DALHOUSIE UNIVERSITY

FACULTY OF MEDICINE
Continuing Professional Development

Department of Obstetrics & Gynaecology

35th Annual Research Day

Wednesday, April 7, 2021

and

Thursday, April 8, 2021

A Virtual Event

Join Zoom Meeting
https://us02web.zoom.us/j/6347718614?pwd=QkZ0cDRTQ2hoQi80a28zY1YzNmM2UT09

Meeting ID: 634 771 8614
Passcode: obsgyne

Thank you to our judges:

Dr. Sarah McDonald
Professor and Canada Research Chair
Maternal Fetal Medicine
McMaster University

Dr. Melissa Brooks
Department of Obstetrics & Gynaecology
Dalhousie University

Dr. Younes Anini
Department of Obstetrics & Gynaecology
Dalhousie University

Programs targeting Specialists:
As an accredited provider, Dalhousie University CPD designates this continuing medical education activity for **4.5** credit hours as an accredited group learning Section 1 activity as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada.

Research Day 2021
Department of Obstetrics & Gynaecology

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Wednesday April 7, 2021

0845 Welcome and opening remarks
Drs. Jim Bentley and Christy Woolcott

0900 Emma Pollard, PGY4
(Abstract 1) Perineal outcomes at subsequent pregnancy in Nova Scotian women with prior obstetrical anal sphincter injury

0915 Sarah Brothers, Medical Student
(Abstract 2) The association between gestational age at delivery and neonatal abstinence syndrome: A systematic review and meta-analysis

0930 Martha Paynter, PhD Candidate
(Abstract 3) The nurse practitioner perspective on medical abortion in Canada: Lessons from qualitative interviews

0945 Marianne Levesque, PGY3
(Abstract 4) The effect of funded non-invasive prenatal testing (NIPT) on invasive procedures performed to identify Trisomy 21 pregnancies: A population-based cohort study

1000 Gracielle Schwenck, PhD Candidate
(Abstract 5) Responses to sexual rejection and sexual and relationship well-being for women with sexual interest/arousal disorder and their partners

1015 Dr. Sarah McDonald, Maternal Fetal Medicine, Canada Research Chair, McMaster University
Antenatal Corticosteroids: Should we stay with 1972's approach? The SNACS (Single dose Antenatal Corticosteroids) RCT

1100 Stand Up, Stretch, Move!!!

1115 Jackie Huberman, Postdoctoral Fellow
(Abstract 6) Couples' sexual and relationship satisfaction in pregnancy: associations with sexual self-schemas

1130 Kristina Arion, PGY3
(Abstract 7) Change in Technicity Index as a marker of quality of care in a tertiary care centre

1145 Adelaide von Kursell, MSc Student
(Abstract 8) The proportion of preterm birth attributable to modifiable risk factors: a retrospective cohort study in Nova Scotia, 2005-2019

1200 Maureen Okonkwo, PGY7 MFM Fellow
(Abstract 9) Optimal duration of post-partum magnesium sulphate for prevention of eclampsia: A systematic review and meta-analysis

1215 Rachel Waugh, MSc Student
(Abstract 10) A health centre-based equipment inventory review: a focus on larger body sizes

1230 Meghan Rossi, PhD Candidate
(Abstract 11) Couples' agreement in supportive coping is associated with lower sexual distress during medically assisted reproduction

1245 Closing remarks

Thursday April 8, 2021 (Proposals)

1230 Allison Furness, PGY1
(Abstract 12) Treating leukocytospermia with empiric antibiotics in the setting of assisted reproductive techniques: a retrospective cohort study

1240 Kimberley Jovanov, PGY1
(Abstract 13) Postpartum hypertensive complications in acute care: a retrospective review of acute patient presentations at the IWK Hospital in Halifax, Nova Scotia

1250 Gillian Ricketts, PGY1
(Abstract 14) Cannabis use and male infertility: Is there a difference between cannabidiol and tetrahydrocannabinol? A prospective cohort study

1300 Kathleena Sarty, PGY1
(Abstract 15) Laboratory test utilization for maternal-fetal health surveillance in Nova Scotia

1310 Open Question/Feedback for all PGY1 presenters
Open Question/Feedback for PGY2 abstracts in booklet

(Abstract 16)
(Abstract 17)
(Abstract 18)
(Abstract 19)
(Abstract 20)

1325 **PRESENTATION OF AWARDS**
1st and 2nd Place Resident group (completed projects)
1st and 2nd Place Medical Student/Graduate Student/Postdoc group

ABSTRACTS

Abstract 1

Perineal Outcomes at Subsequent Pregnancy in Nova Scotian Women with Prior Obstetrical Anal Sphincter Injury

Pollard, E., Woolcott, C., Smith, A.

Background: Third- and fourth-degree perineal lacerations are collectively termed obstetrical anal sphincter injury (OASIS). Women who sustain these injuries are at increased risk of recurrence in subsequent delivery.

Objectives: The primary objective was to determine the rate and degree of perineal laceration at subsequent vaginal delivery amongst Nova Scotian women with a history of prior OASIS. The second objective was to assess risk factors for recurrence.

Methods: This was a retrospective cohort study using the Nova Scotia Atlee Perinatal Database. The population consisted of primiparous women in Nova Scotia who sustained an OASIS following a term, singleton vaginal delivery between 2004 and 2019, who then had a subsequent delivery. The outcome of interest was OASIS recurrence. Risk factors that were examined included maternal age, body mass index (BMI) at delivery, height, labour induction, length of second stage of labour, use of vacuum or forceps, birthweight, and the degree of laceration in the first pregnancy.

Results: Of the 1415 primiparous women who sustained an OASIS, 1236 (87.4%) went on to have a vaginal delivery in their subsequent pregnancy. Eighty-eight (7.1%) of these women sustained a recurrent OASIS: 76 (6.2%) third-degree and 12 (0.97%) fourth-degree lacerations. The estimated odds ratios (95% CI) for recurrence of OASIS were 1.26 (0.99-1.59) per 5-year increase in age, 1.15 (0.95-1.39) per 5 kg/m^2 increase in BMI, 1.78 (1.40-2.26) per 500 g increase in birthweight, and 4.58 (2.57-8.16) for the use of vacuum or forceps. Other characteristics investigated were not significantly associated with the odds of recurrence.

Conclusions: Our findings are in keeping with the literature regarding rate of recurrence and risk factors for OASIS amongst primiparous women. Our study offers a Canadian perspective to the current body of data and provides the groundwork for further research in this field.

Abstract 2

The association between gestational age at delivery and neonatal abstinence syndrome: A systematic review and meta-analysis

Brothers S, Allen VM, Woolcott CG

Objectives: Increased rates of maternal opioid use during pregnancy have resulted in increased rates of post-natal opioid withdrawal, termed neonatal abstinence syndrome (NAS). Some evidence

suggests that infants born at later gestational age (GA) are at higher risk of developing NAS. This systematic review evaluated the association between GA at delivery and development of NAS in infants born to women on opioid agonist maintenance therapy.

Methods: Two independent reviewers screened titles and abstracts identified in MEDLINE/PubMed, Scopus, Embase, Cinahl, and the Cochrane Central Register of Controlled Trials from January 2000 to July 2020. Studies were included if the population was pregnant women being treated with opioid agonist maintenance therapy and data on the association between GA and NAS were reported. Random effects meta-analysis was used to evaluate mean difference in GA between infants affected by NAS and unaffected infants; odds ratio (OR) for the association between preterm birth and NAS; and the OR for the association between gestational week and NAS. Statistical heterogeneity was tested using Cochrane's Q statistic and quantified with the /2 statistic.

Results: Of the 844 titles identified, 32 met inclusion criteria. The pooled mean difference in GA between infants affected by NAS and infants unaffected was 1.02 weeks (95% Cl: 0.45-1.59, 12=72.0%). The OR for the association between preterm birth and NAS was estimated to be 0.86 (95% Cl: 0.57-1.29, 12=83. 7%). The odds of developing NAS increased 8% per gestational week at delivery (OR 1.08, 95% Cl: 1.02-1.15, 12=85.0%).

Conclusions: The data included in this review suggest that higher GA is associated with an increased risk of NAS, although poor study quality and significant study heterogeneity were observed. Further high-quality research designed to specifically address this question is needed to guide recommendations to optimize neonatal outcomes.

Abstract 3

The nurse practitioner perspective on medical abortion in Canada: Lessons from qualitative interviews

Carson A, Cameron E, Paynter M, Munro S, Martin-Misener R

Background: In 2015, mifepristone was approved by Health Canada for medication abortion. Since 2017, nurse practitioners in all of the provinces and territories, with the exception of Quebec, have been authorized to prescribe mifepristone. Nurse practitioner prescribing of mifepristone has the potential to significantly improve access to abortion for rural, remote and marginalized populations.

Objectives: The primary objective of this study was to identify the context-specific barriers and enablers to nurse practitioner (NP) provision of mifepristone for medical abortion in Canada. The secondary objective was to develop relevant implementation strategies in consultation with knowledge user partners and stakeholders to improve the accessibility of abortion in Canada for those who need it.

Methods: We report on the qualitative component of a national mixed-methods implementation study. Interviews were conducted in 2020-2021 with local and national stakeholders, NP providers and non-providers of mifepristone. Interviews sought to investigate NP experiences of providing mifepristone in Canada and the ongoing practice, training, and socio-cultural barriers that exist. Analysis was informed by a feminist theoretical lens and organized thematically.

Results: Analysis of interviews (n= 50) suggest that since mifepristone became available in Canada in 2017 complex barriers continue to impact NP provision of medical abortion, including: access to ultrasound, 24-hour emergency care, NP hiring and compensation models, and presumption of abortion as a specialized service. NPs' initial willingness to provide mifepristone may be influenced by historical anti-choice messaging and violence in Canada. Enablers to practice include perceptions that NPs bring value to abortion care and find the work meaningful.

Conclusions: NPs are uniquely positioned to expand the accessibility of abortion in Canada as additional providers and because of their integrated role in communities. NPs face barriers to mifepristone provision specific to their role in the health system. This study contributes to international research by focusing in-depth on the NP role in abortion care.

Abstract 4

The effect of funding non-invasive prenatal testing (NIPT) on the number of invasive procedures performed to identify Trisomy 21 pregnancies: A population-based retrospective cohort study

Levesque, M., Allen, V., Brock, JA.

Background: Screening for Trisomy 21 in Nova Scotia previously consisted of maternal serum testing and/or integrated prenatal screening in those considered to be at high risk. In 2016, Non-invasive prenatal testing (NIPT) became available as a funded second tier screen for pregnancies at high risk for Trisomy 21 in Nova Scotia. Objective: To compare pregnancy characteristics and number of diagnostic procedures performed for increased risk of Trisomy 21 before and after introduction of funded NIPT in Nova Scotia.

Methods: This is a population-based retrospective cohort study. Pregnancies during which invasive diagnostic testing and/or NIPT was performed were identified through the IWK Health Clinical Genomics Laboratory Database. Maternal chart review was performed for each pregnancy to confirm eligibility and collect demographic data. Descriptive statistics comparing number of diagnostic procedures and pregnancy characteristics were performed comparing two groups – pre-NIPT (2012-2015) and post-NIPT (2016-2019).

Results: Population incidence of Trisomy 21 remained stable and maternal demographics were similar between the two groups; however, after introducing NIPT, there was a decrease in the number of invasive diagnostic procedures, and when performed, there was 6-fold more likely to confirm Trisomy 21 (95% CI 2.6-12.9) following high risk screening.

Conclusion: These results illustrate one value of NIPT in a population with limited resources for first trimester screening.

Abstract 5

Responses to sexual rejection and sexual and relationship well-being for women with sexual interest/arousal disorder and their partners

Schwenck GC, Corsini-Munt S, Muise A, Rosen NO

Background: Sexual rejection—when one's sexual advances are declined by a partner—is associated with lower sexual and relationship satisfaction. While sexual rejection is common in relationships (i.e., about once a week), it occurs even more often in couples in which a woman has chronic low sexual desire. Couples report feelings of guilt and shame when coping with low desire, which may lead to greater emotional sensitivity and more significant negative outcomes related to sexual rejection. Thus, how partners respond to sexual rejection might have important implications for couples' adjustment to low desire. Distinct types of partner responses to rejection have been identified: *understanding* (responsiveness and positive regard), *resentful* (anger and guilt-tripping), and *insecure* (feeling sad or hurt).

Objective: The purpose of this study was to determine how partners' responses to sexual rejection are associated with sexual satisfaction, relationship satisfaction, and sexual goals (i.e., reasons for having sex) for partners themselves and for women with low sexual desire.

Method: Women diagnosed with Female Sexual Interest/Arousal Disorder (FSIAD) and their partners ($N = 97$ couples) independently completed validated measures of sexual satisfaction, relationship satisfaction, and approach (e.g., to maintain intimacy) and avoidance (e.g., to avoid a partner's disappointment) sexual goals. Partners also completed a validated measure of responses to sexual rejection. Data were analyzed with multiple regression analyses.

Results: When partners reported more understanding responses, they reported greater relationship satisfaction. Conversely, when partners reported more resentful responses, they reported lower relationship satisfaction and lower approach sexual goals. When partners reported greater insecure responses, they reported lower sexual and relationship satisfaction, and greater approach sexual goals but women with FSIAD reported lower approach sexual goals.

Conclusions: Partners' reports of greater understanding and lower insecure and resentful responses were associated with their own higher sexual and relationship well-being. While partners are known to be adversely impacted by FSIAD, these findings suggest that how they *respond* to sexual rejection plays a role in their well-being.

Abstract 6

Couples' Sexual and Relationship Satisfaction in Pregnancy: Associations with Sexual Self-Schemas

Huberman JS, Dawson SJ, Rosen NO

Background: During pregnancy, many couples report declines in relationship and sexual wellbeing. In other vulnerable times, having a positive view of oneself as a sexual being buffers negative impacts of sexual difficulties. A positive "sexual self-schema" may include describing oneself as passionate and open. Sexual self-schemas may be important for expectant couples, as they face changes and novel sexual problems (e.g., pain with sex, body image concerns) that can impact views of the sexual self.

Objectives: In expectant couples, we tested whether an individual's more positive sexual self-schema related to their own and their partner's sexual and relationship satisfaction, and perceptions of partner sexual satisfaction.

Methods: Couples ($N = 64$) expecting their first child completed online validated measures of sexual self-schema, sexual satisfaction, perceived partner sexual satisfaction, and relationship satisfaction. Data were analyzed with multilevel modelling, informed by the Actor-Partner Interdependence Model. Results will be presented with an updated sample ($N = 133$).

Results: For both pregnant women and partners, having a more positive sexual self-schema was associated with perceiving their partner to be more sexually satisfied, yet schemas were not associated with their own or their partner's actual sexual satisfaction. In pregnant women, more positive sexual self-schemas were associated with their own greater relationship satisfaction.

Conclusions: Expectant women with more positive views of themselves as sexual may be less likely to make negative attributions about changes to their sexual relationship, including perceiving partners to be more sexually satisfied and feeling more satisfied in their relationship. Given experimental evidence that taking on a positive sexual self-schema results in heightened sexual responses and more positive affect, results suggest a modifiable factor that could promote couples' sexual and relational wellbeing in pregnancy.

Abstract 7

Change in Technicity Index as a Marker of Quality of Care in a Tertiary Care Centre

Arion K, McNeil M, Randle E

Introduction: Rates of minimally invasive surgery (MIS) are also reported as the technicity index (T.I.). The T.I. has previously been validated as a quality of care and performance indicator for hospitals performing general gynecologic surgery. It can also be used as a comparative tool for centres to improve specialized skills and health outcomes. Our study was designed to calculate the change in T.I. over a 10-year period at IWK Health.

Methods: We analysed a retrospective cohort of all hysterectomies at IWK Health over two time periods: 2008-2009 and 2016-2017. Patient demographics as well as surgical parameters were collected through chart review. The T.I. for each time period was calculated as follows: laparoscopic + vaginal surgeries / total number of hysterectomies. Chi-squared test was used to compare differences among groups, and $P < 0.05$ was used to determine statistical significance. Relative risk of having MIS was stratified by various parameters, and differences were compared over each time period. Lastly, the T.I. in 2018 was calculated to further assess the MIS trend.

Results: 1392 hysterectomies were included. Most common indications for hysterectomy were fibroids, pelvic organ prolapse, and abnormal uterine bleeding, for abdominal, vaginal, and total laparoscopic/laparoscopic-assisted vaginal hysterectomy, respectively. Combined T.I. in 2008-2009 was 57%. Interestingly, the T.I. in 2016 remained stable compared to the earlier timeframe at 55%, however, a statistically significant increase to 66%, then 75% was observed in 2017 ($X2 = 7.18$, $p=0.007$) and 2018 ($X2 = 6.85$, $p=0.009$), respectively. Patient age, parity and diagnosis differentially affected risk of having a hysterectomy performed via an MIS approach over time. For example, multiparity was found to be associated with a higher likelihood of having a hysterectomy performed in an MIS fashion in the earlier timeframe compared to the later timeframe.

Conclusion: We identified a significant increase in T.I. between 2016 and 2017 onward. In addition to other factors, this timing coincided with the return of a fellowship-trained MIS gynecologic surgeon to IWK Health. We also showed that patient characteristics were associated with the route of hysterectomy over time, potentially reflecting the learning curve associated with adoption of MIS techniques and changes in surgeon decision making. Over time, factors traditionally associated with a laparotomic approach, such as increased age and nulliparity, were less associated with the decision regarding route of hysterectomy.

Abstract 8

The Proportion of Preterm Birth Attributable to Modifiable Risk Factors: A Retrospective Cohort Study in Nova Scotia, 2005-2019

von Kursell A, Allen VM, Kuhle S, Woolcott CG

Objectives: Preterm birth (PTB), occurring at <37 weeks' gestation, is a leading cause of child morbidity and mortality. A study conducted in multiple countries estimated that 35% of PTB can be attributed to known risk factors, but no estimates have been made locally. Our objective was to estimate the reduction in PTB if selected risk factors were eliminated [population attributable risk percent (PAR%)] or decreased [population impact fraction (PIF%)] in Nova Scotia.

Methods: A population-based retrospective cohort of mothers and singleton infants delivered from 2005 to 2019 was conducted using the Nova Scotia Atlee Perinatal Database. Theoretically modifiable risk factors included: maternal age, pre-pregnancy body mass index (BMI), smoking, and gestational diabetes. Poisson regression models were used to estimate the probability of PTB (p_0) in the population under scenarios where risk factors were removed; the PAR% was calculated as $100*(p_{obs}-p_0)/p_{obs}$. The PIF% was similarly derived to estimate the reduction in PTB under scenarios where the level of continuous risk factors was decreased.

Results: 6.5% of births were preterm. The estimated proportion of PTB attributable to maternal age outside of 25-29 years was 3.7% (95% CI: 2.0, 5.4); pre-pregnancy BMI outside of 18.5-<25 kg/m^2 was 0.7% (95% CI: -0.8, 2.2); smoking in pregnancy was 7.0% (95% CI: 5.5, 8.5); and gestational diabetes was 3.4% (95% CI: 2.6, 4.1). The proportion of PTB estimated to be preventable with a 10% change in weight (increase when BMI<18.5 kg/m^2 and decrease when BMI ≥25 kg/m^2) was 0.5% (95% CI: -0.2, 1.2); and with a 50% decrease in the amount smoked was 1.5% (95% CI: 0.9, 2.0).

Conclusion: Only a small proportion of PTB was estimated to be attributable to the four theoretically modifiable risk factors studied. These findings can be used to inform which risk factors might be targeted to reduce PTB in Nova Scotia.

Abstract 9

Optimal duration of post-partum magnesium sulphate for prevention of eclampsia: A systematic review & meta-analysis

Okonkwo M, Nash C

Background: Worldwide hypertensive disorders of pregnancy contribute significantly to maternal morbidity and mortality. Eclampsia is a significant complication, and MgSO4 is first line therapy and standard of care for the prevention of eclampsia. The timing of MgSO4 discontinuation after delivery is arbitrary with no large sufficiently powered studies to guide clinical decision making. Currently there is no standard for duration of therapy after delivery. It remains unknown if a shorter postpartum (PP) course of MgSO4 therapy will increase the rate for eclampsia.

Objective: To determine whether PP treatment with MgSO4 for less than 24 hours impacts the rate of eclampsia compared to the standard 24 hour regimen.

Methods: We searched MEDLINE, EMBASE, CINAHL, Cochrane Database, and clinical trials.gov. from inception until January 24, 2020. This review was registered with PROSPERO (CRD42020182432). A systematic review and meta-analysis of all randomized control trials (RCTs) was performed where pre-eclamptic/eclamptic women received less than 24 hours PP MgSO4 compared to 24 hours of PP MgSO4. Primary outcome was PP eclampsia rate. Secondary outcomes included side-effects and toxicities of various durations of PP MgSO4. Relative risk with 95% confidence intervals was used to report data.

Results: We identified 12 RCTs meeting inclusion criteria. Two reviewers independently reviewed the manuscripts and performed risk of bias assessments using the Cochrane Handbook version 6. Overall, MgSO4 for less than 24 hours PP was associated with a reduction in eclampsia compared to 24 hour duration; RR 0.46 (95% CI 0.25 - 0.85). MgSO4 for 12 hours PP reduced eclampsia rates compared to 24 hours; RR 0.36 (95% CI 0.18 - 0.72). For severe pre-eclampsia, less than 24 hours PP MgSO4 was associated with a reduction in eclampsia, RR 0.40 (95% CI 0.17- 0.90). Shorter duration MgSO4 was associated with significantly less flushing, shorter time to ambulation PP, shorter duration of Foley catheter, but no difference in respiratory depression or hyporeflexia compared to 24 hour regimens.

Conclusion: Shorter duration PP MgSO4 therapy for the prevention of eclampsia does not increase the risk for eclampsia compared to 24 hours.

Abstract 10

A Health Centre-based Equipment Inventory Review: A Focus on Larger Body Sizes

Waugh R, Bernard M, DeClercq V, Snelgrove-Clarke E, Grant S (Acknowledgement: TEEMOB1 Community of Practice members)

Background: The research on equipment for patients living with obesity is sparse and outdated. The high rates of maternal obesity pose a serious challenge to health care professionals and the women themselves, but not necessarily for the reasons most people assume. Best practice and care for women living with obesity is unique and therefore requires idiosyncratic resources to maximize patient-provider experience and minimize complications.
Objective: To complete and describe an equipment inventory at the IWK Centre, from the perspective of providing care for women living in larger bodies; using counts and percents.
Methods: Six nurses surveyed multiple health units within the IWK Health Centre, the major maternal newborn hospital in Halifax, Nova Scotia that provides care to youth, children and women living in the Maritime provinces (Nova Scotia, New Brunswick and Prince Edward Island).
Results: Ten different units were assessed, including the Perinatal Centre, Postpartum Discharge Clinic, Early Labour Assessment Unit, Birth Unit, Neonatal Intensive Care Unit, Family Newborn Unit, Ambulatory Clinics, Prenatal Special Care Unit (PSCU)/Adult Surgery/ODU, Fetal Assessment & Treatment Clinic, and Diagnostic Imaging. Given the thousands of women attending the IWK Health Centre each year and the high prevalence of obesity, the current availability of bariatric equipment is not adequate.
Conclusion: The current equipment inventory at the IWK Health Centre is inadequate to serve women living in larger bodies, which is in agreement with literature that suggests many facilities are unprepared. Future work is needed to evaluate readiness of clinical units and assess barriers to health care professionals for implementing current clinical practice guidelines.
Anticipated outcomes: To better understand access to resources and to stimulate discussion on relevance to care, training, and utility.

Abstract 11

Couples' agreement in supportive coping is associated with lower sexual distress during medically assisted reproduction

Rossi MA, Pèloquin K, El Amiri S, Bouzayen R, Brassard A, Bergeron S, Rosen NO

Introduction: Couples seeking fertility treatment report declines to all facets of their sexual function (e.g., desire, orgasm) that impact their quality of life and relationship stability. These declines may then contribute to greater sexual distress (i.e., concerns about sex), which is a required criterion for sexual dysfunction. A person's ability to accurately perceive their partners' dyadic coping – how partners deal with stress together – may be integral to how supported they feel in managing sexual problems and associated distress. We examined whether an individuals' estimations of their partners' dyadic coping are biased (i.e., under- or over-estimations) and the implications of this bias for couples' sexual distress.

Methods: Couples accessing fertility treatment (N = 171) completed an online survey with standardized measures assessing sexual distress as well as their perceptions of their own and their partner's use of supportive (i.e., communicating empathy) and negative (i.e., unwilling support) dyadic coping. Data were analyzed using the Truth and Bias Model of Judgement and Response Surface Analysis.

Results: Couples accurately perceived each other's supportive and negative coping. However, couples also tended to significantly overestimate their partners' use of negative dyadic coping and assumed that their partners use similar levels of supportive and negative coping as themselves. When couples agreed at low levels of supportive coping, both members reported greater sexual distress.

Conclusions: We identified a novel interpersonal process—agreement of supportive dyadic coping—that improves our understanding of how couples manage their distress about sexual concerns during fertility treatment. Health care providers might promote supportive coping strategies (e.g., validation) in couples and provide referrals for interventions (e.g., cognitive-behavioural couples therapy) that help align couples' perceptions at high levels of supportive dyadic coping.

Abstract 12 (Proposal)

Treating Leukocytospermia with Empiric Antibiotics in the Setting of Assisted Reproductive Techniques: A Retrospective Cohort Study

Furness A, Dufton M, Cockwell H

Introduction: Leukocytospermia (LCS) is a poorly understood condition thought to represent inflammation and possible infection of the male urogenital tract. As activated leukocytes produce reactive oxygen species (ROS) which can damage sperm DNA, patients with LCS utilizing assisted reproductive techniques (ART) are recommended to undergo intracytoplasmic sperm injection (ICSI). Despite there being insufficient data to conclude whether antibiotics are an effective treatment for LCS, the majority of fertility clinics still empirically treat these patients.

Objectives: This study aims to determine the incidence of LCS in asymptomatic males undergoing sperm functional assessment (SFA) at Atlantic Assisted Reproductive Therapies (AART), and to describe the proportions who underwent semen culture and sensitivity (C&S), received empiric antibiotic therapy, and/or had subsequent testing to determine if LCS persisted. We also aim to estimate the association between empiric antibiotic therapy and persistence of LCS on subsequent testing.

Methods: This will be a retrospective cohort study using the AART database. Included will be all asymptomatic males demonstrating LCS on SFA performed at AART between 2012 to 2020. The sample size will comprise approximately 700 patients. Variables to be assessed include incidence of LCS in patients undergoing SFA, and proportions who underwent semen C&S, received antibiotics, and demonstrated persistent LCS on secondary testing. Descriptive statistics will be used to describe the study population and a relative risk for the association between antibiotic use and persistence of LCS will be estimated using log-binomial regression.

Relevance: This study will contribute further evidence to this very limited area of knowledge and be utilized to recommend practice changes or further prospective studies on the treatment of LCS in the ART setting.

Abstract 13 (Proposal)

Postpartum hypertensive complications in acute care: a retrospective review of acute patient presentations at the IWK Hospital in Halifax, Nova Scotia: a retrospective cohort study

Jovanov K, Nash CM, Malebranche M

Introduction: Hypertensive disorders of pregnancy are a leading cause of maternal morbidity and mortality. Many of these cases occur in the first six weeks following delivery, and are often diagnosed in acute care settings following symptomatic presentation.

Objectives: Our research project is designed to investigate acute presentations of postpartum hypertensive disorders within a local emergent care setting. Specifically, our objective is to quantify the number of postpartum women presenting to the IWK Hospital in Halifax, NS with postpartum hypertension and associated complications. In addition, we plan to characterize the affected populations' demographics, disease risk factors, patterns of disease presentation, and medical management. Lastly, we plan to compare the frequency of hypertensive disorders over three specific time points, corresponding with different hypertension follow-up clinic models.

Methods: A retrospective, cohort study of postpartum women, seen at the IWK in Halifax, Nova Scotia, with hypertension during three, six-month intervals from 2017-2021. Patients with hypertension will be initially identified based on their presenting complaint to hospital and confirmed by cross-comparing the final physician diagnosis at their visit. We will collect hospital visit data including blood pressure measurements, clinical investigations conducted, antihypertensive medication use, and documentation of follow-up plan. We will also collect demographic and antepartum clinical data such as, obstetrical history, presence of known hypertension risk factors, antepartum/postpartum use of antihypertensive medications and ongoing management.

Relevance: The goal of our project is to determine local disease burden, improve our knowledge of postpartum hypertensive disease prevention and to potentially inform quality improvement initiatives.

Abstract 14 (Proposal)

Cannabis use and male infertility: Is there a difference between cannabidiol and tetrahydrocannabinol?

Ricketts G, Bouzayen R

Introduction: Since the Canadian legalization of cannabis in 2018, the consumption of cannabis products is on the rise. Although it is known that males of reproductive age are the amongst the most frequent users, the impact on male fertility is still unknown. The presence of cannabinoid receptors on sperm suggests that exogenous cannabinoids such as cannabidiol (CBD) and tetrahydrocannabinol (THC) may impact spermatogenesis and ultimately, sperm quality.

Objective: The primary objective is to describe the incidence of cannabis use amongst the male infertility population in Nova Scotia. The secondary objective is to assess the impact of CBD and THC on sperm quality based on semen volume, sperm concentration, sperm motility, sperm morphology, and sperm vitality as per the World Health Organization (WHO) guidelines.

Methods: This is a prospective cohort study including male patients at the Atlantic Assisted Reproductive Therapies (AART) clinic from May 2021-May 2023. Eligibility criteria include men aged 18 years and older, with no history of fertility jeopardizing treatments (i.e. chemotherapy) and no history of genetic disorders impacting fertility. As part of routine care, male patients fill out an intake questionnaire during their first visit at the AART including demographic information, past medical history, medication history, and past conception history. Males who answer “yes” to the use of cannabis products will be invited to fill out a second questionnaire regarding the specifics of their cannabis use. Using the IDEAS database, the responses to these questionnaires will be cross-referenced with the results of their semen analyses to assess the impact of cannabis products on sperm quality. Descriptive statistics will be used to assess the primary objective regarding the prevalence of cannabis use among the male infertility population. The secondary objective will be analyzed using linear regression to assess the impact of cannabis on sperm quality and function.

Abstract 15 (Proposal)

Laboratory Test Utilization for Maternal-Fetal Health Surveillance in Nova Scotia

Sarty K, Allen VM, Brock JK, Attenborough R, Beach L, Woolcott CG

Introduction: Choosing Wisely Canada™ is a national campaign that attempts to address the rising health care costs by eliminating unnecessary or redundant investigations and treatments. Anecdotally, women presenting for obstetrical care at IWK Health have received investigations outside those recommended by the Reproductive Care Program of Nova Scotia (RCPNS). Evaluations of over-utilization of prenatal services in low-risk women and under-utilization of these services in high-risk populations have been limited to measuring number of prenatal visits. This study aims to understand the ordering patterns for laboratory testing in the first half of pregnancy in Nova Scotia.

Objectives: First, to estimate the prevalence of routine prenatal investigations performed in the first 20^6 weeks of pregnancy as recommended by RCPNS, and to estimate prevalence of both partial and additional testing, exploring the trend by year. Second, to compare demographic and social characteristics of women undergoing routine prenatal investigations in the first 20^6 weeks of pregnancy as recommended by RCPNS, compared to those who have partial and additional testing, overall and by year.

Methods: A retrospective linked-database cohort study will be conducted. Low risk, pregnant Nova Scotian women who conceived during 2012-2016 will be identified from the Nova Scotia Atlee Perinatal Database. They will be linked to the three Nova Scotia Laboratory Information Systems to obtain all ordered investigations within the first 20^6 weeks of pregnancy. They will be categorized into receiving partial, recommended, or additional investigations as per RCPNS. The prevalence of each group will be estimated. The trend of prevalence of the three test utilization conditions by year will be investigated. Finally, the association of demographic and social characteristics with recommendation-concordant testing will be estimated using Fisher's Exact tests and analysis of variance.

Relevance: To develop strategies that optimize laboratory utilization at the IWK Health Centre and the Nova Scotia Health Authority.

Abstract 16 (Proposal)

Severe maternal and neonatal complications in women with a previous cesarean delivery: time trends and risk factors

Gray E, Mehrabadi A

Background: A recent national study found that women undergoing a trial of labour after cesarean section (TOLAC) experienced higher rates of severe maternal and neonatal morbidities as compared with women undergoing an elective repeat cesarean section (ERCS). The study further found that despite decreasing rates of vaginal birth after caesarean section, neonatal complications associated with TOLAC have been increasing in Canada. The specific risk factors associated with poor neonatal and maternal outcomes remain unclear.

Objectives: To 1) compare severe adverse maternal and neonatal outcomes among women who attempted TOLAC with those who underwent ERCS in Nova Scotia, 2) investigate factors associated with a successful VBAC as well as risk factors for severe adverse maternal and neonatal outcomes among women attempting TOLAC, 3) investigate risk factors for severe adverse maternal and neonatal outcomes among women undergoing ERCS, and 4) investigate risk factors underlying an increase in severe adverse neonatal outcomes among women undergoing TOLAC.

Methods: A retrospective cohort study will be conducted using data from the Nova Scotia Atlee Perinatal Database (NSAPD). The cohort will consist of women with one previous caesarean section undergoing a singleton livebirths or stillbirths at ≥37 weeks gestation between 2005–2019. Severe maternal and neonatal complications will be described over time among women undergoing TOLAC and ERCS. Regression analyses will be used to investigate risk factors for severe maternal and neonatal outcomes among women undergoing TOLAC and ERCS. Modeling will compare period effects to determine if increases in severe neonatal morbidity over time are explained by these risk factors.

Relevance: This study has the potential to provide critical information to help explain the recent increase in severe neonatal complications among women attempting TOLAC. As such, this study could lead to improved patient selection for TOLAC and therefore has the potential to improve health outcomes.

Abstract 17 (Proposal)

Last menstrual period versus ultrasound dating: assessing gestational age for women seeking first trimester abortion in Halifax, NS

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Background: Approximately 100 000 abortions are performed in Canada each year. Despite approval of Mifegymiso, a combination pill for medical abortions <9 weeks' gestational age (GA), in 2015, 95% of abortions are surgical. Although no longer required by Health Canada, ultrasound (U/S) is often performed to confirm GA. Studies not only question whether routine U/S is necessary; they suggest access to U/S is a barrier to accessing medical abortion.

Objectives: 1. In women presenting to the Women's Choice Clinic (WCC) for abortions, is pregnancy dating by last menstrual period (LMP) an accurate determination of GA compared to U/S? 2. Which subgroups of women should have U/S to confirm GA?

Methods: This is a retrospective chart review of women presenting to WCC. There are pre-existing intake forms for WCC: LMP must be clearly documented, and GA by U/S will then be determined. We will then determine the proportion of women whose GA was accurately assessed by LMP (+/- 5 days of GA by U/S). Results will be stratified by age, gravidity/parity, body mass index, and contraception use. Women who are seeking medical and surgical abortions will be included. Women who have had transabdominal rather than transvaginal U/S will be excluded, as will those who had U/S performed prior to their decision to terminate. While our sample size is to be determined, it is estimated that ~1500 patients are seen through WCC each year.

Relevance: We anticipate that LMP will accurately determine GA compared to U/S. Since access to U/S is a barrier to abortion care in Nova Scotia, we can recommend to practitioners across the province that GA dating by U/S is not necessary. This will hopefully improve patient access to medical abortion. Additionally, by identifying subgroups whose LMP dating is inaccurate, we can identify those who should have U/S performed to ensure they are not inappropriately receiving medical abortions.

Abstract 18 (Proposal)

Risk factors for intra-operative assessment for lower urinary tract injury at the time of cesarean section

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Background: The incidence of iatrogenic lower urinary tract (LUT) injuries is low, however 75% of them can be attributed to obstetrics and gynecology surgery. Patient morbidity is significantly reduced when LUT injuries are recognized and repaired at the index operation.

Objectives: The primary objective is to identify factors that correlate with a woman's risk for suspected lower urinary tract injury during cesarean section. Secondary objectives are to analyze the practice patterns of healthcare providers when faced with a suspected lower urinary tract injury during cesarean section and to comment on the incidence of LUT injuries at the IWK Centre.

Methods: We propose to perform a retrospective case series with chart review. Potential cases will be identified using ICD-10 and CCI codes within the Decision Support Services database and appropriate inclusion will be confirmed by chart review. Data collected from the admission details, antenatal records, operative reports, consults and post-operative progress notes will be entered onto a secure server at the IWK. Data analysis will be performed using either logistic regression or classification and regression tree analysis to identify risk factors. We additionally hope to gather information regarding physician decisions intra-operatively when LUT injury is suspected which will be analyzed in a descriptive fashion.

Anticipated outcomes: We anticipate the results of this study to inform practice patterns within our center and to better elucidate the risk of LUT to our population.

Abstract 19 (Proposal)

Oncologic outcomes following open versus minimally invasive radical surgery for early cervical cancer in Nova Scotia- A retrospective cohort study

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Background: Retrospective studies have demonstrated improved perioperative outcomes following radical MIS compared to open surgery for early cervical cancer. However, a recent randomized trial (LACC trial) has called into question the oncologic safety of these procedures, showing reduced disease-free survival and increased recurrence following radical MIS compared to open surgical approach. The underlying reasons for this difference remain unclear, and individual centres have been encouraged to review their own outcomes and practices. One unique aspect to practice in Nova Scotia is that radical MIS procedures have historically been carried out by two staff surgeons ('buddy operating').

Objectives: To describe oncological outcomes among women with early cervical cancer treated with radical MIS versus open approach. Primary outcomes are disease-free survival and recurrence rates. Secondary outcomes are use of adjuvant therapy and overall survival. We will also assess trends in uptake and surgical volumes of radical MIS for early cervical cancer over the study period.

Methods: Retrospective cohort study including women who underwent primary radical hysterectomy for treatment of early cervical cancer in Nova Scotia from 2000 to 2019 (N= approx. 250). Data on diagnosis, treatment, recurrence and follow up will be collected from the NSHA Tupper database and One Content. Potential confounders, including patient demographics, surgeon volumes, pathologic features and use of adjuvant therapy will also be collected. Kaplan-Meier survival curves will compare disease-free and overall survival by surgical approach. Cox proportional hazard models will estimate the association between surgical approach and oncological outcomes. Trends in uptake of radical MIS will be assessed using the Cochran-Armitage test.

Anticipated outcomes: The results from this study will help us to critically assess oncologic outcomes following radical MIS versus open surgery for early cervical cancer in Nova Scotia, within the unique context of 'buddy operating'. This will allow us to determine the external validity of the LACC trial on our local population and hopefully help to identify a low-risk group in whom radical MIS is oncologically safe. We will also contribute our data to a national multi-centre review on this topic.

Abstract 20 (Proposal)

The impact of gestational age on the development of Neonatal Abstinence Syndrome: a retrospective cohort study

Ryan E, Allen VM, Brothers S, Woolcott CG

Background: The risk of developing Neonatal Abstinence Syndrome (NAS) at earlier compared to later gestational ages is poorly characterized and understood. While there are discrepancies in the literature, several smaller cohort studies describe that among infants exposed to opioids during pregnancy, those that are born at younger gestational ages have improved clinical outcomes. Given the dramatically increasing incidence of opioid use in pregnancy and significant co-morbidities associated with NAS, further evidence is needed to better characterize the association between gestational age at delivery and risk of developing NAS.

Objective: To investigate the association between gestational age at delivery with the development of Neonatal Abstinence Syndrome requiring pharmacotherapy among infants born to mothers using opioids in pregnancy.

Methods: This will be a retrospective cohort database study. The study population includes all infants linked to mothers with a history of opioid use in pregnancy in Nova Scotia from 2003-2016. We will exclude deliveries with a gestational age less than 34 weeks and cases with major fetal anomaly. Gestational age will be categorized into late preterm (34-36 weeks), early term (37-38 weeks), term (39-40 weeks), and late term ($\geq$ 41 weeks). The primary outcome is diagnosis of NAS requiring pharmacotherapy. Secondary outcomes are a composite measure of severity of NAS including maximum Finnegan score, number of treatment agents, duration of treatment, total length of hospital stay, and convulsions/seizure due to drug withdrawal. These results will then be stratified based on maternal opioid use type.

Relevance: Based on previous research, we anticipate finding that there is a decreased risk of needing to treat NAS with pharmacotherapy in the late preterm and early term cohorts compared to the term and late term groups. This finding is important as it may demonstrate that there may be advantageous neonatal outcomes with delivery at an earlier gestational age.