■ R-OBS-S-137 ....

Cardiopulmonary Resuscitation in Term Infants: Trends, Risk Factors, and Outcomes: A Population-Based Study

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Objectives: Cardiopulmonary resuscitation (CPR) can increase the venous pressure within the cerebral vasculature, and may lead to brain injury and death. We aimed to estimate trends, risk factors, and outcomes among term neonates undergoing CPR.

Methods: A retrospective cohort study was conducted using the United States' Healthcare Cost and Utilization Project-Nationwide Inpatient Sample from 2015 to 2018. Term infants without congenital anomalies having undergone CPR were identified using ICD-10 codes. Multivariate logistic regression models, adjusted for confounding, were used to evaluate outcomes.

Results: A total of 2 122 245 term births were included. 1699 term infants received CPR. The death rate was 12.5% and 0.1%, respectively, among infants who had and did not have CPR. There was no association between the type of hospital (rural, urban non-teaching, urban teaching) and death. Infants who died had higher odds of intraventricular hemorrhage (IVH; OR 3.14, 95% CI 1.85−5.35), hypoxic-ischemic encephalopathy (HIE; OR 2.30, 95% CI 1.53−3.44), and sepsis (OR 1.63, 95% CI 1.07−2.47); pulmonary hemorrhage (PH) was the greatest predictor of death (OR 18.32, 95% CI 7.50−44.73). Compared to infants not undergoing CPR, infants who had CPR and survived had higher odds of adverse events: IVH (OR 64.41, 95% CI 48.30−85.90), HIE (OR 128.97, 95% CI 106.35−156.40), sepsis (OR 13.00, 95% CI 10.92−15.47), and PH (OR 57.64, 95% CI 27.03−122.92).

Conclusions: Term infants undergoing CPR have significantly higher mortality rates compared to infants who did not undergo CPR. CPR survivors are at higher risk of neurological sequelae and could benefit from early postnatal neuroprotective interventions.

Keywords: cardiopulmonary resuscitation; term infant; brain injury; population-based; CPR; intraventricular hemorrhage; hypoxic-ischemic encephalopathy; pulmonary hemorrhage

■ O-GYN-JM-062...

Minimizing Fluid Absorption at time of Hysteroscopy: A Systematic Review and Meta-Analysis

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Objectives: To determine which interventions are effective in reducing fluid absorption at time of hysteroscopy.

Methods: Online databases were searched from inception to June 2021 for observational and randomized-control trials (RCTs) reporting interventions aimed at reducing hysteroscopic fluid absorption. Following PRISMA guidelines, all English-language, full-text articles reporting fluid balance, with an intervention and comparator arm were included. Risk of bias was assessed using the Cochrane Risk of Bias Tool for RCTs and Newcastle-Ottawa Scale for observational studies.

Results: The search identified 785 studies, 25 of which were eligible for inclusion, examining the following interventions: GnRH agonist (GnRH-a), ulipristal acetate, vasopressin, danazol, and local, general, and regional anesthesia. Pooled data for pharmacological interventions showed a significant reduction in mean fluid absorption compared to controls (mean −178.3 mL; 95% CI −222.9, −133.8, $P < 0.05$). These results were primarily driven by pre-operative treatment with danazol (−175.7 mL; 95% CI −325.4, −26.0, $P < 0.05$) and GnRH-a (−162.0 mL; 95% CI −198.0, −127.3, $P < 0.05$). Ulipristal acetate and type of anesthesia showed no difference. Data on type of anesthesia and vasopressin use were not amenable to meta-analysis, however 3 studies favoured vasopressin over control regarding fluid absorption. Mean operative time was reduced following pre-operative treatment with ulipristal acetate (−8 min; 95% CI −11.6, −4.4, $P < 0.05$), danazol (−7.5 min; 95% CI −8.7, −6.3, $P < 0.05$), and GnRH agonist (−3.7 min; 95% CI −5.8, −1.5, $P < 0.05$).

Conclusions: Pre-operative treatment with GnRH-a and danazol was effective in reducing fluid absorption and operative time during hysteroscopic procedure.

Keywords: hysteroscopy; fluid balance; glycine

■ O-OBS-MD-113 ....

Peripartum Outcomes Following COVID-19 Vaccination in Late Pregnancy: Findings from a Population-Based Retrospective Cohort Study in Ontario, Canada

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Objectives: Evaluate peripartum outcomes following COVID-19 vaccination during pregnancy.

Methods: Ontario population-based retrospective cohort between December 14, 2020 and September 30, 2021 using linkage of provincial birth registry and COVID-19 immunization databases. Poisson regression was used to generate risk ratios (RR) and 95% confidence intervals (CI), adjusted for temporal, socio-demographic, and clinical factors using propensity scores. Obstetric (postpartum hemorrhage, chorioamnionitis, cesarean birth) and newborn (NICU admission and 5-minute Apgar<7) outcomes were compared for those who received ≥1 dose of COVID-19 vaccine during pregnancy with 2 unexposed groups—Group 1: individuals vaccinated postpartum, Group 2: never vaccinated.

Results: Among 97 590 individuals, 22 660 (23%) received ≥1 dose of vaccine during pregnancy (64% received dose 1 in 3rd trimester). Compared with those vaccinated postpartum, we found no increased risks of postpartum hemorrhage (aRR 0.91, 95% CI 0.82−1.02); chorioamnionitis (aRR 0.92, 95% CI 0.70−1.21); or cesarean (aRR 0.92, 95% CI 0.89−0.95) following COVID-19 vaccination, nor any increased risk of NICU admission or 5-minute Apgar <7. All findings were similar when compared with individuals who did not receive COVID-19 vaccination at any point. We did not observe any difference according to vaccine product, number of doses received during pregnancy, or trimester of dose 1.

Conclusions: As of late 2021, there is limited evidence from comparative studies in large populations on outcomes following COVID-19 vaccination during pregnancy. Our study of births up to

September 30, 2021 did not identify any increased adverse peripartum outcomes associated with later pregnancy COVID-19 vaccination. Once more individuals vaccinated earlier in pregnancy deliver, we will report on other important obstetric and perinatal outcomes.

Keywords: COVID-19 vaccine; pregnancy; epidemiology

■ O-OBS/GYN-083 ....

Attention Deficit Hyperactivity Disorder in Children Born to Patients with Infertility: A Population-Based Cohort Study

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Objectives: Long-term neurodevelopmental outcomes in children conceived to mothers requiring infertility treatment are unknown. We investigated the association between infertility, infertility treatment, and risk of childhood attention deficit disorder (ADHD).

Methods: This population-based cohort study included infants born at $\geq$ 24 weeks' gestation across all of Ontario, 2006−2014. The study exposure was conception type: i) unassisted conception (referent), ii) subfertility (an infertility consult $<$ 2 years prior to conception without subsequent infertility treatment), iii) ovulation induction or intrauterine insemination (OI/IUI), and iv) in vitro fertilization or intracytoplasmic sperm injection (IVF/ICSI). Cox proportional-hazards models generated hazard ratios (HR) for the association between each exposure category and the risk of ADHD diagnosed at age 6 years or later, adjusting for maternal demographics, substance use, and pre-existing conditions including mental illness.

Results: 922 383 children were born to 661 072 mothers: 87.0% following unassisted conception; 10.2% with subfertility, 1.3% OI/IUI, and 1.5% IVF/ICSI. Starting at age 6 years, children were followed for a median of 4 years (IQR 2−6) thereafter. Relative to the offspring in the unassisted conception group (5.9%), the risk of ADHD was highest in the subfertility group (6.1% − an adjusted HR of 1.16 [95% CI 1.13−1.19]). OI/IUI was not associated with ADHD (5.5%; HR 1.07 [95% CI 0.99−1.17]), or IVF/ICSI (4.5%; HR 0.99 [95% CI 0.91−1.08]).

Conclusions: In the absence of receiving infertility treatment, maternal subfertility alone may be an unrealized risk factor for ADHD in the offspring. The reason for why this is so warrants further study.

Keywords: ADHD; infertility treatment; subfertility; IVF; pregnancy

■ P-GYN-JM-087...

Mobile HEALTH Tool to Support People Experiencing Early Pregnancy Loss (MHEALTH-EPL)

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Objectives: Early pregnancy loss (EPL) occurs in 1 in 4 clinically recognized pregnancies. Despite the staggering frequency, people who experience EPL often do not receive patient-centred supportive care. This study aims to determine if a mobile health (mHealth) tool is feasible and acceptable to support care during and/or after EPL by: 1) understanding the experiences of people who miscarry, 2) how they access health information, and 3) determine their preferences in content and design of a mHealth tool.

Methods: This is a mixed-methods study. Individuals (aged 18−45 y) residing in Canada who self-reported to have experienced EPL up to 12[6] weeks gestation in the preceding 2 years of the study were recruited using social media and hospital posters. Eligible participants completed an online survey and optional follow-up interview. Preliminary survey responses were analyzed using descriptive statistics. Qualitative interviews will be analyzed with NVivo using thematic analysis. Local ethics approval was obtained.

Results: Preliminary results from 144 survey respondents revealed that 28% are somewhat or very dissatisfied with the overall healthcare they received for their miscarriage. 41% are somewhat or very dissatisfied with how their mental/emotional health was addressed by their provider. 80% support the idea of a mHealth tool to assist in follow-up care after EPL.

Conclusions: Initial findings support existing research that many individuals are dissatisfied with their care following EPL. The vast majority are interested in a mHealth tool to better support their care. These findings will assist in the development and testing of the desired mHealth tool.

Keywords: early pregnancy loss; miscarriage; mobile health; digital health; pregnancy support; user-centred design

■ W-OBS/GYN-EDU-079 ....

Learning to Lead: An Exploration of Leadership Development in Obstetrics and Gynaecology

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Objectives: Physicians' leadership skills are essential to their ability to achieve high quality patient care and establish well-functioning, cost-effective healthcare systems. Research shows that effective physician leadership can improve clinical outcomes, including decreasing mortality rates and length of hospital stay. Despite its clear value, leadership training in residency and beyond is predominantly informal, and there is limited research regarding how leadership skills develop from training into independent practice. A recent United States survey of obstetrics & gynaecology faculty and trainees identified that 77% of faculty and 88% of trainees felt there was a need for formal leadership training, and only 45% were satisfied with their leadership skills (Ellington et al., 2019). Our study aims to describe physician leadership development in obstetrics & gynaecology in Canada for the first time, with the ultimate goal of learning ways to improve leadership training in residency and beyond.

Methods: In this mixed-methods study, we will administer a national survey using RedCap to obstetrics and gynaecology residents, fellows, and staff, and conduct a smaller number of interviews to research the current perceptions and experiences of leadership in obstetrics and gynaecology from residency through to independent practice. The survey and interview guide contain groups of questions that capture respondents' leadership backgrounds including skill level and previous training, exposure to leadership curricula, aims for future leadership training, and desired ways to improve leadership training in the future. We will also investigate barriers to and facilitators of effective leadership training.

Results: This is a work-in-progress study with ethics approval.

Conclusions: N/A

Keywords: obstetrics; gynaecology; education, medical; education, continuing; leadership; residency