



**DALHOUSIE
UNIVERSITY**

Department of
Obstetrics and Gynaecology

33rd Annual Research Day

Wednesday, April 10, 2019

Parker Reception Room
IWK Health Centre



In 2018, the community sadly lost Dr. Alexander (Alec) Allen, a neonatologist and researcher at the IWK Health Centre and the former Grace Maternity Hospital.

Of note is how Dr. Allen's work has supported research conducted by trainees in the Department of Obstetrics & Gynaecology. His extraordinary vision and hard work to establish the population-based Nova Scotia Atlee Perinatal Database in the 1980s has made a large number of trainee projects possible. A total of 47 projects making use of this database have been presented at the departmental research day since 2008, comprising 43 completed and four ongoing projects. In addition, Dr. Allen collaborated on many of the projects and guided many trainees through the data access process to ensure the privacy and confidentiality of the persons represented in the database. Dr. Allen's legacy will be realized in perpetuity as research, surveillance, and quality assurance projects using the Atlee Database continue to contribute to the health and wellbeing of women and children in Nova Scotia.

Please refer to the end of this booklet for a listing of the trainee projects that have used or are currently using the Atlee Database and the publications associated with them.

Program Sponsorship

We gratefully acknowledge financial support for this program from:

IWK Medical Dental Scientific Staff Office

Research Day 2019
Department of Obstetrics and Gynaecology
Dalhousie University

Thank you to our judges:

Dr. Wendy Norman
Associate Professor
Department of Family Practice
University of British Columbia

Dr. Baharak Amir
Division of Uro-Gynaecology
Department of Obstetrics & Gynaecology
Dalhousie University

Dr. Karla Willows
Division of Gynaecology-Oncology
Department of Obstetrics & Gynaecology
Dalhousie University

0830	Reception
0850	Welcome – Dr. Jim Bentley Head, Department of Obstetrics & Gynaecology
0900	INVITED SPEAKER Dr. Ken Rockwood Division of Geriatric Medicine, Dalhousie <i>Urinary incontinence in older women: geriatric giant or geriatric wannabe?</i>
SESSION I	Moderator: Dr. Heather Cockwell
1000	Brittany Black, PGY5 <i>Compliance with fetal fibronectin recommendations at the IWK Health Centre</i>
1015	Samantha Dawson, Postdoctoral Fellow <i>A longitudinal study of postpartum sexual functioning in first-time mothers: one or multiple trajectories?</i>
1030	Ashley Warias, PGY2 <i>Timely access to genetic counseling for women with epithelial ovarian cancer in Nova Scotia</i>
1045	NUTRITION BREAK
1100	Sara Jones, MED2 <i>Perinatal health indicators for gestational diabetes mellitus: a scoping review</i>
1115	Kiel Luhning, PGY5 <i>Potential benefit of medical termination of pregnancy in Halifax</i>

1130	Rebecca McBriarty, PGY3 <i>An assessment of the educational needs of Canadian Obstetrics and Gynaecology residents regarding opioid agonist use in pregnancy</i>	1440	Kristina Arion, PGY1 <i>Proposal: Assessing quality of care at a university-affiliated healthcare centre through the technicity index</i>
1145	Emma Sumner, PGY2 <i>Proposal: Low-fidelity simulation training in Ghana: an effective method of improving provider knowledge and confidence in postpartum hemorrhage management?</i>	1450	Abdullah Agabawi, PGY1 <i>Proposal: Descriptive study of the IVF fresh cycle pregnancy rates and cumulative pregnancy rates, incorporating frozen embryo transfer from the same IVF cycle</i>
1155	Jessica Pinkham, PGY1 <i>Proposal: The association between opioids and fetal growth. A retrospective cohort study in Nova Scotia, 2003-2016</i>	1500	Meghan Rossi, MSc candidate <i>A descriptive analysis of clinically significant pain during intercourse across pregnancy</i>
1205	Joanne Hickey, PGY1 <i>Proposal: Demographic analysis and method of patient payment for patients presenting for infertility care in Nova Scotia</i>	1515	Christina Yang, PGY2 (MUN) <i>Objective Structured Assessment of normal vaginal Delivery Skill (OSADS)</i>
1230	LUNCH	1530	Jocelyn Stairs, PGY4 <i>Motivation to access laparoscopic skills training by Obstetrics and Gynaecology Residents: a novel tool to characterize motivation</i>
SESSION II	Moderator: Dr. Younes Anini	1600	PRESENTATION OF AWARDS
1330	INVITED SPEAKER Dr. Wendy Norman, UBC <i>How implementation research can change national and provincial policies: case studies of CART research on mifepristone and on post-abortion contraception</i>	1700	Please join us for dinner and drinks at the home of: Dr. Catherine Craig, 951 Marlborough Ave
1430	Marianne Levesque, PGY1 <i>Proposal: The effect of early pelvic physiotherapy in women with obstetrical anal sphincter injuries (OASIS) on patient satisfaction and postpartum recovery: An IWK Health Centre prospective cohort study</i>		

ABSTRACTS

Compliance with Fetal Fibronectin Recommendations at the IWK Health Centre

Black B, Leblanc J, Dodds L, Armson A, Nash C

Background: Current recommendations for fetal fibronectin (fFN) testing in Nova Scotia support its use in women who present with symptoms of preterm labour between 24⁰ and 34⁶ weeks. No study has assessed whether these recommendations are being followed in at the IWK Health Centre.

Objectives: The purpose of this study was to determine the rate of provider compliance with fFN testing recommendations for the management of symptomatic preterm labour, and to identify factors associated with provider compliance.

Methods: A retrospective cohort study was conducted from January 1, 2016 to December 31, 2016 of all patients who presented to the Early Labour Assessment Unit (ELAU) with possible preterm labour. Inclusion criteria were symptoms of preterm labour and established fetal well-being. The rate of provider compliance was determined for two clinical decisions: 1) whether the test was being performed in appropriate patients in accordance to the IWK fFN recommendations; 2) whether fFN test results were appropriately being used to inform patient care decisions. Logistic regression was used to determine factors associated with compliance.

Results: Review of ELAU records identified 925 patients of interest, of which 528 patients met inclusion criteria. Overall compliance with testing recommendations was 76.1%. For patients who did not meet criteria for testing, 77.3% were appropriately not tested. For patients who met criteria for testing, 69.09% were appropriately tested. In the group of patients who were appropriately tested, 85.29% of patients with a negative result were appropriately discharged without intervention. Gestational age, time of day, and non-obstetrician provider type were found to be associated with decreased compliance.

Conclusions: This study supports the appropriate use of fFN testing in our centre, with provider compliance rates above 75%. Non-obstetrician provider type was found to be a factor associated with decreased compliance suggesting further education is required surrounding appropriate use of this clinical test.

A Longitudinal Study of Postpartum Sexual Functioning in First-time Mothers: One or Multiple Trajectories?

Dawson SJ, Vaillancourt-Morel M-P, Pierce M, Rosen NO

Background: Many new mothers experience problems with their sexual functioning—desire, arousal, lubrication, orgasm, satisfaction, pain—following the birth of a child. Problems with sexual functioning are linked with other adverse outcomes for affected women and their families (e.g., relationship problems and depression). Although new mothers' sexual functioning tends to improve, on average, over the postpartum period, no research has examined the trajectories of change. As such, we currently do not know if sexual functioning improves similarly for all new mothers or if there are multiple patterns of change, which may have implications for prevention and intervention.

Objectives: To examine the patterns of change (i.e., one trajectory or multiple trajectories) in women's sexual function across 3-, 6-, and 12-months postpartum.

Methods: First-time mothers ($n = 647$) completed the Female Sexual Function Index (FSFI) at 3-, 6-, and 12-months postpartum. Latent class growth analysis was used to examine the trajectories. Trajectories were interpreted based on established clinical cutoffs for sexual dysfunction (i.e., FSFI < 26.55).

Results: Three unique trajectories were detected. At 3-months: (1) 53% reported no sexual dysfunction ($M_{\text{intercept}} = 28.92$), and their positive slope increased the least over time ($0.13_{\text{per/month}}$); (2) 34% reported moderate sexual dysfunction ($M_{\text{intercept}} = 20.74$), and their positive slope increased the most over time ($0.64_{\text{per/month}}$); and (3) 13% reported marked sexual dysfunction ($M_{\text{intercept}} = 14.70$), and their positive slope increased moderately over time ($0.39_{\text{per/month}}$).

Conclusions: New mothers' sexual functioning shows evidence of multiple patterns of improvement over time. Our analyses revealed a subset of new mothers who report marked sexual dysfunction at 3-months and are most likely to continue to experience sexual dysfunction over time. Early assessment of sexual function will help to identify women at risk of persistent sexual dysfunction and facilitate early intervention. Future research should identify risk and protective factors associated with the degree of change in these trajectories to further inform intervention recommendations.

Timely Access to Genetic Counselling for Women with Epithelial Ovarian Cancer in Nova Scotia

Warias A, Ferguson M, Currie L, Chamberlain E, Snow N, Matheson K, Penney L, Kieser K

Background: Women with mutations in BRCA1 and 2 have a significantly increased lifetime risk of breast and ovarian cancers. The availability of genetic testing to identify BRCA carriers is imperative to disease prevention, through prophylactic surgery and familial risk counselling. With the advent of poly (ADP-ribose) polymerase (PARP) inhibitors for BRCA mutation carriers, access to genetic testing also presents the potential for targeted therapy.

Objectives: With the increasing importance of prompt access to genetic counselling and testing for women with epithelial ovarian cancer (EOC), we evaluated the efficacy of a new collaborative model of care in Nova Scotia between Maritime Medical Genetics and the Dalhousie Division of Gynaecologic Oncology. We also assessed the study cohorts' preferences on timing for genetic counselling.

Method(s): A retrospective chart review was performed on all women diagnosed with EOC from 2012 to 2017 ($n = 386$). Pertinent clinical outcomes were categorized and wait-times to different nodes of the clinical pathway assessed. A questionnaire was sent to this same cohort of women to identify preference for the timing of genetic counselling, as well as other factors that may contribute to the decision to pursue genetic testing ($n=103$ living). Chi-square and Wilcoxon rank sum tests were used to compare demographic and clinical variables pre and post implementation of the new model.

Results: We identified a 48.2% (95% CI 39.4 to 56.7) increase in referral to genetics following implementation of the new care model. Wait time from referral to first appointment decreased by 67.8 days (95% CI 43.2 to 92.45), $p < 0.001$. 69.9% of women expressed that they wished to be referred to genetics at the time of diagnosis or with initiation of chemotherapy.

Conclusion: This novel model of care for women newly diagnosed with EOC in Nova Scotia was successful in increasing referral rates for genetic counselling, and ultimately, genetic testing. Women favoured referral to genetic services at the time of diagnosis, highlighting the importance for timely access.

Perinatal health indicators for gestational diabetes mellitus: a scoping review.

Jones SL, Coolen J, Woolcott C

Background: Rates of gestational diabetes mellitus (GDM) are increasing. As a result, so are its complications, such as fetal overgrowth, shoulder dystocia, caesarean section, and perinatal mortality. Treatment of GDM improves these outcomes; however, there lacks an organized system to monitor health indicators related to GDM. Clinical dashboards track and present outcome statistics, and have been shown to improve patient care. Dashboard development requires an assessment of health indicators for GDM.

Objectives: The objective of this review was to identify key perinatal health indicators related to GDM in the form of prevalence statistics within the GDM population, relative risk estimates comparing GDM and non-GDM populations, and statistics comparing the effects of interventions within the GDM population.

Methods: A review of systematic reviews, meta analyses, grey literature, clinical guidelines, and additional sources published from January 2008 to September 2018 was conducted. Studies including preconception diabetes were excluded.

Results: 89 sources and 63 health indicators were identified. GDM was overall associated with poorer health outcomes compared to non-GDM. However, the responses of GDM groups to interventions shows that these outcomes are modifiable and the prevalence statistics provide insight as to the current state of GDM outcomes.

Conclusion: These results provide a picture of the most topical health indicators in GDM. The large number of outcomes and the heterogeneity of the results illustrates the need for an accessible clinical dashboard to guide management and improve outcomes. Informed by these results, our next step will be administration of a stakeholder survey to assess the current state of indicator tracking and determine which indicators of a clinical dashboard would be most relevant to clinical practice.

Potential Benefit of Medical Termination of Pregnancy in Halifax Luhning K, Woolcott C, Brooks M

Background: Medical termination (MT) offers a safe and timely alternative to surgical termination of pregnancy (TOP). There has been no study to determine the proportion of women seeking termination in Halifax that are eligible for MT. Further, local TOP triage policy prioritizes those presenting at a late gestational age (GA).

Objectives: Identify the proportion of women seeking TOP in Halifax that are eligible for MT. Compare the wait time for TOP between those who are eligible for MT and those who are not.

Methods: In this retrospective chart review, data was extracted from charts of patients who accessed terminations at the Halifax Termination of Pregnancy Unit (TPU) in 2015. Gestational age was recorded at the time of visit to: generalist (GP), dating ultrasound (US), and surgical termination (ST). Eligibility was then determined based on local policy (≤ 63 days) gestational age. Eligibility for MT at each time point was assessed.

After determining eligibility, wait times were calculated between GP referral or dating US (whichever was later) and ST. Wait times were compared between the eligible and non-eligible groups to identify any difference between the groups.

Results: The charts of 384 patients were reviewed. Almost all women had no sensitivity or comorbidity making them ineligible for medical termination (98.9%). At the time of appointment with their GP, 68.9% were eligible for MT. At the time of US, 67.9% were eligible for MT. At the time of ST, 27.7% were eligible for MT. Women eligible for MT waited 14.0 days (6.0 - 21.0 days, $p < 0.0001$) for ST compared to those who were ineligible, 5.0 days (2.0 - 12.0 days).

Conclusions: Women presenting early, who are eligible for MT, wait longer to access to TOP than those who present late. At the time of GP referral or US, 68% are eligible for MT. Given the delay in accessing TOP, this proportion decreases to 27.7% at the time of ST. Thus, offering MT provides an equitable alternative to ST that could improve wait times for TOP.

An Assessment of the Educational Needs of Canadian Obstetrics and Gynaecology Residents Regarding Opioid Agonist Use in Pregnancy

McBriarty R, Woolcott C, Shearer C, Williams G, Allen V

Background: Opioid agonist treatment (OAT) is the standard of care in pregnancy for mothers with opioid dependency, yet educational resources among residency programs in Canada vary.

Objectives: To describe the knowledge, experience, attitudes and barriers to care with respect to OAT in pregnancy among residents and faculty in Canadian Obstetrics and Gynaecology training programs, in order to inform educational curriculum development.

Methods: Online surveys were distributed to Program Directors (PDs) and via Program Administrators to residents. Perceived and required knowledge, importance of education, and education received were assessed with 5-point Likert scales that ranged from '1-None' to '5-Very Much'. Descriptive statistics were generated and associations with training level (PGY year 1-5+), region (Eastern, Central and Western) and clinical experience providing OAT in pregnancy were tested using ANOVA.

Results: 5 PDs (26.3%) and 77 residents (16.6%) responded to the survey. Discrepancies were noted between residents' perceived ($\bar{x}=2.8$; SD 0.7) and required ($\bar{x}=3.8$; SD 0.6) knowledge, and between importance of education on this topic ($\bar{x}=4.2$; SD 0.6) and education received ($\bar{x}=2.2$; SD 0.6). Perceived knowledge and education reported were associated with training level and experience ($p<0.05$). Respondents identified a desire for more formal teaching, ideally through didactic sessions. Specifically, there was a demand for information on harm reduction strategies, medication initiation and dosing, and management of acute withdrawal.

Conclusions: This national survey suggests a deficiency in resident knowledge in treating pregnant women on OAT, and a desire for more education in this area. The results of our survey will inform the development of a multidisciplinary educational curriculum.

Proposal: Low-fidelity simulation training in Ghana: an effective method of improving provider knowledge and confidence in postpartum hemorrhage management?

Sumner E, Scott H, Craig C, Coleman J, Kumi H.

Background: Postpartum hemorrhage is the leading cause of maternal death worldwide, but most of these deaths are preventable. The World Health Organization (WHO) and the International Federation of Gynecology and Obstetrics (FIGO) strongly recommend that access to evidence-based and effective training in maternal hemorrhage management should be a priority, and that research to evaluate the effectiveness of these training programs is crucial.

Objectives: Our research is responding to the call of The WHO and FIGO, with an overarching goal of evaluating whether low-fidelity simulation training is a feasible and effective method of improving obstetric provider knowledge and confidence in managing postpartum hemorrhage at a large teaching hospital in Ghana. We hope to ultimately lend evidence-based support to the development of an obstetric simulation curriculum at Korle Bu hospital.

Methods: This will be a pre-/post- study of a simulation exercise, using questionnaires. Both the pre- and post-simulation questionnaires will include demographics questions, a Likert scale to assess confidence, and a series of multiple-choice questions to assess knowledge. The study will be carried out at Korle Bu hospital, using a low-fidelity MamaNatalie(R) birthing simulator and a case recently developed as part of a national Canadian Obstetrics and Gynecology Simulation curriculum that has been modified for the local context. The 40 active residents at the centre will be invited to participate. The task trainer is worn by a simulated patient, and allows simulation of severe bleeding and its causes. Following the simulation, there will be a de-brief led by the research team. Descriptive statistics will be calculated for participant demographics, confidence, and knowledge, with frequencies, percentages, means and standard deviations reported. The statistical significance of the change in confidence and change in knowledge scores will be assessed using paired-sample *t* tests.

Proposal: The association between opioids and fetal growth. A retrospective cohort study in Nova Scotia, 2003-2016.

Pinkham J, Woolcott C, Allen V

Background

Opioid use during pregnancy for the treatment of acute and chronic pain, substance-use disorder and illicit use, has been increasing worldwide and is becoming a critical issue in Canada. Birth weight has been identified as a strong predictor of neonatal and infant mortality, as well as adult health outcomes. To date, few Canadian studies have examined the relationship between opioid use and fetal growth and existing worldwide literature has shown inconsistent conclusions.

Objectives

The primary objective of this study is to determine the association between opioid antagonist treatment (OAT) and other opioid use during pregnancy and fetal growth. Secondary objectives include describing the prevalence of OAT and other opioid use in Nova Scotia among pregnant women, exploring the trend from 2003-2016, and describing maternal, obstetrical and opioid use characteristics among women using OAT and other opioids, relative to those who did not use these substances in pregnancy.

Methods

We propose to conduct a retrospective cohort study using data from the Nova Scotia Atlee Perinatal Database (NSAPD) linked to women's health records. Information has been collected about birth weight, maternal, obstetrical and opioid use characteristics. Women in Nova Scotia who used OAT and other opioids during pregnancy and delivered between 2003 and 2016 will be included. Data on birth weight will be summarized and multiple linear regression will be used to assess the association between groups with control for potential confounders. The prevalence of opioid and OAT use will be reported as a percentage per total deliveries, by year of delivery. Characteristics of the population will be summarized using descriptive statistics and differences between groups will be determined by analysis of variance or chi-square tests.

Proposal: Demographic Analysis and Method of Patient Payment for Patients Presenting for Infertility Care in Nova Scotia

Hickey J., Ripley M.

Background: Little is known about the socioeconomic profiles of patients who present for infertility care in Canada. Demographic studies in the United States have shown that patients who present for infertility care tend to be older, wealthier, and more likely to have completed higher levels of education, compared with women who have not sought treatment for infertility. Multiple studies have shown that when access is equitable, there is an increase in populations utilizing services that would have otherwise not presented. There is also almost no data on how patients pay for IVF treatment, and whether financial limitations stop patients from pursuing IVF.

Objectives: The primary objectives of the study is to describe the demographics of patients who present for reproductive care at Atlantic Assisted Reproductive Technologies (AART), and to identify those who believe there will be financial barriers to IVF at the time of presentation to clinic. The secondary objective is to describe how patients who proceed with IVF pay for their treatment.

Methods: This study will consist of a cross-sectional survey. We will offer the survey to patients presenting for the first time to AART for reproductive care between July 1, 2019 and January 1, 2021. Exclusion criteria include patients who present for fertility preservation (oncofertility/ elective fertility preservation), recurrent pregnancy loss, and tubal ligation reversal. Patients will be asked to consent to participate in the initial demographic survey and a secondary survey should they proceed to IVF. Patients will be asked to provide an email for an additional survey that will be offered if they do not return to the clinic for treatment. Consent and surveys in clinic will be administered on a password protected iPad in the waiting room. If consent is given, the initial survey will be available to complete immediately. Surveys distributed via email will be administered electronically on the device of the patient's choosing.

Proposal: The effect of early pelvic physiotherapy in women with obstetrical anal sphincter injuries (OASIS) on patient satisfaction and postpartum recovery: An IWK Health Centre prospective cohort study

Levesque M, Amir B, Lezama B, Woolcott C

Background: Evidence for the postpartum management of Obstetrical Anal Sphincter Injuries (OASIS) remains limited. No studies have assessed patient satisfaction with postpartum care after OASIS. One study has suggested that early pelvic physiotherapy may reduce the rates of anal and urinary incontinence compared to standard care. Women diagnosed with OASIS at the IWK usually wait up to 6 to 8 weeks before they can be referred for pelvic physiotherapy.

Objectives: To determine if the implementation of an early pelvic physiotherapy program improves patient satisfaction with care, attendance to postpartum follow-up, and decreases adverse outcomes in women diagnosed with OASIS at the IWK.

Methods: This will be a prospective cohort study assessing the effects of the implementation of an early postpartum physiotherapy program. Women with a diagnosis of OASIS at the IWK will be recruited during a period of 16 months. During the first 8 months we will assess the effects of our current standard of care using online surveys. Data collected will include patient satisfaction with care, pain ratings, symptoms of urinary and anal incontinence, and effect on sexuality. During the next 8 months we will assess the effects of a new program implementation using the same surveys. Pelvic floor strength and post-partum appointment attendance rate for each group will also be recorded. Data will be compared between groups using multiple linear and multiple logistic regressions.

Relevance: If the implementation of an early pelvic physiotherapy program improves patient satisfaction and postpartum outcomes, this may change our practice at the IWK.

Proposal: The Technicity Index as a quality of care indicator at a university-affiliated health care center

Arion K, Randle E

Background

Hysterectomy is the most common major surgery in gynecology, and the second most common intervention performed in Canadian women. Because of its widespread use, it is important to ensure that patients receive the best standard of care. It is known that minimally invasive surgery (MIS), including laparoscopic and vaginal hysterectomy, is superior to abdominal hysterectomy, due to the quicker recovery times, lower infectious complications, decreased post-operative pain, among other reasons. The technicity index (TI), which reflects the rate of minimally invasive hysterectomy in a single department, has been developed to monitor the shift toward MIS and by extension is a reflection of our investment in women's health.

Objectives

As minimally invasive surgery becomes the best practice for patient outcomes in gynecology, an evaluation of current practice is necessary. We aim to evaluate the technicity index at the IWK to understand how we are doing in terms of quality of care. By assessing the hysterectomy trend over time, we can use this measure for quality assurance, and consequently advocate for further investment in MIS surgery and training.

Methods

This is a retrospective cohort study including all women undergoing any type of hysterectomy procedure at the IWK Hospital, occurring between the fiscal years of 2008-2010 and 2016-2018 by all gynecologists. Technicity index will be calculated and compared over time, using the chi-square test. Additionally, associations between different demographic factors and route of hysterectomy will be looked at.

Proposal: Descriptive study of the IVF Fresh Cycle Pregnancy Rates and Cumulative Pregnancy Rates, Incorporating Frozen Embryo Transfer from the Same IVF Cycle.

Agabawi A, Cockwell H

Background: In Vitro Fertilization (IVF) is a very commonly used procedure that helps infertile couples to achieve pregnancy. Since the birth of the first IVF successful pregnancy in 1978, more than seven million pregnancies has been achieved by the use of this procedure. Clinical pregnancy rate following IVF is a rate that gives an estimate of the chance of pregnancy following a single cycle of embryo transfer. However, cumulative pregnancy rate is the number of clinical pregnancies resulting from one or more ART cycles, including the cycle when fresh embryos are transferred and all related subsequent frozen/thawed embryo transfer cycles, if the fresh embryo transfer did not result in pregnancy.

Objective: Our primary objective is to provide an estimate of the cumulative pregnancy rate in our center with ongoing treatment cycles, rather than using success rates based on individual treatment cycles.

Methods: This is a retrospective cohort study design that will review the database of all women who presented to the AART with infertility and underwent IVF treatment using their own oocytes retrieved from the first cycle. The study will include about 1000 patients who had the procedure from January 2014 to December 2018. Cumulative pregnancy rate will be calculated for these patients. Moreover, descriptive statistics will be applied on patients' demographics. Finally, the outcomes will be presented using the Kaplan Meier curve.

Relevance: to determine a more clinically relevant and realistic measure of pregnancy outcomes for IVF patients, which could aid in better counseling and understanding of the process.

A Descriptive Analysis of Clinically Significant Pain During Intercourse Across Pregnancy

Rossi M, Mooney K, Binik I, Rosen NO

Background: Pain during vaginal intercourse in pregnancy has largely been unexplored despite physiological and psychological components of pregnancy that may be associated with its onset and persistence. The first objective of this study was to determine the prevalence of pain during intercourse in the second (18-24 weeks) and third (32-36 weeks) trimesters of pregnancy. The second objective was to describe the characteristics of clinically significant pain during intercourse.

Methods: Pregnant women ($N = 501$) completed an online survey at 18-24 and 32-36 weeks in their pregnancy. We assessed the intensity of pain during intercourse on a numerical rating scale (NRS) and the characteristics of this pain using the McGill Pain Questionnaire-Short Form, as well as other widely used pain assessment questions. Women were grouped according to whether the pain was resolved, persistent, or new onset across the pregnancy time-points.

Results: Overall, 21% (106/501) of women reported clinically significant pain during intercourse (i.e. 4 or greater on the NRS). We found that 22% ($N = 16/106$) of women reported resolved pain at 34 weeks, 33% (40/106) reported persistent pain at both time-points, and 46% (50/106) reported new onset of pain during intercourse at 34 weeks. The majority of women across all pain groups reported that the pain began during pregnancy. Importantly, most women reported not accessing or using any pain management strategies.

Conclusions: Findings suggest that a large portion of women experience pain during intercourse in pregnancy. Despite a fifth of pregnant women reporting clinically significant pain during intercourse, most women did not report pursuing any pain management. This may suggest that women and their health care providers are not communicating about this pain, possibly missing a critical time to implement preventative measures for persistent or worsening pain (e.g., postpartum).

Objective Structured Assessment of normal vaginal Delivery Skill (OSADS)

Yang C, Rosa M, Hutchens D, Gill A, Bajzak K
Memorial University, Obstetrics and Gynecology, St. John's, NL.

Introduction: In light of competency based education, objective assessment of technical skills is becoming increasingly important in the evaluation of medical trainees. It is also desirable for trainees to practice their skills on simulators prior to refining and learning judgment through experience in the clinical setting. For simulation to be effective, the learner needs timely and objective feedback. Objective assessment tools for evaluation of trainee performance of other surgical procedures have already been developed. However, no such tool exists for performance of normal vaginal delivery.

Objectives: To develop a structured objective assessment tool for evaluation of performance of a normal vaginal delivery. Also, to obtain data from this pilot study to determine the sample size necessary to demonstrate construct validity.

Methods: After obtaining local ethics board approval, an objective structured assessment tool (OSADS) was developed. It consisted of a checklist of the seven steps required for performance of an NVD. Feedback was obtained from experienced obstetricians and the tool was revised accordingly. Ten junior trainees (medical students, PGY-1 obstetrical and family medicine residents and PGY-2 obstetrical residents) and 10 senior trainees (PGY3 to 5 obstetrical residents) completed one normal vaginal delivery each at the Labour and Delivery unit in the Health Sciences Centre, St. John's, NL. Participants' performance was scored by one of two experts, a senior resident and an attending Obstetrician, using the OSADS.

Results: The proportion of "competent" scores was 0.7. Using the kappa statistic published by Wright in 2005, a null $\kappa=0.6$, κ to detect $=0.9$ and a power of 80%, a sample size of 66 observations per group (novice and expert) to demonstrate construct validity of the OSADS was calculated.

Conclusions: Face and content validity of the OSADS was demonstrated. The data required to calculate a sample size to demonstrate construct validity of the OSADS was obtained. Application and construct validity testing of the OSADS is feasible.

Motivation to Access Laparoscopic Skills Training by Obstetrics and Gynaecology Residents: A Novel Tool to Characterize Motivation

Stairs J, Bergey BW, Maquire F, Scott S

Background: Competency based medical education (CBME) requires novel approaches to surgical education. Significant investment has been made in laparoscopic simulation, which has been shown to foster skill development prior to patient encounters. However, research suggests variable voluntary use of these resources by residents, and little is known about the motivational factors that influence their utilization.

Objective: The purpose of this study was to characterize factors that motivate residents to seek laparoscopic simulation experience outside of the formal curriculum.

Methods: In this prospective cohort study of 44 Canadian obstetrics and gynaecology residents, we administered a validated questionnaire grounded in Expectancy Value Theory of motivation to understand what shapes voluntary laparoscopic simulation use. We conducted content analysis of open-ended responses about barriers, identified motivational correlates of simulation use and surgical experience, and conducted ANOVAs to assess differences in motivations between junior (PGY2-3) and senior (PGY4-5) residents.

Results: Residents identified barriers including lack of time, access, and supervision, and some expressed doubt about the transferability of laparoscopic simulation to the operating room. Compared to junior residents, senior residents reported greater enjoyment of laparoscopic surgery, less emotional costs, and higher self-efficacy for learning laparoscopy. While self-efficacy beliefs were robustly correlated with residents' surgical experience, only competing responsibilities was a significant negative correlate of simulation use.

Conclusion: Residents' motivation for developing laparoscopic skills increase during residency, yet perception of utility and barriers, especially competing responsibilities, impede voluntary simulation use. As programs undertake curricula redevelopment for CBME, mitigating barriers and improving perceived utility of laparoscopic simulation could optimize use and enhance skill development.

**TRAINEE PROJECTS USING
THE NOVA SCOTIA ATLEE PERINATAL DATABASE
(PRESENTATIONS AT RESEARCH DAY, 2008-PRESENT)**

Ongoing

O’Neill M, Allen VM, Singh B, Lauzon L, Gagnon I, Woolcott C. Maternal characteristics associated with reported cannabis use in pregnancy among women in Nova Scotia

Pinkham J, Woolcott C, Allen VM. The association between opioids and fetal growth. A retrospective cohort study in Nova Scotia, 2003-2016

Pollard E, Woolcott C, Smith A. Perineal Outcomes at Subsequent Pregnancy in Nova Scotian Women with Prior Obstetrical Anal Sphincter Injury

Ravichandran L, Allen VM, Kuhle S, Allen AC, Vincer M, Baskett TF. Predictors and prognosis of neonatal hypoxic encephalopathy

2018

Carew A, Dodds L, Kuhle S, Kirkland S, Woolcott C. Is there an association between gestational diabetes mellitus and the future risk of cardiovascular disease?

Goldade S, Allen VM, Dodds L, Woolcott CG. Predicting the Development of Hypertension with Perinatal Data: A Study of Nova Scotian Women

MacGregor J, George RB, Allen VM, Panzarasa J, Woolcott CG. A retrospective cohort study of the association between the use of nitrous oxide in labour and delivery and maternal outcomes

MacMullin G, Woolcott C, Fahey J, Filliter C, Van den Hof M. Folic Acid Fortification and the Severity of Open Neural Tube Defects in Nova Scotia

Panzarasa J, George R, Allen V, Mitra S, MacGregor J, Woolcott C. A retrospective cohort study of the association between the use of nitrous oxide during labour and delivery and neonatal outcomes

2017

Keddy M, Allen V, Kuhle S, Craig C, Brock J. The incidence of placenta accreta and the influence on maternal and perinatal outcomes

Matei A, Fahey J, Woolcott C, Coolen J, Bentley J. Loop electrosurgical excision procedure, abnormal cervical histology, and risk of preterm delivery: a retrospective cohort study

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