Latest Research Update

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Pregnancy

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Infant feeding

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Midwifery education and professional development

Date created: 12 September 2024

Pregnancy

First newborns join screening for 200 rare diseases. Walsh F (2024), BBC News 9 September 2024

The entire genetic code of up to 100,000 newborn babies in England will be analysed by the NHS, with the aim of speeding up the diagnosis and treatment of more than 200 rare diseases.

At present, newborns are given a heelprick blood test that checks for nine serious conditions, including cystic fibrosis.

As part of this new study, led by Genomics England, blood samples will be taken from babies' umbilical cords to help diagnose many more gene disorders, such as haemophilia and spinal muscular atrophy.

Hundreds of blood samples have already been collected from babies born at 13 hospitals in England; around 40 hospitals will eventually offer the test. (Author)

Full URL: https://www.bbc.co.uk/news/articles/c70z8ppjlddo

The impact of Ramadan fasting on oxidative stress levels in the second trimester of pregnancy. Kasap E, Torun R, Kardeşler S, et al (2024), Journal of Obstetrics and Gynaecology vol 44, no 1, 2024, 2408690

Background

The primary objective of this study was to assess the effect of fasting during Ramadan on maternal oxidative stress levels and foetal development; pregnant women with uncomplicated, singleton pregnancies in the second trimester.

Methods

During the month of Ramadan, 23 March 2023 to 20 April 2023, 50 fasting and 50 non-fasting healthy pregnant women were enrolled in this prospective study. The fasting hours were about 14 h per day in that season. Pregnant women in the second trimester were enrolled in the study. Total antioxidant status (TAS), total oxidant status (TOS) and the oxidative stress index (OSI) were measured from maternal serum samples taken on a fasting day at the end of Ramadan. To evaluate the impact of Ramadan on the foetus, Doppler ultrasonography was performed in the beginning and then at the end of Ramadan in all participants and was used for the following measurements: Increase of biparietal diameter, femur length, estimated foetal body weight, amniotic fluid index and umbilical artery systolic/diastolic ratio. To discern differences between distinct cohorts, independent t-tests and Mann–Whitney’s U-tests were employed based on the data distribution. A p value threshold of less than .05 was established to determine statistical significance.

Results

TAS level was found to be significantly lower in the group that fasted for more than 15 days compared to the non-fasting group that did not fast ($p = .003$), but no significant differences were found between the groups in terms of TOS and OSI ($p < .05$). Obstetric ultrasound parameters showed no significant differences between the two groups ($p < .05$).

Conclusions

The present study suggests that fasting during the second trimester of pregnancy does not substantially impact maternal or foetal health, as indicated by most oxidative stress markers and foetal parameters studied. However, the observed reduction in the TAS levels in the fasting group warrants further investigation. (Author)

Full URL: https://doi.org/10.1080/01443615.2024.2408690

Growth Restriction in the Offspring of Mothers With Polycystic Ovary Syndrome. Talmo MSA, Fløysand IS, Nilsen GØ, et al (2024), JAMA Network Open vol 7, no 8, August 2024, e2430543

Importance

Polycystic ovary syndrome (PCOS) is a common endocrine disorder, characterized by subfertility, increased risk of metabolic diseases, and pregnancy complications. Previous studies diverge regarding the association between maternal PCOS and newborn anthropometrics.

Objective

To explore the association between maternal PCOS and newborn anthropometrics and the modifying effects of maternal body mass index, PCOS phenotype, and gestational diabetes.

Design, Setting, and Participants

This cohort study followed up women from the first half of pregnancy to birth and combined data from 3 clinical trials of pregnant women with PCOS and a reference population consisting of participants in the Norwegian Mother, Father, and Child Cohort (MoBa) Study, with data from the Medical Birth Registry of Norway. The recruitment period for the clinical trials was between October 1, 2000, and August 31, 2017, and for MoBa, between July 1, 1999, and December 31, 2008. Participants included women with singleton pregnancies and live-born children. Data were analyzed from January 1 to June 15, 2023.

Exposure

Maternal PCOS status.

Main Outcomes and Measures

Newborn birth weight, birth length, and head circumference as continuous variables and z scores, and ponderal index (calculated as the birth weight in grams × 100 divided by the birth length in centimeters cubed), placenta weight, and ratio of birth weight to placenta weight (BWPW).

Results

The cohort included 390 pregnant women with PCOS (mean [SD] age, 29.6 [4.2] years) and 68 708 women in the reference group (mean [SD] age, 30.4 [4.5] years). Offspring in the PCOS group had lower birth weight, birth length, and head circumference than in the reference group offspring. The estimated mean differences in z scores were −0.26 (95% CI, −0.38 to −0.14) for birth weight, −0.19 (95% CI, −0.33 to −0.05) for birth length, and −0.13 (95% CI, −0.26 to −0.01) for head circumference. The PCOS group also had a lower ponderal index (−0.04 [95% CI, −0.07 to −0.004] g × 100/cm3) and placenta weight (−24 [95% CI, −43 to −5)] g), and higher BWPW ratio (0.4 [95% CI, 0.3 to 0.5]). The association between growth restriction and PCOS was more apparent when additionally adjusting for body mass index. Neither PCOS phenotype nor gestational diabetes diagnosis was associated with neonatal anthropometry in women with PCOS.

Conclusions and Relevance

In this cohort of mother-infant pairs, maternal PCOS status was associated with lower birth weight, shorter birth length, and smaller head circumference in the offspring. This growth restriction was more pronounced when adjusting for BMI, providing insight into the association between PCOS and body mass index. The study contributed to the understanding of how PCOS affects the offspring. (Author)

Full URL: https://doi.org/10.1001/jamanetworkopen.2024.30543

Genetic Insights Into Perinatal Outcomes of Maternal Antihypertensive Therapy During Pregnancy. Barry CS, Walker VM, Burden C, et al (2024), JAMA Network Open vol 7, no 8, August 2024, e2426234

Importance

Limited information exists regarding the impact of pharmacotherapy in pregnancy due to ethical concerns of unintended fetal harm. Yet, maternal prescriptive drug use for chronic conditions such as hypertension is common.

Objective

To investigate potential causal relationships between perturbing maternal genetic variants influencing antihypertensive drug targets and perinatal outcomes among offspring using mendelian randomization (MR).

Design, Setting, and Participants

This 2-sample MR study used individual-level single-nucleotide variation (SNV) outcome data from mother-father-offspring trios with complete genetic and phenotypic information from the Norwegian Mother, Father and Child Cohort Study (MoBa) and summary-level SNV exposure data from UK Biobank participants sourced from the Integrative Epidemiology Unit OpenGWAS project. Pregnant individuals were recruited across Norway during their routine ultrasonography examination at 18 weeks' gestation between June 1999 and December 2008, and mothers, fathers, and offspring were followed up after birth. Novel genetic instruments for maternal antihypertensive drug targets that act via systolic blood pressure (SBP) were derived from individual-level data analyzed in January 2018. Two-sample multivariable MR analysis of these maternal drug targets and offspring outcomes were performed between January 2023 and April 2024.

Exposures

Maternal genetic variants associated with drug targets for treatments of hypertension, as specified in the National Health Service dictionary of medicines and devices.

Main Outcomes and Measures

Offspring outcomes were Apgar score at 1 minute and 5 minutes, offspring developmental score at 6 months, birth length, birth weight z score, gestational age, head circumference, and congenital malformation. Maternal hypertensive disorders of pregnancy were a positive control.

Results

The MoBa sample contained 29 849 family trios, with a mean (SD) maternal age of 30.2 (18.6) years and a mean (SD) paternal age of 32.8 (13.1) years; 51.1% of offspring were male. Seven independent SNVs were identified as influencing maternal SBP via the antihypertensive drug target instruments. For higher levels of maternal SBP acting through the CACNB2 calcium channel blocker target, the estimated change in gestational age was 3.99 days (95% CI, 0.02-7.96 days) per 10-mm Hg decrease in SBP. There was no evidence of differential risk for measured perinatal outcomes from maternal SBP acting through drug targets for multiple hypertensive subclasses, such as between the ADRB1 β-adrenoceptor–blocking target and risk of congenital malformation (estimated odds ratio, 0.28 [95% CI, 0.02-4.71] per 10-mm Hg decrease in SBP). Maternal and paternal SBP acting through the EDNRA vasodilator antihypertensive target did not have a potential causal effect on birth weight z score, with respective β estimates of 0.71 (95% CI, −0.09 to 1.51) and 0.72 (95% CI, −0.08 to 1.53) per 10-mm Hg decrease in SBP.

Conclusions and Relevance

The findings provided little evidence to indicate that perturbation of maternal genetic variants for SBP that influence antihypertensive drug targets had potential causal relationships with measures of perinatal development and health within this study. These findings may be triangulated with existing literature to guide physicians and mothers in decisions about antihypertensive use during pregnancy. (Author)

Full URL: https://doi.org/10.1001/jamanetworkopen.2024.26234

Association of Maternal Mild Hypothyroidism in the First and Third Trimesters with Obstetric and Perinatal Outcomes: A Prospective Cohort Study. Liu X, Zhang C, Lin Z, et al (2024), American Journal of Obstetrics & Gynecology (AJOG) 30 August 2024, online

Background

Mild hypothyroidism, including subclinical hypothyroidism (SCH) and isolated maternal hypothyroxinemia (IMH), is fairly common in pregnant women, but its impact on pregnancy outcomes is less clear, especially mild hypothyroidism in late pregnancy.

Objective

To evaluate the impact of SCH and IMH in the first and third trimesters, respectively, on obstetric and perinatal outcomes.

Study Design

This large prospective study was conducted at the International Peace Maternity and Child Health Hospital (IPMCH) in Shanghai. 52,027 pregnant women who underwent the first-trimester antenatal screening at IPMCH were consecutively enrolled from January 2013 to December 2016. To evaluate the impact of maternal SCH and IMH in the first trimester on pregnancy outcomes, participants were divided into three groups according to thyroid function in the first trimester: first-trimester euthyroidism group (n= 33,130), first-trimester SCH group (n= 884), and first-trimester IMH group (n= 846). Then, to evaluate the impact of maternal SCH and IMH in the third trimester on pregnancy outcomes, the first-trimester euthyroidism group was subdivided into three groups according to thyroid function in the third trimester: third-trimester euthyroidism group (n= 30,776), third-trimester SCH group (n= 562), and third-trimester IMH group (n= 578). Obstetric and perinatal outcomes, including preterm birth (PTB), preeclampsia, gestational hypertension, gestational diabetes mellitus (GDM), large for gestational age (LGA), small for gestational age, macrosomia, cesarean section, and fetal demise were measured and compared between those in either SCH/IMH group and euthyroid group. Binary logistic regression was used to assess the association of SCH or IMH with these outcomes.

Results

34,860 pregnant women who had first (weeks 8–14) and third trimester (weeks 30–35) thyrotropin and free thyroxine concentrations available were included in the final analysis. Maternal SCH in the first trimester was linked to a lower risk of GDM (aOR 0.64, 95% CI 0.50–0.82) compared with the euthyroid group. However, third-trimester SCH is associated with heightened rates of PTB (aOR 1.56, 95%CI 1.10–2.20), preeclampsia (aOR 2.23, 95%CI 1.44–3.45), and fetal demise (aOR 7.00, 95%CI 2.07–23.66) compared with the euthyroid group. IMH in the first trimester increased risks of preeclampsia (aOR 2.14, 95% CI 1.53–3.02), GDM (aOR 1.45, 95%CI 1.21–1.73), LGA (aOR 1.64, 95%CI 1.41–1.91), macrosomia (aOR 1.85, 95%CI 1.49–2.31) and cesarean section (aOR 1.35, 95%CI 1.06–1.74), while IMH in the third trimester increased risks of preeclampsia (aOR 2.85, 95%CI 1.97–4.12), LGA (aOR 1.49, 95%CI 1.23–1.81) and macrosomia (aOR 1.60, 95%CI 1.20–2.13) compared with the euthyroid group.

Conclusion

This study indicates that while first-trimester SCH did not elevate the risk for adverse pregnancy outcomes, third-trimester SCH was linked to several adverse pregnancy outcomes. IMH in the first and third trimesters was associated with adverse pregnancy outcomes, yet the impact varied by trimester. These results suggest the timing of mild hypothyroidism in pregnancy may be pivotal in determining its effects on adverse pregnancy outcomes and underscore the importance of trimester-specific evaluations of thyroid function. (Author)

Comparative effectiveness of treating prenatal depression with counseling versus antidepressants in relation to preterm delivery. Li DK, Ferber JR, Odouli R, et al (2024), American Journal of Obstetrics & Gynecology (AJOG) 30 August 2024, online

Background

Maternal depression during pregnancy is prevalent and has been associated with increased risk of preterm delivery. However, comparative effectiveness of 2 commonly used treatment options, mental health counseling and use of antidepressants, in mitigating the risk of preterm delivery associated with maternal depression remains uncertain. Although antidepressant use has been associated with increased risk of preterm delivery in many previous studies, a direct head-to-head comparison between these 2 treatment options has not been investigated. Thus, the comparative risk-benefit profiles of those 2 treatment options remain unclear.

Objective

To determine the comparative effectiveness of 2 commonly used options for treating prenatal depression in limiting the risk of preterm delivery associated with maternal depression.

Study Design

A large prospective cohort study was conducted among 82,170 pregnant women at Kaiser Permanente Northern California, an integrated health care delivery system. Clinically diagnosed depression and its treatments (use of antidepressants and mental health counseling) were identified from the Kaiser Permanente Northern California electronic health record system. Gestational age was also recorded for all deliveries and captured by electronic health records for determining preterm delivery.

Results

Using Cox proportional hazards regression incorporating propensity score methodology to ensure comparability between comparison cohorts, relative to those without depression, pregnant women with untreated depression had 41% increased risk of preterm delivery: adjusted hazard ratio=1.41, 95% confidence interval=1.24 to 1.60, confirming increased risk of preterm delivery associated underlying maternal depression. Relative to untreated depression, any mental health counseling was associated with an 18% of reduced risk of preterm delivery: adjusted hazard ratio=0.82 (0.71–0.96). The inverse association showed a dose-response pattern: increased number of counseling visits was associated with greater reduction in preterm delivery risk with 43% reduction in preterm delivery risk associated with 4 or more visits (adjusted hazard ratio=0.57, 95% confidence interval=0.45–0.73). In contrast, use of antidepressants during pregnancy was associated with an additional 31% increased risk of preterm delivery independent of underlying depression: adjusted hazard ratio=1.31, 95% confidence interval=1.06 to 1.61. This positive association also showed a dose-response relationship: a longer duration of use was associated with an even higher risk.

Conclusion

This study provides much needed evidence regarding the comparative effectiveness of 2 common treatment options for prenatal depression in the context of preterm delivery risk. The results indicate that, to reduce preterm delivery risk due to maternal depression, mental health counseling is more effective. Use of antidepressants may add additional risk of preterm delivery, independent of the underlying depression. The findings provide data for clinicians and pregnant women to make informed and evidence-based treatment decisions that take into account the risks and benefits to both maternal and fetal health. (Author)

New Study Results Indicate Need for Specialized Childbirth Education for High-Risk Pregnancies. Vanderlaan J (2024), Lamaze International 30 September 2024

Blog examining the results of research published in the journal Birth (1) that explored what women would have liked to have known before their first birth. 1. Levett KM, Sutcliffe KL, Vanderlaan J, Kjerulff KH (2024). The First Baby Study: What women would like to have known about first childbirth. A mixed-methods study. Birth 21 August 2024. (MB)

Full URL: New Study Results Indicate Need for Specialized Childbirth Education for High-Risk Pregnancies (lamaze.org)

Gestational diabetes: It is not your fault. Sherrell Z (2024), Medical News Today 26 September 2024

Gestational diabetes arises from hormonal changes during pregnancy that increase insulin resistance. It is not the result of a person's actions. (Author)

Full URL: https://www.medicalnewstoday.com/articles/is-gestational-diabetes-my-fault?

Racial/ethnic differences in pre-pregnancy conditions and adverse maternal outcomes in the nuMoM2b cohort: A population-based cohort study. Meredith ME, Steimle LN, Stanhope KK, et al (2024), PLoS ONE vol 19, no 8, August 2024, e0306206

Objectives

To determine how pre-existing conditions contribute to racial disparities in adverse maternal outcomes and incorporate these conditions into models to improve risk prediction for racial minority subgroups.

Study design

We used data from the "Nulliparous Pregnancy Outcomes Study: Monitoring Mothers-to-be (nuMoM2b)" observational cohort study. We defined multimorbidity as the co-occurrence of two or more pre-pregnancy conditions. The primary outcomes of interest were severe preeclampsia, postpartum readmission, and blood transfusion during pregnancy or up to 14 days postpartum. We used weighted Poisson regression with robust variance to estimate adjusted risk ratios and 95% confidence intervals, and we used mediation analysis to evaluate the contribution of the combined effects of pre-pregnancy conditions to racial/ethnic disparities. We also evaluated the predictive performance of our regression models by racial subgroup using the area under the receiver operating characteristic curve (AUC) metric.

Results

In the nuMoM2b cohort (n = 8729), accounting for pre-existing conditions attenuated the association between non-Hispanic Black race/ethnicity and risk of severe preeclampsia. Cardiovascular and kidney conditions were associated with risk for severe preeclampsia among all women (aRR, 1.77; CI, 1.61-1.96, and aRR, 1.27; CI, 1.03-1.56 respectively). The mediation analysis results were not statistically significant; however, cardiovascular conditions explained 36.6% of the association between non-Hispanic Black race/ethnicity and severe preeclampsia (p = 0.07). The addition of pre-pregnancy conditions increased model performance for the prediction of severe preeclampsia.

Conclusions

Pre-existing conditions may explain some of the association between non-Hispanic Black race/ethnicity and severe preeclampsia. Specific pre-pregnancy conditions were associated with adverse maternal outcomes and the incorporation of comorbidities improved the performance of most risk prediction models. (Author)

Full URL: https://doi.org/10.1371/journal.pone.0306206

The impact of chewing khat during pregnancy on selected pregnancy outcomes in eastern Ethiopia: A cohort study with a generalized structural equation modeling analysis approach. Wondemagegn AT, Bekana M, Bekuretsion Y, et al (2024), PLoS ONE vol 19, no 8, August 2024, e0308681

Introduction

Little is known about the fetal and pregnancy effects of khat chewing during pregnancy. The aim of the current study was to determine the impact of chewing khat during pregnancy on selected pregnancy outcomes in Ethiopia, 2022: A Cohort Study with a Generalized Structural Equation Modeling Analysis Approach.

Methods

An institution-based prospective cohort study was employed in selected hospitals in eastern Ethiopia. Pregnant women who visited the selected hospitals in the study area during the study period that fulfilled the eligibility criteria were included until a sample size (344) was fulfilled. The main outcomes studied in the present study were preterm birth and low birth weight. Data were collected through anthropometric and clinical measurements, and interviewers administered questionnaires. The survival analysis and generalized linear model analysis were performed to estimate the crude and adjusted relative risk and attributable risk. The Generalized Structural Equation Modeling (GSEM) analysis was performed using the Statistical software for data science (Stata) 'GSEM' command to examine the mediation effect.

Results

The risk of occurrence of preterm birth was significantly higher among khat chewers [adjusted relative risk (aRR) = 2.19; 95%CI 1.21-3.96]. In further analysis after adjusting for gestational hypertension and cesarean delivery, the regression coefficient of khat chewing during pregnancy on preterm birth has been decreased in size from path n, $\beta = 0.37$, $p<0.001$ to path n', $\beta = 0.15$, $p<0.005$. The risk of occurrence of low birth weight among khat chewers was significantly higher (aRR = 4.17; 95%CI 2.11-8.25). In further analysis after adjusting for gestational hypertension, cesarean delivery, preterm birth and maternal anemia, the regression coefficient of khat chewing during pregnancy on low birth weight has been decreased in size from path q, $\beta = 0.4$, $p<0.001$ to path q', $\beta = 0.2$, $p<0.001$.

Conclusion

Overall, the present study revealed that khat chewing is not only a worry of the current population but also a public health concern of the generation affecting unborn fetuses. (Author)

Full URL: https://doi.org/10.1371/journal.pone.0308681

Sexual and reproductive health outcomes of women who experienced violence in Germany: Analysis of the German health interview and examination survey for adults (DEGS1). Wellmann AM, Costa D (2024), PLoS ONE vol 19, no 8, August 2024, e0305992

Objectives

Violence against women is a widespread public health concern with severe effects to women's sexual and reproductive health, including higher risks for miscarriage or stillbirth, unintended pregnancy and induced abortion.

This study examined the association between women exposure to physical violence, psychological violence and sexual and reproductive health outcomes (contraceptive use, miscarriage or stillbirth and abortion) in Germany.

Methods

This study used a cross-sectional research design to analyze data on violence against women and sexual and reproductive health (SRH) outcomes collected through the German Health Interview and Examination Survey for Adults, Wave 1, between 2008 and 2011 (n = 3149 women, aged 18-64 years).

Multivariable logistic regression models were used to assess the association between experiences of violence among women and the presence of sexual and reproductive health outcomes, considering the influence of socio-demographic and health-related factors (age, marital status, socioeconomic status, social support, number of children, alcohol consumption, health status, chronic conditions).

Results

Three associations remained significant ($p<0.05$) in fully-adjusted models: (i) exposure to physical violence by a parent or caregiver and birth control pill utilization (aOR, adjusted Odds Ratio, 95% CI: 1.36, 1.02-1.81) (ii) exposure to physical violence since the age of 16 and miscarriage or stillbirth (aOR, 95%CI: 1.89, 1.17-3.04); and (iii) exposure to psychological violence by a parent or caregiver and abortion (aOR, 95%CI: 1.87, 1.30-2.70).

Conclusions

The results suggest that adult German women who experienced physical or psychological violence since the age of 16, including violence perpetrated by a parent or caregiver, were more likely to report miscarriage or stillbirth and abortion. Direct assessment of violence experiences against women should be conducted by healthcare professionals in clinical encounters, particularly by obstetrics and gynaecological specialists, for the prevention of women´s adverse sexual and reproductive health outcomes. Furthermore, violence should be treated as a major public health concern and addressed through a multisectoral approach, involving the healthcare and educational sectors, researchers and relevant policymakers. (Author)

Full URL: https://doi.org/10.1371/journal.pone.0305992

Severe Maternal and Neonatal Morbidity Among Gestational Carriers: A Cohort Study. Velez MP, Ivanova M, Shellenberger J, et al (2024), Annals of Internal Medicine 24 September 2024

Background

Use of a gestational ("surrogate") carrier is increasingly common. Risk for maternal and neonatal adversity is largely unknown in this birthing population.

Objective

To determine the risk for severe maternal morbidity (SMM) and severe neonatal morbidity (SNM) in gestational carriers.

Design

Population-based cohort study.

Setting

All of Ontario, Canada.

Participants

All singleton births at more than 20 weeks' gestation, from 2012 to 2021.

Measurements

Exposure was type of conception, namely, gestational carriage (main exposure), unassisted conception (comparison group 1), and in vitro fertilization (IVF) (comparison group 2). Main composite outcomes were SMM and SNM. Modified Poisson regression models generated weighted relative risks (wRRs) using propensity score-based overlap weighting. Secondary outcomes included hypertensive disorders of pregnancy, cesarean delivery, preterm birth, and postpartum hemorrhage.

Results

Of all eligible singleton births, 846 124 (97.6%) were by unassisted conception, 16 087 (1.8%) by IVF, and 806 (0.1%) by gestational carriage. Respective risks for SMM were 2.3%, 4.3%, and 7.8%. The wRRs were 3.30 (95% CI, 2.59 to 4.20) comparing gestational carriage with unassisted conception and 1.86 (CI, 1.36 to 2.55) comparing gestational carriage with IVF.

Respective risks for SNM were 5.9%, 8.9%, and 6.6%, generating wRRs of 1.20 (CI, 0.92 to 1.55) for gestational carriage versus unassisted conception and 0.81 (CI, 0.61 to 1.08) for gestational carriage versus IVF. Hypertensive disorders, postpartum hemorrhage, and preterm birth at less than 37 weeks were also significantly higher contrasting gestational carriers to either comparison group.

Limitation: Absence of information about indications for choosing a gestational carrier, and oocyte or sperm donor source.

Conclusion

Among singleton births of more than 20 weeks' gestation, a higher risk for SMM and adverse pregnancy outcomes was seen among gestational carriers compared with women who conceived with and without assistance. Although gestational carriage was associated with preterm birth, there was less clear evidence of severe neonatal morbidity. Potential mechanisms for higher maternal morbidity among gestational carriers require elucidation, alongside developing special care plans for gestational carriers.

Primary funding source: The Canadian Institutes of Health Research. (Author)

Delivery effectiveness of and adherence to intermittent preventive treatment for malaria in pregnancy with dihydroartemisinin–piperaquine with or without targeted information transfer or sulfadoxine–pyrimethamine in western Kenya: a three-armed, pragmatic, open-label, cluster-randomised trial. Barsosio HC, Webster J, Omiti F, et al (2024), The Lancet Global Health vol 12, no 10, October 2024, pp e1660-e1672

Background

High-level resistance to sulfadoxine–pyrimethamine threatens the efficacy of WHO-recommended intermittent preventive treatment in pregnancy (IPTp) with single-dose sulfadoxine–pyrimethamine to prevent malaria. Monthly IPTp with dihydroartemisinin–piperaquine, a 3-day regimen, is an emerging alternative, but this regimen poses potential implementation and adherence challenges. We aimed to assess adherence to a multiday IPTp with dihydroartemisinin–piperaquine regimen and its delivery effectiveness in routine antenatal care settings in western Kenya.

Methods

We conducted a pragmatic, three-armed, open-label, cluster-randomised trial in antenatal clinics in 18 health-care facilities (six facilities per group) in Kisumu County and Homa Bay County in western Kenya. Clusters were facilities offering routine antenatal care services provided by trained Ministry of Health staff with 100 or more antenatal clinic attendances per month between July, 2018, and June, 2019. Private or mission hospitals, dispensaries, referral hospitals, and trial sites were excluded. Individuals in their first trimester, living with HIV, or who were not attending a scheduled antenatal clinic visit were excluded. The 18 antenatal clinics were grouped into matched triplets stratified by location and clinics in each matched triplet were randomly assigned to one of the three study groups (1:1:1). Masking was not possible. Two groups were given IPTp with dihydroartemisinin–piperaquine (one group with a targeted information transfer intervention and one group without any additional interventions) and one group was given the standard of care (ie, IPTp with sulfadoxine–pyrimethamine). The primary endpoint, adherence, was defined as the proportion of participants completing their most recent 3-day IPTp with dihydroartemisinin–piperaquine regimen. This completion was verified by pill counts during home visits no more than 2 days after participants' 3-day regimens ended. The secondary endpoint, delivery effectiveness, was defined as the proportion of participants who received the correct number of IPTp tablets and correctly repeated dosing instructions (ie, correctly recalled the instructions they received about self-administered dihydroartemisinin–piperaquine doses and the number of sulfadoxine–pyrimethamine tablets they had received) at their exit from the antenatal clinic. Individuals receiving treatment for malaria, visiting a clinic for registration only, or interviewed during IPTp drug stock-outs were excluded from analyses. We used generalised linear mixed models to compare endpoints among the IPTp with dihydroartemisinin–piperaquine groups. This trial was registered with ClinicalTrials.gov, NCT04160026, and is complete.

Findings

15 facilities (five per group) completed the trial, with 1189 participants having exit interviews (377 in the IPTp with sulfadoxine–pyrimethamine group, 408 in the IPTp with dihydroartemisinin–piperaquine only group, and 404 in the IPTp with dihydroartemisinin–piperaquine plus targeted information transfer intervention group) and 586 participants having home visits (267 in the IPTp with dihydroartemisinin–piperaquine only group and 319 in the IPTp with dihydroartemisinin–piperaquine plus targeted information transfer intervention group) from Sept 8 to Dec 10, 2020. Relative to the IPTp with dihydroartemisinin–piperaquine only group, adherence was 16% higher in the IPTp with dihydroartemisinin–piperaquine plus targeted information transfer intervention group (266 [83%] of 319 participants vs 196 [73%] of 267 participants; adjusted relative risk [RR] 1·16, 95% CI 1·03–1·31; p=0·0140). Delivery effectiveness in the IPTp with dihydroartemisinin–piperaquine plus targeted information transfer intervention group was not significantly different from that in the IPTp with sulfadoxine–pyrimethamine group (352 [87%] of 403 participants vs 335 [89%] of 375 participants; adjusted RR 0·97, 95% CI 0·90–1·05; p=0·4810). However, delivery effectiveness in the IPTp with dihydroartemisinin–piperaquine only group was significantly lower than in the IPTp with sulfadoxine–pyrimethamine group (300 [74%] of 404 participants vs 335 [89%] of 375 participants; 0·84, 0·75–0·95; p=0·0030).

Interpretation

Targeted information transfer interventions to health-care providers and pregnant individuals boost antenatal care delivery adherence to a multiday regimen with dihydroartemisinin–piperaquine.

Funding

European and Developing Countries Clinical Trials Partnership 2, UK Joint Global Health Trials Scheme of the Foreign, Commonwealth and Development Office, Medical Research Council, National Institute for Health and Care Research, and Wellcome Trust; and Swedish International Development Cooperation Agency. (Author)

Full URL: https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(24)00261-4/fulltext

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Intravenous versus oral iron for anaemia among pregnant women in Nigeria (IVON): an open-label, randomised controlled trial. Afolabi BB, Babah OA, Adeyemo TA, et al (2024), The Lancet Global Health vol 12, no 10, October 2024, pp e1649-e1659

Background

Oral iron for anaemia in pregnancy is often not well tolerated, with poor adherence. Iron administered intravenously might address these tolerance and adherence issues. We investigated the effectiveness and safety of intravenous ferric carboxymaltose versus oral ferrous sulphate on anaemia and iron deficiency among pregnant women in Nigeria.

Methods

We did a multicentre, open-label, parallel, randomised controlled trial of pregnant women (aged 15–49 years) with haemoglobin (Hb) concentrations of less than 10 g/dL at 20–32 weeks' gestation from 11 primary, secondary, or tertiary health facilities in Nigeria (five in Lagos and six in Kano). Exclusion criteria included vaginal bleeding, blood transfusion or major surgery within the past 3 months, symptomatic anaemia, anaemia known to be unrelated to iron deficiency, clinically confirmed malabsorption syndrome, previous hypersensitivity to any form of iron, pre-existing maternal depression or other major psychiatric illness, immune-related diseases, such as systemic lupus erythematosus or rheumatoid arthritis, or severe allergic reactions. Participants were randomly assigned (1:1) by nurses and doctors using a web-based randomisation service to either receive a single dose of intravenous ferric carboxymaltose (20 mg/kg to a maximum of 1000 mg) or oral ferrous sulphate (200 mg; 65 mg elemental iron) three times daily until 6 weeks postpartum. The study was primarily unmasked. Primary outcomes were maternal anaemia (Hb <11 g/dL) at 36 weeks' gestation and preterm birth at before 37 weeks' gestation, with analysis by intention to treat in participants with available data. This study was registered at the ISRCTN registry on Dec 10, 2020 (ISRCTN63484804) and on ClinicalTrials.gov (NCT04976179) on April 7, 2021.

Findings

Between Aug 10, 2021, and Dec 15, 2022, 13 724 pregnant women were screened for eligibility. 12 668 were excluded due to ineligibility for inclusion, and 1056 provided consent to participate and were randomly assigned to either the intravenous or oral administration groups. 527 were assigned to the intravenous ferric carboxymaltose group and 529 were assigned to the oral ferrous sulphate group. 518 in the intravenous group were assessed at 36 weeks' gestational age and after 518 deliveries, and 511 completed the 6 weeks postpartum visit. 513 in the oral ferrous sulphate group were assessed at 36 weeks' gestational age and after 512 deliveries, and 501 completed the 6 weeks postpartum visit. No significant difference was found in anaemia at 36 weeks (299 [58%] of 517 in the intravenous group vs 305 [61%] of 503 in the oral group; risk ratio 0·95, 95% CI 0·85–1·06; p=0·36), nor in preterm birth (73 [14%] of 518 vs 77 [15%] of 513; 0·94, 0·70–1·26; p=0·66). There were no significant differences in adverse events. The most common adverse events were diarrhoea (in six participants) and vomiting (in three participants) in the oral group and fatigue (in two participants) and headache (in two participants) in the intravenous group.

Interpretation

Although the effect on overall anaemia did not differ, intravenous iron reduced the prevalence of iron deficiency to a greater extent than oral iron and was considered to be safe. We recommend that intravenous iron be considered for anaemic pregnant women in Nigeria and similar settings.

Funding

Bill & Melinda Gates Foundation. (Author)

Full URL: https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(24)00239-0/fulltext?dgcid=raven_jbs_etoc_email

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Explore the lived childbirth experiences, challenges following childbirth, and coping strategies of teenage mothers: A qualitative meta-synthesis. Tenaw LA, Ngai FW, Lam K (2024), Midwifery vol 137, October 2024, 104128

Problem

Worldwide, 16 million girls give birth during adolescence each year, which has negative health, social, and economic consequences for adolescent women's future.

Background

Childbirths occurring between the ages of 13-19, before teenage girls have reached the age of maturity to handle the parenting role, are often unplanned.

Objective

The aim of this study was to gain a comprehensive understanding of lived childbirth experiences, identify the challenges of early motherhood, and explore the coping strategies employed by teenage mothers to overcome these challenges during the transition to motherhood.

Methods

Six commonly cited databases were used to retrieve articles using the SPIDER framework. We utilized the Walsh and Downe quality appraisal tool, which is considered the most appropriate fit for the current qualitative meta-synthesis. The thematic analysis approach was used to draw conclusions and generate hypotheses.

Results

This meta-synthesis showed that teenage mothers often encounter negative reactions from their partners, families, and communities due to their early childbirth. They face numerous challenges, including parenting incompetency, school dropout, conflict between adolescent interests and maternal responsibilities, emotional disturbance, and financial problems. Social support and self-efficacy are the main coping strategies to navigate these challenges and attain maternal competencies.

Conclusion and implications

Families, peers, and midwives play a crucial role in providing parenting lessons for teenage mothers. Encouraging teenage mothers to believe in their capacities is an important coping strategy to facilitate a smoother motherhood transition. Further studies are needed to test the effectiveness of self-efficacy and social support interventions on teenage mothers' parenthood role attainment and in preventing mental health problems following childbirth. (Author)

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Labour and birth

Female genital mutilation/cutting in women delivering in France: An observational national study. Cinelli H, Lelong N, Lesclingand M, et al (2024), International Journal of Gynecology & Obstetrics 29 August 2024, online

Objective

International migration from source countries has meant that clinicians in high income countries, that is, receiving countries, are increasingly caring for affected women affected by female genital mutilation/cutting (FGM/C). The aim of the present study was to assess the prevalence of FGM/C among women at childbirth, and its association with pregnancy outcomes.

Methods

This was an observational study using data from a cross-sectional population-based study from the French National Perinatal Survey of 2021 (ENP) conducted in all maternity units in mainland France and including all women delivering a live birth during 1 week in March 2021 (N = 10 928). We estimated the FGM/C prevalence using (i) the diagnosed cases and (ii) the indirect prevalence estimated by UNICEF in each source country. We compared population characteristics and perinatal outcomes between women diagnosed with FGM/C and two groups: (i) women originating in source countries and diagnosed as without FGM/C and (ii) all women without diagnosis of FGM/C whatever the country of birth.

Results

Diagnosed prevalence of FGM/C was 95% (95% CI: 0.78–1.14] and the indirect computed estimation prevalence was estimated at 1.53% (95% CI: 1.31–1.77) in 113 and 183 women, respectively. Labor and delivery outcomes were globally similar in women with FGM/C and the other two groups. Only episiotomy was more frequently performed in women with FGM/C than in the other two groups.

Conclusion

In receiving countries, obstetric outcomes of women with FGM/C can be similar to those of other women, which does not preclude need of further research and training to provide the most appropriate care, including enhanced attention to diagnosis. (Author)

Full URL: https://doi.org/10.1002/ijgo.15880

Effect of music therapy on anxiety in full-term pregnant women. Ji C, Li J, Nie Q, et al (2024), Frontiers in Psychiatry 6 September 2024, online

Objectives

To examine the impact of receptive music therapy on maternal anxiety both during and after the process of childbirth.

Methods

In this experimental study, 217 women were divided into the receptive music therapy and control groups.

The first group were exposed to music at intervals of 20 minutes for a duration of 30 minutes during labor. Data were collected using the Pregnant Information Form, the State Anxiety Inventory (STAI), Visual Analogue Scale and Edinburgh postnatal depression scale.

Results

The pregnant women who participated in the music group exhibited reduced scores of STAI, both during the active time (46.42 ± 11.69 vs. 50.21 ± 11.14, 44.37 ± 10.38 vs. 47.56 ± 11.46, P<0.05) and two hours after giving birth(26.32 ± 6.23 vs. 29.55 ± 8.9, 30.38 ± 7.15 vs. 33.08 ± 9.45, P<0.05). At the first stage of labor, pregnant women in the music group experienced dramatically reduced score of pain in active phase (6.39 ± 1.00 vs. 6.91 ± 0.99, P<0.05) and Edinburgh postnatal depression scale at discharged from the hospital (6.68 ± 3.36 vs. 7.66 ± 3.54, P<0.05).

Conclusion

Receptive music therapy is effective in reducing pain during labor and anxiety during prenatal and postnatal periods. The use of receptive music therapy in obstetric care can be an effective tool in preventing anxiety-induced complications. (Author)

Full URL: https://doi.org/10.3389/fpsyt.2024.1429999

Vaginal dinoprostone insert compared with two different oral misoprostol regimens for labor induction in nulliparous and multiparous women. Erhardt D, Radan A, Mathis J, et al (2024), Acta Obstetricia et Gynecologica Scandinavica 2 September 2024, online

Introduction

Labor induction exhibits considerable variations in protocols and medication regimens. Limited studies compare vaginal dinoprostone inserts with different oral misoprostol dosages, considering parity influence. This study explores the distinctions among 10 mg vaginal dinoprostone inserts and oral misoprostol 25 μg every 2 and every 4 h for labor induction, stratified by parity.

Material and Methods

This retrospective cohort study involved 607 participants across two hospitals. The primary outcome, time from induction to delivery, and secondary outcomes, including mode of delivery and maternal and fetal safety, were assessed.

Results

Patient characteristics revealed differences in indication for labor induction, with the dinoprostone cohort having fewer post-term and premature rupture of membranes cases but more intrauterine growth restriction/small-for-gestational age. Both oral misoprostol regimens showed a shorter time to delivery interval compared to the dinoprostone cohort (median: 1380 min [IQR 1381.0] and 1127.0 min [IQR 1214.0] versus 1631.5 [IQR 1736.2], p < 0.001 and p = 0.014). Only the difference between oral misoprostol q2h and vaginal dinoprostone remained significant for nulliparous but not multiparous women, losing significance over all the population after adjusting for confounding factors. The proportion of women giving birth within 24 h did not significantly differ between misoprostol q2h and dinoprostone after adjusting for confounders. When comparing misoprostol q4h with dinoprostone after confounder adjustment, an increased time to delivery interval for misoprostol q4h was found (p = 0.001). Both oral misoprostol regimens exhibited fewer meconium-stained liquor (miso q4h: OR 0.44, miso q2h: OR 0.34) and cesarean sections (miso q4h: OR 0.48, miso q2h: OR 0.53) compared to dinoprostone, even after adjustment for confounders.

Conclusions

Our study suggests that oral misoprostol 25 μg q4h is less effective than 10 mg vaginal dinoprostone for labor induction if parity and indication for induction are adjusted for, particularly in multiparous women. In terms of side effects, oral misoprostol regimens seem superior to vaginal dinoprostone. Our data support the individualized use of different agents for labor induction according to parity, indication for induction, bishop score, and women's preference. (Author)

Full URL: https://doi.org/10.1111/aogs.14956

Emergency delivery in case of suspected placenta accreta spectrum: Can it be predicted?.
Hanulikova P, Savukyne E, Fox KA, et al (2024), Acta Obstetricia et Gynecologica Scandinavica 11 September 2024, online

Introduction

The main goal of placenta accreta spectrum (PAS) screening is to enable delivery in an expert center in the presence of an experienced team at an appropriate time. Our study aimed to identify independent risk factors for emergency deliveries within the IS-PAS 2.0 database cohort and establish a multivariate predictive model.

Material and Methods

A retrospective analysis of prospectively collected PAS cases from the IS-PAS database between January 2020 and June 2022 by 23 international expert centers was performed. All PAS cases (singleton and multiple pregnancies) managed according to local protocols were included. Individuals with emergent delivery were identified and compared to those with scheduled delivery. A multivariate analysis was conducted to identify the possible risk factors for emergency delivery and was used to establish a predictive model. Maternal outcomes were compared.

Results

Overall, 315 women were included in the study. Of these, 182 participants (89 with emergent and 93 with scheduled delivery) were included in the final analysis after exclusion of those with unsuspected PAS antenatally or who lacked information about the urgency of delivery. Gestational age at delivery was higher in the scheduled group (34.7 vs. 32.9, $p < 0.001$). Antenatal bleeding (OR 2.9, $p = 0.02$) and a placenta located over a uterine scar (OR 0.38, $p = 0.001$) were the independent predictive factors for emergent delivery (AUC 0.68). Ultrasound (US) markers: loss of clear zone ($p = 0.001$), placental lacunae ($p = 0.01$), placental bulge ($p = 0.02$), and presence of bridging vessels ($p = 0.02$) were more frequently documented in the scheduled group. None of these markers improved the predictive values of the model. Higher PAS grades were identified in the scheduled group ($p = 0.01$). There were no significant differences in maternal outcomes.

Conclusions

Antenatal bleeding and the placental location away from the uterine scar remained the most significant predictors for emergent delivery among patients with PAS, even when combining more predictive risk factors, including US markers. Based on these results, patients who bleed antenatally may benefit from transfer to an expert center, as we found no differences in maternal outcomes between groups delivered in expert centers. Earlier-scheduled delivery is not supported due to the low predictive value of our model. (Author)

Full URL: https://doi.org/10.1111/aogs.14931

Risk of cervical laceration in forceps vs vacuum delivery: A systematic review and meta-analysis.
Hossein-Pour P, Rajasingham M, Muraca GM (2024), Acta Obstetricia et Gynecologica Scandinavica 15 September 2024, online

Introduction

Cervical laceration is an obstetric injury associated with severe postpartum hemorrhage and subsequent spontaneous preterm birth. While operative vaginal delivery is a known risk factor for cervical laceration, it is unclear whether forceps and vacuum deliveries incur the same risk. The aim of this systematic review was to compare the risk of cervical laceration between operative instruments (forceps vs vacuum).

Material and Methods

Medline, Embase, Global Health, CENTRAL, Emcare, and Web of Science were searched from inception until August 2024 with terms related to operative vaginal delivery and cervical laceration. Studies comparing the risk of cervical laceration in individuals undergoing forceps or vacuum delivery were included. Two authors conducted screening, data extraction, and quality assessment of all studies.

Random-effects models were used to pool risk ratios across studies and certainty of evidence was assessed using Cochrane methods and the GRADE approach. PROSPERO Registration Number CRD42023421890.

Results

Thirteen studies were eligible for inclusion, 3 randomized controlled trials (RCTs) and 10 observational studies. The overall rate of cervical laceration was 0.35% (990/284218 births) where 1.04% of forceps deliveries (456/43817) were complicated by cervical laceration compared to 0.22% of vacuum deliveries (534/240401). The risk of cervical laceration was 2–5 fold greater in forceps deliveries than in vacuum deliveries: pooled unadjusted risk ratio [RR] 4.83, 95% confidence interval [CI] 1.56–14.98 among RCTs and pooled unadjusted RR 1.89, 95% CI 1.59–2.24 among observational studies. The overall quality of evidence was low to moderate mainly due to the lack of attention to confounding in the included literature. The GRADE assessment indicated that the certainty of evidence was very low for observational studies and moderate for RCTs.

Conclusions

Low certainty of evidence indicates that forceps deliveries may be associated with an increased risk of cervical laceration compared to vacuum deliveries. (Author)

Full URL: https://doi.org/10.1111/aogs.14969

Intrapartum ultrasound for cervical dilatation: Inter- and intra-observer agreement. Hanidu A, Kovalenko M, Usman S, et al (2024), Acta Obstetricia et Gynecologica Scandinavica 15 September 2024, online

Introduction

Digital vaginal examination (DVE) is considered the standard of care for assessing labor progress and cervical dilatation. However, it may be painful and is a subjective method that can increase the risk of chorioamnionitis. Known inter- and intra-observer variability exists in measurements of cervical dilatation obtained digitally. However, little is known about the inter- and intra-observer variability when using intrapartum transperineal ultrasound (TPUS). Our objectives were to investigate the relationship between cervical dilatation as assessed by TPUS and DVE. To assess inter- and intra-observer variability in both single and repeated ultrasound assessments of cervical dilatation during active labor.

Material and Methods

This single-center study was conducted at an inner-city maternity unit in London, UK. Nulliparous participants at term with a live, singleton fetus in cephalic presentation were recruited between May 2021 and November 2022. During active labor, TPUS was performed subsequent to DVE. Repeat ultrasound assessments were performed where feasible. Participants were in a supine position, with flexed hips and knees and with an empty bladder. The ultrasound transducer was placed transversely on the maternal perineum. The anteroposterior (AP) diameter of the cervix was measured, and two-dimensional (2D) cine-loop videos were analyzed to obtain accurate measurements. Data were excluded if the time difference between DVE and TPUS exceeded 60 min.

Results

Of the 206 participants who consented to the study, complete data were obtained from 110 participants, yielding 147 paired TPUS and DVE observations. Ninety-six participants were excluded. The absolute difference between TPUS and DVE assessments was 0 cm in 34% of the observations, 1 cm in 46.3%, and between 2 and 4 cm in 19.7%. The mean difference was −0.9 cm (intraclass correlation coefficient = 0.85; $p < 0.001$). Data from 30 participants, with 50 cervical dilatation measurements, were used to assess inter- and intra-observer variability. The mean difference for the first ultrasound assessment was 0.07 cm (95% limit of agreement = −0.96 to 1.10, $p < 0.001$), for inter-observer variability, and 0.01 cm (95% limit of agreement = −0.29 to 0.30; $p < 0.001$) for intra-observer variability.

Conclusions

Assessment of the cervix with TPUS during active labor is feasible and shows a strong correlation with DVE measurements. The majority of ultrasound measurements yielded readings within 1 cm of the corresponding DVE values, demonstrating high intraclass correlation and good inter- and intra-observer agreement. (Author)

Full URL: https://doi.org/10.1111/aogs.14970

Severe adverse maternal and neonatal outcomes according to the planned birth setting being midwife-led birth centers or obstetric-led units. Rollet C, Le Ray C, Vendittelli F, et al (2024), Acta Obstetricia et Gynecologica Scandinavica 15 September 2024, online

Introduction

The establishment of midwife-led birth centers (MLBCs) is still being debated. The study aimed to compare severe adverse outcomes and mode of birth in low-risk women according to their birth planned in MLBCs or in obstetric-led units (OUs) in France.

Material and Methods

We used nationwide databases to select low-risk women at the start of care in labor in MLBCs (n = 1294) and in OUs (n = 5985). Using multilevel logistic regression, we compared severe adverse maternal and neonatal morbidity as a composite outcome and as individual outcomes. These include severe postpartum hemorrhage (≥1000 mL of blood loss), obstetrical anal sphincter injury, maternal admission to an intensive care unit, maternal death, a 5-minute Apgar score <7, neonatal resuscitation at birth, neonatal admission to an intensive care unit, and stillbirth or neonatal death. We also studied the mode of birth and the role of prophylactic administration of oxytocin at birth in the association between birth settings and severe postpartum hemorrhage.

Results

Severe adverse maternal and neonatal outcome indicated a slightly higher rate in women in MLBCs compared to OUs according to unadjusted analyses (4.6% in MLBCs vs. 3.4% in OUs; cOR 1.36; 95%CI [1.01–1.83]), but the difference was not significant between birth settings after adjustment (aOR 1.37 [0.92–2.05]). Severe neonatal morbidity alone was not different (1.7% vs. 1.6%; aOR 1.17 [0.55–2.47]). However, severe maternal morbidity was significantly higher in MLBCs than in OUs (3.0% vs. 1.9%; aOR 1.61 [1.09–2.39]), mainly explained by higher risks of severe postpartum hemorrhage (2.4 vs. 1.1%; aOR 2.37 [1.29–4.36]), with 2 out of 5 in MLBCs partly explained by the low use of prophylactic oxytocin. Cesarean and operative vaginal births were significantly decreased in women with a birth planned in MLBCs.

Conclusions

In France, 3 to 4% of low-risk women experienced a severe adverse maternal or neonatal outcome regardless of the planned birth setting. Results were favorable for MLBCs in terms of mode of birth but not for severe postpartum hemorrhage, which could be partly addressed by revising practices of prophylactic administration of oxytocin. (Author)

Full URL: https://doi.org/10.1111/aogs.14971

Women's Experiences of Mechanical Balloon Catheter Induction With Self-Traction. Landry I, Galipeau R, Gervaise A, et al (2024), JOGNN: Journal of Obstetric, Gynecologic and Neonatal Nursing vol 53, no 5, September 2024, pp 562-571

Objective

To explore women's experiences of mechanical labor induction using a balloon catheter with self-traction.

Design

Descriptive qualitative.

Setting

Birth unit of an urban hospital in Quebec, Canada.

Participants

Fourteen women who experienced labor induction with a balloon catheter using self-traction.

Methods

We conducted individual structured interviews between May 2022 and January 2023 to collect data that we subsequently analyzed using the manifest content analysis approach of Graneheim et al. We adhered to the Consolidated Criteria for Reporting Qualitative Research (COREQ).

Results

We identified five categories: Expectations, Pain or Comfort Experienced, Emotions Felt, Support From Nursing Staff, and Appreciation of the Procedure. The participants anticipated rapid, effective induction, expressed concerns about potential discomfort, and appreciated control of their experiences. We found a generally positive trend in terms of appreciation for all categories.

Conclusion

The positive experiences of participants underline the promising potential of the balloon catheter method of labor induction with self-traction. Given the continuing growth in labor induction rates, it becomes necessary to continue efforts to offer services specifically geared to women's needs. Offering an additional option such as self-traction is a step in this direction. (Author)

Full URL: https://doi.org/10.1016/j.jogn.2024.06.002

Quantifying the association between doula care and maternal and neonatal outcomes. Lemon LS, Quinn B, Young M, et al (2024), American Journal of Obstetrics & Gynecology (AJOG) 24 August 2024, online

Background

The United States suffers from an increasing rate of severe maternal morbidity, paired with a wide disparity in maternal health by race. Doulas are posited to be a useful resource to increase positive outcomes and to decrease this disparity.

Objective

This study aimed to evaluate the association between doula care and a broad range of maternal and neonatal outcomes in various subpopulations.

Study Design

This was a retrospective cohort study of deliveries that were recorded from January 2021 to December 2022 at a single institution where they received prenatal care. The exposure was receipt of doula care prenatally and at delivery. We evaluated both the maternal (cesarean delivery, cesarean delivery of nulliparous, term, singleton, vertex infant, vaginal birth after cesarean, gestational hypertension, preeclampsia, postpartum emergency department visit, readmission, and attendance of postpartum office visit) and neonatal (neonatal intensive care unit admission, unexpected complications in term newborns, breastfeeding, preterm delivery, and intrauterine growth restriction) outcomes. Because our institution previously employed targeted outreach by offering doula services to patients at highest risk, we used multiple methods to generate an appropriate comparison population. We conducted a multivariate logistic regression and conditional regressions using propensity scores to model the likelihood of doula care to generate adjusted risk differences associated with doula care. Analyses were repeated in populations stratified by race (White vs Black) and then by payor status (public vs commercial).

Results

Our cohort included 17,831 deliveries; 486 of those received doula care and 17,345 did not. Patients who received doula care were more likely to self-report Black race, be publicly insured, and to live in a more disadvantaged neighborhood.

Regardless of the analytical approach, for every 100 patients who received doula care, there were 15 to 34 more vaginal births after cesarean (adjusted risk difference, 15.6; 95% confidence interval, 3.8–27.4; adjusted risk difference, 34.2; 95% confidence interval, 0.046–68.0) and 5 to 6 more patients who attended a postpartum office visit (adjusted risk difference, 5.4; 95% confidence interval, 1.4–9.5; adjusted risk difference, 6.8; 95% confidence interval, 3.7–9.9) when compared with those who did not receive doula services.

Infants born to these patients were 20% more like likely to be exclusively breastfed (adjusted risk ratio, 1.22; 95% confidence interval, 1.07–1.38), and doula care was associated with 3 to 4 fewer preterm births (adjusted risk difference, −3.8; 95% confidence interval, −6.1 to −1.5; −4.0; 95% confidence interval, −6.2 to −1.8) for every 100 deliveries that received doula care. Results were consistent regardless of race or insurance. Results were also consistent when doula care was redefined as having at least 3 prenatal encounters with a doula.

Conclusion

Doula care was associated with more vaginal births after cesarean delivery, improved attendance of postpartum office visits, improved breastfeeding rates, and fewer preterm deliveries. The effect of doula care was consistent across race and insurance status. (Author)

Full URL: https://doi.org/10.1016/j.ajog.2024.08.029

Risk of oxytocin overdose during labour and childbirth. NHS England, Royal College of Midwives, Royal College of Obstetricans and Gynaecologists, Royal College of Anaesthetists (2024), 24 September 2024, online

Risk of oxytocin overdose during labour and childbirth is a safety critical and complex National Patient Safety Alert. National Patient Safety Alerts require action to be taken by healthcare providers to reduce the risk of death or disability. Implementation should be co-ordinated by an executive lead (or equivalent role in organisations without executive boards) and supported by clinical leads in maternity, anaesthetics, theatres, and pharmacy. National Patient Safety Alerts began in November 2019. (Author, edited)

Full URL: patient-safety-alert-risk-of-oxytocin-overdose-during-labour-and-childbirth.pdf (england.nhs.uk)

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Maternity services

Maternity Services [written answer]. House of Commons (2024), Hansard Written question 4395, 5 September 2024

Karin Smyth responds to a written question from Dr Caroline Johnson to the Secretary of State for Health and Social Care, regarding what guidance his Department issues on questioning patients on (a) pregnancy and (b) risk of pregnancy before (i) scans and (ii) operations. (JSM)

Full URL: https://questions-statements.parliament.uk/written-questions/detail/2024-09-05/4395

Skilled birth attendants' experiences of continuity for effective care coordination in Kenya: an interpretive phenomenology. Wainaina GM, Doreen K, Jordan P (2024), African Journal of Midwifery and Women's Health vol 18, no 3, July 2024, pp 1–15

Background/Aims

Skilled birth attendants are vital in implementing and supporting maternal and neonatal care. Continuity of care enables coordination through the segments of the maternal and neonatal health continuum, from preconception to postpartum care. The aim of this study was to explore the experiences of skilled birth

attendants in relation to providing continuity of care and effective coordination through the segments of the maternal and neonatal health continuum in Kenya.

Methods

An interpretive phenomenological approach was used in conducting 11 interviews with skilled birth attendants from four selected counties of Kenya using semi-structured guides. Interviews were carried out between June 2021 and January 2023. Participants were asked about their experiences of providing care during preconception, pregnancy, labour, birth and postpartum, as well as their perceptions of the health system in relation to providing continuity of care. Data were analysed using the van Manen approach.

Results

The themes were decisions during preconception care, enabling the antenatal journey, transitioning from pregnancy to birth and creating an enabled environment.

Conclusions

Skilled birth attendants highlighted the need for an enabled environment to provide appropriate care, emphasising the lack of understanding of the content in preconception care and lack of an appropriate site at the health facility to provide preconception care. Skilled birth attendants need an enabling environment in order to support women in each segment of the maternal and neonatal continuum and during transitions between segments.

Implications for practice

Skilled birth attendants' experiences should be considered when developing and reviewing guidelines for care across the maternal and neonatal health continuum. Skilled birth attendants need training and education on continuity and coordination of care. (Author)

Using interpretive description to facilitate women's contributions to maternity care: experiences and views of obstetric fistula prevention. Bulndi LB, Bayes S, Ireson D, et al (2024), African Journal of Midwifery and Women's Health vol 18, no 3, July 2024, pp 1–10

Background/Aims

Interpretive description is a qualitative methodology that combines detailed descriptions with thoughtful interpretation. This approach is especially effective for producing practical insights and deepening the understanding of phenomena in clinical or practice-based settings. The aims of this study were to explore how interpretive description could be used to research the experiences and views of women with obstetric fistula.

Methods

Interpretive description was used to explore the experiences and views of 15 purposively selected women affected by obstetric fistula. Participants were recruited via the Evangel Vesico Vaginal Fistula Centre of Bingham University Teaching Hospital. Data were collected via in-depth interviews and concurrently analysed thematically.

Results

Interpretive description provided women with a unique opportunity to share their experiences of the causes and avoidable risk factors of obstetric fistula. The approach yielded qualitative findings and allowed for the representation of different views, leading to an understanding of how to mitigate obstetric fistula in the community.

Conclusions

Interpretive description was used to listen to the voices of women affected by obstetric fistula, learn from their experiences and highlight the interventions that may alter risk factors for the condition in the community. This is the first study to use interpretive description to facilitate under-represented women's contributions to maternity care by listening to their experiences and views.

This enabled identification of gaps in maternity care provision, which would be of interest to the community and health service leaders as well as policymakers in sub-Saharan Africa.

Implications for practice

Interpretive description allows for deep capture of women's perspectives, allowing implementation of interventions designed to target issues as perceived by those most affected. This also ensures that under-represented groups are included in the research process. (Author)

Full URL: https://doi.org/10.12968/ajmw.2023.0025

Comparing birth experiences and satisfaction with midwifery care before and after the implementation of Canada's first Alongside Midwifery Unit (AMU). Murray-Davis B, Grenier LN, Li J, et al (2024), PLoS ONE vol 19, no 8, August 2024, e0306916

Background

Globally, midwifery-led birthing units are associated with favourable clinical outcomes and positive birth experiences. As part of our evaluation of Canada's first Alongside Midwifery Unit (AMU) at Markham Stouffville Hospital, we sought to explore and compare birth experiences and satisfaction among midwifery clients who gave birth on the AMU with midwifery clients who gave birth on the traditional obstetric unit prior to AMU implementation.

Methods

We conducted a structured, online, cross-sectional survey of midwifery clients in the six months before, and up to 18 months after, opening of the AMU at Markham Stouffville Hospital, Ontario Canada. The survey contained validated measures of satisfaction including personal capacity and participation; perceived safety, control, and security; professional support; and satisfaction. Descriptive statistics and tests of significance were completed in SPSS.

Results

A total of 193 responses were included in our analyses (pre-AMU n = 47, post-AMU n = 146). All participants had positive experiences in the four domains assessed. Compared to those who gave birth with midwives on the Labour unit, those who gave birth on the AMU indicated more positive experiences for some measures. Perceptions pertaining to being an active participant in care, to security and sense of control were more positive among those who gave birth on the AMU.

Conclusion

The AMU in Ontario is associated with high levels of satisfaction during birth, particularly the perception of being actively engaged in decision making, having a sense of control and safety, and having confidence in the care provider team. Care received on the AMU does not compromise birth experiences or satisfaction and may be associated with greater autonomy and agency for the person giving birth. (Author)

Full URL: https://doi.org/10.1371/journal.pone.0306916

A collective leadership framework for nursing and midwifery. Northern Ireland Practice and Education Council for Nursing and Midwifery (2024), Belfast: Northern Ireland Practice and Education Council for Nursing and Midwifery 19 September 2024. 56 pages

Health and Wellbeing 2026: Delivering Together provides a ten-year road map for the transformation of Health and Social Care (HSC) services in Northern Ireland (NI). To achieve this transformation, a new approach to collective and system leadership was identified, resulting in the launch of the HSC Collective Leadership Strategy. We want to build on the successes of the ongoing implementation of the Strategy, in particular, the efforts that have been made to create an HSC collective leadership community in which we all take responsibility for nurturing cultures of high quality, continually improving, compassionate care and support.

Since its launch by the Department of Health (DoH), organisations have been using a range of strategies to implement and embed it across the HSC. This Collective Leadership Framework for Nursing and Midwifery provides a consistent approach to the development of collective leadership capabilities for those staff working within the HSC system, regardless of their role. (Author)

Full URL: https://www.health-ni.gov.uk/publications/nipec-standards-maternity-support-workers?dm_i=4YCH,Z4GL,3PNLZ4,4J9CC,1

WHO recommendation on screening of pregnant women for intrapartum antibiotic prophylaxis for the prevention of early onset group B streptococcus disease in newborns. World Health Organization (2024), World Health Organization 18 September 2024

The primary audience for this recommendation includes health professionals who are responsible for developing national and local health-care guidelines and protocols (particularly those related to the prevention and treatment of peripartum infections) and those involved in the provision of care to women and their newborns during labour and childbirth, including midwives, nurses, general medical practitioners and obstetricians, as well as managers of maternal and child health programmes, and relevant staff in ministries of health and training institutions, in all settings. (Author)

Full URL: https://www.who.int/publications/i/item/9789240099128

Antenatal care quality and detection of risk among pregnant women: An observational study in Ethiopia, India, Kenya, and South Africa. Arsenault C, Mfeka-Nkabinde NG, Chaudhry M, et al (2024), PLoS Medicine vol 21, no 8, August 2024, e1004446

Background

Antenatal care (ANC) is an essential platform to improve maternal and newborn health (MNH). While several articles have described the content of ANC in low- and middle-income countries (LMICs), few have investigated the quality of detection and management of pregnancy risk factors during ANC. It remains unclear whether women with pregnancy risk factors receive targeted management and additional ANC.

Methods and findings

This observational study uses baseline data from the MNH eCohort study conducted in 8 sites in Ethiopia, India, Kenya, and South Africa from April 2023 to January 2024. A total of 4,068 pregnant women seeking ANC for the first time in their pregnancy were surveyed. We built country-specific ANC completeness indices that measured provision of 16 to 22 recommended clinical actions in 5 domains: physical examinations, diagnostic tests, history taking and screening, counselling, and treatment and prevention. We investigated whether women with pregnancy risks tended to receive higher quality care and we assessed the quality of detection and management of 7 concurrent illnesses and pregnancy risk factors (anemia, undernutrition, obesity, chronic illnesses, depression, prior obstetric complications, and danger signs). ANC completeness ranged from 43% in Ethiopia, 66% in Kenya, 73% in India, and 76% in South Africa, with large gaps in history taking, screening, and counselling. Most women in Ethiopia, Kenya, and South Africa initiated ANC in second or third trimesters. We used country-specific multivariable mixed-effects linear regression models to investigate factors associated with ANC completeness. Models included individual demographics, health status, presence of risk factors, health facility characteristics, and fixed effects for the study site. We found that some facility characteristics (staffing, patient volume, structural readiness) were associated with variation in ANC completeness. In contrast, pregnancy risk factors were only associated with a 1.7 percentage points increase in ANC completeness (95% confidence interval 0.3, 3.0, p-value 0.014) in Kenya only. Poor self-reported health was associated with higher ANC completeness in India and South Africa and with lower ANC completeness in Ethiopia. Some concurrent illnesses and risk factors were overlooked during the ANC visit. Between 0% and 6% of undernourished women were prescribed food supplementation and only 1% to 3% of women with depression were referred to a mental health provider or prescribed antidepressants.

Only 36% to 73% of women who had previously experienced an obstetric complication (a miscarriage, preterm birth, stillbirth, or newborn death) discussed their obstetric history with the provider during the first ANC visit. Although we aimed to validate self-reported information on health status and content of care with data from health cards, our findings may be affected by recall or other information biases.

Conclusions

In this study, we observed gaps in adherence to ANC standards, particularly for women in need of specialized management. Strategies to maximize the potential health benefits of ANC should target women at risk of poor pregnancy outcomes and improve early initiation of ANC in the first trimester. (Author)

Full URL: https://doi.org/10.1371/journal.pmed.1004446

Successful co-production can help tackle inequalities in maternal health outcomes. Puthussery S (2024), BMJ 13 September 2024, online

According to the MBRRACE-UK report of 2023 the health inequalities among ethnic minorities are still persistent. This article describes a community-based intervention which aimed to improve antenatal care services and meet the needs of a diverse community. (AS)

The midwifery capabilities theory: How midwives enact woman-centered care to address systemic inequity. Naughton S, Baldwin A, Harvey C, et al (2024), Birth 19 September 2024, online

Background

Healthcare for childbearing women with complex needs demands a multi-disciplinary approach requiring transitions between care providers, paradigms, and models of care. These transitions may create disconnects between women and the maternity care “system.” Poorly managed care transitions can lead to women becoming hostage to the power struggles between healthcare organizations and the professionals working within them, further increasing the risk of poor outcomes. This paper presents the findings of a study that aimed to better understand how midwives provide woman-centered care for women with complex needs in the real world of maternity services.

Methods

A constructivist grounded theory approach, using Clarke's situational analysis to extend critical and feminist perspectives in data analysis. Qualitative data were obtained from two sources: publicly available data, and individual interviews with providers of care (midwives) and recipients of care (women with complex pregnancies).

Results

Woman-centered care is defined as care in which the woman is seen, heard, and known. “The midwifery capabilities theory” describes the process whereby midwives create opportunities to develop women's capabilities. Capabilities are enabled through the midwifery relationship creating space, moments in time, and equalizing power and positionality.

Conclusions

Aligning with contemporary theories surrounding the provision of midwifery care, the midwifery capabilities theory recognizes the individual health and social status of women and the rights to self-determination. This centers care around each individual's needs, which, in addition to improving health and well-being outcomes, contributes to improved self-confidence, enhancing engagement through authentic professional relationships. (Author)

Full URL: https://doi.org/10.1111/birt.12866

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Postnatal health and parenthood

Research on the status and influencing factors of maternal health literacy among postpartum women in urban villages. Chen S, Lin X, Wang M, et al (2024), Journal of Advanced Nursing 5 September 2024, online

Aim

To comprehensively identify the status and influencing factors on maternal health literacy among postpartum women in Guangzhou urban villages.

Design

An explanatory sequential mixed-method research was conducted from November 2021 to July 2022.

Methods

The quantitative survey was conducted among postpartum women in Guangzhou urban villages using the convenience sampling principle, and a questionnaire survey was used to reflect the status and influencing factors on maternal health literacy. The qualitative interview conducted purposive sampling based on the survey and semi-structured interviews with women to supplement the non-quantifiable influencing factors.

Results

The quantitative survey showed that the maternal health literacy score of 501 women was 193.84 ± 22.23. The quantitative results suggested that ethnicity, education, income, household registration, delivery mode and social support were important influencing factors ($p < .15$). The qualitative interviews were conducted with 16 women and revealed three themes and eight sub-themes, including demographic factors (ethnicity, education, income, occupation and family history), pregnancy factors (delivery mode and pregnancy complications) and social factors (social support), which influenced maternal health literacy through three routes: women's motivation, access and ability in screening health information.

Conclusion

Maternal health literacy among postpartum women in urban villages needs to be improved, especially critical health literacy. Maternal and infant workers need to guide women to develop appropriate health information concepts and consider the realistic knowledge needs of women in different socio-cultural and economic backgrounds. They should also construct a comprehensive social support system for women to better improve maternal health literacy.

Impact

Highlights the positive benefits of maternal health literacy among postpartum women, as preparation for providing accurate and effective maternal and child health education services.

Patient or Public Contribution

The information on maternal health literacy in this study was based on an interview with postpartum women in Guangzhou urban villages during the study period. (Author)

Strength Amidst Struggles: A Descriptive Qualitative Study of Maternal Experiences of Low Socioeconomic Status Mothers in the Third Month Postpartum. Chee CYI, Ng JQX, Liu VC, et al (2024), Journal of Advanced Nursing 10 September 2024, online

Aim

To explore the experiences, expectations and needs of mothers from low socioeconomic status at 3 months postpartum.

Design

Descriptive qualitative.

Methods

Mothers aged 21 years old and above, from low socioeconomic status (monthly household income is less than Singapore Dollar [SGD] $4300), and irrespective of their parity were invited to participate in one-to-one in-depth interviews at 3 months postpartum from September 2022 to June 2023. A semistructured guide was used in the interviews, which were conducted until data saturation. A trained researcher conducted the interviews that were audio recorded, transcribed verbatim and analysed thematically. Written informed consent was obtained and voluntary participation was reinforced.

Results

Twenty mothers participated in this study and four themes were identified: (1) difficult trade-offs; (2) help-seeking behaviours and (3) ‘But if?’ Concerns about Emergencies.

Conclusion

This study explored the difficult circumstances that mothers from low socioeconomic status face in their third month postpartum, and how wider societal inequalities exacerbated these circumstances. Current policies and practices need to be relooked, reframed, and reformed to address the unique needs of this community.Implications for Patient Care Nurses should keep mothers' struggles in balancing employment and childcare in consideration and explore other ways of supporting the low socioeconomic status mothers such as online modes in providing patient education and peer support.

Impact

Mothers from low socioeconomic status are less likely to seek formal help from healthcare professionals, external organizations and the government. These mothers need flexible, affordable and accessible childcare options to return to work. More targeted family-oriented policies that create empowering and understanding workplaces in Singapore could help ease the stress on mothers returning to employment postpartum. Online peer support groups consisting of mothers of similar socioeconomic backgrounds could help engage and retain this hard-to-reach yet vulnerable population.

Reporting Method

COREQ checklist.

Patient or Public Contribution

No patient or public contribution. (Author)

Perinatal continuity of care for mothers with depressive symptoms: perspectives of mothers and clinicians. Barr KR, Nguyen TA, Pickup W, et al (2024), Frontiers in Global Women’s Health 19 September 2024, online

Background

Mothers with mild to moderate depression in pregnancy are at risk of developing postpartum depression. Midwife-led continuity of care may support maternal mental health throughout the perinatal period.

Research is needed to better understand how continuity of care may support mothers experiencing depression in pregnancy. This study aimed to investigate the perspectives of mothers with mild to moderate depression and clinicians regarding continuity of care in the perinatal period.

Method

Fourteen mothers and clinicians participated in individual interviews or a focus group. Analysis was conducted using inductive reflexive thematic analysis with a constructivist orientation.

Results

From the perspectives of mothers and clinicians, continuity of care during the antenatal period benefitted mothers’ mental health by providing connection and rapport, information about pregnancy and referral options, and reassurance about whether pregnancy symptoms were normal. The experience of seeing multiple clinicians was noted by mothers to increase distress while participants discussed the value of extending continuity of care into the postpartum period, including having someone familiar checking in on

them. The importance of having a second opinion and not always relying on a single provider during pregnancy was highlighted by some mothers and clinicians. Mothers also described how multiple modes of communication with a midwife can be helpful, including the ease and accessibility of text or email.

Conclusion

Mothers and clinicians perceived benefits of continuity of care for maternal mental health. Offering midwife-led continuity of care to mothers with mild to moderate depression during the perinatal period is recommended. (Author)

Full URL: https://doi.org/10.3389/fpsyt.2024.1385120

A qualitative study of research participation for parents from minority ethnic groups in the UK. Baldwin S, Peters A, Loney D (2024), BJM vol 32, no 9, September 2024, pp 462–473

Background/Aims

Under-representation of pregnant women, their partners and parents from minority ethnic backgrounds has been reported in research involving the perinatal period. This study's aim was to explore the experiences of parents from minority ethnic groups who participated in research during the perinatal period, focusing on barriers and facilitators to participation.

Methods

In-depth qualitative interviews were conducted via Microsoft Teams by all three researchers with a purposive sample of 16 parents. Data were analysed using thematic analysis.

Results

Seven overarching themes were identified: motivating factors; unique contributions; language, understanding and access; cultural values, beliefs and practices; lack of time and other commitments; facilitators for participation; and experience of the current study.

Conclusions

Understanding motivation for participation is essential to developing recruitment strategies that promote involvement of parents from minority ethnic backgrounds. A clear understanding of research goals and perceived benefits, and maximising access to studies, is likely to result in improved recruitment.

Implications for practice

Ways to encourage research participation from parents in minority ethnic groups include using a range of advertising techniques and venues, offering a choice of time and place for activities and alternative methods of data collection, and disseminating information on available studies in early pregnancy. (Author)

Influence of mode of birth on postpartum sexual function and quality of life among primiparous women in Ile-Ife, Nigeria. Ayamolowo SJ, Adesoji BA, Oluwatosin OR (2024), African Journal of Midwifery and Women's Health vol 18, no 3, July 2024, pp 1–9

Background/Aims

Pregnancy and birth cause hormonal and bodily alterations that can have profound effects on women's sexual function and quality of life. The aim of this study was to evaluate the influence of mode of birth on postpartum sexual function and quality of life in primiparous women from health facilities in Ile-Ife, Nigeria.

Methods

This study used a descriptive design to explore women's sexual function and satisfaction from those attending selected healthcare facilities. Data were collected from 120 women recruited via convenience sampling, using a structured questionnaire between January and June 2023.

Data were analysed using the Statistical Product of Service Solution (version 23) software; hypotheses were tested with Pearson's Chi-squared test at $P<0.05$.

Results

Women most commonly resumed sexual activities within 1 month of giving birth (58.3%). Greater proportions of women who had a spontaneous vaginal birth with episiotomy (26.3%), or vaginal birth without episiotomy (25.0%) reported poor postpartum quality of life than those who had a caesarean section (11.2%). Additionally, more women who had an episiotomy reported lower levels of sexual satisfaction than those who did not have an episiotomy (10.5% vs 0.0% reported lowest level of positive satisfaction; 2.6% vs 2.4% reported highest level of negative satisfaction). Sexual function and quality of life were significantly linked ($P<0.001$).

Conclusions

Sexual function and quality of life are an important element of postpartum women's health and wellbeing. Mode of birth affected women's postpartum quality of life, with vaginal birth and episiotomy resulting in less satisfaction and lower quality of life.

Implications for practice

Healthcare professionals working in maternity settings should work to prevent injury to the perineum during birth and provide education during the postpartum period to improve women's sexual function and quality of life. (Author)

A qualitative study of health visitors’ family focused practice with mothers with mental illness in Northern Ireland: Perspectives of health visitors, mothers and partners. Grant A, Leonard R, Linden M (2024), PLoS ONE vol 19, no 8, August 2024, e0306890

Background

Despite benefits of family focused practice, little is known about health visitor's practice with families when mothers are mentally unwell. Health visitors are midwives and nurses with additional training in community public health.

Objectives

To explore multiple perspectives of health visitor's family focused practice with families when mothers have mental illness in Northern Ireland.

Methods

Ten health visitors, 11 mothers with mental illness and seven partners completed in-depth interviews in Five Health and Social Care Trusts. Participants were asked to describe their experiences of providing or receiving family focused practice within health visiting and data was analysed using thematic analysis.

Results

Health visitors primarily addressed mothers and children's needs rather than also supporting partners. Additionally, they only addressed mother's needs associated with less severe mental illness (i.e. postnatal depression). Health visitors and mothers converged on many issues, including the influence of the health visitor's personal and professional experiences on their practice, central role of the relationship between health visitors and mothers and importance of health visitors supporting partner's well-being. While partners did not perceive that health visitors should support their well-being they expressed a need for further information and knowledge in order to support mothers.

Conclusion

Health visitor's practice largely centres around mother and baby. For health visitors to increase their family focused practice they need to meet needs of mothers who have serious mental illness more effectively and consider how partners can be included in their practice, in a manner that is beneficial and acceptable to them.

This study contributes to better understanding of health visitor's family focused practice with mentally ill mothers and highlights the need for more effective engagement with mothers with serious mental illness and partners. It also highlights that for health visitors to engage in family focused practice they need the necessary training and time to do so. Results can inform organisational developments in family focused practice within health visiting. (Author)

Full URL: https://doi.org/10.1371/journal.pone.0306890

Protective and vulnerability personality traits associated with PTSD diagnosis after preterm delivery. Grand L, Hammami S, Bourdon S, et al (2024), PLoS ONE vol 19, no 8, August 2024, e0308498

Giving birth prematurely is a traumatic event that has many consequences for the mother but also for her baby and their family. Studies have shown that about a quarter of these mothers will suffer from post-traumatic stress disorder (PTSD) as a result. This study aims to identify internal personality factors associated with the development of PTSD in mothers who gave birth before 33 weeks. The results revealed significant correlations between two personality dimensions (neuroticism and extraversion) and the likeliness of developing PTSD in mothers who gave birth prematurely. Neuroticism is positively liked with the disorder while extraversion is negatively correlated with it. Studies should now focus on early detection of PTSD and better interventions for these mothers. (Author)

Full URL: https://doi.org/10.1371/journal.pone.0308498

Understanding lived experience of suicidality during the perinatal period. The Maternity Consortium, Health and Wellbeing Alliance, Voluntary Community and Social Enterprise (2024), 10 September 2024, online

Latest MBRRACE-UK data shows that deaths from mental health-related causes account for nearly 40% of deaths occurring between six weeks and a year after the end of pregnancy with maternal suicide remaining the leading cause of direct deaths in this period. Women were 3 times more likely to die by suicide during or up to six weeks after the end of pregnancy in 2020 compared to 2017-19, with multiple adversity being an extremely common pattern in women who died by suicide and substance misuse. Risk factors for suicide and mental illness in the perinatal period include domestic abuse, substance use, baby loss and pregnancy loss, childhood and/or adult trauma, and experience of children's social care involvement.

As part of the VCSE Health and Wellbeing Alliance, the Tommy's and Sands Maternity Consortium has delivered a range of projects which have engaged with women and birthing people from groups at risk of poorer maternal and neonatal outcomes to understand and share with healthcare professionals the barriers to accessing support and how services can be improved to meet their needs. We have also worked with Birth Companions to understand the lived experience of children's social care proceedings during pregnancy and early motherhood which found a significant impact on women and birthing people's mental health and wellbeing and their ability to trust healthcare professionals. Building on our previous work and in recognition of MBRRACE UK's findings, this project engaged with women and birthing people who have self-harmed, had suicidal thoughts and/or attempted suicide who also have lived experience of domestic abuse, substance use or other forms of trauma to understand these experiences in relation to how support in the perinatal period can be improved and the risk of self-harm and suicide reduced. (Author)

Full URL: https://www.sands.org.uk/sites/default/files/VCSE_Maternity_Consortium_Insight_Report.pdf

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The effect of curcumax on postpartum women's depression: a randomized controlled trial. Nikpour F, Ansari S, Abedi P, et al (2024), Frontiers in Psychiatry 10 September 2024, online

Background

Postpartum depression is a major psychiatric disorder that affects the mother-baby attachment and may impair cognitive development of the child.

Objective

This study aimed to evaluate the effect of curcumax (including ginger, turmeric, and black pepper) on postpartum depression in reproductive-aged women.

Material and methods

This was a randomized controlled trial in which 124 women were recruited and randomly assigned into two groups of curcumax (n=62) and placebo (n=62) who consumed curcumax or placebo for 8 weeks (one capsule each day). Postpartum depression was measured using Edinburgh Depression Scale. Data were analyzed using Chi-square, independent t-test, and GEE.

Results

The mean (SD) score of depression score was 15.83 (2.77) and 15.45 (2.97) before intervention, which reduced to 3.48 (4.29) and 7.22 (3.98) in the intervention and control groups, respectively after 4 weeks ($p<0.0001$). After eight weeks of intervention, these scores reduced to 1.72 (3.30) and 5.85 (3.67) in the intervention and control groups, respectively ($p<0.0001$).

Conclusion

The results of this study showed that curcumax significantly reduced the mean score of postpartum depression among reproductive-aged women. Because it is the first time this herb was used as an anti-depressant, its effective dose was not available. Therefore, further studies with higher doses of this herb are recommended.

Clinical Trial Registration: https://irct.behdasht.gov.ir/search/result?query=IRCT20210822052254N1, identifier IRCT20210822052254N1. (Author)

Full URL: https://doi.org/10.3389/fpsyt.2024.1302174

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Infant feeding

Evaluating a woman-centred web-based breastfeeding educational intervention in Saudi Arabia: A before-and-after quasi-experimental study. Alahmed S, Frost S, Fernandez R, et al (2024), Women and Birth: Journal of the Australian College of Midwives vol 37, no 5, September 2024, 101635

Background

Although digital educational resources are used worldwide to educate new parents, the impact of digital resources tailored specifically to women's needs on breastfeeding practices is not well explored.

Aim

The study aimed to evaluate the effectiveness of using a women-centred Web-Based Breastfeeding Educational Resource (WEBBER) in increasing the rate of exclusive breastfeeding at one month after birth.

Methods

A quasi-experimental study with before and after intervention was conducted in one metropolitan hospital in Saudi Arabia. Participants were primiparous women (n=290) aged 18 or above who intended to

breastfeed. The intervention involved introducing the WEBBER to pregnant women and reinforcing its uses as a routine breastfeeding educational resource. Women's characteristics and infant feeding data were collected at one month after birth via an online survey.

Findings

The rate of exclusive breastfeeding at one month postpartum among the women who received the WEBBER intervention was nearly three times higher compared to the women prior to the introduction of the intervention (66 % vs. 26 %, p-value <.001). Furthermore, other predictors of exclusive breastfeeding at one month were the mother being unemployed, the baby not receiving infant formula in the hospital, and the mother having postnatal intention to continue breastfeeding for 6 months or more.

Discussion and conclusion

Using WEBBER as a routine breastfeeding educational resource increased the rate of exclusive breastfeeding one month after birth. Embedding woman-centred digital resources into routine breastfeeding education is an effective intervention for women in Saudi Arabia. (Author)

Full URL: https://doi.org/10.1016/j.wombi.2024.101635

Unveiling the voices: Exploring perspectives and experiences of women, donors, recipient mothers and healthcare professionals in human milk donation: A systematic review of qualitative studies. Li J, Ip HL, Fan Y, et al (2024), Women and Birth: Journal of the Australian College of Midwives vol 37, no 5, September 2024, 101644

Objectives

This study aims to examine and synthesise the views and experiences of women, donors, recipient mothers and healthcare professionals regarding human milk donation or sharing.

Methods

The Joanna Briggs Institute (JBI) meta-aggregative approach to systematic reviews of qualitative studies was adopted. Six databases, MEDLINE, CINAHL, Embase, PsycINFO, Web of Science and Scopus were searched. English written qualitative studies from database inception to February 2024 were included. The JBI Critical Appraisal Checklist for Qualitative Research was used to appraise the collected research evidence.

Results

A total of 629 papers were screened, and 41 studies were included in the review. Six key findings were synthesised. (i) Donors, recipients and their families all benefit from milk donation. (ii) Motivation to receive or donate breast milk. (iii) Awareness and participation are affected by formal vs. informal sharing, mothers' personal experiences and external factors. (iv) Concerns about disease transmission, jealousy, bonding and traits. (v) Challenges encountered by donors, recipient mothers, staff and milk banks (vi) Suggestions for promoting human milk donation.

Discussion

Stakeholders of human milk donation, including donors, recipient mothers, healthcare professionals, and human milk bank representatives, face various physical, mental and practical challenges. Informal sharing complements formal donations and contributes to improved breastfeeding rates. Advocacy and education efforts are still needed to increase participation and safety levels. The major limitation of the study is the inadequate search on views of immediate family members. (Author)

Full URL: https://doi.org/10.1016/j.wombi.2024.101644

Association of breastfeeding duration with overweight and obesity among women in Ghana. Tuoyire DA, Tampah-Naah AM (2024), Frontiers in Global Women's Health 16 September 2024, online

Background

There is a general concurrence on the health benefits that breastfeeding confers to children, including offering maximal protection against obesity across their life course. However, the scientific evidence on similar benefits for women who breastfeed their children remains inconclusive. This study contributes to the discourse by examining the association of breastfeeding duration with overweight and obesity among women in Ghana.

Methods

Data on 8,516 women of reproductive age were pooled from the last five (5) Ghana Demographic and Health Surveys, and analysed using descriptive proportions and logistic regression models.

Results

The prevalence of overweight and obesity was about 8% lower for women who breastfed their children beyond 18 months (overweight = 13%, obesity = 5%) compared with women who did not breastfeed (overweight = 21%, obesity = 13%) their children at all. With reference to women who did not breastfeed their children, a significant lower odds of obesity was observed for those who breastfed their children for 13–18 months (OR = 0.46, 95% CI = 0.268, 0.864) and >18 months (OR = 0.41, 95% CI = 0.216, 0.764), after adjusting for possible confounding factors.

Discussion

Women who breastfeed their children for a minimum of 12 months have lower risk of developing obesity. Promoting prolonged breastfeeding among mothers could be an effective pathway to preventing obesity among women in Ghana. (Author)

Full URL: https://doi.org/10.3389/fgwh.2024.1251849

Infant Milk Formula Enriched in Dairy Cream Brings Its Digestibility Closer to Human Milk and Supports Intestinal Health in Pre-Clinical Studies. Kondrashina A, Mamone G, Giblin L, et al (2024), Nutrients vol 16, no 18, September 2024, p 3065

Human breast milk (HBM) is the "gold standard" for infant nutrition. When breast milk is insufficient or unavailable, infant milk formula (IMF) can provide a safe and nutritious alternative. However, IMFs differ considerably from HBM in composition and health function. We compared the digestibility and potential health functions of IMF containing low cream (LC-) or high cream (HC-) with pooled HBM. After simulated infant digestion of these samples, the bioavailability of key nutrients and immunomodulatory activities were determined via cell-based in vitro assays. A Caenorhabditis elegans leaky gut model was established to investigate cream effects on gut health. Distinct differences were observed in peptide diversity and sequences released from HC-IMF compared with LC-IMF during simulated digestion ($p < 0.05$). Higher levels of free fatty acids were absorbed through 21-day differentiated Caco-2/HT-29MTX monolayers from HC-IMF, compared with LC-IMF and HBM ($p < 0.05$). Furthermore, the immune-modulating properties of HC-IMF appeared to be more similar to HBM than LC-IMF, as observed by comparable secretion of cytokines IL-10 and IL-1β from THP-1 macrophages ($p > 0.05$). HC-IMF also supported intestinal recovery in C. elegans following distortion versus LC-IMF ($p < 0.05$). These observations suggest that cream as a lipid source in IMF may provide added nutritional and functional benefits more aligned with HBM. (Author)

Full URL: https://doi.org/10.3390/nu16183065

Sponsorship of health professional associations by manufacturers and distributors of commercial milk formula: alternative funding resources for events. World Health Organization (2024), World Health Organization 25 July 2024

The World Health Organization (WHO) has recommended that, in order to promote, protect and support breastfeeding, prevent obesity and noncommunicable diseases, promote healthy diets, and ensure that caregivers receive clear and accurate information on feeding, companies that market foods for infants and young children should not "sponsor meetings of health professionals and scientific meetings." Likewise, health workers, health systems, health professional associations and nongovernmental organizations should not "allow such companies to sponsor meetings of health professionals and scientific meetings". This brief offers suggestions as to how a healthcare association can fund educational programmes, congresses, conferences, and other meetings without sponsorship by companies that market foods for infants and young children. (Author)

Full URL: https://www.who.int/publications/i/item/B09113

Sponsorship of health professional associations by manufacturers and distributors of commercial milk formula: model policy. World Health Organization (2024), World Health Organization 20 September 2024

The World Health Organization (WHO) has recommended that, in order to promote, protect and support breastfeeding, prevent obesity and noncommunicable diseases, promote healthy diets, and ensure that caregivers receive clear and accurate information on feeding, companies that market foods for infants and young children should not "sponsor meetings of health professionals and scientific meetings." Likewise, health workers, health systems, health professional associations and nongovernmental organizations should not "allow such companies to sponsor meetings of health professionals and scientific meetings". The model policy presented in this document provides draft text that healthcare professional associations may use to support implementation of the WHO guidance. The wording includes reference to the key elements that such a policy should contain, including rationale, overall commitment, types of sponsorship, and review plan. (Author)

Full URL: https://www.who.int/publications/i/item/B09120

Sponsorship of health professional associations by manufacturers and distributors of commercial milk formula: case studies. World Health Organization (2024), World Health Organization 19 September 2024

The World Health Organization (WHO) has recommended that, in order to promote, protect and support breastfeeding, prevent obesity and noncommunicable diseases, promote healthy diets, and ensure that caregivers receive clear and accurate information on feeding, companies that market foods for infants and young children should not "sponsor meetings of health professionals and scientific meetings." Likewise, health workers, health systems, health professional associations and nongovernmental organizations should not "allow such companies to sponsor meetings of health professionals and scientific meetings". This brief describes how six Health Care Professional Associations (HCPA), in different countries and years, carried out a process that led to an end of their collaboration with companies that market foods for infants and young children as far as sponsorship of HCPA events is concerned. (Author)

Full URL: https://www.who.int/publications/i/item/B09083

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Inter-hospital variations in the respiratory outcomes of very and extremely pre-term infants: A cohort study in Japan. Mimura W, Shinjo D, Isayama T (2024), Paediatric and Perinatal Epidemiology 22 September 2024, online

Background

Hospital-level and international variations exist in the management strategies of bronchopulmonary dysplasia (BPD). However, studies evaluating hospital-level variations in the respiratory outcomes of pre-term infants associated with differing management strategies of BPD are lacking.

Objective

Herein, we aimed to assess inter-hospital variations in the respiratory outcomes of BPD in very pre-term and extremely pre-term infants.

Methods

In this cohort study, the administrative claims and discharge summary data were extracted from 276 hospitals in Japan between April 2014 and March 2016. This study assessed neonates of a gestational age of 22–31 weeks old, who had been hospitalised for ≥7 days.

The primary outcome was a BPD defined using any respiratory support, such as supplemental oxygen, high-flow nasal cannula, CPAP, or mechanical ventilation at 36 weeks PMA. The median odds ratio (MOR) was calculated using a multilevel logistic regression model, including baseline characteristics, comorbidities, and treatment as covariates, to evaluate the inter-hospital variation of the outcome.

Results

Of the 8143 neonates from across 132 hospitals, 53.7% were male, with a mean gestational age (standard deviation) of 28.0 (2.5)-weeks-old and birthweight of 1086 (386) g. Among these patients, BPD occurred in 2737 (33.6%). The MOR was 2.49, representing the median value of odds ratios when comparing two neonates with identical covariates from hospitals with high and low propensity for the outcomes to occur.

Conclusions

Outcome variations in the BPD were observed among hospitals in Japan, even after adjusting for individual factors, including gestational age, birthweight, comorbidities, and treatments. Thus, in Japan, developing strategies is essential to decrease the BPD rates, while minimising inter-hospital heterogeneity, to improve the healthcare quality for pre-term neonates. (Author)

The Impact of Hospital Delivery Volumes of Newborns Born Very Preterm on Mortality and Morbidity. Phibbs CS, Passarella M, Schmitt SK, et al (2025), The Journal of Pediatrics vol 276, January 2025, 114323

Objective

To examine if the annual patient volume of infants born very preterm (VPT, gestational age <32 weeks) at a hospital is associated with neonatal mortality and morbidity.

Study design

We performed an observational, secondary data analysis using a 20-year panel of birth certificates linked to hospital discharge abstracts, including transfers in California, Michigan, Missouri, Oregon, Pennsylvania, and South Carolina from 1996 through 2015. The study included all in-hospital VPT deliveries (n = 208 261). Study outcomes were in-hospital mortality or serious morbidity (intraventricular hemorrhage, necrotizing enterocolitis, retinopathy of prematurity, or bronchopulmonary dysplasia), attributed to the hospital of birth. Poisson regression models estimated the risk-adjusted relative risk (RR) for mortality and serious morbidity across different patient volume categories within a given hospital using hospital fixed effects.

Results

The risk of mortality and serious morbidity for VPT infants increased as the number of infants born VPT at a hospital decreased. Compared with VPT delivery volumes >100 infants per year, the risk of mortality increased when a given hospital had VPT delivery volumes < 60 per year, ranging from a RR of 1.13 (95% C.I. 1.02-1.25) for volumes between 50 to 59 and 1.39 (1.19-1.62) for VPT volumes <10, and the risk of mortality or serious morbidity increased when a given hospital had VPT volumes <100, ranging from a RR of 1.05 (1.02-1.08) for volumes between 90 to 99 and 1.27 (1.19-1.36) for VPT volumes <10.

Conclusions

These results suggest that, for VPT infants, the risk of both mortality and mortality or serious morbidity is increased as the VPT volume within a given hospital declines. (Author)

Professional perceptions of barriers and facilitators from the implementation of a neonatal early supported transfer to home intervention for late preterm infants: A qualitative study. Hamer O, Kuroski J, Gupta R, et al (2024), Journal of Neonatal Nursing 17 August 2024, online

Introduction

Late preterm infants may have prolonged stay in hospital due to increased care needs and a lack of community support. A neonatal early supported transfer to home (NEST@Home) intervention was introduced. We explored professional perceptions of barriers and facilitators to implementation of NEST@Home.

Methods

Neonatal healthcare professionals in England participated in group interviews based on the Consolidated Framework for Implementation Research (CFIR). Data were analysed using thematic analysis.

Findings

Perceived barriers included lack of facilities, poor clinical buy-in, budget restraints, staff shortages, absence of policy, and a lack of commissioning support. Perceived facilitators to implementation included healthcare professional's positive attitudes, pre-discharge planning, parent education, parent training, and loan of monitoring equipment.

Conclusion

This study identified individual, interpersonal, and organisational features that may facilitate or impede the NEST@Home intervention. Further research is needed to identify how this intervention impacts outcomes, and to understand the experience of parents receiving NEST@Home. (Author)

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Correlation of cardiotocography with combined APGAR scores and diagnostic performance of umbilical cord parameters in predicting low combined APGAR scores – A prospective Cohort study. Paikaray S, Jena SK, Balakrishnan D, et al (2024), European Journal of Obstetrics & Gynecology and Reproductive Biology: X vol 23, September 2024, 100329

Objectives

Combined Apgar score includes utilization of interventions such as Continuous positive airway pressure, Oxygen, Mask and Bag ventilation, I ntubation and ventilation, Ne onatal chest compression, Drugs, and newborn assessment. It has been proposed as a substitute for conventional Apgar score which is the gold standard for evaluating newborns right after birth but is impacted by medical interventions and preterm. Combined Apgar scores were examined to check for correlation with CTG tracing and umbilical cord blood parameters which gives an objective assessment of fetal hypoxia, in response to the demand for a more accurate tool for evaluating the neonate and to be used for medico-legal purposes. The study's objectives were to (1) determine the association of combined Apgar scores with suspicious and pathological CTG (2) the association of umbilical cord parameters with low combined Apgar scores and the diagnostic performance of these parameters in predicting low combined Apgar scores.

Study design

A prospective observational cohort study was conducted in a tertiary care center in East India. 2350 consecutive laboring mothers who had completed 34 weeks of gestation underwent cardiotocography according to institutional protocol and those with suspicious and pathological CTG who delivered within 1 h of abnormal CTG were recruited. Arterial blood was analyzed and the newborn was evaluated immediately after delivery with a combined Apgar scoring system

Results

Of the 2350 women, 50.7 % and 49.3 %, respectively, exhibited suspicious and abnormal CTG tracings. CTG was reported to have low diagnostic accuracy and specificity, with a sensitivity of 66.7 % and 88.9 %, respectively, in detecting combined Apgar at 1 and 5 min. The combined Apgar score at five minutes showed a strong association with acidosis. There was a statistically significant correlation between low combined Apgar and excess lactate and base at one and five minutes. With 100 % sensitivity and 95 % specificity, high lactate levels > 4.1 mM/L were found to predict newborn encephalopathy.

Conclusion

Umbilical cord blood parameters were found to be correlated with low combined Apgar scores. Combined Apgar scores may be a more useful tool for neonatal assessment and long-term morbidity of newborns. Additional research is required to determine whether it can take the role of conventional Apgar scores in clinical practice. (Author)

Full URL: https://doi.org/10.1016/j.eurox.2024.100329

The Effect of Swaddling and Oropharyngeal Colostrum During Endotracheal Suctioning on Procedural Pain and Comfort in Premature Neonates A Randomized Controlled Trial. Karadede H, Mutlu B, et al (2024), Advances in Neonatal Care vol 24, no 5, October 2024, pp 466-474

Background

Endotracheal suctioning (ES) is a painful procedure frequently performed in the neonatal intensive care unit. This procedure negatively affects the comfort level of premature neonates.

Purpose

To determine the effect of 2 nonpharmacologic methods, swaddling and the administration of oropharyngeal colostrum, on the pain and comfort levels of preterm neonates during ES.

Methods

This randomized controlled experimental study comprised 48 intubated premature neonates (swaddling group n = 16; oropharyngeal colostrum group n = 16; and control group n = 16) at 26 to 37 weeks of gestation. The neonates were swaddled with a white soft cotton cloth or administered 0.4 mL of oropharyngeal colostrum 2 minutes before ES, according to the group in which they were included. Two observers evaluated the pain levels (Premature Infant Pain Profile-Revize [PIPP-R]) and comfort (Newborn Comfort Behavior Scale [COMFORTneo]) of the infants by observing video recordings of before, during, and after the procedure.

Findings/Results

A significantly lower mean PIPP-R score was found in the swaddling group during ES compared with the control group ($P = .002$). The mean COMFORTneo scores of the swaddling and oropharyngeal colostrum groups during ES ($P < .01$, $P = .002$) and the mean PIPP-R and COMFORTneo scores immediately after ES and 5, 10, and 15 minutes later were significantly lower than the control group ($P < .005$).

Implications for Practice and Research

Swaddling was effective both during and after the procedure, while oropharyngeal colostrum was effective only after the procedure in reducing ES-related pain in premature neonates. Swaddling and oropharyngeal colostrum were effective in increasing comfort both during and after the procedure. (Author)

Adherence to Nutritional Practice Guideline in Premature Infants: A Nationwide Survey in Taiwan. Ting CS, Tsao PN, Chou HC, et al (2024), Nutrients vol 16, no 18, September 2024, p 3181

Objectives

This study aimed to assess the current neonatal nutritional practices in Taiwan and promote consensus on standardized protocols. Methods: An online questionnaire comprising 95 items on parenteral nutrition (PN) and enteral nutrition (EN) practices was distributed to neonatal care units across Taiwan via email between August and December 2022. The responses were compared with the recommendations from the European Society for Pediatric Gastroenterology Hepatology and Nutrition for preterm infant care.

Results

Most of the 35 neonatal units, comprising 17 level III and 18 level II units, that participated in this study adhered to standard PN protocols; however, only 30% of units used protein-containing solutions as the initial fluid. Over half of the neonatal units provided calcium, phosphate, and magnesium at less than the recommended dosage. Trophic feeding commenced within 48 h in 88% of the units, with the mother's milk used as the first choice. All the units preferred commencing advanced feeding at <25 mL/kg/day.

Conclusions

Most nutrient protocols for preterm infants in neonatal units in Taiwan meet recent guidelines, but discrepancies such as lower mineral supplements in PN and a slower advancement of enteral feeding increase nutritional risk. These issues warrant further research. (Author)

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Modeling the relationship between maternal health and infant behavioral characteristics based on machine learning. Yang Z, Guo X, Chen X, et al (2024), PLoS ONE vol 19, no 8, August 2024, e0307332

During pregnancy, two fetomaternal interfaces, the placenta-decidua basalis and the fetal membrane-decidua parietals, allow for fetal growth and maturation and fetal-maternal crosstalk, and protect the fetus from infectious and inflammatory signaling that could lead to adverse pregnancy outcomes. While the placenta has been studied extensively, the fetal membranes have been understudied, even though they play critical roles in pregnancy maintenance and the initiation of term or preterm parturition. Fetal membrane dysfunction has been associated with spontaneous preterm birth (PTB, < 37 weeks gestation) and preterm prelabor rupture of the membranes (PPROM), which is a disease of the fetal membranes. However, it is unknown how the individual layers of the fetal membrane decidual interface (the amnion epithelium [AEC], the amnion mesenchyme [AMC], the chorion [CTC], and the decidua [DEC]) contribute to these pregnancy outcomes. In this study, we used a single-cell transcriptomics approach to unravel the transcriptomics network at spatial levels to discern the contributions of each layer of the fetal membranes and the adjoining maternal decidua during the following conditions: scheduled caesarian section (term not in labor [TNIL]; n = 4), vaginal term in labor (TIL; n = 3), preterm labor with and without rupture of membranes (PPROM; n = 3; and PTB; n = 3). The data included 18,815 genes from 13 patients (including TIL, PTB, PPROM, and TNIL) expressed across the four layers. After quality control, there were 11,921 genes and 44 samples. The data were processed by two pipelines: one by hierarchical clustering the combined cases and the other to evaluate heterogeneity within the cases. Our visual analytical approach revealed spatially recognized differentially expressed genes that aligned with four gene clusters. Cluster 1 genes were present predominantly in DECs and Cluster 3 centered around CTC genes in all labor phenotypes. Cluster 2 genes were predominantly found in AECs in PPROM and PTB, while Cluster 4 contained AMC and CTC genes identified in term labor cases. We identified the top 10 differentially expressed genes and their connected pathways (kinase activation, NF-κB, inflammation, cytoskeletal remodeling, and hormone regulation) per cluster in each tissue layer. An in-depth understanding of the involvement of each system and cell layer may help provide targeted and tailored interventions to reduce the risk of PTB. (Author)

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Development of a Quality Assurance Assessment Tool to meet accreditation standards for midwifery education: A Delphi study. Bogren M, Jha P, Sharma B, et al (2024), Women and Birth: Journal of the Australian College of Midwives vol 37, no 5, September 2024, 101660

Background

Ensuring the quality of midwifery education is critical for producing a qualified and competent midwifery workforce for sexual, reproductive, maternal, and newborn care services. While global standards advocate for quality enhancement and accreditation systems, challenges persist, particularly in low-income countries like Bangladesh.

Aim

To validate and culturally adapt a Quality Assurance Assessment tool aligned with global midwifery education standards for application in Bangladesh. The goal of the tool is to guide and assess an internal quality education assurance process tailored to meet the national accreditation standards.

Methods

A modified Delphi technique was conducted with a panel of 55 experts, including educators, principals, and researchers from Bangladesh, India, and Sweden. The study underwent three rounds: tool development, field testing, and consensus building.

Results

The first round was completed by 25 workshop panel members, the second was completed by 30 participants during field testing, and the third was completed by the 25 workshop panel members from the first round. The developed Quality Assurance Assessment Tool demonstrated face and content validity through expert consultation and field testing, aligning with both global education and national accreditation standards. Minor revisions enhanced clarity and feasibility.

Conclusion

The Delphi rounds resulted in a validated Quality Assurance Assessment Tool that offers a robust framework for assessing and enhancing midwifery education quality, aiding progress towards meeting national accreditation standards. This study provides a valuable resource for countries seeking to develop similar tools aligned with global and national education priorities. (Author)

Full URL: https://doi.org/10.1016/j.wombi.2024.101660

Midwifery education in Bangladesh: An in-depth analysis through a systematic review. Fraser R, Downer T, Oprescu F (2024), Women and Birth: Journal of the Australian College of Midwives vol 37, no 5, September 2024, 101661

Background

While midwifery education in Bangladesh has expanded since its establishment in 2013, there is little information available about the quality of education. The aim of this project was to analyse the literature related to midwifery education in Bangladesh in reference to the Global Standards for Midwifery Education.

Methods

A systematic review was conducted using PubMed, CINAHL, Web of Science and Scopus databases. A search using keywords was conducted in January 2024. Abstracts were screened against inclusion and exclusion criteria. Data was assessed using the Mixed Methods Appraisal Tool and grouped into the Global Standards for Midwifery Education for analytical purposes.

Results

A total of 14 articles met the inclusion criteria and were included in the study. There was a combination of quantitative (n = 1), qualitative (n = 8) and mixed method studies (n = 5). Key themes included a lack of professional recognition, limited learning and economic resources and sociocultural barriers for students.

The implementation of an accreditation tool, upskilling of educators and an improved comprehensive curriculum were found to have positive impacts. This review highlights the progress in midwifery education in Bangladesh in the last decade as there is advancement towards enhancing educator knowledge and programme quality assessment. Some challenges remain such as the limited autonomy and professional acknowledgement, inadequate educational resources, poor financial support, as well as social and cultural barriers.

Conclusion

Interventions designed to address these issues are needed to enhance midwifery education in Bangladesh, with a long-term view of contributing to improvements in maternal and neonatal health. (Author)

Full URL: https://doi.org/10.1016/j.wombi.2024.101661

Evaluation of the Ei SMART training programme in the UK. Viviers M, Jary S, Basu A, et al (2024), Journal of Neonatal Nursing 5 August 2024, online

Introduction

Early intervention (Ei) is recommended for infants at high risk of neurodevelopmental challenges. Ei SMART is an evidence-based clinical reasoning framework supporting infant development by integrating Sensory, Motor, Attention and regulation, and Relational development through healthcare professionals (HCPs) and parents working Together.

Aim

To evaluate learning outcomes following Ei SMART training.

Methods

34 staff members from one UK neonatal operational delivery network participated in face-to-face training, co-produced and co-presented by parents and HCPs via online modules/tutorials. Participants completed pre/post-training surveys. Questions quantified self-perceived understanding of Infant Development & Well-Being, Parent/Family Support and Engagement, and Staff Engagement & Well-Being. Total and Domain scores were compared pre/post-training.

Results

33/34(97%) respondents completed both pre-and post-training surveys; one respondent was excluded (incomplete data). Median (IQR) post-training score was significantly increased (152(22) v 108(26) ($p < 0.001$), as were domain scores.

Conclusion

Ei SMART training provided measurable improvements in perceived learning for HCPs. (Author)

Providing standardized neonatal education in Northern Ghana. Prullage GS, Kenner C, Mahama M, et al (2024), Journal of Neonatal Nursing 8 August 2024, online

Neonatal mortality remains high in Sub-Saharan Africa. In this region, many nurses are assigned to care for small and sick newborns with little or no specialized training. This article described the three-phase training provided to nurses/midwives in Northern Ghana. The Council of International Neonatal Nurses, Inc. (COINN) developed the training based on the "train the train" to provide a standardized neonatal curriculum and associated bedside preceptorship. The training program was two months in length. The training was started at the teaching hospital and included two district hospitals. (Author)

Research priorities according to Dutch NICU nurses. Hauman K, Koolen-De Koninck M, Meesters N, et al (2024), Journal of Neonatal Nursing 27 August 2024, online

Purpose

To study prioritisation regarding research subjects according to nurses who provide care in Dutch neonatal intensive care units (NICUs).

Design

A national multicentre cross-sectional survey among all neonatal intensive care nurses. A digital questionnaire, based on the results of a former Delphi study, with open questions added, was used for data collection.

Results

294 direct-care nurses of 9 NICUs prioritised research statements. Top five statement in descending order are: optimal nursing staffing levels, pain and stress, sepsis management and care, healthcare team communication and collaboration, the care of the mechanically ventilated infant. Nurses stated they need more communication about research to feel more involved. They also want to learn more about the set-up of research and how to search, assess and interpret literature.

Conclusion

These research priorities can be used as a guide to explore and perform further, most desired nursing research and avoid research waste. (Author)

The impact of specialty training and physician attitudes on fetal cardiac counseling. Soffer MD, Rodriguez AM, Haxel CS, et al (2024), Journal of Maternal-Fetal and Neonatal Medicine vol 37, no 1, 2024, 2404111

Objective

Fetal cardiac anomalies are the most commonly diagnosed structural anomalies. In these cases, Maternal-Fetal Medicine (MFM) specialists are tasked with counseling patients on a spectrum of diagnoses as well as their prognostic implications. A recent study of pediatric cardiologists demonstrated that personal beliefs regarding termination impact the counseling provided to patients. Our objective was to study whether the personal beliefs of MFMs impact counseling of patients with severe fetal cardiac anomalies and to compare these providers to their cardiology counterparts.

Methods

We conducted an anonymous cross-sectional survey of MFMs in New England that assessed personal beliefs and counseling practices when diagnosing hypoplastic left heart syndrome (HLHS). We subsequently compared these providers to the previously surveyed cardiologists.

Results

A total of 34 respondents representing a broad spectrum of age and experience across several states in New England were analyzed. When presented with the statement “some life is always better than no life at all,” 79% (n = 27) of respondents disagreed and all respondents (n = 34) offered termination, palliative care, and treatment options when counseling patients with HLHS. Additionally, while 74% (n = 25) of providers would personally support a decision to terminate a pregnancy with HLHS, 94% (n = 32) would professionally support the decision to pursue termination.

MFMs and cardiologists differed in their responses to “some life is better than no life” and the belief that termination should be offered, though differences did not reach statistical significance. However, with respect to the providers’ personal and professional support of the decision to terminate the pregnancy, the groups of respondents varied significantly in their level of support, both professionally and personally with fewer cardiologists supporting this decision.

Conclusion

When diagnosing a severe and potentially fatal congenital cardiac anomaly, counseling by MFMs was largely unaffected by personal beliefs regarding termination of pregnancy. While this is consistent with previously published data on counseling practices among pediatric cardiology specialists, some important differences between the specialties were seen. (Author)

Full URL: https://doi.org/10.1080/14767058.2024.2404111

Historical Study of the Graduates of the Tuskegee School of Nurse-Midwifery, a Program for Black Nurses. Canty L (2024), JOGNN: Journal of Obstetric, Gynecologic and Neonatal Nursing 6 September 2024, online

Objective

To increase awareness of the contributions of Black nurses to midwifery and to provide an understanding of how initiatives in the past address racial disparities in maternal health that are still relevant today.

Design

Historical research.

Setting

The Tuskegee School of Nurse-Midwifery.

Data Sources

Thirty-one Black nurse-midwives who graduated from the Tuskegee School of Nurse-Midwifery and oral histories of two of these graduates.

Methods

Historical research that involved locating and analyzing primary and secondary sources about the graduates of the Tuskegee School of Nurse-Midwifery from 1941 to 1946; the oral histories conducted with two graduates are examples of primary sources.

Results

The Tuskegee School of Nurse-Midwifery opened September 15, 1941, in Tuskegee, Alabama. The purpose of the school was to educate Black nurses in midwifery to address maternal health in the Black communities where the maternal and infant mortality rates were greatest. By the end of the second year of the program, the maternal mortality rate declined from 8.5 per 1,000 live births to 0, and the infant mortality rate decreased from 45.9 per 1,000 to 14 among the women served in Macon County. However, the school closed in 1946 after graduating 31 Black nurse-midwives.

Conclusion

The history of early Black nurse-midwives is relevant to the disciplines of nursing, midwifery, and public health. The Tuskegee graduates obtained an education in a relatively new and evolving profession during a time when racism and discrimination in education, financial opportunity, and housing profoundly affected the health and well-being of Black communities. These factors continue to contribute to racial disparities in maternal health and create barriers for those in the Black community who want to become nurses or midwives. The challenges and successes Black nurse-midwives experienced are significant to the present day, but their stories are often not told. (Author)

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