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Objectives: Breastmilk hand expression (BMHE) is recommended to promote lactation, relieve breast engorgement, and collect milk for future infant feedings. Resources to teach this skill are limited and infrequently developed in partnership with the obstetrical population. In collaboration with an expert working group, a one-page toolkit that illustrates step-by-step the process of BMHE was developed. The objective of this study was to evaluate the readability, clarity of content, layout, and informational value of this BMHE toolkit.

Methods: Individuals with intentions to breastfeed or recent breastfeeding experience completed a 2-part survey that consisted of radio, multi-select, Likert scale, and open-ended questions. Part 1 captured sociodemographic factors, obstetrical history, and breastfeeding practices. Part 2 collected feedback on the BMHE toolkit. Participant characteristics and feedback were summarized using descriptive statistics.

Results: Of the 123 participants, 117 (95.1%) had heard of hand expression prior to reviewing the toolkit and 99 (80.5%) had hand expressed before. When asked about the toolkit, 118 (95.9%) participants said it was informative, 115 (93.5%) said it was easy to understand, and 114 (92.7%) said it was well laid-out. When asked about information seeking behaviours, participants indicated a preference for online resources (58.5%) and video resources (22.0%).

Conclusions: Overall, the BMHE toolkit was well received by participants. The survey feedback has been incorporated into a revised version of the toolkit. Future research should focus on identifying implementation strategies to optimize the use of the toolkit and increase its effectiveness as an educational resource to correctly teach participants BMHE.

Keywords: breastfeeding; breastmilk; hand expression; patient education

Universal SARS-CoV-2 Testing Among Obstetrical Patients (UNIVERSE-OB) in Ottawa, Canada

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Objectives: Universal testing for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) within birthing units is an effective strategy to contain infection and estimate community prevalence. Given the high-prevalence of COVID-19 cases in Ontario, the objective of this study was to determine the prevalence of active and recovered SARS-CoV-2 infection among pregnant individuals in Ottawa through universal SARS-CoV-2 and serology testing.

Methods: From October 19th to November 27th, 2020, pregnant individuals admitted to triage assessment units at The Ottawa Hospital (TOH) were consented for SARS-CoV-2 testing. Swab and serology samples were analyzed using digital droplet polymerase chain reaction (ddPCR) and enzyme-linked immunosorbent assays, respectively. SARS-CoV-2 seropositivity was defined as a positive result for immunoglobulin (Ig) G, either alone or in combination with IgM and/or IgA.

Results: From the 395 enrolled participants, 284 swab and 353 serology samples were collected. We found that 18 of 395 (4.6%) participants had evidence of SARS-CoV-2 exposure: 2/284 (0.70%) were positive for SARS-CoV-2 and 16/353 (4.5%) were positive for anti-SARS-CoV-2 IgG. Seropositive participants were similar to seronegative participants in terms of demographics, clinical characteristics, and pregnancy outcomes.

Conclusions: The prevalence of SARS-CoV-2 ddPCR positivity and seropositivity in the obstetrical population at TOH was 0.70% and 4.5%, respectively in the fall of 2020. According to local public health data, the infection rate peaked at 0.6% during the study time period. Universal SARS-CoV-2 testing programs may help approximate community prevalence, however, justification of this strategy depends on testing capabilities and the local context of COVID-19 infection.

Keywords: pregnancy; COVID-19; SARS-CoV-2; universal testing; seroprevalence

Lethal Fetal Skeletal Dysplasia Determined by Fetal Lung Weight—Which Ultrasound Measurement/Ratio Has the Highest Detection Rate?

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Objectives: To determine which ultrasound parameters correlate with lung weight in skeletal dysplasia.

Methods: This retrospective cohort study included all pregnancies with antenatal diagnosis of skeletal dysplasia between the years 2012–2018. The study population consisted of terminated pregnancies as well as stillborn and liveborn neonates who succumb shortly after birth. We included only cases for which information on fetalometry was available within 2 weeks before delivery, and had an autopsy and skeletal X-rays, and molecular analysis using extracted fetal DNA, to determine the etiology. We compared the predictive accuracy of fetal sonographic body-proportional ratios measured on the last ultrasound exam performed before birth, including: (1) thoracic circumference-to-abdominal circumference (TC/AC) ratio, (2) the femur length-to-abdominal circumference (FL/AC) ratio, (3) head circumference-to-abdominal circumference (HC/AC) ratio, and (4) foot length-to-femur length ratio. Lethality was defined as total lung weight lower than –2SD from the expected mean for gestational age.

Results: 53 pregnancies with antenatal diagnosis of skeletal dysplasia underwent formal autopsy. Lethality based on the total lung weight was determined in 34 (64.1%). Gestational age at the last sonographic assessment was 21.3 (19.9–24.9) weeks. Femur length-to-abdominal circumference ratio demonstrated the highest AUC of 0.817 (95% CI 0.685–0.949) (P < 0.0001). FL/AC ratio < 0.1550 demonstrated the highest detection rate of 88.2% along with the highest negative predictive value (NPV) of 75%.

Conclusions: Using a novel, more practical approach to predict lethality in skeletal dysplasia, femur length-to-abdominal circumference ratio demonstrates the highest detection rate of lethality. These findings should be considered when counseling families about the possible lethality in cases with skeletal dysplasias.

Keywords: skeletal dysplasia; prediction; ultrasound; lethality; fetal biometry