# Latest Research Update

The Latest Research Update is produced weekly by MIDIRS librarians and includes the latest news and research highlights from seven key categories in maternal health services.

The references are taken from Maternity & Infant Care database, which is updated daily by the MIDIRS team with bibliographic details for journal articles, books, news sites and more.


- Pregnancy
- Labour and birth
- Maternity services
- Postnatal health and parenthood
- Infant feeding
- Infant health, care and development
- Midwifery education and professional development


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## Pregnancy

**Air pollution exposure during preconception and first trimester of pregnancy and gestational diabetes mellitus in a large pregnancy cohort, Hebei Province, China.** Tian ML, Jin Y, Du LY, et al (2024), Frontiers in Endocrinology 11 September 2024, online

Objective

To explore the relationship between the exposure level of particulate matter 2.5 (PM2.5) and particulate matter 10 (PM10) in the air of pregnant women during preconception and first trimester of pregnancy and the risk of gestational diabetes mellitus (GDM).

Methods

The data of pregnant women delivered in 22 monitoring hospitals in Hebei Province from 2019 to 2021 were collected, and the daily air quality data of their cities were used to calculate the exposure levels of PM2.5 and PM10 in different pregnancy stages, and logistic regression model was used to analyze the impact of exposure levels of PM2.5 and PM10 on GDM during preconception and first trimester of pregnancy.

Results

108,429 singleton live deliveries were included in the study, of which 12,967 (12.0%) women had a GDM diagnosis. The prevalence of GDM increased over the course of the study from 10.2% (2019) to 14.9% (2021). From 2019 to 2021, the average exposure of PM2.5 and PM10 was relatively 56.67 and 103.08μg/m3 during the period of preconception and first trimester of pregnancy in Hebei Province. Handan, Shijiazhuang, and Xingtai regions had the most severe exposure to PM2.5 and PM10, while Zhangjiakou, Chengde, and Qinhuangdao had significantly lower exposure levels than other regions. The GDM group had statistically higher exposure concentrations of PM2.5 and PM10 during the period of preconception, first trimester, preconception and first trimester ($P<0.05$). Multivariate logistic regression analysis showed that the risk of GDM increases by 4.5%, 6.0%, and 10.6% for every 10ug/m3 increase in the average exposure value of PM2.5 in preconception, first trimester, preconception and first trimester, and 1.7%, 2.1%, and 3.9% for PM10. Moreover, High exposure to PM2.5 in the first, second, and third months of preconception and first trimester is associated with the risk of GDM. And high exposure to PM10 in the first, second, and third months of first trimester and the first, and third months of preconception is associated with the risk of GDM.

Conclusion

Exposure to high concentrations of PM2.5 and PM10 during preconception and first trimester of pregnancy can significantly increase the risk of GDM. It is important to take precautions to prevent exposure to pollutants, reduce the risk of GDM, and improve maternal and fetal outcomes. (Author)

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**Magnitude of anemia and associated factors among pregnant women attending antenatal care in governmental health facilities of Shashemene Town, Oromia region, Ethiopia.** Nasir M, Ayele HM, Aman R, et al (2024), Frontiers in Public Health 4 September 2024, online

Introduction

Anemia during pregnancy is a common issue that significantly affects the health of both the mother and her child. Globally, anemia is a major public health concern, affecting both developing and developed countries, with approximately 1.3 billion people affected. Pregnant women are among the most vulnerable to anemia.

Objective

To assess the magnitude and risk factors of anemia among pregnant women attending antenatal care in Shashemene Town, Oromia, Ethiopia.

Methods

A facility-based cross-sectional study was conducted among 391 pregnant women in Shashemene Town in April 2022. Data were collected using interviewer-administered questionnaires, along with laboratory examinations of blood and stool samples. The data were entered into EpiData 3.1 and analyzed using the Statistical Package for Social Sciences (SPSS) version 22. Bivariate logistic regression was performed, and variables with a p-value of <0.25 were included in the multivariate logistic regression analysis to identify factors associated with anemia. Adjusted odds ratio (AOR) with 95% CIs were calculated, and a p-value of < 0.05 was considered statistically significant. Finally, the results are presented using narration, descriptive statistics, such as tables, graphs, and charts.

Results

The prevalence of anemia was found to be 30.9% (95% CI: 26.4, 35.4%). Factors significantly associated with a reduced risk of anemia included high dietary diversity (AOR = 0.217, 95% CI: 0.105–0.451), no history of excessive menstrual bleeding (AOR = 0.162, 95% CI 0.076–0.345), age 25–34 years (AOR = 0.391, 95% CI 0.173–0.883), and age ≥ 35 years (AOR = 0.068, 95% CI 0.011–0.444). Conversely, a mild upper arm circumference (MUAC) of <23 cm (AOR = 4.939, 95% CI 2.330–10.469), no use of contraceptives (AOR = 4.935, 95% CI 2.207–11.032), and no iron supplementation use (AOR = 3.588, 95% CI 1.794–7.175) were significantly associated with an increased risk of anemia.

Conclusion

According to the WHO classification, anemia in this study was found to be a moderate public health issue. High dietary diversity, no previous excessive menstrual bleeding, and age were significantly associated with a reduced risk of anemia, whereas a MUAC of <23 cm, no contraceptive use, and no iron supplementation were significantly associated with an increased risk of anemia. Therefore, promoting diverse diets among pregnant women, providing counseling on the benefits of family planning and iron-folic acid supplements, and improving women's education and empowerment are essential. (Author)

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**Placental growth factor at 24–28 weeks for aspirin discontinuation in pregnancies at high risk for preterm preeclampsia: Post hoc analysis of StopPRE trial.** Ricart M, Bonacina E, Garcia-Manau P, et al (2024), Acta Obstetricia et Gynecologica Scandinavica 22 August 2024, online

Introduction

This study aims to evaluate the safety of discontinuing aspirin treatment at 24–28 weeks in women at high risk after first-trimester combined screening for preeclampsia (PE) and normal placental growth factor (PlGF) levels at 24–28 weeks of gestation.

Material and Methods

This is a post hoc analysis of the StopPRE trial, conducted at nine Spanish maternity hospitals from September 2019 to September 2021. In the StopPRE trial, all high-risk single pregnancies identified during first-trimester screening for PE were treated with 150 mg of daily aspirin. Out of 1604 eligible women with a soluble fms-like tyrosine kinase-1 to PlGF ratio (sFlt-1/PlGF) ≤38 at 24–28 weeks, 968 were randomly assigned in a 1:1 ratio to either continue aspirin until 36 weeks (control group) or discontinue it (intervention group). In this secondary analysis, only women with PlGF ≥100 pg/mL at 24–28 weeks were included. As in the StopPRE trial, the non-inferiority margin was set at a 1.9% difference in preterm PE incidence between the groups.

Results

Among the 13 983 screened pregnant women, 1984 (14.2%) were deemed high-risk for preterm PE, of which 397 (20.0%) were ineligible, 636 declined participation, and 32 were excluded. Ultimately, 919 women with PlGF >100 pg/mL were randomized and included in this analysis. Preterm PE occurred in 0.9% of the intervention group (4 out of 465) and 1.5% of the control group (7 out of 454), indicating non-inferiority of aspirin discontinuation. There were no significant differences between the groups in adverse pregnancy outcomes before 37 weeks, at <34 weeks, or ≥37 weeks. Minor antepartum hemorrhage incidence was significantly lower in the intervention group (absolute difference, −5.96; 95% CI, −10.10 to −1.82).

Conclusions

Discontinuation of aspirin treatment at 24–28 weeks in women with PlGF levels ≥100 pg/mL was non-inferior to continuing until 36 weeks for preventing preterm PE. However, these findings should be interpreted with caution, as they originate from a subanalysis of the StopPRE trial. (Author)

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**Antepartum versus postpartum amoxicillin oral challenge in pregnant patients with a reported penicillin allergy: A two-center prospective cohort study.** Wong JMH, Liu X, Mak R, et al (2024), Acta Obstetricia et Gynecologica Scandinavica 10 September 2024, online

Introduction

While 10% of pregnant individuals report a penicillin allergy, there is no established best practice for penicillin allergy delabeling in pregnancy. To better understand options for penicillin delabeling, we aimed to evaluate two penicillin allergy delabeling protocols in pregnancy regarding efficacy, adverse events, and patient satisfaction.

Material and Methods

From July 2019 to December 2022, we completed a two-center prospective cohort study, where each site recruited pregnant patients over 24 weeks gestational age with a reported penicillin allergy. One center offered antepartum

amoxicillin oral challenges, either directly or after negative skin testing (i.e., antepartum oral challenge site). Our other centers completed a two-step approach with antepartum penicillin skin testing only and deferred oral challenges to the postpartum period (i.e., postpartum oral challenge site). Our primary outcome was the rate of penicillin allergy delabeling, defined as tolerating an antibiotic challenge with penicillin or amoxicillin. Univariate analyses were completed using chi-squared, Fisher's exact, and Wilcoxon rank tests.

Results

During the study period, 276 pregnant patients were assessed, with 207 in the antepartum oral challenge site and 69 in the postpartum oral challenge site. Among the 204 patients who completed antepartum oral challenges, 201 (98%) passed without reactions. Deferring oral challenges to the postpartum period led to a loss of follow-up for 37/53 (70%) of eligible individuals. Overall, 97% (201/207) of patients at the antepartum oral challenge site were delabeled from their penicillin allergy—compared to 38% (26/69) of patients referred to the postpartum oral challenge site ($p < 0.0001$). Three antepartum oral challenge reactions were noted, including two mild cutaneous reactions and a case of transient abdominal discomfort.

Conclusions

Antepartum amoxicillin oral challenge is a more effective method to delabel pregnant patients from their penicillin allergy. Deferral of oral challenges to the postpartum period introduces a significant barrier for penicillin allergy delabeling. (Author)

**Full URL:** https://doi.org/10.1111/aogs.14964

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**Risk factors and recurrence of hyperemesis gravidarum: A population-based record linkage cohort study.** Pont S, Bond DM, Shand AW, et al (2024), Acta Obstetricia et Gynecologica Scandinavica 11 September 2024, online

Introduction

There are limited contemporary population-based studies on the risk factors for hyperemesis gravidarum (HG), a severe type of nausea and vomiting in pregnancy. This study aimed to determine the prevalence and trend of HG over time, identify risk factors for any and multiple HG health service visits during pregnancy, and investigate HG recurrence across pregnancies.

Material and Methods

This population-based record linkage cohort study featured births in New South Wales, Australia from 2010 to 2019. Hospital and emergency data collections were used to identify health service visits for HG using relevant diagnosis codes and were linked to the corresponding pregnancy on the birth data set. Outcomes included any HG and multiple HG visits during pregnancy, and HG recurrence across pregnancies. Annual HG prevalence was calculated, and negative binomial regression was used to examine standardized prevalence trends. Risk factors for any HG and multiple HG visits within a pregnancy were examined using Robust Poisson models with generalized estimating equations and Prentice–Williams–Peterson Gap Time models, respectively. Rates and risk of recurrence were calculated for women with a second and third pregnancy.

Results

Of the 955 107 pregnancies, 21 702 (2.3%) were classified as HG. There was an average annual increase of 6.8% (95% CI 5.3–8.3) in HG prevalence. Younger maternal age, multiple pregnancies, and selected preexisting conditions were associated with an increased risk of HG, with the strongest factor being HG in any previous pregnancy (risk ratio 8.92, 99% CI 8.43–9.44). Hyperemesis gravidarum recurrence at the second (28.9%) and third (54.7%) pregnancies was high.

Conclusions

Hyperemesis gravidarum history is the strongest risk factor for HG, which has implications for counseling and care that women receive around pregnancy. (Author)

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**Vocational identity in decision-making for terminating/continuation of pregnancy following non-invasive prenatal testing and hypothetical diagnosis among Japanese university students.**
Sunagozaka S, Tsutsumi A (2024), PLoS ONE vol 19, no 8, August 2024, e0309537

The use of prenatal testing in Japan is expected to increase. However, there are ethical concerns regarding pregnancy termination upon the detection of fetal chromosomal abnormalities, such as Down syndrome. Furthermore, factors associated with decision-making following a positive result of Down syndrome after prenatal screening remain unclear. Therefore, we aimed to evaluate the association between decision-making among university students following a hypothetical positive result of Down syndrome in prenatal screening and their perception of their future career development defined as vocational identity. This cross-sectional study included 256 individuals (109 men, 143 women, and four who preferred not to answer). Self-anonymous semi-structured questionnaires were distributed to collect information regarding socio-demographic characteristics, vocational identity, and decision-making following a positive prenatal screening result of Down syndrome. Vocational identity was assessed using the Vocational Identity Measure. Women students were more likely to intend to continue the pregnancy (76.9%, $p < 0.05$); however, students without siblings (68.2%, $p < 0.01$) and men and women students with higher scores for vocational identities who were raised in an academically oriented family were more likely to intend to terminate the pregnancy ($p < 0.05$). Therefore, gender and vocational identity were associated with decision-making following a positive result of Down syndrome. Further qualitative and quantitative studies on factors associated with decision-making following a positive result of Down syndrome are necessary to eliminate the burden and social barrier, including gender division of labor and the effect of vocational career for people wishing to parent a child with Down syndrome. (Author)

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**Narratives of pregnancy across 19 Countries: Analysis of a 1.5-billion-word news media database.** Sy KMP, Chow TYJ, Ickovics JR, et al (2024), PLoS ONE vol 19, no 8, August 2024, e0305866

Pregnancy is a universal experience shaped by sociocultural contexts. News media presents a unique opportunity to analyze public narratives of pregnancy and how it differs across cultures. Our study aims to (1) identify the most prevalent overall themes in news media narratives of pregnancy across 19 English-speaking countries, and (2) compare pregnancy narratives across geographic regions. We used the largest English news media corpus that included over 30 million news articles from more than 7000 news websites across 19 countries, and extracted a one-year data subset (2019; 1.5 billion words). Of the primary search terms 'pregnant' and 'pregnancy', we collated 240,464 descriptors that met criteria of lexical proximity and semantic bonding. Thereafter, we used topic modelling to identify the five most prevalent pregnancy-related themes: (1) complications and risk, (2) crime, (3) celebration, (4) celebrity births, and (5) contraception. Although there were regional differences, themes of complications and risk were most common, comprising 39.6% of all pregnancy narratives in our big-data corpus. The second-most dominant theme was crime (20.8%). Narratives of contraception were more prevalent in Europe, North America, and Oceania (27.2-31.3%) compared to Africa and Asia (11.9-19.6%). Though the vast majority of pregnancies are healthy, themes of complications and risk dominated the news media discourse; unchecked, this may be an avenue for misinformation, stress, and anxiety. In addition, lower prevalence of contraception narratives in Africa and Asia may reflect a gap that requires the attention of policymakers in building culturally-adapted programs to promote family planning and encourage open discussions about sexual health. Results contribute to the academic repository of societal representations of pregnancy through a big-data lens, providing contextual information for future development, implementation and evaluation of localized pregnancy-related campaigns. (Author)

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**Prenatal coparenting and attachment style in Japanese pregnant women: A cross-sectional survey.** Masui Y, Yamazaki A (2024), PLoS ONE vol 19, no 8, August 2024, e0309212

Developing prenatal coparenting is important for preparing couples for parenting immediately after childbirth, but knowledge of prenatal coparenting remains limited. Adult attachment style has been shown to be one of the factors during pregnancy that predict coparenting after childbirth, as well as a significant factor in the developmental process of the coparenting relationship. The present study mainly examines the relationship between prenatal coparenting as perceived by pregnant women and their attachment style. A cross-sectional survey was conducted at a tertiary emergency medical facility in Japan. Data from 181 pregnant women at 22-36 weeks' gestation who completed a self-reported questionnaire consisting of the Prenatal Coparenting Scale (PCS), relationship-specific attachment styles, and characteristics were subjected to analysis. The mean age of the women in this study was 33.1 years (standard deviation = 5.2), 80 (44.2%) were expecting their first child, and 101 (55.8%) were expecting their second or subsequent child. Women's attachment avoidance toward their mother ($r = -.26$), father ($r = -.23$), and partner ($r = -.60$) and attachment anxiety toward their partner ($r = -.33$) were significantly negatively correlated with PCS scores. When classified into two groups by fetal birth order, attachment avoidance and attachment anxiety toward the partner were significantly negatively correlated with PCS scores, regardless of fetal birth order. Unlike attachment style toward the partner, attachment avoidance toward the mother ($r = -.33$) and father ($r = -.32$) was significantly negatively correlated with PCS scores in the group of women expecting their second or subsequent child only. These results provide valuable insights into the relationship between prenatal coparenting and adult attachment style and deepen the understanding of prenatal coparenting. Future studies using longitudinal surveys and multivariate analyses could present relevant suggestions for specific types of support that promote the development of prenatal coparenting. (Author)

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**Comparison of early and fully expanded blastocysts on pregnancy and birth outcomes in patients with fresh IVF/ICSI cycles: A retrospective cohort study.** Pan X, Zhou Y, Shen L (2024), PLoS ONE vol 19, no 8, August 2024, e0308130

Objective

To investigate the effect of the early blastocyst on pregnancy and birth outcomes in patients in vitro fertilization/(early rescue) intracytoplasmic sperm injection-embryo transfer [IVF/(early rescue)ICSI-ET] cycles.

Methods

In this retrospective cohort study, 289 patients with single-blastocyst transfer within IVF/(early rescue)ICSI-ET treatment cycle were included and divided into the early (n = 48, Gardner stage = 1 or 2) and the fully expanded blastocyst (n = 241, Gardner stage ≥ 3) groups. The differences in pregnancy and birth outcomes between the two groups were compared.

Results

There was no significant differences between the two groups in baseline indicators, including demographic characteristics and clinical treatment (P> 0.05).The clinical outcomes indicators in the early and the fully expanded blastocyst groups were compared, including the number of transferable embryos on the third day (D3)5.0 (4.0, 6.8) vs. 6.0 (5.0, 8.0) (P = 0.001), the number of remaining embryos frozen per cycle 1.0 (0.3, 2.0) vs. 3.0 (2.0, 5.0) (P<0.001); the number of cycles of unfrozen embryos 13/48 (27.1%) vs. 12/241 (5.0%) (P<0.001); the pregnancy outcome including the clinical pregnancy rate (CPR) 20/48 (41.7%) vs. 129/241 (53.5%) (P>0.05); the live birth rate (LBR)15/48 (31.3%) vs.106/241 (44.0%) (P>0.05). There were no significant differences in birth outcomes, such as gestational week of labor, mode of delivery, neonatal birth weight, height, Apgar score, sex ratio, and birth defects between the two groups (P>0.05).Multivariate binary logistic regression showed the same result, i.e., early blastocyst transfer in fresh cycle was not a risk factor for clinical pregnancy (OR = 0.516, 95% CI = 0.260-1.022) and live birth (OR = 0.521, 95% CI = 0.252-1.079).

Conclusion

Compared with the fully expanded blastocyst group, the CPR and LBR in the early blastocyst group of the fresh transfer cycles were relatively ideal, and there were no significant differences in birth outcomes and neonatal status between the two groups. (Author)

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**Promotion and COVID-19 lockdown increase uptake of funded maternal pertussis vaccination in pharmacy: A mixed methods study.** Gauld NJ, Knapton C, Sinclair O, et al (2024), PLoS ONE vol 19, no 8, August 2024, e0307971

Pertussis vaccination is recommended during pregnancy to protect the baby. Pertussis vaccination was initially free to pregnant people through general practice and hospitals in New Zealand, but uptake was suboptimal. In one district funding of maternal pertussis vaccination was widened to community pharmacies in 2016. Eighteen months later promotion to pharmacies, midwives and pregnant people took place. In 2020 and 2021, COVID-19 lockdowns occurred.

Aim

To explore the effects of promotion and COVID-19 lockdowns on uptake of funded maternal pertussis vaccination in pharmacy, and awareness, use and opinions of promotional elements.

Methods

Five years of pharmacy claims data were analysed and 12 pharmacists, 18 people eligible/recently eligible for maternal pertussis vaccination and 11 midwives were interviewed.

Results

Provision of maternal pertussis vaccination increased during and after promotion. Qualitative data showed that pharmacists valued phone calls with information about maternal pertussis vaccination and

recommendations for increasing uptake. Prompted by these calls, some pharmacists contacted midwives to inform them of funded maternal pertussis vaccination in the pharmacy (which midwives appreciated) and recommended pertussis vaccination to pregnant clients. Pharmacy staff reportedly were motivated to recommend this vaccination by being informed about it and having posters displayed in the pharmacy. Pregnant people valued healthcare professionals' conversations about maternal pertussis vaccination, but appeared to be uninfluenced by posters and promotional social media posts about this vaccination. During COVID-19, maternal pertussis uptake in pharmacies increased 31% March to May 2020 (before and during the first COVID-19 lockdown) versus the same time the previous year, then declined.

Conclusion

Promotion appeared to have a sustained effect on uptake of maternal pertussis vaccination in pharmacies. Pregnant people were most influenced by discussions with healthcare professionals. Pharmacists and pharmacy staff increased proactivity with maternal vaccinations after promotion to them. Promotion may need to be repeated over time. (Author)

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**The trajectory of body image dissatisfaction during pregnancy and postpartum and its relationship to Body-Mass-Index.** Linde K, Lehnig F, Treml J, et al (2024), PLoS ONE vol 19, no 8, August 2024, e0309396

Background

During pregnancy, women's bodies undergo rapid body weight and size changes within a relatively short period. Pregnancy may therefore, be associated with an increased vulnerability for developing body image dissatisfaction linked to adverse health outcomes for the mother (e.g., depression, eating disorders) and child (e.g., impaired self-regulation, childhood obesity). The present study aims to examine the prevalence and trajectories of body image dissatisfaction during pregnancy and postpartum and its relationship to pre-pregnancy BMI. This is the first study that investigates prevalence rates of body image dissatisfaction not only ante- but also postpartum, and that compares trajectories of women with normal weight and overweight.

Methods

A prospective longitudinal design with a quantitative approach was applied. Healthy pregnant women (N = 136) answered paper-pencil or online questionnaires at four time points (18th-22nd and 33rd-37th week of gestation, 3 and 6 months postpartum). Body image dissatisfaction was assessed using the German version of the Body Shape Questionnaire (BSQ) and the Eating Disorder Examination Questionnaire (EDE-Q). Both questionnaires are considered reliable and valid measures of several aspects of body image, and the BSQ allows for calculating prevalence rates by providing cut-off values. Using not just one but two body image questionnaires, trajectories of body image dissatisfaction can be compared. Pre-pregnancy BMI was assessed retrospectively via self-reported weight and height.

Results

The proportion of women reporting elevated levels of body image dissatisfaction was 6.6% (n = 9) in the second trimester, 2.9% (n = 4) in the third trimester, 11.0% (n = 15) three months postpartum, and 10.3% (n = 14) six months postpartum. Repeated measures ANOVA revealed that body image dissatisfaction significantly decreased from pre-pregnancy to pregnancy, remained stable during pregnancy, and returned to pre-pregnancy levels three to six months postpartum. Mixed between-within ANOVA showed that the overweight/obese group reported significantly higher levels of body image dissatisfaction at each measurement point except during the third trimester than women in the normal weight group. Significant but small interaction effects between time and pre-pregnancy BMI were found.

Conclusions

The results revealed that approximately every tenth woman is affected by body image dissatisfaction after childbirth. Women with a higher BMI level before pregnancy are particularly at risk of experiencing body image dissatisfaction. Healthcare providers should screen for body image dissatisfaction, in particular after childbirth, and inform affected women about possible adverse health outcomes and treatment options.

Study limitations concern the drop-out rate of 51.4% and the retrospective and self-reported assessment of pre-pregnancy BMI. Future studies should include additional assessment points in the first trimester and more than six months postpartum and try to include a matched control group of non-pregnant women to compare prevalence rates and trajectory of body image dissatisfaction. (Author)

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**Family poverty, neighbourhood greenspace and perinatal outcomes.** Tsomokos DI, Papachristou E, Rakesh D, et al (2024), Archives of Disease in Childhood 19 September 2024, online

Objective

The relationship between low income and adverse perinatal outcomes, such as low birth weight and developmental delays, is well established making the search for protective factors important. One such factor may be neighbourhood greenspace. This study elucidates the role of urban neighbourhood greenspace in the relationship between income and perinatal outcomes in a nationally representative birth cohort from the UK.

Methods

Data on 14 050 infants participating in the initial wave at age 9 months of the Millennium Cohort Study were used (51% male, 20% non-white, 52% living in disadvantaged areas). We tested whether the association between income and perinatal outcomes is moderated by urban greenspace (measured in deciles) before and after adjustments for confounding. The perinatal outcomes included birth weight, gestational age (in days), communication and motor delays. The models were adjusted for the infant's sex and ethnicity, mother's age, education, substance use and mental health as well as area disadvantage and air pollution.

Results

Neighbourhood greenspace moderated the association between income and gestational age, even after adjustment for all confounders, b=-0.11, 95% CI (-0.215, -0.004). For births in low-income households, in particular, it was associated with an increase in gestational age by an average of approximately 3 days. However, after adjustment, greenspace was not found to influence birth weight, communication or motor delays at age 9 months.

Conclusion

The biophilic design of urban environments is a modifiable factor for improving perinatal outcomes in the UK as urban greenspaces appear to be mitigating the risk of preterm birth associated with family poverty. (Author)

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**A Position Modification Device for the Prevention of Supine Sleep During Pregnancy: A Randomised Crossover Trial.** Wilson DL, Whenn C, Barnes M, et al (2024), BJOG: An International Journal of Obstetrics and Gynaecology 16 September 2024, online

Objective

To assess the effectiveness and acceptability of a pillow-like position modification device to reduce supine sleep during late pregnancy, and to determine the impacts on the severity of sleep-disordered breathing (SDB) and foetal well-being.

Design

Randomised cross-over study.

Setting and Population

Individuals in the third trimester of pregnancy receiving antenatal care at a tertiary maternity hospital in Australia.

Methods

Participants used their own pillow for a control week and an intervention pillow for a week overnight, in randomised order. Sleep position and total sleep time for each night of both weeks were objectively monitored, with a sleep study and foetal heart rate monitoring performed on the last night of each week.

Main Outcome Measures

Primary outcome = percentage of sleep time in the supine position; secondary outcomes = apnoea–hypopnoea index, foetal heart rate decelerations and birthweight centile.

Results

Forty-one individuals were randomised with data collected on 35 participants over 469 nights. There was no difference in percentage of total sleep time in the supine position overnight between the control or intervention pillow week (13.0% [6.1, 25.5] vs. 16.0% [5.6, 27.2], p = 0.81 with a mean difference of 2.5% [95% CI] = −0.7, 5.6, p = 0.12), and no difference in the severity of SDB or foetal heart rate decelerations across weeks. However, increased supine sleep was significantly related to a higher apnoea–hypopnoea index (rs = 0.37, p = 0.003), lower birthweight (rs = −0.45, p = 0.007) and lower birthweight centile (rs = −0.45, p = 0.006). The proportion of supine sleep each night of the week varied widely both within and across participants, despite awareness of side-sleeping recommendations.

Conclusions

We found no evidence to suggest that the adoption of a pillow designed to discourage supine sleep was effective in late pregnancy, with women spending an average of 1 h per night supine. Alternative devices should be investigated, incorporating lessons learnt from this study to inform trials of supine sleep minimisation in pregnancy. (Author)

**Full URL:** https://doi.org/10.1111/1471-0528.17952

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**Use of herbal medicine during pregnancy and labour among women in Chienge District, Zambia.**
Chisala S, Masumo M, Musenge E (2024), African Journal of Midwifery and Women's Health vol 18, no 3, July 2024, pp 1–9

Background/Aims

Use of herbal medicine during pregnancy and labour places women and fetuses at risk of poor health outcomes. In Zambia, use of herbal medicine among pregnant women is progressively increasing despite a lack of evidence regarding their safety and effectiveness. This study's aim was to explore the use of herbal medicine during pregnancy among women in Chienge District, Zambia.

Methods

This analytical cross-sectional study was conducted with 380 pregnant women from five health facilities in Chienge District, selected using stratified sampling. Participants were selected by simple random sampling, and data were collected through an interview schedule. Data were analysed using Chi-squared tests and binary logistic regression.

Results

Approximately half (54%) of the participants used herbal medicine, mainly to reduce labour pain, accelerate its progress or prevent difficulties. Parity (P=0.007), attitude (P=0.001), cultural beliefs (P=0.001) and distance from a health facility (P=0.006) were significantly associated with the use of herbal medicine. After adjusting for possible confounders, cultural beliefs (odds ratio=4.524, P=0.001) and distance to health facility (odds ratio=1.879, P=0.045) were significant predictors of the use of herbal medicine, while those with negative attitudes to herbal medicine were less likely to use it (odds ratio 0.054, P=0.001).

Conclusions

Women in the Chienge District used herbal medicine during pregnancy and labour. Several factors influenced the use of herbal medicine during pregnancy and labour, indicating a need for community sensitisation on the dangers of its use.

Implications for practice

Healthcare professionals should discuss the use of herbal medicine in an open and non-judgmental manner. Further studies are needed to establish the efficacy and safety of traditional herbal medicines. (Author)

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**How does HPV affect pregnancy?.** McIntosh J (2024), Medical News Today 27 September 2024

HPV is unlikely to transmit from a person to their child during pregnancy. However, some research suggests that it can increase the risk of some adverse outcomes. (MB)

**Full URL:** https://www.medicalnewstoday.com/articles/hpv-and-pregnancy

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## Labour and birth

**Birthing consciousness and the flow experience during physiological childbirth.** Dahan O, Zibenberg A, Goldberg A (2024), Midwifery vol 138, November 2024, 104151

Problem

It has been demonstrated that birth without medical intervention conveys significant physical and psychological benefits to the mother and her newborn baby. However, there is a need to include women's subjective experience of physiological birth to understand and promote it.

Background

The theoretical concept of “birthing consciousness” hypothesizes that women during natural childbirth sometimes experience a specific altered state of consciousness, which is a positive peak experience that resembles “flow” in many aspects.

Aim

To investigate the underexplored connection between the physiological mode of childbirth and altered states of consciousness during childbirth.

Methods

Israeli women with childbirth experience were recruited through social media (Facebook groups with a focus on childbirth and motherhood). Participants (n = 766) completed an online survey: the Flow State Scale (FSS) and a demographic questionnaire.

Findings

Differences were found between modes of birth as to flow state, as women who experienced physiological childbirth (i.e., with no epidural anesthesia or instrumental interventions) had a higher flow state during birth.

Discussion

This link empirically confirms the phenomenon of birthing consciousness. All nine dimensions of the mental state of flow apply to childbirth: challenge-skill balance, action-awareness merging, clear goals, unambiguous feedback, concentration on the task, sense of control, loss of self-consciousness, transformation of time, and autotelic experience.

Conclusion

Understanding a women's subjective experience during physiological birth can enhance clinical understanding of physiological birth thus promoting positive physiological birth experiences – which has crucial health benefits. We propose that more studies need to be done to promote experiencing flow during physiological birth. (Author)

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**Prevalence of birth before arrival and associated factors among postpartum women in southern Ethiopia: a community-based cross-sectional study.** Amanuel T, Desalegn M, Lukas K, et al (2024), Frontiers in Medicine 27 September 2024, online

Background

Birth before arrival (BBA) constitutes a high-risk newborn population with high perinatal morbidity and mortality. In Ethiopia, most studies and health surveys consider only home and hospital deliveries but do not consider deliveries that take place between the house and health facility. The aim of this study was to assess the prevalence of BBA and its associated factors among postpartum women in Lemo woreda, Hadiya Zone, SNNPR, Ethiopia, 2023.

Methods

A community-based cross-sectional study was conducted among postpartum women in Lemo woreda, Hadiya Zone, SNNPR, Ethiopia, from April 5 to May 20, 2023. Three hundred eighty-two postpartum women who gave birth 6 months prior to this study were included. Twelve out of 36 kebeles were selected randomly, and simple random sampling was employed for the selection of participant women. An interviewer-administered questionnaire was used for data collection. A binary logistic regression analysis was computed, and variables with a p value of <0.25 were included in the final multivariable logistic regression analysis. Model fitness was checked via the Hosmer–Lemeshow goodness-of-fit test ($x2 = 16.04$, p value = 0.250). Statistical significance was declared via odds ratios and 95% confidence intervals at a p value <0.05.

Results

The prevalence of BBA among women who gave birth in the last 6 months preceding this study in the study area was 15.2% (95% CI: 11.8, 19.1%). In the multivariable analysis, the variables associated with birth before arrival in the final model were having no antenatal care (AOR = 2.63; 95% CI: 1.23, 5.63), having a female autonomy status (AOR = 3.32; 95% CI: 1.12, 9.89), not being knowledgeable about labor symptoms (AOR = 2.15; 95% CI: 1.11, 4.18), and having birth preparedness toward the index birth (AOR = 0.13; 95% CI: 0.05, 0.35).

Conclusion

The prevalence of BBA in the study area was unacceptably high. A statistically significant association was observed between birth before arrival and having no antenatal care, dependent women's autonomy status, being not knowledgeable about labor symptoms, and having birth preparedness toward the index birth. (Author)

**Full URL:** https://doi.org/10.3389/fmed.2024.1437538

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**Impact of fetal spine alignment according to maternal lateralization during early labor on maternal comfort and birth outcomes: A prospective cohort study in Kelantan, Malaysia.** Rahman NA, Zon EM, Ismail EHE, et al (2024), European Journal of Midwifery vol 8, September 2024, p 49

Introduction

Maternal positioning during labor significantly influences maternal comfort. This study aims to identify the preferred maternal lateral position during the latent phase and examine the impact of alignment between maternal lateralization and fetal spine positioning during the active phase of the first stage of labor on maternal comfort.

Methods

Pregnant women in the first stage of labor beyond 37 weeks of gestation were recruited over six months from March to August 2020 for this prospective cohort study at Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan, Malaysia. Eligible individuals were randomly allocated to align with the fetal spine (n=180) or oppose it (n=180). Fetal spine positions were confirmed via transabdominal ultrasound. Maternal mean comfort scores were assessed using the established Maternal Comfort Assessment Tool. Statistical analysis was performed using IBM SPSS version 27, with a $p<0.05$ considered significant.

Results

There was a significant association between the preferred maternal position during the latent phase and concordance with the same maternal lateralization-fetal spine alignment ($p<0.001$). Higher mean comfort scores were observed when the maternal lateral position matched the fetal spine alignment during the active phase of labor. There was a significant association of normal CTG tracings when the maternal position was aligned with the fetal spine ($p<0.001$).

Conclusions

Parturients preferred lying in alignment with the fetal spine lateralization during the latent phase. This position also offers increased comfort during the active phase of labor. It highlights the importance of considering maternal–fetal alignment as a critical factor in intrapartum care. (Author)

**Full URL:** https://doi.org/10.18332/ejm/191737

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**Could a simple manual technique performed by a midwife reduce the incidence of episiotomy and perineal lacerations? A non-randomized pilot study.** Taylor KE, Stulz V (2024), European Journal of Midwifery vol 8, September 2024, p 51

Introduction

Women experience medical interventions, episiotomy, and perineal lacerations during childbirth, impacting their physical, psychological, and sexual well-being. This study compares the perineal status of prospective women who had the midwifery intervention of perineal myofascial release during childbirth, to a matched retrospective control sample of women who received standard care during childbirth.

Methods

A non-randomized pilot study with prospective data collected for 50 women after informed verbal consent was obtained to having the midwifery intervention of perineal myofascial release during childbirth, and the matched retrospective data for the control group of 49 women were collected from a random sample generated from the medical records. Quantitative analyses included descriptive statistics, independent t-tests, regression, and chi-squared analyses. Retrospective trial registration was granted with The Australian New Zealand Clinical Trials Registry ANZTR.

Results

Women were six times (OR=0.15; 95% CI: 0.0–0.37) less likely to have a nonintact perineum and twice (OR=0.44; 95% CI: 0.35–0.56) less likely to have an episiotomy if they were in the intervention group. Chi-squared analysis found no statistically significant differences between groups for normal vaginal birth and instrumental births, excluding cesareans and waterbirth [$\chi^2(1)= -0.37$, $p=0.542$].

Conclusions

This study found perineal myofascial release benefits women by reducing perineal trauma and episiotomy. However, there were no significant differences in the duration of the active pushing stage of labor or mode of birth. This study has shown some promise in obtaining data for a larger, definitive, randomized controlled trial. (Author)

**Full URL:** [https://doi.org/10.18332/ejm/191749](https://doi.org/10.18332/ejm/191749)

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**Nulliparous with Class III Obesity at Term: Labor Induction or Cesarean Delivery without Labor.**
Bart Y, Wiley RL, Ghose I, et al (2024), American Journal of Perinatology 27 September 2024, online

Objective

This study aimed to compare maternal and neonatal outcomes between labor induction versus cesarean delivery (CD) without labor among nulliparous individuals with class III obesity (body mass index [BMI] ≥40 kg/m2).

Study Design

A retrospective cohort study of all nulliparous singleton deliveries at ≥37 weeks with a BMI of ≥40 kg/m2 at delivery between March 2020 and February 2022. We excluded individuals with spontaneous labor, fetal malformations, and stillbirths. The primary outcome was a composite of maternal mortality and morbidity, including infectious and hemorrhagic morbidity. The secondary outcome was a neonatal composite. A subgroup analysis evaluated patients with a BMI of ≥50 kg/m2. Another subgroup analysis compared outcomes between CD without labor and an indicated CD following induction. A multivariable logistic regression was applied. For adjustment, we used possible confounders identified in a univariate analysis.

Results

Among 8,623 consecutive deliveries during the study period, 308 (4%) met the inclusion criteria. Among them, 250 (81%) underwent labor induction, and 58 (19%) had a CD without labor. The most common indications for CD without labor were fetal malpresentation (26; 45%), suspected macrosomia (8; 14%), and previous myomectomy (5; 9%). Indicated CD occurred in 140 (56%) of the induced individuals, with the two leading indications being labor arrest (87; 62%) and non-reassuring fetal heart rate tracing (51; 36%). The rates of composite maternal morbidity (adjusted odds ratio [aOR] = 2.14, 95% confidence interval [CI]: 0.64–7.13) and composite neonatal morbidity (aOR = 3.62, 95% CI: 0.42–31.19) did not differ following a CD without labor compared to labor induction. The subgroup analyses did not demonstrate different outcomes between groups.

Conclusion

Among nulliparous individuals with class III obesity at term who underwent induction, more than 50% had indicated CD; the rate of short-term maternal and neonatal morbidity, however, did not differ between labor induction and CD without labor.

Key Points

The rate of unplanned CD among those who underwent labor induction was relatively high (56.0%).

Outcomes did not differ between those who underwent CD without labor and those who were induced.

Outcomes also did not differ between those who underwent CD without labor and those with CD in labor. (Author)

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**Cesarean delivery, labor duration, and mothers' mortality risk over 50 years of follow-up.** Mitro SD, Sundaram R, Grandi SM, et al (2024), American Journal of Obstetrics & Gynecology MFM vol 6, no 11, November 2023, 101498

Background

Pregnancy complications have been recognized as a window to future health. Though cesarean delivery is common, it is unknown whether labor duration and mode of delivery are associated with maternal long-term mortality.

Objective

To examine whether labor duration and mode of delivery were associated with all-cause and cause-specific mortality.

Study Design

Participants were mothers from the multisite Collaborative Perinatal Project (CPP) cohort (1959–1966; n=43,646, limited to last CPP delivery). We ascertained all-cause and specific causes of death as of 2016 via linkage to the National Death Index and Social Security Death Master File. Hazard ratios (HR) testing mode of delivery and labor duration were estimated using Cox proportional hazards models adjusted for demographic and clinical characteristics. We further stratified analyses by parity.

Results

Among participants with a recorded delivery mode, 5.9% (2486/42,335) had a cesarean delivery. Participants who had a cesarean were older (26.9 vs 24.3 years), with higher body mass index (24.0 vs 22.7 kg/m2), were less likely to be nulliparous (21% vs 30%), and more likely to have a household income of at least $6000 (22% vs 17%), to smoke ≥1 pack/d (18% vs 15%), to have diabetes mellitus (12% vs 1%) and to have a prior medical condition (47% vs 34%), compared to participants with a vaginal delivery. Delivery mode was similar by race/ethnicity, marital status, and education. Median labor duration was 395 minutes among participants who had an intrapartum cesarean delivery and 350 minutes among participants delivered vaginally. By 2016, 52.2% of participants with a cesarean delivery and 38.5% of participants with a vaginal delivery had died. Cesarean vs vaginal delivery was significantly associated with increased risk for all-cause mortality (HR=1.16 (95% confidence interval [CI]: 1.09, 1.23); in nulliparas, HR=1.27 (95% CI: 1.09, 1.47); in multiparas, HR=1.13 (95% CI: 1.06, 1.21) as well as increased risk of death from cardiovascular disease, diabetes, respiratory disease, infection, and kidney disease. Associations with death from cardiovascular disease, infection, and kidney disease were stronger for multiparas than nulliparas, though the association with death from diabetes was stronger among nulliparas. Labor duration was not significantly related to overall mortality.

Conclusion

In a historic United States cohort with a low cesarean delivery rate, cesarean delivery was an indicator for subsequent increased mortality risk, particularly related to cardiovascular disease and diabetes. Future studies with long-term follow-up are warranted given the current high prevalence of cesarean delivery. (Author)

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**The Effect of Perineum Massage Applied With and Without an Instrument in the Active Phase of Labor Birth Outcomes: A Randomized Clinical Trial.** Metinoğlu M, Beji NK (2024), International Urogynecology Journal 6 September 2024, online

Introduction and Hypothesis

Perineal massage during labor reduces the need for episiotomy and shortens the length of the episiotomy. Pregnant women should be offered instrumented (EPI-NO) or manual perineal massage in labor. This study was conducted to determine the effect of perineal massage applied with (EPI-NO) and without an instrument during the active phase of labor on episiotomy rate and episiotomy length in women who gave birth vaginally.

Methods

The study included 101 pregnant women aged 18–35 years, with gestational ages between 38 and 42 weeks and indications for vaginal delivery. Participants were randomly assigned to one of three groups: EPI-NO massage, manual massage, and control. The perineal massage was administered during the active labor phase (4- to 8-cm dilation) for 20 min in the intervention groups. Postpartum episiotomy rates and lengths were recorded using standardized forms. The research data were collected using the Introductory Information Form and Birth Assessment Form.

Results

The episiotomy rate was found to be 33.3% in group I, 75.0% in group II, and 74.4% in the Control group, and a statistically significant difference was found between the groups ($p = 0.001$; $p < 0.01$). The mean episiotomy length of the women was 1.5 cm (mean ± SD: 1.50 ± 1.20) for group I, 3 cm (mean ± SD 2.70 ± 1.50) for group II, and 3.5 cm (mean ± SD 3.10 ± 2.00) for the control group ($p < 0.000$).

Conclusion

Perineal massage with EPI-NO was the most effective method at decreasing the episiotomy rate and shortening the episiotomy length compared with other groups. (Author)

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**Obstetric Anal Sphincter Injury After Episiometer-Guided Versus Conventional Episiotomy in Instrumental Deliveries: A Randomized Controlled Trial.** Sriram SN, Dorairajan G, Rane A (2024), International Urogynecology Journal 10 September 2024, online

Introduction and Hypothesis

Guidelines recommend episiotomy for instrumental vaginal delivery with an optimal incision angle of 60° to protect the anal sphincter. The “Episiometer” is a new device promising a 60° incision angle. We compared the incidence of obstetric anal sphincter injury (OASI) and post-repair suture angle of episiotomies made with conventional “eyeballing” versus Episiometer guided during instrumental delivery.

Methods

We conducted this randomized controlled trial in a tertiary care teaching institute in southern India after ethical committee approval, trial registration, and informed consent. We randomized (block) 328 pregnant women aged 18 years and above with term, singleton fetuses delivered by instruments into Episiometer-guided (164) or conventional episiotomy (164) groups (allocation concealed). We compared the OASI (identified clinically) and the suture angle measured from the midline (assessor blinded) in the two groups. We followed up on the subjects at 6 and 12 weeks to assess perineal pain and fecal/flatus incontinence.

Results

The incidence of OASI of 0.61% in the Episiometer group was significantly lower compared with 4.88% in the eyeballing group (Chi-squared = 5.6; $p = 0.02$; adjusted risk ratio = 5.9; CI 0.7–46.1; $p = 0.09$). A significantly higher proportion of subjects (59.1%) in the Episometer group had a post-suture angle between 36 and 40° compared with 36.6% in the eyeballing group (Chi-squared = 21.8, $p < 0.001$). We found no significant difference in the perineal pain or Wexner score during follow-up.

Conclusion

The Episiometer-guided episiotomy during instrumental delivery resulted in a significantly higher suture angle and lower obstetric anal sphincter injuries than with conventional eyeballing. (Author)

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**Levator Ani Muscle Avulsion After Vaginal Delivery Comparing Routine Versus Restrictive Episiotomy: A Pilot Study.** Temtanakitpaisan T, Bunyavejchevin S, Buppasiri P, et al (2024), International Urogynecology Journal vol 35, no 9, September 2024, pp 1851–1856

Introduction and Hypothesis

The objective was to compare the rate of levator ani muscle avulsion following vaginal birth after routine and restrictive episiotomy.

Methods

This study consists of two cohorts of pregnant women prospectively enrolled between September 2015 and December 2017 at a university hospital. The pregnant women were subject to a randomized controlled trial, in which participants received a restrictive episiotomy protocol versus a routine episiotomy protocol for vaginal delivery. Levator ani avulsion was evaluated by four-dimensional ultrasound screening.

Results

Sixty-one post-partum primipara women were enrolled in our study. Thirty-two women (52.5%) had undergone routine episiotomy whereas 29 women (47.5%) had gone through restrictive episiotomy. Right mediolateral episiotomies were performed in all cases. The rate of anal sphincter tear was 12.5% in the routine episiotomy group versus 13.8% in the restrictive episiotomy group ($p = 1.00$). Levator ani avulsion was detected in 9.4% of the routine episiotomy group (only on the right side) and in 10.3% of the restrictive episiotomy group ($p = 1.00$). No bilateral levator avulsion was detected in either of the groups. There were no statistical differences in the distances of the bladder neck descent, cystocele descent, uterine descent, rectocele descent, and the ballooning of the genital hiatus area between the groups.

Conclusions

In our pilot study, there was no reduction of the rate of levator ani avulsion in women with restrictive episiotomy compared with routine episiotomy. There were no differences in pelvic floor ultrasound parameters between the two groups. (Author)

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**The predictive value of transvaginal cervical length and cervical angle ultrasonography in term delivery outcomes: a cohort study.** Tajeran G, Derakhshan R, Jayervand F, et al (2024), Journal of Maternal-Fetal and Neonatal Medicine vol 37, no 1, September 2024, 2406344

Background

Various techniques have been proposed to predict and evaluate the timing and conditions of childbirth in pregnant women at different stages of pregnancy. Providing precise methods for forecasting childbirth status can reduce the burden on the healthcare system. This study aimed to evaluate the predictive value of transvaginal sonography of cervical length (CL) and cervical angle (CA) on full-term delivery outcomes.

Methods

This cohort study analyzed 151 pregnant women between 37 and 42 weeks of gestational age who were treated at Rasoul Akram Hospital affiliated with Iran University of Medical Sciences from June 2023 to January 2024. All Participants received transvaginal examinations. This study evaluated the accuracy of CL and CA by transvaginal sonography in predicting outcomes like vaginal delivery, cesarean section, necessity for labor induction, and the rate of Premature Rupture of Membranes (PROM). The study used the Receiver Operating Characteristic (ROC) curve to determine the optimal cutoff for predicting birth outcomes.

Results

The mean age of the pregnant women was $28.9 \pm 4.22$ years, while the average duration of pregnancy was $39.8 \pm 2.11$ weeks. Cesarean delivery was performed on 45 individuals (29.8%) and 106 (70.1%) underwent vaginal delivery. The mean CL overall stood at $21.2 \pm 6.4$ mm. PROM was observed in 41 cases (27.1%) among full-term pregnancies. A significant difference was noted in mean CL between the cesarean and vaginal delivery groups ($24.2 \pm 2.4$ vs. $20.1 \pm 2.1$ mm, $p = 0.001$).

The predictive value of a CL measuring 21 mm for cesarean delivery was 72.2% sensitive and 79.1% specific. Similarly, a CL of 22 mm showed 66.6% sensitivity and 80.2% specificity for labor induction. Regarding PROM in full-term pregnancies, a CL assessment demonstrated 59.8% sensitivity and 69.1% specificity. Finally, a CA of 115.2° exhibited 70.3% sensitivity and 78.4% specificity in predicting vaginal delivery.

Conclusion

The present study showed that evaluating CL and CA via transvaginal sonography demonstrated adequate diagnostic accuracy in predicting spontaneous birth, need for labor induction, cesarean delivery, and incidence of PROM in full-term pregnant women. This method is suggested to be an accurate and appropriate way to predict delivery results. (Author)

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## Maternity services

**Implementation of universal screening for substance use in pregnancy in a public healthcare system.** White A, Afsari M, Balakrishnan H, et al (2024), AJOG Global Reports vol 4, no 3, August 2024, 100384

Objective

Screening questionnaires are one option for identification of at-risk substance use and substance use disorder (SUD) during pregnancy. We report the experience of a single institution following universal implementation of a brief screening tool for self-reported substance use at the first prenatal encounter.

Study Design

This is a prospective implementation study evaluating screening for substance use in pregnancy in a large safety net healthcare system. Universal screening with the National Institute of Drug Abuse (NIDA) Quick Screen V1.0 was integrated into the electronic medical record (EMR) and administered at the first point of contact with the healthcare system. SUD was identified initially with diagnosis within the EMR by a healthcare provider and was confirmed with toxicology (maternal or neonatal) results corroborating a pattern of substance use and maternal and neonatal ICD-10 codes for SUD. Patients identified with SUD were then classified as moderate or severe SUD based on criteria established by the Diagnostic and Statistical Manual of Mental Disorders, 5th edition. We measured rates of NIDA implementation across different healthcare settings, evaluated NIDA concordance with ascertainment of SUD, and compared adverse pregnancy outcomes associated with moderate and severe SUD.

Results

From July 28, 2021, through June 25, 2022, 14,634 unique pregnant individuals accessed care at ambulatory and acute care sites. Universal implementation of the NIDA Quick Screen identified at-risk substance use in 2146 (14.7%) of those who accessed our system, or 17.1% of 12,550 screened across the system, with greater screen completion in ambulatory over acute care settings. SUD was identified in 256 (1.7%) of 14,634 individuals and moderate or severe SUD was identified in 184 (1.3%). Among those with moderate or severe SUD, 90 (48.9%) were NIDA positive, 22 (12.0%) NIDA negative, and 72 (39.1%) unscreened. Of 94 individuals with NIDA discordance or who were unscreened 76 (81%) accessed initial care through an acute care setting. Of 96 individuals with opioid use disorder, 68 (70.8%) were treated with medication-assisted therapy, and 56 (58.3%) were screened with the NIDA Quick Screen. Among delivered individuals with available outcomes, those with moderate or severe SUD were less likely to seek prenatal care (71 (76%) vs 9852 (98%), <0.001)) and more likely to deliver before 37 weeks, (18 (20%) vs 909 (9%), RR (95% CI) 2.13 (1.40, 3.24)) compared to individuals without SUD.

Neonates exposed to moderate or severe SUD were more likely to have birth weight <10th centile for gestational age (20 (22%) vs 1147 (12%), RR (95% CI) 1.92 (1.29, 2.85)) and require admission to the neonatal intensive care unit (NICU) (19 (21%) vs 964 (10%), RR (95%) 1.95 (1.30, 2.93)).

Conclusion

Universal screening was implemented across a large public healthcare system at a high rate, with higher rates of implementation in ambulatory settings. NIDA successfully identified at-risk substance use in 17% of the SUD cohort but failed to identify more than 50% of patients with moderate or severe SUD. Patients with moderate and severe SUD accessed care primarily through the emergency department and experienced higher rates of adverse obstetric and neonatal outcomes. Future efforts to identify, engage, and retain this highest-risk group are needed. (Author)

**Full URL:** https://doi.org/10.1016/j.xagr.2024.100384

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**Pathways to parenthood among transgender men and gender diverse people assigned female or intersex at birth in the United States: analysis of a Cross-Sectional 2019 Survey.** Bane SS, Obedin-Maliver J, Ragosta S, et al (2024), AJOG Global Reports vol 4, no 3, August 2024, 100381

Objective

To assess pathways to parenthood, pregnancy outcomes, future pregnancy desire, and fertility counseling experiences among a cross-sectional sample of transgender men and gender diverse individuals assigned female or intersex at birth in the United States

Methods

Participants were recruited from The Population Research in Identity and Disparities for Equality (PRIDE) Study and the general public. Eligible participants for this analysis were able to read and understand English, assigned female or intersex at birth, US residents, 18+ years old, and identified as transgender, nonbinary, or gender diverse. We analyzed responses to close-ended survey questions, overall and stratified by gender identity, race/ethnicity, and testosterone use. We also qualitatively assessed open-text responses on fertility counseling.

Results

Among the 1694 participants, median age was 27 years (range: 18–72), 12% had ever been pregnant, and 12% were parents. Carrying a pregnancy where the individual was the egg source (36%) was the most common pathway to parenthood. Individuals with an exclusively binary gender identity (ie, transgender man or man) more often reported becoming parents through adoption than individuals with gender diverse identities (19% vs 12%). A third of individuals did not receive fertility counseling prior to initiating testosterone; individuals who exclusively reported nonbinary identities were recommended to investigate fertility preservation options less often (36%) compared to transgender men (50%).

Conclusion

Transgender men and gender diverse individuals who were assigned female or intersex at birth build their families through a variety of pathways, including pregnancy, stepparenting, and adoption. Clinicians should avoid making assumptions about reproductive desires in these populations based on gender identities or testosterone use and should provide consistent fertility counseling prior to and after hormone initiation. (Author)

**Full URL:** https://doi.org/10.1016/j.xagr.2024.100381

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**How do cultural elements shape speak-up behavior beyond the patient safety context? An interprofessional perspective in an obstetrics and gynecology department.** Malik RF, Azar P, Taimounti A, et al (2024), Frontiers in Medicine 4 September 2024, online

Introduction

Interprofessional working and learning thrives with speak-up behavior. Efforts to improve speak-up have mainly focused on isolated techniques and training programs within the patient safety scope, yet sustained improvement requires a cultural shift beyond this scope. This research investigates the influence of culture elements on speak-up behavior in interprofessional teams beyond the patient safety context.

Methods

An exploratory qualitative study design was used in a Dutch hospital's Obstetrics and Gynecology department. A representative sample of stakeholders was purposefully selected, resulting in semi-structured interviews with 13 professionals from different professional backgrounds (nurses, midwifes, managers, medical specialists, and residents). A speak-up pledge was developed by the research team and used to prime participants for discussion. Data analysis involved three-step coding, which led to the development of themes.

Results

This study has identified six primary cultural themes that enhance speak-up behavior. These themes encompass the importance of managing a shared vision, the role of functional hierarchy, the significance of robust interpersonal relationships, the formulation of a strategy delineating when to speak up and when to exercise restraint, the promotion of an open-minded professional mindset, and the integration of cultural practices in the context of interprofessional working and learning.

Conclusion

Six crucial cultural elements have been pinpointed to boost the practice of speaking up behavior in interprofessional working and learning. Remarkably, hierarchy should not be held responsible as the wrongdoer; instead, can be a great facilitator through respect and appreciation. We propose that employing transformational and humble leadership styles can provide guidance on effectively integrating the identified cultural elements into the workplace and provide an IMOI framework for effective interprofessional speak-up beyond patient safety. (Author)

**Full URL:** https://doi.org/10.3389/fmed.2024.1345316

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**Informing culturally sensitive neonatal palliative care: Focus on bereavement.** Clancy M, Thomas F, Redman H, et al (2024), Infant vol 20, no 5, September 2024

Each year around 2,000 babies in England and Wales will require a palliative approach to care. While the need to provide compassionate care to culturally diverse families has been noted, there remains a distinct lack of evidence base to guide culturally sensitive neonatal palliative care. To address this gap, this research project brought together perspectives and expertise from nursing, applied social science, palliative care, health systems research and migration studies. In doing so, it provides important transdisciplinary insights into the experiences of culturally diverse families requiring neonatal palliative care, as well as insights into the challenges facing neonatal palliative care providers. In this series of articles that will be published in Infant in succession, three key themes that emerged from the research findings will be discussed: Bereavement, communication and divergence of belief. Each article ends with a set of questions intended to support reflective practice. These questions were developed through two workshops with multidisciplinary professionals working in neonatal palliative care. Those involved included a neonatal consultant, a bereavement midwife, an advanced neonatal practitioner, a practice development nurse in neonatal care, a regional neonatal lead nurse and a chaplain. Participants came from diverse areas across England offering regional insights. (Author)

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**Exposure to family planning messages on social media and its association with maternal healthcare services in Mauritania.** Ghose B, Adjei NK, Yaya S (2024), BMC Women's Health vol 24, no 533, September 2024

Background

Mauritania, a lower-middle-income country in Northwest Africa, has one of the highest maternal and infant mortality rates worldwide and struggles to ensure optimal use of maternal healthcare services. Raising health awareness through family planning messages can promote maternal healthcare use, potentially reducing preventable maternal and child mortalities. The objective of the study was to assess the potential impact of exposure to family planning messages through social media on the utilization of maternal healthcare services among Mauritanian women.

Methods

Data from the 2019-20 Mauritania Demographic and Health Survey (MDHS) on 7,640 women were analyzed. Multiple logistic regression models were applied to examine the associations between exposure to family planning messages through social media and maternal healthcare services, specifically the timing and adequacy of ANC visits, and facility-based childbirth. Adjusted odds ratios with 95% confidence intervals (CI) were estimated.

Results

The percentage of timely initiation and adequate use of ANC among the participants were 65.6% and 45.1%, respectively. Approximately 75.0% of the women reported giving birth to their last child at a healthcare facility. Exposure to family planning messages on social media was significantly associated with increased odds of receiving adequate antenatal care visits (OR = 1.38, 95% CI = 1.12,1.71) and giving birth in a health facility (OR = 1.83, 95% CI = 1.09,3.08), Other factors such as age, health insurance, wealth, and desired timing of the last child were also found to be important predictors of maternal healthcare.

Conclusion

The findings suggest that exposure to family planning messages on social media is strongly associated with adequate antenatal care and health facility-based childbirth, but not with early timing of antenatal care. Comprehensive maternal healthcare policies should consider the role of social media in promoting family planning messages. (Author)

**Full URL:** https://doi.org/10.1186/s12905-024-03376-6

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**Recommendations to tackle the inequalities in pregnancy and childbirth experienced by families in Southwark.** Southwark Maternity Commission (2024), Southwark Maternity Commission September 2024

What the Southwark Maternity Commission recommends to address inequalities in maternity care in Southwark and timelines for change. The Southwark Maternity Commission was set up to review maternity care in Southwark, in particular, the experience of Black, Asian and minoritised ethnic women. (Author)

**Full URL:** Southwark Maternity Commission - Southwark Council

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**Standards for maternity support workers.** Northern Ireland Practice and Education Council for Nursing and Midwifery (2024), Belfast: Northern Ireland Practice and Education Council for Nursing and Midwifery September 2024. 14 pages

This document presents the Standards of care, conduct and behaviours required from Maternity Support Workers and informs employers, colleagues, women and their families who use our services and the public about these. (Author)

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

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**Two thirds of maternity units fail to meet safety standards as poor care is "normalised," says regulator.** Mahase E (2024), BMJ 19 September 2024, online

Poor care in maternity services is being "normalised," the Care Quality Commission (CQC) has warned as it urges the NHS and the government to act to prevent further harm to women and babies. (Author)

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**What maternity services are like in England: Easy read version of 'National review of maternity services in England 2022 to 2024'.** Care Quality Commission (2024), September 2024. 10 pages

A summary of the Care Quality Commission's full report "National review of maternity services in England 2022 to 2024" (1), which looked at 131 maternity services in England. This easy read version highlights the major findings in the following areas: Learning from patient safety events; Risk assessment and triage; Maternity staff; Maternity wards; Inequalities and racism; and Communication with women and families. 1. Care Quality Commission. National review of maternity services in England 2022 to 2024. London: CQC: September 2024. https://www.cqc.org.uk/publications/maternity-services-2022-2024 (JSM)

**Full URL:** https://www.cqc.org.uk/sites/default/files/2024-09/20240919-NationalMaternityReport-EasyRead.pdf

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## Postnatal health and parenthood

**Parental Leave [written answer].** House of Commons (2024), Hansard Written question 5433, 11 September 2024

Justin Madders responds to a written question from Josh Simons to the Secretary of State for Business and Trade, regarding what (a) his planned timescale is and (b) the terms of reference are for the review of parental leave; and who will conduct the review. (MB)

**Full URL:** https://questions-statements.parliament.uk/written-questions/detail/2024-09-11/5433

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**The trajectory of body image dissatisfaction during pregnancy and postpartum and its relationship to Body-Mass-Index.** Linde K, Lehnig F, Treml J, et al (2024), PLoS ONE vol 19, no 8, August 2024, e0309396

Background

During pregnancy, women's bodies undergo rapid body weight and size changes within a relatively short period. Pregnancy may therefore, be associated with an increased vulnerability for developing body image dissatisfaction linked to adverse health outcomes for the mother (e.g., depression, eating disorders) and child (e.g., impaired self-regulation, childhood obesity). The present study aims to examine the prevalence and trajectories of body image dissatisfaction during pregnancy and postpartum and its relationship to pre-pregnancy BMI. This is the first study that investigates prevalence rates of body image dissatisfaction not only ante- but also postpartum, and that compares trajectories of women with normal weight and overweight.

Methods

A prospective longitudinal design with a quantitative approach was applied. Healthy pregnant women (N = 136) answered paper-pencil or online questionnaires at four time points (18th-22nd and 33rd-37th week of gestation, 3 and 6 months postpartum). Body image dissatisfaction was assessed using the German version of the Body Shape Questionnaire (BSQ) and the Eating Disorder Examination Questionnaire (EDE-Q). Both questionnaires are considered reliable and valid measures of several aspects of body

image, and the BSQ allows for calculating prevalence rates by providing cut-off values. Using not just one but two body image questionnaires, trajectories of body image dissatisfaction can be compared. Pre-pregnancy BMI was assessed retrospectively via self-reported weight and height.

Results

The proportion of women reporting elevated levels of body image dissatisfaction was 6.6% (n = 9) in the second trimester, 2.9% (n = 4) in the third trimester, 11.0% (n = 15) three months postpartum, and 10.3% (n = 14) six months postpartum. Repeated measures ANOVA revealed that body image dissatisfaction significantly decreased from pre-pregnancy to pregnancy, remained stable during pregnancy, and returned to pre-pregnancy levels three to six months postpartum. Mixed between-within ANOVA showed that the overweight/obese group reported significantly higher levels of body image dissatisfaction at each measurement point except during the third trimester than women in the normal weight group. Significant but small interaction effects between time and pre-pregnancy BMI were found.

Conclusions

The results revealed that approximately every tenth woman is affected by body image dissatisfaction after childbirth. Women with a higher BMI level before pregnancy are particularly at risk of experiencing body image dissatisfaction. Healthcare providers should screen for body image dissatisfaction, in particular after childbirth, and inform affected women about possible adverse health outcomes and treatment options. Study limitations concern the drop-out rate of 51.4% and the retrospective and self-reported assessment of pre-pregnancy BMI. Future studies should include additional assessment points in the first trimester and more than six months postpartum and try to include a matched control group of non-pregnant women to compare prevalence rates and trajectory of body image dissatisfaction. (Author)

**Full URL:** https://doi.org/10.1371/journal.pone.0309396

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**A systematic review and meta-analysis on the recovery time of obstetric fistula in Ethiopia, 2023.**
Asmare L, Bayou FD, Arefaynie M, et al (2024), BMC Women's Health vol 24, no 547, October 2024

Introduction

Obstetric fistula is a birth injury that causes the vagina to open abnormally. As a result, women may experience urinary leakage, which can lead to isolation, depression, and a lower quality of life. Due to the scarcity of evidence regarding the average recovery time for obstetric fistula in Ethiopia, Therefore, this study aimed to assess the recovery time for women with obstetric fistula in Ethiopia.

Methods

Between September and 8 November 2023, published studies were searched using online databases including PubMed, Hinari, Epistemonikos, and Google Scholar. The systematic review was conducted following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria. Study quality was assessed using Egger’s test and a visual inspection of funnel plot symmetry. Statistical analysis was performed using STATA version 17 software. A random-effects model was employed for analysis, and the Cochrane Q-test and $I^2$ statistics were used to assess heterogeneity among studies.

Result

A total of six studies were included in this analysis. The minimum and maximum median survival times were 2.67 and 5.19 weeks, respectively. The pooled median recovery time was 4.05 weeks (95% CI: 2.92, 5.18) based on the random effects model. Heterogeneity among the included studies assessed by the $I^2$ statistic was 97.72% ($p = 0.000$). The p-value for Egger’s regression test (0.017) was significant, indicating evidence of publication bias.

Conclusion

The findings reveal a pooled median recovery time of 4.05 weeks, with considerable heterogeneity.

Although these figures provide valuable insights, the presence of publication bias was evidenced by the asymmetric funnel plot and significant Egger's test. Efforts to address publication bias are essential to improve future meta- the reliability of the surveys has increased.

Registration

The protocol for this systematic review was pre-registered on the International Prospective Register of Systematic Reviews (Registration Number: CRD42023270497). (Author)

**Full URL:** https://doi.org/10.1186/s12905-024-03391-7

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**Parental Self-Efficacy and Personal Time Help Explain Impact of Parent-Staff Interactions on Parental Distress and Bonding in the NICU.** Grunberg VA, Presciutti A, Vranceanu A-M, et al (2024), The Journal of Pediatrics 13 September 2024, online

Objectives

To identify factors that help explain associations between parent-staff interactions and: (1) parental depression, anxiety, and posttraumatic stress; and (2) parent-child bonding in the neonatal intensive care unit (NICU).

Study design

Our cross-sectional mixed methods survey investigated the ways in which parental-staff interactions relate to parental distress and parent-child bonding. Parents with babies in the NICU (N = 165) completed validated measures and open-ended questions about their experiences with staff. Using a sequential explanatory approach, we examined: (1) whether and how parental self-efficacy and personal time mediated parent-staff interactions on distress and bonding; and (2) parental written accounts of experiences with staff.

Results

Multiple mediation analyses revealed that parent-staff interactions exhibited an: (1) indirect effect on parental depression (b = -.05, SE = .02, CI [-.10, -.01]), anxiety (b = -.08, SE = .04, CI [-.16, -.02]), and parent-child bonding (b = -.26, SE = .08, CI [-.43, -.11]) through parental self-efficacy; and (2) indirect effect on parental posttraumatic stress (b = -.08, SE = .04, CI [-.17, -.00], CSIE= -.06) through parental personal time. Thematic analyses revealed that emotional and instructional support from staff helped build parental self-efficacy. Trust with staff helped parents feel comfortable leaving the bedside and engage in basic needs (eg, eat, sleep).

Conclusions

Family-staff dynamics are the foundation for high quality family-centered care. Staff who empower parents to participate in care, engage in parenting tasks, and take care of themselves may reduce their distress and improve relationships among staff, parents, and babies. (Author)

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**Syrian refugee women's experiences of barriers to mental health services for postpartum depression.** Salameh TN, Sakarya S, Acarturk C, et al (2024), Journal of Advanced Nursing 22 August 2024, online

Objective

To describe Syrian refugee women's experiences of the barriers to access mental health services for postpartum depression (PPD).

Design

A descriptive qualitative study was conducted.

Methods

Fifteen purposefully selected Syrian refugee women who scored ≥10 on the Edinburgh Postnatal

Depression Scale participated in the semi-structured telephone interviews. Transcripts were coded verbatim and analysed thematically according to the dimensions of Levesque's model of patient-centred access to healthcare. Data were collected between August 2022 and February 2023.

Results

Five themes with 14 subthemes were identified: (1) approachability covered lack of knowledge and misconceptions related to PPD and its treatment, lack of awareness of available psychosocial services and perceived need of mental health treatment; (2) acceptability comprised being a refugee, stigma of mental illness, cultural preferences of healthcare provider and language barrier; (3) availability and accommodation encompassed transportation barrier and location of the centre, no support for childcare and lack of time; (4) affordability included financial difficulties and health insurance coverage; (5) appropriateness comprised no screening for PPD and intermittent services with limited focus on mental health.

Conclusions

The findings of this study reveal that Syrian refugee women experienced multi-faceted complex barriers to access mental health services for PPD. It is important for health professionals, including nurses, and policymakers to address the cultural mental health needs of this population and establish strategies to protect their legal and health rights.

Impact

Our study has important practice and policy implications for establishing strategies designed specifically for refugee mothers to mitigate their perceived barriers to PPD treatment and ultimately improve their mental health.

Reporting Method

The Consolidated Criteria for Reporting Qualitative Research was used.

Patient or Public Contribution

No patient or public contribution. Participants were Syrian refugee women with PPD symptoms and contributed only to the interviews and member checking. (Author)

**Full URL:** https://doi.org/10.1111/jan.16407

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**The effect of an educational video on the immediate insertion of postpartum contraceptive implants: A randomized controlled trial.** Boontor N, Kaewrudee S, Sothornwit J (2024), International Journal of Gynecology & Obstetrics 18 September 2024, online

Objective

To assess the impact of an educational video on immediate postpartum contraceptive implant utilization.

Methods

This was a randomized controlled study conducted in a university hospital. Postpartum women aged over 18 years were recruited and divided into two groups: the intervention group, which viewed a 7-min educational video about contraceptive implants; and the control group, which did not. We evaluated the uptake of contraceptive implants immediately and during a 12-week period postpartum, in addition to the reasons for not selecting this method.

Results

A total of 202 participants were included in the study, 101 in each group. Viewing the educational video was associated with higher immediate postpartum contraceptive implant usage (22.77% vs 10.89%; relative risk [RR] 2.09, 95% confidence interval [CI] 1.08–4.06). However, no significant difference was observed at the postpartum follow-up visit (29.9% vs 25.74%; RR 1.61, 95% CI 0.74–1.82).

The primary reasons for not selecting contraceptive implants were concerns about potential side effects and discomfort associated with the insertion procedure.

Conclusion

The inclusion of an animated educational video significantly improved immediate postpartum contraceptive implant uptake, making it a potentially viable strategy in settings with high rates of loss to follow-up. However, further research into how to address patients' fears regarding the implant is required. (Author)

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**Postnatal care of women with diabetes: a clinical update.** McChlery S, Geraghty S (2024), BJM vol 32, no 9, September 2024, pp 492–497

Diabetes mellitus and gestational diabetes mellitus significantly affect pregnant women, their fetuses and neonates. Midwives need to be aware of their vital role in the care of women with diabetes and keep up to date with the latest evidence and guidelines. However, midwives have reported a deficit in their knowledge regarding postnatal care of women with diabetes. In this article, the challenges of maternity care for women with diabetes are highlighted, and the specific midwifery role in some aspects of postnatal care is discussed. The provision of woman-centred care by midwives, together with the expert knowledge of the diabetic team, can reduce postnatal diabetic complications. (Author)

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**Emergency Maternal Hospital Readmissions in the Postnatal Period: A Population-Based Cohort Study.** Pritchett RV, Rudge G, Taylor B, et al (2024), BJOG: An International Journal of Obstetrics and Gynaecology 18 September 2024, online

Objective

To determine the change in English emergency postnatal maternal readmissions 2007–2017 (pre-COVID-19) and the association with maternal demographics, obstetric risk factors and postnatal length of stay (LOS).

Design

National cohort study.

Setting

All English National Health Service hospitals.

Population

A total of 6 192 140 women who gave birth in English NHS hospitals from April 2007 to March 2017.

Methods

Statistical analysis using birth and readmission data from routinely collected National Hospital Episode Statistics (HES) database.

Main Outcome Measures

Rate of emergency postnatal maternal hospital readmissions related to pregnancy or giving birth within 42 days postpartum, readmission diagnoses and association with maternal demographic factors, obstetric risk factors and postnatal LOS.

Results

A significant increase in the rate of emergency postnatal maternal readmissions from 15 128 (2.5%) in 2008 to 20 734 (3.4%) in 2016 (aOR 1.32, 95% CI 1.28–1.37) was found. Risk factors for readmission included minoritised ethnicity (particularly Black or Black British ethnicity: aOR 1.35, 95% CI 1.31–1.39); age < 20 years (aOR 1.09, 95% CI 1.05–1.12); 40+ years (aOR 1.07, 95% CI 1.03–1.10);

primiparity (multiparity: aOR 0.92, 95% CI 0.91–0.93); nonspontaneous vaginal birth modes (emergency caesarean: aOR 1.86, 95% CI 1.82–1.90); longer LOS (4+ vs. 0 days: aOR 1.58, 95% CI 1.53–1.64); and

obstetric risk factors including urinary retention (aOR 2.34, 95% CI 2.06–2.53) and postnatal wound breakdown (aOR 2.01, 95% CI 1.83–2.21).

Conclusions

The concerning rise in emergency maternal readmissions should be addressed from a health inequalities perspective focusing on women from minoritised ethnic groups; those <20 and ≥40 years old; primiparous women; and those with specified obstetric risk factors. (Author)

**Full URL:** https://doi.org/10.1111/1471-0528.17955

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**Immediate Postpartum Long-Acting Reversible Contraception for Preventing Severe Maternal Morbidity A Cost-Effectiveness Analysis.** Bullard KA, Ramanadhan S, Caughey AB, et al (2024), Obsterics & Gynecology vol 144, no 3, September 2024, pp 294-303

OBJECTIVE

To estimate the cost effectiveness of Medicaid covering immediate postpartum long-acting reversible contraception (LARC) as a strategy to reduce future short interpregnancy interval (IPI), severe maternal morbidity (SMM), and preterm birth.

METHODS

We built a decision analytic model using TreeAge software to compare maternal health and cost outcomes in two settings, one in which immediate postpartum LARC is a covered option and the other where it is not, among a theoretical cohort of 100,000 people with Medicaid insurance who were immediately postpartum and did not have permanent contraception. The primary outcome was the incremental cost-effectiveness ratio (ICER), which represents the incremental cost increase per an incremental quality-adjusted life-years (QALY) gained from one health intervention compared with another. Secondary outcomes included subsequent short IPI, defined as time between last delivery and conception of less than 18 months, as well as SMM, preterm birth, overall costs, and QALYs. We performed sensitivity analyses on all costs, probabilities, and utilities.

RESULTS

Use of immediate postpartum LARC was the cost-effective strategy, with an ICER of −11,880,220,102. Use of immediate postpartum LARC resulted in 299 fewer repeat births overall, 178 fewer births with short IPI, two fewer cases of SMM, and 34 fewer preterm births. Coverage of immediate postpartum LARC resulted in 25 additional QALYs and saved $2,968,796.

CONCLUSION

Coverage of immediate postpartum LARC at the time of index delivery can improve quality of life and reduce health care costs for Medicaid programs. Expanding coverage to include immediate postpartum LARC can help to achieve optimal IPI and decrease SMM and preterm birth. (Author)

**Full URL:** https://doi.org/10.1097/AOG.0000000000005679

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**Postpartum preeclampsia: What to know.** Jones R (2024), Medical News Today 26 September 2024

Postpartum pre-eclampsia is described as the new onset of high blood pressure following childbirth. While relatively rare, it can lead to serious complications if left untreated. This article looks at the symptoms, causes, diagnosis, treatment and recovery, and includes a list of frequently asked questions (FAQs). (JSM)

**Full URL:** Postpartum preeclampsia: Symptoms and treatment (medicalnewstoday.com)

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**Infant feeding**

**Psychometric evaluation of the Afaan Oromo version of the exclusive breastfeeding social support scale among Ethiopian women.** Gayesa RT, Xie YJ, Ngai FW (2024), Midwifery vol 138, November 2024, 104154

Problem

There is a lack of validated tools for assessing social support for Exclusive Breastfeeding (EBF) practice in Ethiopia.

Background

Validating instruments ensures culturally appropriate and reliable data collection for effective research and interventions.

Aim

This study aimed to translate the exclusive breastfeeding social support scale into the Afaan Oromo language (EBFSS-AO) and test its psychometric properties among Ethiopian women.

Methods

The scale was first subjected to forward and backward translation before undergoing psychometric evaluation. Then, a cross-sectional study was conducted on convenience sample of 160 postpartum women. Content validity was assessed via Content Validity Index (CVI), and construct validity was tested using confirmatory factor analysis (CFA) with maximum likelihood estimation. The scale's reliability was measured using Cronbach's alpha and intraclass correlation coefficient (ICC).

Findings

The CFA verified that the EBFSS-AO for Ethiopian women is a three-dimensional scale with satisfactory fit indices; /df: 2.76; Comparative fit index: 0.917; Tucker-Lewis Index: 0.902; Standardized Root Mean square residual: 0.061; and Root mean square error of approximation: 0.105. Item-level CVI ranged from 0.86 to 1.00, and scale-level CVI was 0.98. The overall scale had a Cronbach's alpha of 0.95 while instrumental, emotional, and informational support subscales had a Cronbach's alpha of 0.89, 0.92, and 0.93 respectively. After a 4-week re-test, the ICC yielded a value of 0.94. Partner support on EBF showed no socio-demographic differences except for income.

Conclusion

The EBFSS-AO showed satisfactory psychometric properties, suitable for assessing social support among Ethiopian women in both research and clinical contexts. (Author)

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**Microbiota, metabolic profiles and immune biomarkers in infants receiving formula with added bovine milk fat globule membrane: a randomized, controlled trial.** Christensen C, Kok CR, Harris CL, et al (2024), Frontiers in Nutrition 4 October 2024, online

Introduction

Few studies have evaluated the effects of milk fat globule membrane (MFGM) on microbiota and immune markers in early infant nutrition.

Methods

In this double-blind randomized study, infants (7–18 days of age) received either bovine milk-based infant formula (Control) or similar formula with an added source (5 g/L) of bovine MFGM (INV-MFGM) for 60 days. A reference group received mother’s own human milk over the same period (HM). Oral and stool samples were collected (Baseline and Day 60) to evaluate microbiota, immune markers, and metabolites.

Results

At Day 60, stool bacterial diversity and richness were higher in formula groups vs HM, as were

Bifidobacterium bifidum and B. catenulatum abundance. Compared to HM, stool pH was higher in Control, while acetate, propionate, isovalerate, and total short- and branched-chain fatty acids were higher in INV-MFGM. Butyrate and lactate increased for INV-MFGM from baseline to Day 60. No group differences in oral microbiota or immune markers (α- and β-defensin, calprotectin, or sIgA) were detected, although sIgA increased over time in all study groups. Added bovine MFGM in infant formula modulated stool microbiota and short- and branched-chain fatty acids compared to human milk; changes were modest relative to control formula.

Discussion

Overall, distinct patterns of stool metabolites and microbiota development were observed based on early nutrition.

Clinical trial registration: ClinicalTrials.gov, identifier NCT04059666. (Author)

**Full URL:** https://doi.org/10.3389/fnut.2024.1465174

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**Early oral feeding within two hours for parturients compared with delayed oral feeding after cesarean section: a systematic review and meta-analysis.** Chen D, Lang B, Wu L, et al (2024), BMC Pregnancy and Childbirth vol 24, no 623, October 2024

Background

It is recommended that postpartum women undergo early oral feeding (EOF) after cesarean section (CS). However, the optimal early time for oral feeding after CS is unclear. We performed a meta-analysis to assess whether EOF within two hours is superior to delayed oral feeding (DOF) after CS.

Methods

The PubMed, Embase, Cochrane Library, and Google Scholar databases were searched from inception to February 2024 for randomized controlled trials comparing EOF versus DOF after CS. Primary outcomes included the time to normal bowel function. The secondary outcomes included postoperative complications, the time to ambulation after surgery, the time to removal of the catheter, the time to start of a regular diet, the length of hospital stay and patient satisfaction.

Results

Data from 8 studies involving a total of 2572 women were obtained. EOF within two hours was significantly associated with shorter durations of return bowel movement (WMD, − 2.41, 95% CI, − 3.80–− 1.02; $p < 0.001$; $I2 = 96\%$), passage flatus after surgery (WMD, − 3.55, 95% CI, − 6.36–− 0.75; $p = 0.01$; $I2 = 98\%$), ambulation after surgery (WMD, − 0.96, 95% CI, − 1.80–− 0.13; $p = 0.02$; $I2 = 53\%$), removal of catheters (WMD, − 15.18, 95% CI, − 25.61–− 4.74; $p = 0.004$; $I2 = 100\%$) and starting a regular diet (WMD, − 7.03, 95% CI, − 13.13–− 0.92; $p = 0.02$; $I2 = 99\%$) compared with DOF. EOF was not related to increased vomiting (RR, 1.08; 95% CI, 0.74–1.57; $p = 0.69$; $I2 = 0\%$), nausea (RR, 1.21; 95% CI, 0.83–1.77; $p = 0.33$; $I2 = 37\%$), abdominal distension (RR, 0.76; 95% CI, 0.31–1.89; $p = 0.55$; $I2 = 54\%$) or ileus (RR, 0.91; 95% CI, 0.40–2.06; $p = 0.81$; $I2 = 12\%$).

Conclusions

This meta-analysis provides evidence that EOF within two hours after CS has comparable safety with DOF, and can accelerate the recovery time for normal bowel function. (Author)

**Full URL:** https://doi.org/10.1186/s12884-024-06838-9

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**Impact of Inpatient Patient–Provider Language Concordance on Exclusive Breastfeeding Rates Postpartum.** Abbate AM, Saucedo AM, Ghartey J, et al (2024), American Journal of Perinatology 29

August 2024, online

Objective

Studies outside of obstetrics suggest that patient–provider language concordance may impact the efficacy of educational interventions and overall patient satisfaction. Many pregnant patients who present to the hospital for delivery with initial plans to exclusively breastfeed ultimately leave the hospital supplementing with formula. We aim to examine the impact of language concordance between patients and their primary bedside nurse during the delivery hospitalization period on the relationship between intended and actual feeding practices for term newborns of primiparous patients at a single institution.

Study Design

This is a single-center, prospective cohort of primiparous patients with term, singleton gestations admitted for delivery between February 2022 and January 2023. Participants completed a predelivery survey on arrival and a postpartum survey before hospital discharge. The primary outcome was the association between nurse–patient language concordance and postpartum exclusive breastfeeding. Multiple logistic regression analysis was performed to assess the primary outcome, and p-values $< 0.05$ were considered significant.

Results

Overall, 108 participants were surveyed, of which 84 (77.8%) noted language concordance with their primary nurse and 24 (22.2%) reported language discordance. The race/ethnicity, language spoken at home, reported plans to return to work, WIC (special supplemental nutrition program for women, infants, and children) enrollment, and prenatal feeding plan variables revealed significant differences in reported language concordance. Following adjustment for patient-reported prenatal feeding plan, patients who reported language concordance with their primary nurse were significantly more likely to exclusively breastfeed in the immediate postpartum period (adjusted odds ratio, 5.60; 95% confidence interval, 2.06–16.2).

Conclusion

Patients who reported language concordance with their primary nurse were significantly more likely to breastfeed exclusively in the immediate postpartum period. These findings highlight that language concordance between patients and bedside health care providers may contribute to initiating and continuing exclusive breastfeeding during the peripartum period.

Key Points

Patients who reported language concordance with their primary nurse were more likely to breastfeed.

Patient–Provider language concordance may impact infant feeding decisions in the postpartum period.

More research is needed to further explore the impact of language concordance with other providers. (Author)

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**Relation Between Initiation of Breastfeeding Success and Postpartum Depression.** Roy A-S, Chaillet N (2024), JOGC [Journal of Obstetrics and Gynaecology Canada] 23 September 2024, online

Objectives

This study was designed to assess the effect of initiation of breastfeeding success on postpartum depression (PPD) among women who gave birth in Quebec.

Methods

Secondary analysis of the “Quality of Care, Obstetrics Risk Management, and Mode of Delivery” trial (QUARISMA trial), conducted in Quebec from 1 April 2008 to 31 October 2011 to reduce rates of cesarean delivery in Quebec. Inclusion criteria: all women ≥18 years old who gave birth at the hospital of a single baby ≥370 weeks of gestation.

Logistic regression was performed to investigate the impact of initiation of breastfeeding success on PPD

rates. Outcome was reported using adjusted ORs with 95% CIs.

Results

A total of 151 708 women (21 525 women with unsuccessful initiation of breastfeeding and 130 183 women with successful initiation of breastfeeding) were selected to participate in this study. We observed a significant association between initiation of breastfeeding success and a lower rate of PPD (0.16% vs. 0.29%) (OR 0.57; 95% CI 0.41–0.79, $P < 0.001$).

Conclusions

Initiation of breastfeeding success is significantly associated with a lower risk of PPD. (Author)

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**Use of drama for improving breastfeeding initiation, exclusive breastfeeding and breastfeeding self-efficacy among rural pregnant women from selected communities in two Local Government Areas (LGAs) in Ibadan, Nigeria.** Ogundairo YO, Thomas AO, Olufunmilola OA (2024), PLoS ONE vol 19, no 8, August 2024, e0290130

Background

Breastfeeding self-efficacy (BFSE) is a key variable that enhances exclusive breastfeeding (EBF) and promotes positive health outcomes for infants and their mothers. To increase BFSE and EBF of mothers, numerous interventions targeting prenatal and postnatal periods have been developed. However, there is paucity of studies utilizing drama interventions for improving BFSE and EBF.

Objectives

This study assessed the effect of a drama intervention on BFSE, initiation, and EBF of pregnant women in rural communities in Lagelu and Egbeda Local Government Areas (LGAs), Ibadan, Oyo State, Nigeria.

Methodology

A quasi-experimental study was conducted with pregnant women in their second trimester. Selected communities from Lagelu and Egbeda LGAs were randomized into experimental and control groups. A total of 200 pregnant women (100 experimental and 100 control groups) were enlisted and followed-up at one, three and six months postnatal periods. A six-session programme comprising four episodes of drama and two sessions on hygiene practices were presented to experimental groups prior to delivery, while the control group received health talk on hygiene practices. Computer-Assisted Personal Interview (ODK) was used to obtain information on socio-demographic, BFSE, initiation, and EBF at prenatal and postnatal periods. BSFE scores were categorized as low (14-32), average (33-51), and high (52-70). Descriptive and inferential statistics was used to analyze data at $\alpha 0.05$.

Results

Mean ages of women were 28.4 ±6.5 and 27.0±6.2years in experimental and control groups respectively. Average and high BFSE pre-intervention (11.0%; 89.0% and 9.0%; 91.0%) and six months post-intervention (97.3%;100% and 95.2%; 95%) for experimental and control groups. Age, marital status, and occupation were predictors of BFSE, breastfeeding initiation and EBF at ($R2 = 22.3$; $p<0.05$).

Conclusion

The experimental group had an increase in BFSE, initiation, and EBF practice compared to control group. The use of drama intervention is recommended for effective breastfeeding practices. (Author)

**Full URL:** https://doi.org/10.1371/journal.pone.0290130

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Infant health, care and development

**Long-term neurodevelopmental outcomes at three years in preterm infants born before 29 Weeks gestation following Preterm Premature Rupture of Membranes (PPROM).** Bhullar H, Stritzke A, Makarchuk S, et al (2024), Journal of Perinatology 30 September 2024, online

Objective

To determine the association between preterm premature rupture of membranes (PPROM) and neurodevelopmental impairment (NDI) at 3 years corrected age (CA) in infants born before 29 weeks of gestational age (GA).

Design/methods

Infants born before 29 weeks GA between 2005 and 2017 were included. The primary outcome was a composite of death or NDI (full-scale intelligence quotient<85, cerebral palsy, vision or hearing impairment) at 3 years of CA. Infants were stratified by maternal PPROM status. Associations were explored using multivariate models.

Results

Of 1231 participants, 481 were in the PPROM group, and 750 were in the No PPROM group. After adjusting for factors, the odds ratio of death or NDI for PPROM vs. No PPROM was 1.22 (95% Confidence Interval 0.93–1.59).

Conclusion

Our study suggests that PPROM was not associated with an increased risk of a composite outcome of death or NDI at 3 years CA. (Author)

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**First postnatal lactate blood levels on day 1 and outcome of preterm infants with gestational age <29 weeks.** Zipf S, Fortmann I, Härtel C, et al (2024), Frontiers in Pediatrics 3 October 2024, online

Background

Serum lactate levels are used as biomarkers for perinatal asphyxia, while their value for outcome prediction in preterm infants is uncertain. It was the aim of this observational study to determine the association of the first postnatal serum-lactate levels on day 1 of life and short-term outcome in preterm infants less than 29 gestational weeks.

Methods

We analysed data in a population-based cohort of German Neonatal Network (GNN) preterm infants with available first postnatal lactate levels enrolled at 22–28 weeks of gestational age (GA) between 1st of April 2009 and 31st December 2020. We hypothesized that high lactate levels as measured in mmol/L increase the risk of intraventricular haemorrhage (IVH) and bronchopulmonary dysplasia (BPD) in infants with VLBW regardless of small-for-gestational-age (SGA) status. Hypotheses were evaluated in univariate analyses and multiple logistic regression models.

Results

First postnatal lactate levels were available in 2499 infants. The study population had a median GA of 26.7 [IQR 25.2–27.9] weeks and birth weight of 840 g [IQR 665–995]. Infants with short-term complications such as IVH and BPD had higher initial lactate levels than non-affected infants. The positive predictive value of a lactate cut-off of 4 mmol/L was 0.28 for IVH and 0.30 for BPD. After adjustment for known confounding variables, each 1 mmol/L increase of day 1 lactate levels was associated with a modestly increased risk of IVH (OR 1.18; 95% CI 1.03–1.37; p = 0.002) and BPD (OR 1.23; 95% CI 1.06–1.43; p = 0.005) but not with sepsis or mortality. Notably, SGA was associated with lower risk of any grade and severe IVH (OR 0.70; 95% CI 0.54–0.85; p = 0.001).

Conclusions

In our observational cohort study higher initial lactate levels were associated with adverse outcome regardless of SGA status. However, the predictive value of lactate cut-off levels such as 4 mmol/L is low. (Author)

**Full URL:** https://doi.org/10.3389/fped.2024.1443066

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**Newborn screening for SCID: the very first prospective pilot study from Türkiye.** Haskologlu S, Kocak S, Satiroglu Tufan L, et al (2024), Frontiers in Immunology 2 October 2024, online

Purpose

The measurement of T-cell receptor excision circle (TREC) is used for newborn screening (NBS) in dried blood spot (DBS) samples from Guthrie card for severe combined immunodeficiency (SCID). Here, we report the results of first newborn screening pilot program for SCID conducted in Türkiye.

Methods

The study was carried out together with Ankara University School of Medicine and The Ministry of Health, Public Health General Directorate, Pediatric and Adolescent Health Department. TREC measurements were performed in randomly selected Guthrie card samples obtained from 20253 babies born between October 2018 and October 2020. The TREC analyses were performed together with beta Actin (β-Actin) via RT-PCR (Real Time Polymerase Chain Reaction).

Results

TRECs found to be normal (≥15 copies/μl) in 98,6% of the newborns (n: 19975) but low (<15 copies/μl) in 1.4% (n:278) at the initial analyses. TRECs were retested in 278 suspected infants and found to be normal in 160 (0.8%) while low in 118 (0.58%). New DBS were obtained from the babies with low TRECs (new sample test). TRECs were normal in 108 (0.53%) of the new sample tests and low in 10 (0.049%). Two among 10 babies who had abnormal (undetectable) TRECs were diagnosed as SCID; ADA (P1) and RAG1 (P2) defects were confirmed respectively. They both received curative treatments [gene therapy (P1) and HSCT (P2)]. The remaining 6 of 8 newborns with abnormal TRECs were found normal after clinical and laboratory immune work-up, while medical records of other two revealed early postnatal death due to extreme prematurity.

Conclusion

In the light of this study the incidence of SCID was detected at least 1/10000 live births in Türkiye. This study shows the feasibility and usefulness of initiating SCID screening in Türkiye. (Author)

**Full URL:** https://doi.org/10.3389/fimmu.2024.1384195

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**Vasopressin induced hyponatremia in infants <3 months of age in the neonatal intensive care unit.** Patel K, Thomson S, Vijayan M, et al (2024), Frontiers in Pediatrics 2 October 2024, online

Objectives

Vasopressin is used for shock and acute pulmonary hypertension in the neonatal intensive care unit (NICU) and is associated with hyponatremia. The purpose of this study was to determine the incidence, severity, contributing risk factors associated with vasopressin-induced hyponatremia in neonates and infants <3 months of age in the NICU. The primary objective was to determine the incidence of hyponatremia (<130 mEq/L) and severe hyponatremia (<125 mEq/L). The secondary objectives were to compare clinical characteristics and the vasopressin regimen between those with and without hyponatremia.

Methods

This retrospective cohort study included neonates and infants <3 months from 1/1/2017–12/31/2022 receiving vasopressin for >6 h. Analyses were performed using SAS v9.4, with a priori less than 0.05. A multiple variable logistic regression was employed to assess odds of hyponatremia.

Results

Of the 105 patients included, 57 (54.3%) developed hyponatremia, and 17 (29.8%) were classified as severe hyponatremia. Overall, the median (interquartile range, IQR) gestational and postnatal age at vasopressin initiation were 35.4 (27–38.7) weeks and 2 (1–12) days. There was no difference in vasopressin dose, but duration of treatment was longer in those with hyponatremia. Higher baseline serum sodium was associated with decreased odds of hyponatremia [adjusted odds ratio (OR): 0.90 (95% CI: 0.83–0.99), $p = 0.03$], and increased vasopressin duration was associated with increased odds of hyponatremia [aOR: 1.02 (95% CI: 1.01–1.03), $p < 0.001$].

Conclusions

Hyponatremia occurred in half of patients included. The pre-vasopressin sodium value and the vasopressin duration were independently associated with hyponatremia. (Author)

**Full URL:** https://doi.org/10.3389/fped.2024.1465785

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**Identifying and quantifying initial post-discharge needs for clinical review of sick, newborns in Kenya based on a large multi-site, retrospective cohort study.** Wainaina J, Lee E, Irimu G, et al (2024), Frontiers in Pediatrics 26 September 2024, online

Background

Progress in neonatal care has resulted in a 51% decrease in global neonatal mortality rates from 1990 to 2017. Enhanced survival will put pressure on health care systems to provide appropriate post-discharge, follow-up care but the scale of need for such care is poorly defined.

Methods

We conducted a retrospective cohort study of newborns discharged from 23 public hospital neonatal units (NBUs) in Kenya between January 2018 and June 2023 to identify initial follow-up needs. We first determined pragmatic follow-up categories based on survivors' clinical conditions and morbidities. We then used individual phenotypes of individual babies to assign them to needing one or more forms of specialized clinical follow-up. We use descriptive statistics to estimate proportions of those with specific needs and patterns of need.

Findings

Among 136,249/159,792 (85.3%) neonates discharged, around one-third (33%) were low birth weight (<2,500 g), and a similar 33.4% were preterm (<37 weeks). We estimated 131,351 initial episodes of follow-up would be needed across nine distinct follow-up categories: general pediatrics, nutrition, growth & development (40.4%), auditory screening (38.8%), ophthalmology for retinopathy of prematurity (9.6%), neurology (8.0%), occupational therapy (1.3%), specialized nutrition (0.9%), surgery (0.8%), cardiology (0.2%), and pulmonary (<0.1%). Most neonates met the criteria for two (52.3%, 28,733), followed by three (39.6%, 21,738) and one follow-up episodes (5.6%, 3,098). In addition to prematurity and very low birth weight (≤1,500 g), severe infections with extended gentamicin treatment, severe jaundice managed with phototherapy, and hypoxic-ischemic encephalopathy (HIE) contributed substantially to the pattern of need for post-discharge follow-up.

Conclusions

Almost half of surviving NBU infants have multiple specialty post-discharge follow-up needs. More urgent attention needs to be focused on healthcare planning now to guide strategies to address the varied medical and developmental needs that we outline in resource-constrained contexts like Kenya. (Author)

**Full URL:** https://doi.org/10.3389/fped.2024.1374629

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**Pathophysiology of Hyponatremia in Preterm Infants with Relative Adrenal Insufficiency after the**

**Early Neonatal Period.** Akita M, Tomotaki S, Hanaoka S, et al (2024), American Journal of Perinatology 30 September 2024, online

Objective

Preterm infants often develop relative adrenal insufficiency (RAI) not only within the early neonatal period but also beyond this period. RAI is commonly accompanied by hyponatremia, but the pathogenesis of hyponatremia with RAI has not been clarified. This study aimed to investigate the pathophysiology of hyponatremia in infants with RAI.

Study Design

This is a single-centered retrospective cohort study. Preterm infants born at <30 weeks of gestation or birth weight <1,000 g were enrolled. They were divided into the RAI group and the non-RAI group. The data of serum and urine examination, the amount of sodium intake, and fractional excretion of sodium (FENa) were compared between the two groups. In the RAI group, data before and after the administration of hydrocortisone were also compared.

Results

Sixteen infants in the RAI group and 35 infants in the non-RAI group were included in the analysis. In the RAI group, hyponatremia was common and preceded other clinical symptoms, such as oliguria and decreased blood pressure, therefore, hyponatremia with RAI was not likely to be caused by dilution due to oliguria. There was no difference in the FENa between the two groups (adjusted for postconceptional age at examination), therefore, it is not likely that hyponatremia with RAI was mainly caused by excessive renal sodium loss. Since sodium intake was rather higher in the RAI group than in the non-RAI group, it is unlikely that insufficient sodium supplementation was the cause of RAI. Hyponatremia with RAI was considered to be likely caused by vascular hyperpermeability.

Conclusion

Hyponatremia is a common symptom among preterm infants with RAI and its pathogenesis can be vascular hyperpermeability.

Key Points

The pathogenesis of hyponatremia with RAI can be vascular hyperpermeability.

Hyponatremia is common among preterm infants with RAI.

Hyponatremia with RAI preceded other clinical symptoms. (Author)

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**Depression of cortical neuronal activity after a low-dose fentanyl in preterm infants.** Nilsson S, Tokariev A, Vehviläinen T, et al (2024), Acta Paediatrica 11 September 2024, online

Aim

Opioids might be harmful to the developing brain and dosing accuracy is important. We aimed at investigating fentanyl effects on cortical activity in infants using computational re-analysis of bedside recorded EEG signals.

Methods

Fifteen infants born at median 26.4 gestational weeks (range 23.3–34.1), with a birth weight 740 grams (530–1420) and postnatal age 7 days (5–11) received fentanyl 0.5 or 2 μg/kg intravenously before a skin-breaking procedure or tracheal intubation, respectively. Cortical activity was continuously recorded using amplitude-integrated electroencephalography (aEEG). Analyses using three computational EEG features representing cortical synchrony and signal power, were conducted five minutes pre- and 10 minutes post the drug administration.

Results

Visual assessment of trends displayed from the EEG metrics did not indicate systematic changes. However, the magnitude of the changes in the parietal and right hemisphere signals after the dose was significantly correlated ($\rho < -0.5$, $p < 0.05$) to the EEG amplitude and frequency power level before drug administration. This effect started after 3–4 min.

Conclusion

Fentanyl, even in small doses, may affect cortical activity in the preterm brain. The effect is robustly related to the state of cortical activity prior to drug treatment, which must be taken into account when analysing the effects of sedative drugs. (Author)

**Full URL:** https://doi.org/10.1111/apa.17411

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**Effect of chorioamnionitis on postnatal growth in very preterm infants: a population-based study in Japan.** Ushida T, Nosaka R, Nakatochi M, et al (2024), Archives of Gynecology and Obstetrics 1 October 2024, online

Purpose

There is growing evidence that preterm infants born to mothers with chorioamnionitis (CAM) have increased risk of various neonatal morbidities and long-term neurological disorders; however, the effect of CAM on postnatal growth remains insufficiently investigated. This study evaluated the effect of histological CAM on postnatal growth trajectories in very preterm infants using a nationwide neonatal database in Japan.

Method

A multicenter retrospective study was conducted using clinical data of 4220 preterm neonates who weighed ≤ 1500 g and were born at < 32 weeks of gestation between 2003–2017 (CAM group: n = 2110; non-CAM group: n = 2110). Z-scores for height and weight were evaluated at birth and 3 years of age. Univariable and multivariable analyses were conducted to evaluate the effect of histological CAM on ΔZ-scores of height and weight during the first three years with a stratification by infant sex and the stage of histological CAM.

Results

Multivariable analyses showed that histological CAM was associated with accelerated postnatal increase (ΔZ-score) in weight (β coefficient [95% confidence interval]; 0.10 [0.00 to 0.20]), but not in height among females (0.06 [− 0.04 to 0.15]) and not in height and weight among males (0.04 [− 0.04 to 0.12] and 0.02 [− 0.07 to 0.11], respectively). An interaction analysis demonstrated no significant difference in the effect of histological CAM on the ΔZ-scores of height and weight during the first three years between male and female infants (height, $p = 0.81$; weight $p = 0.25$).

Conclusions

Intrauterine exposure to maternal CAM contributes to accelerated postnatal weight gain in female preterm infants during the first three years. (Author)

**Full URL:** https://doi.org/10.1007/s00404-024-07757-y

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**First newborn babies tested for over 200 genetic conditions as world-leading study begins in NHS hospitals.** NHS England (2024), London: NHS England 3 October 2024

Hundreds of babies have begun to be tested for over 200 rare genetic conditions as part of a world-leading study in NHS hospitals that aims to screen up to 100,000 newborns in England. (Author)

**Full URL:** NHS England » First newborn babies tested for over 200 genetic conditions as world-leading study begins in NHS hospitals

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**Evaluating neonatal mortality in Malta compared with other EU countries: Exploring the influence**

**of congenital anomalies and maternal risk factors.** Wilhelm M, Gatt M, Hrzic R, et al (2024), Paediatric and Perinatal Epidemiology 6 September 2024, online

Background

Globally, 240,000 babies die in the neonatal period annually due to congenital anomalies (CA). Malta reports the highest neonatal mortality rate (NMR) among EU (European Union) Countries, constituting a public health concern.

Objectives

This study describes the contribution of CA to NMR in Malta, investigating possible associations with known maternal risk factors of maternal age, nationality, and education. Additionally, it provides an update on the contribution of CA to neonatal deaths in Malta and other EU countries.

Methods

Anonymous data for births and neonatal deaths were obtained for 2006–2020 from the National Obstetrics Information System (NOIS) in Malta. Regression analyses adjusting for maternal risk factors were run on this data to explore possible associations with NMR. NMRs published by EUROSTAT 2011–2020 were used to compare mortality by underlying cause of death (CA or non-CA causes) for Malta and other EU countries.

Results

Between 2006 and 2020, 63,890 live births with 283 neonatal deaths were registered in Malta, (NMR 4.4 per 1000 live births). CA accounted for 39.6% of neonatal deaths. No time trends were observed in either total NMR, NMR attributed to CA or mortality due to non-CA causes. Adjusted variables revealed associations for women hailing from non-EU, low-income countries. Malta registered high NMRs compared to EU countries, most marked for deaths attributed to CA.

Conclusions

Between 2006 and 2020, Malta's NMR remained stable. Maternal Nationality, from non-EU low-income countries, was associated with higher neonatal mortality. The influx of such migrants may play a partial role in the high NMRs experienced. Malta's high NMR was primarily driven by early neonatal deaths, which included high proportions of deaths due to CA and is linked to the fact that termination of pregnancy is illegal in Malta. (Author)

**Full URL:** https://doi.org/10.1111/ppe.13106

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## Midwifery education and professional development

**How to promote midwives' recognition and professional autonomy? A document analysis study.** Vermeulen J, Buyl R, Luyben A, et al (2024), Midwifery vol 138, November 2024, 104138

Objective

To identify challenges associated with midwives' professional autonomy in Belgium and develop recommendations to promote midwives' recognition and professional autonomy.

Design

Through a document analysis study we identified challenges, categorized them into themes and linked them with Greenwood's sociological criteria for a profession. This involved an in-depth synthesis of findings from our published studies to comprehensively examine the challenges to optimizing midwifery autonomy and to develop corresponding recommendations.

Findings

We identified challenges related to midwife-led continuity care models, regulation of the midwifery profession, collaboration with stakeholders, professional esteem and professional culture. Based on them, our recommendations include prioritizing midwife-led continuity of care, fostering collaboration, tailoring continuous professional development, increasing public awareness and advocating for policy changes. The attribute of a profession which is lacking the most in midwifery in Belgium is recognized authority, which may result in midwives being undervalued, underutilized and underpaid.

Key conclusions

In this paper we identified challenges in Belgian midwives' recognition and professional autonomy and provided recommendations to address them, emphasizing the importance of recognized authority in midwifery. Implementing these recommendations can positively impact midwives' recognition and autonomy in Belgium and potentially in other countries.

Implications for practice

It is essential for policy makers to address the issue of the lack of recognized authority in midwifery, as it plays a critical role in facilitating decision-making, policy development, and the professionalization of the field. Implementing the outlined recommendations can drive positive changes in midwifery recognition and autonomy in Belgium and beyond. (Author)

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**The translation and validation of the MES for an Austrian sample.** Jordan MN, Sarantaki A, Diamanti A, et al (2024), European Journal of Midwifery vol 8, September 2024, p 54

Introduction

Empathy plays an important role in midwifery care, not only for the women but also for midwives. The Midwifery Empathy Scale (MES) was developed to assess the empathy levels of midwives and midwifery students. The purpose of this study was the translation and validation of the MES for an Austrian sample.

Methods

A total of 277 midwives working in Austria completed the questionnaire of the MES. The psychometric measurements that were performed included explanatory factor analysis using a varimax rotation and principal components analysis. Moreover, the internal consistency of the MES was assessed with reliability coefficients. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and a Bartlett's test of sphericity were carried out.

Results

Principal components analysis showed seven orthogonal factors. KMO measure of sample adequacy = 0.724 and Bartlett’s test of sphericity = 1058.904 (df=231, p<0.0001). The MES showed an acceptable overall internal consistency: Cronbach’s alpha was found to be 0.721 and the Guttman split-half coefficient was 0.611. The findings of our study confirm the multidimensionality of MES, demonstrating a seven-factor structure which contained subscales reflecting empathy and emotional connection. The mean total score of Austrian midwives’ responses to the MES was 44.80 with scores ranging from 24 to 81.

Conclusions

This study shows that the German version of the Midwifery Empathy Scale is a reliable instrument for evaluating the empathy levels of midwives and midwifery students in Austria. The German MES could be used in the selection and education of future midwives as well as in connection with empathy trainings of midwives. (Author)

**Full URL:** https://doi.org/10.18332/ejm/191394

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**Cost Comparison of a Traditional Didactic versus National Flipped Classroom Curriculum.** Carbajal MM, Karpen H, Arias-Shah A, et al (2024), American Journal of Perinatology 30 September

2024, online

Objective

We compared the cost of faculty time preparing educational materials for traditional didactic (TD) education provided at local institutions with that of faculty time preparing National Neonatology Curriculum (NNC) flipped classroom (FC) educational materials shared among institutions for fellow education across the United States.

Study Design

Using survey data and the national average for faculty educators' salaries, we calculated the cost of developing TD versus FC materials. Wilcoxon rank-sum test and comparison of two Poisson rates were utilized to evaluate the time to create versus update TD materials and the cost to create new TD versus FC materials, respectively.

Results

FC materials required more time to develop than TD materials (FC, median 17 h, interquartile range [IQR]: 17; TD, median, 5 h, IQR: 5; $p < 0.001$). However, when the size of individual fellowship programs was factored into the cost analysis, FC materials shared nationally among programs resulted in a 19- to 72-fold cost savings when compared to the creation of new locally used TD materials (FC, $2.49 per fellow; TD $32.05–576.90 per fellow at very large-to-small fellowship programs; $p < 0.001$).

Conclusion

Educational materials developed and disseminated to fellowship programs across the country confer significant savings in faculty educator time and cost per learner. Standardized programs such as the NNC may serve as a model to develop shared peer-reviewed educational resources for other specialties.

Key Points

Educational materials developed for national use confer time and cost savings.

Small fellowships benefit greatly from having access to shared resources.

Shared, peer-reviewed resources promote equity in education.

Shared resources can free faculty time to focus on other academic interests. (Author)

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**Incorporating Teaching of Intimate Partner Violence (IPV) and Trauma- and Violence-Informed Care (TVIC) into Medical Education Curricula.** Nakajima A (2024), JOGC [Journal of Obstetrics and Gynaecology Canada] 27 September 2024, online

This article if a form of correspondence calling for the incorporation of teaching of Intimate Partner Violence (IPV) and Trauma- and Violence-Informed Care (TVIC) into medical education curricula. (JM)

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**Lamaze Resources for National Midwifery Week.** Lamaze International (2024), Lamaze International 4 October 2024

Lists a range of midwifery resources including podcasts, blogs and articles from The Journal of Perinatal Education in celebration of National Midwifery Week 2024. (MB)

**Full URL:** Lamaze Resources for National Midwifery Week

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**Professional identity: Students’ learning from the attributes and behaviours of midwives on clinical placement.** Arundell F, Peters K, Sheehan A (2024), Women and Birth: Journal of the Australian

College of Midwives vol 37, no 5, September 2024, 101657

Background

Midwifery practice experience is an important component of education to develop an understanding of professional identity in midwifery students. The responsibility of supporting student development in the clinical setting is predominantly undertaken by clinical midwives. There is minimal literature relating to the professional identity development of midwifery students.

Aim

To explore midwifery student experiences of the positive attributes of clinical midwives who supported the professional identity development of midwifery students in the clinical practice setting.

Methods

An Appreciative Inquiry approach guided this study. The setting was a university in Sydney, Australia. Participants comprised thirteen students from a postgraduate midwifery course. Data were collected via individual interviews and analysed thematically. Students had two to six months of placement in the clinical setting.

Findings

Data analysis identified three themes, Putting the woman at the centre of care; Supporting a woman-centred environment and Focusing on student success.

Discussion

Findings from this study revealed that extended time spent with a midwife enabled the student to observe and reflect on the nuances of midwifery practice that are not overtly shared with students. Students were able to observe a midwife's tacit way of being. This paper reveals the positive attributes and behaviours of midwives whose practice the students want to emulate.

Conclusions

Midwifery students' exposure to positive clinical midwife role models on clinical placement enables them to develop a greater understanding of professional identity. (Author)

**Full URL:** https://doi.org/10.1016/j.wombi.2024.101657

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**Maternal, newborn, child, adolescent health and ageing and quality of care indicator metadata toolkit.** World Health Organization (2024), World Health Organization 24 September 2024

The purpose of the Maternal, newborn, child, adolescent health, and ageing and quality of care indicator metadata toolkit: Indicator validation guide is to provide Maternal Newborn Child and Adolescent and Healthy Ageing programme managers with information to understand the basic concepts of indicator validation.

This document provides some examples of methods for research on indicator validation and testing. It also includes recommendations on the following:

Providing information on defining, designing and conducting indicator validation studies for MNCAH and healthy ageing populations, as well as QoC indicators for these groups.

Offering instructions on interpreting and applying available evidence to evaluate whether given indicators meet desired standards of validity.

Highlighting the importance and value of assessing the validity of different types of indicators specific to MNCAH, healthy ageing and quality of care.

Offering specific recommendations on methods for conducting indicator validation studies.

This document is part of Maternal, newborn, child, adolescent health and ageing and quality of care indicator metadata toolkit that has been developed to facilitate monitoring at various levels and can be

found here https://platform.who.int/data/maternal-newborn-child-adolescent-ageing/indicator-toolkit/adolescent-health-indicators. The toolkit includes functionality to search for metadata information for priority indicators. (Author)

**Full URL:** https://www.who.int/publications/i/item/9789240099937

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