, physician recommendation of 'supine not prone' had the strongest influence and was associated with decreased prone placement (odds ratio [OR], 0.25 [95% confidence interval (CI), 0.16-0.39]) and increased supine placement (OR, 3.37 [95% CI 2.38-4.761]). Recommendations from all 4 sources (the physician, neonatal nurse, reading materials, and radio/television) further increased the probability of supine placement (OR, 6.01 [95% CI, 4.57-7.901]). Other factors independently associated with increased prone and decreased supine placement included maternal black race, parity of more than 1, and living in a southern or mid-Atlantic state. **Conclusions** According to our study, as of 1998, approximately one fifth of infants were still placed prone, and only half were placed supine. Recommendations of supine placement during infancy by physicians at well-baby checks and by neonatal nursery staff and print and broadcast media have increased the proportion of infants placed supine. Caregiver beliefs regarding perceived advantages of prone sleeping should be addressed to attain further reduction in prone placement. (32 references) (Author)

20000612-19

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Infant sleep position practices 2 years into the 'back to sleep' campaign. Gibson E, Dembofsky CA, Rubin S, and others (2000), Clinical Pediatrics vol 39, no 5, May 2000, pp 285-289

Since the 1992 American Academy of Pediatrics (AAP) recommendation to put babies to sleep in the nonprone position and the subsequent 1994 'Back to Sleep' campaign, the U.S. rate of sudden infant death syndrome (SIDS) has decreased more than 40%. This study reports sleep position practices in the greater Philadelphia area during 1996 and 1997. Four hundred and ten parents of infants 6 months of age or less answered a questionnaire by interview in Philadelphia clinics and private pediatric offices from December 1995 through February 1997. Sleep position practices and other SIDS risk factors were measured among demographic groups and compared with reported rates in a similar population from 1993 and 1994. Data were analyzed by Chi square after analysis of correlation coefficients. Significance is reported at $p < 0.05$. Seventy-two percent of all infants surveyed slept nonprone (NP) compared to 31.8 % in 1993 and 59.1 % in 1994. The population was 61 % African-American (AA), 62 % clinic patients. The breast feeding rate was 31 %, maternal smoking 17%, and cosleeping 46%. AA infants (67% vs. 82%), infants receiving care at a clinic (66% vs. 84%), and infants >3 months old (65% vs. 76%) are less likely to be placed nonprone. Most parents who place infants on their back report it was recommended by a medical professional (56%). The majority of those placing infants prone do so because their infant is more comfortable or sleeps better (65%), although 73% said their physician/nurse discussed sleep position with them. Nonprone sleeping continues to increase since the initiation of the 'Back to Sleep' campaign. Disparity between some demographic groups persists. An excessive number of African-American families and clinic families still choose a prone sleep position. Many who do so cite increased infant comfort, despite knowledge of the AAP recommendation. (13 references) (Author)

20000608-08\$

Changing concepts of sudden infant death syndrome: implications for infant sleeping environment and sleep position. American Academy of Pediatrics (2000), Pediatrics vol 105, no 3, part 1, March 2000, pp 650-656


The American Academy of Pediatrics has recommended since 1992 that infants be placed to sleep on their backs to reduce the risk of sudden infant death syndrome (SIDS). Since that time, the frequency of prone sleeping has decreased from >70% to ~20% of US infants, and the SIDS rate has decreased by >40%. However, SIDS remains the highest cause of infant death beyond the neonatal period, and there are still several potentially modifiable risk factors. Although some of these factors have been known for many years (eg, maternal smoking), the importance of other hazards, such as soft bedding and covered airways, has been demonstrated only recently. The present statement is intended to review the evidence about prone sleeping and other risk factors and to make recommendations about strategies that may be effective for further reducing the risk of SIDS. This statement is intended to consolidate and supplant previous statements made by this Task Force. The American Academy of Pediatrics has recommended since 1992 that infants be placed to sleep on their backs to reduce the risk of sudden infant death syndrome (SIDS). Since that time, the frequency of prone sleeping has decreased from >70% to ~20% of US infants, and the SIDS rate has decreased by >40%. However, SIDS remains the highest cause of infant death beyond the neonatal period, and there are still several potentially modifiable risk factors. Although some of these factors have been known for many years (eg, maternal smoking), the importance of other hazards, such as soft bedding and covered airways, has been demonstrated only recently. The present statement is intended to review the evidence about prone sleeping and other risk factors and to make recommendations about strategies that may be effective for further reducing the risk of SIDS. This statement is intended to consolidate and supplant previous statements made by this Task Force. (120 references) (Author)

20000513-24\$


Suffocated prone: the iatrogenic tragedy of SIDS. Hogberg U, Bergstrom E (2000), American Journal of Public Health vol 90, no 4, April 2000, pp 527-531

Epidemiologic research has shown that prone sleeping is a major risk factor for sudden infant death syndrome (SIDS). In a public health review from Sweden, we explored the historical background of the SIDS epidemic, starting with the view of the Catholic Church that sudden infant deaths were infanticides and ending with the slowly disseminated recommendation of a prone sleeping position during the 1960s, 1970s, and 1980s. The story of the SIDS epidemic

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SE1 1SZ

 **Open 24 hours a day, 7 days a week**
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F: +44 20 7312 3536
E: info@rcm.org.uk
W: www.rcm.org.uk

 **Chief Executive:**
Gill Walton,
MA, PGDip, BSc Hons, RM
President:
Rebecca Davies, RM
Patron:
HRH The Princess Royal

illustrates a pitfall of preventive medicine - the translation of health care routines for patients to general health advice that targets the whole population. False advice, as well as correct advice, may have a profound effect on public health because of the many individuals concerned. Preventive measures must be based on scientific evidence, and systematic supervision and evaluations are necessary to identify the benefits or the harm of the measures. The discovery of the link between prone sleeping and SIDS has been called a success story for epidemiology, but the slow acceptance of the causal relationship between prone sleeping and SIDS illustrates the weak position of epidemiology and public health within the health care system. (37 references) (Author)

20000501-12*

Reduce the risk of cot death: an easy guide. Foundation for the Study of Infant Deaths, Department of Health (2000), London: Department of Health February 2000. 12 pages

Updated illustrated information leaflet on prevention of sudden infant death. Information is given on risk factors such as sleeping position, smoking, and body temperature. (KL)

20000409-45\$

Effect of prone sleeping on circulatory control in infants. Chong A, Murphy N, Matthews T (2000), Archives of Disease in Childhood vol 82, no 3, March 2000, pp 253-256


Background: The mechanism of death in sudden infant death syndrome (SIDS) remains unclear. Progressive bradycardia is the pre-eminent terminal event, suggesting that circulatory failure might be a crucial factor. Vasomotor tone regulates the circulatory system by controlling blood volume distribution while maintaining venous return and blood pressure. Aim: To examine whether prone sleeping, the most consistently identified risk factor for SIDS, has a measurable influence on vasomotor/circulatory control. Methods: 44 full term infants (mean age, 7.9 weeks) were studied during an overnight sleep. Recordings were made while the infants were horizontal and asleep in the supine and prone positions, and repeated after a head up tilt to 60 degrees, maintained for 30 minutes, while in both sleep positions. Blood pressure, heart rate, anterior shin, and anterior abdominal wall skin temperatures were measured. Results: Systolic blood pressure was lower, but peripheral skin temperature and heart rate were higher during sleep, while horizontal, in the prone rather than the supine position. After tilting, there was a greater reduction in blood pressure and a greater increase in peripheral skin temperature and heart rate when in the prone position. Anterior abdominal wall skin temperature did not vary in either sleeping positions while horizontal or tilted. Conclusion: Prone sleeping has a measurable effect on circulatory control, with a reduction in vasomotor tone resulting in peripheral vasodilatation, a higher peripheral skin temperature, a lower blood pressure, and a higher resting heart rate. Because vasomotor tone is crucially important in circulatory control this could be a factor in increasing the risk of SIDS. (33 references) (Author)

20000307-30\$


Infant sleep position: a telephone survey of inner-city parents of color. Johnson CM, Borkowski MM, Hunter KE (1999), Pediatrics vol 104, no 5, part 2, November 1999, pp 1208-1211

Objective. To assess what positions parents were placing their infants to sleep and their opinion about sleep positioning. Design. A prospective telephone survey of parents of 2-month-old infants with repeated measures at 4 months that began during the second wave of the Back to Sleep campaign in 1994. Participants. African-American, Hispanic, Asian, and American Indian parents from inner cities in the north central United States. Results. Preference for prone positioning existed at both 2 and 4 months (over 40%). Twenty-four percent of parents disagreed with the recommendations of the American Academy of Pediatrics regarding supine or lateral positioning. Conclusions. Although prone sleep positioning has decreased over the past 5 years, many inner-city parents of color prefer this over supine. The Back to Sleep campaign appears effective in changing attitudes and medical personnel appear influential in promoting risk reductions associated with sudden infant death syndrome. More efforts are clearly needed to convince parents who disagree with and resist recommendations. (18 references) (Author)

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Gill Walton,
MA, PGDip, BSc Hons, RM
President:
Rebecca Davies, RM
Patron:
HRH The Princess Royal

20000105-41

Infant sleep position: nursing practice and knowledge. Peeke K, Hershberger M, Kuehn D, and others (1999), MCN - American Journal of Maternal/Child Nursing vol 24, no 6, November/December 1999, pp 301-304

Purpose: (1) to examine the extent to which maternal/child health nurses caring for children accept the American Academy of Pediatrics recommendations on infant sleep position, (2) to determine if nurses are practicing according to the AAP recommendations, and (3) to determine the type of bedding utilized in the two institutions for infants.

Methods: Descriptive survey using 103 nurses in 2 institutions, and an observational assessment of nurses' practice.

Results: Findings revealed that 97% of the nursing staff were aware of the AAP recommendations, although only 67% agreed with the recommendations. The observational component of the investigation evaluated the sleep position during hospitalization of 206 infants < 6 months old on both the pediatric and maternity units of the two institutions.

Fifty-five percent of the infants were observed to be in the side-lying position, 29% in the recommended supine (back) position, and 16% in the prone (abdomen) sleeping position. The recommended firm bedding was observed with 63% of the infants, whereas the remainder of the infants were observed to be on foam mattresses, extra blankets, or gel packs. Clinical implications: Because side sleeping position was observed in the majority of infants, and one-third of the nurses queried disagreed with the AAP recommendations, education of nurses about sudden infant death syndrome prevention through 'Back to Sleep' is still necessary. (17 references) (Author)

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