American College of Nurse-Midwives Annual Meeting

Abstracts from Research Forums Presented at the American College of Nurse-Midwives' 59th Annual Meeting

The American College of Nurse-Midwives (ACNM) Division of Research, Division of Global Health, and the *Journal of Midwifery and Women's Health* are pleased to present the abstracts from the 2014 Research Forum podium presentations. The podium presentations were selected in a blinded peer review process and presented at the ACNM Annual Meeting in May 2014. The abstracts of completed research were eligible for presentation and therefore publication. The abstracts presented here demonstrate the breadth and quality of research being conducted about midwifery and women's health by midwifery researchers and our colleagues.

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Carrie Klima, CNM, PhD, *Chair, Research Dissemination Section, Division of Research*
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Assessment of the Adherence to the Clinical Guide for Humanized Care during Delivery in Chile

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Introduction: In 2007, the Chilean Ministry of Public Health adopted the Clinical Guide for humanized care during birth in response to highly medicalized intrapartum care. Three years after its implementation, a pilot study was carried out in 2 hospitals in Santiago, the capital of Chile, aiming to 1) describe selected obstetric outcomes of the women enrolled who received care within this model; 2) identify the level of maternal newborn well-being after experiencing this modality of attention; and 3) explore the perception this humanized attention during labor and birth by both the professional staff (obstetricians and midwives) and consumers. Findings reported that 92.7% of women received medical interventions during labor (artificial rupture of membranes, oxytocin, and epidural anesthesia). Of the participants, 86.6% of women laid down in lithotomy position, and 54% had episiotomy. These findings were presented at the 56th ACNM Annual Meeting & Exhibition. **Aim:** In light of these findings, the same study will be replicated in 7 regions of the country to determine if the results found are exclusive to Santiago, or if there are regional differences attributable to cultural, geographical, or other factors, to identify the midwifery model of Chile as a whole. **Methods:** A descriptive qualitative and quantitative study is being conducted with 1374 women who gave birth in 7 regional hospitals within the National Health System from January until September 2013. Qualitative methods include focus groups and interviews with professionals and consumers. Quantitative methods include a validated survey of maternal well-being and an adaptation of the ACNM standardized antepartum and intrapartum data set. Ethical approval was obtained from the Ethical Committee for Research at the Faculty of Medicine, University of Chile and each local ethical committee. This study is supported by a grant from the National Health Research Fund (SA12I2079). Additionally, the same study is being conducted in 7 Latin American countries on behalf of a multisite collaborative research project led by the School of Midwifery, University of Chile. **Findings:** Quantitative findings showed poor implementation of the guidelines, with few regional variations: 85.5% of the women had medically induced labors, 90.6% received parenteral hydration, and 22.2% of the women reported discontent with the care they received. The main qualitative findings pointed out a gap in providing humanistic care and inadequate facilities to support this kind of model. **Conclusions and Implications:** More education and socialization regarding the implementation of this model is required.

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PRONTO: Obstetric and Neonatal Emergency Simulation in Mexico Improves Patient Outcomes, Provider Knowledge, Team Coordination, and Identifies Latent Systems Errors

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Purpose: To assess the impact of an emergency obstetric and neonatal simulation-based team training program (PRONTO) on process indicators and maternal and neonatal outcomes. **Research Questions:** Does PRONTO training improve participating providers' obstetric and neonatal emergency knowledge, self-efficacy, and goal achievement? Do public hospitals in Mexico where providers receive PRONTO training have different maternal and neonatal outcomes than control hospitals? **Significance:** Studies in

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resource-stable countries have found improved patient outcomes following participation in simulation team training. However, limited-resource countries, like Mexico, rarely have access to such trainings given the high cost of simulation. Acknowledging the potential for low-tech, highly-realistic simulation in resource-limited settings, PRONTO was piloted in 2009. Its impact on patient outcomes has yet to be evaluated. **Methods:** We implemented a matched cluster, quasi-randomized trial of PRONTO training in 24 public hospitals in 3 Mexican states from 2010 to 2012. Intervention hospitals (n = 12) had selected providers (n = 450) participate in PRONTO training. Providers were trained in 2 modules, 2 to 3 months apart focusing on the topics of neonatal resuscitation, obstetric hemorrhage, preeclampsia/eclampsia, shoulder dystocia, teamwork, and communication using obstetric emergency simulations, guided debriefings, skill stations, and team-building exercises. Data collection included baseline facility inventory and chart review, pre-post intervention individual participant testing, and 12 months of follow-up, chart review, and birth observations. Pre-post process indicators were analyzed using linear regression. Outcome data were analyzed using negative binomial regression with a difference-in-difference approach for the 3 months prior to data collection at 4, 8, and 12 months follow-up non-cumulatively. **Results:** Following PRONTO training, knowledge and self-efficacy for physicians and nurses ($P<.001$-$.009$) significantly improved for all tested topics. Teamwork scores improved during Module I and were maintained through Module II. Participating hospital teams achieved an average of 6 strategic planning goals per hospital, more than 50% of the goals that they set for themselves during the training. The intervention did not significantly impact rates of hysterectomy, obstetric hemorrhage, preeclampsia, or eclampsia. Impact estimations showed a 44% decrease in hospital-based neonatal mortality rates at 8 months postintervention (incidence rate ratio [IRR], 0.56; 95% confidence interval [CI], 0.13–0.64).There was a significant reduction in the rate of cesareans at 4 months (IRR, 0.83; 95% CI, 0.40–0.29), 8 months (IRR, 0.77; 95% CI, 0.10–0.35), and 12 months (IRR, 0.79; 95% CI, 0.8–0.32) follow-up. **Discussion:** Making simulation accessible globally has the potential to save the lives of mothers and newborns, particularly in the most resource-limited settings. Highly realistic, low-tech simulation coupled with team training can improve provider knowledge, self-efficacy, and teamwork, in addition to neonatal mortality and cesarean rates. More research is needed to assess the program's impact on patient-level measures of morbidity and mortality.

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Evaluation of the Implementation of the 75-gram, 2-hour Glucose Tolerance Test in a Nurse-midwifery Practice

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Purpose/Aim: Despite recent attempts at achieving international consensus concerning screening criteria for gestational diabetes, conflicting opinions and strategies persist. A clinical inquiry project described the implementation of the one-step, 75-gram, 2-hour glucose tolerance test (GTT) in a nurse-midwifery practice at an academic health center. **Research Questions and/or Hypotheses:** The 4 aims of the inquiry project were to describe characteristics and outcomes of nurse-midwifery patients diagnosed with gestational diabetes using the newly implemented screening criteria, including: 1) demographic characteristics, 2) select antepartum measures, 3) select maternal and newborn outcomes, and 4) select indicators of utilization of resources. **Significance/Background:** This inquiry project is the first known description of the implementation of the one-step, 75-gram, 2-hour GTT in a national nurse-midwifery population. **Methods:** All nurse-midwifery patients who had been diagnosed with gestational diabetes using the International Association of Diabetes and Pregnancy Study Groups Consensus Panel's criteria between June 1, 2012 and February 28, 2013 were included. Local IRB approval was obtained. Descriptive statistics were used to report the data. **Findings:** Thirty-three women were diagnosed with gestational diabetes. The gestational diabetes prevalence rate increased from approximately 4.6% to 15.6%. Forty-six percent of the women diagnosed with gestational diabetes had risk factors and were screened at less than 17 weeks' gestation. Forty-seven percent of these women were diagnosed with gestational diabetes that required medication (A2GDM) and transferred to the perinatal diabetes clinic. Twenty-eight women had given birth by the time of the analysis. Twenty-nine percent (n = 8) were induced for gestational diabetes-related indications. One woman required insulin in labor. One preterm birth at 36 weeks' gestation was not attributed to gestational diabetes. Thirty-two percent (n = 9) had previous cesarean births. There were 4 repeat cesarean births, 2 of which were for arrest of labor and 2 for fetal intolerance of labor. The unscheduled cesarean birth rate, including those who labored with a past history of cesarean, was 21.4% (n = 6). The mean (SD) infant birth weight was 3553 (477) g. There were no cases of shoulder dystocia, birth injuries, neonatal hypoglycemia, or infant-mother separation. **Discussion:** A descriptive summary revealed a substantial increase in the prevalence rate in this nurse-midwifery population. Maternal diagnosis and outcomes varied by risk factor status. Neonatal outcomes were overwhelmingly normal. Utilization of resources was highest among women with A2GDM. The analysis is limited by a small sample size and provides a basis for future studies of screening criteria for gestational diabetes in the nurse-midwifery population.

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Outcomes of Nulliparous Women with Spontaneous Labor Onset Admitted to Hospitals in Pre-active versus Active Labor

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Purpose: The aims of this study were to estimate the percentage of low-risk, nulliparous women with spontaneous labor onset who are admitted to labor units prior to active labor

and to evaluate the effects of the timing of admission (ie, preactive versus active labor) on labor interventions and mode of birth. **Research Questions:** What percentage of low-risk, nulliparous women are admitted to labor units prior to active labor onset? Are women admitted to hospitals in preactive labor more prone to exogenous oxytocin augmentation, amniotomy, and cesarean birth? **Significance:** The timing of when a woman is admitted to the hospital for labor care following spontaneous contraction onset may be among the most important decisions that labor attendants make as it may influence care patterns and birth outcomes. **Methods:** Obstetric data from low-risk, nulliparous women with spontaneous labor onset (N = 216) were merged from 2 prospective studies conducted at 3 large Midwestern hospitals. Women dilating less than 0.5 cm per hour, on average, for the first 4 hours post-admission were classified in the pre-active labor group while those dilating 0.5 cm or greater per hour were classified in the active labor group. Baseline characteristics, labor interventions, and outcomes were compared between groups using Fisher's exact and Mann-Whitney U tests, as appropriate. Likelihoods for oxytocin augmentation, amniotomy, and cesarean were assessed by logistic regression. **Results:** Of the sample of 216 low-risk, nulliparous women, 114 (52.8%) were admitted in pre-active labor, and 102 (47.2%) were admitted in active labor. Women who were admitted in preactive labor were more likely to undergo oxytocin augmentation (84.2% and 45.1%, respectively; odds ratio [OR], 6.5; 95% confidence interval [CI], 3.43–12.27) but not amniotomy (55.3% and 61.8%, respectively; OR, 0.8; 95% CI, 0.44–1.32) when compared to women admitted in active labor. The likelihood of cesarean was higher for women admitted before active labor onset (15.8% and 6.9%, respectively; OR, 2.6; 95% CI, 1.02–6.37). **Discussion:** Many low-risk, nulliparous women with regular, spontaneous uterine contractions are admitted to labor units before active labor onset, which increases their likelihood of receiving oxytocin and giving birth via cesarean. An evidence-based, standardized approach for labor admission decision making is recommended to decrease inadvertent admissions of women in pre-active labor. When active labor cannot be diagnosed with relative certainty, observation before admission to the birthing unit is warranted.

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Abortion Care in Ghana: A Critical Review of the Literature

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Purpose/Aim: To critically review the published literature around abortion care in Ghana, a country in sub-Saharan Africa with a relatively liberal abortion law. **Research Questions:** What are the methodological and substantive gaps in the abortion literature in Ghana, where there is a robust community of researchers from multiple disciplines and a liberal law? **Background:** The government of Ghana has taken important steps to mitigate the impact of unsafe abortion. However, the expected decline in maternal deaths has yet to be realized. This integrated literature review aims to present findings from empirical research directly related to abortion provision in Ghana and identify gaps for future research. **Methods:** Four databases were searched with the keywords "Ghana & abortion," and a hand review of reference lists was conducted. All abstracts were reviewed. **Results:** Thirty-nine articles were included in the final sample. Abortion-related complications represent a large component of admissions to gynecologic wards in hospitals in Ghana as well as a large contributor to maternal mortality. Between 10% and 47% of those sampled reported ever having an induced abortion, although induced abortions are notoriously underreported. Demographic characteristics associated with seeking an abortion included being younger, unmarried, better educated, urban-dwelling, and of higher income. Almost half (n = 19) of the included studies were hospital-based, with the majority of those being chart reviews. **Discussion:** Ghana has one on of the most liberal abortion laws on the African continent, and the government has taken explicit steps to reduce the impact of unsafe abortion on maternal health. However, unsafe abortion continues to contribute significantly to the stubbornly high level of maternal mortality in the country. This review of the literature has identified gaps in the literature including interviewing women who have sought unsafe abortions and health care providers who may act as gatekeepers to women wishing to access safe abortion services.

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Scheduling Strategy Using Poisson Probability to Ensure 24/7 Scheduling Coverage for Emergency Nurses Caring for Patients that Have Been Sexually Assaulted

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Background: Sexual assault patients disproportionately experience gaps in health care delivery including delays in referrals, delays in medication administration, and extended lengths of stay in emergency departments. Victims of sexual assault have unique health care needs that require nurses to have extensive knowledge and skills to adequately address them. Training nurses with simulation is one approach to enhancing knowledge and skills. However, with a large number of nurses a burden is created whereby nurses have difficulty maintaining clinical competencies due to the decreased opportunity to gain actual hands-on experience. **Purpose:** The purpose is to determine a reliable method for calculating an accurate number of nurses to select for simulation training so that one of the specially trained nurses will most likely be working in the emergency department on any given shift. **Research Question:** Is there a reliable method to calculate the number of nurses to train with simulation so that there will be one trained nurse working at all times in the emergency department. **Methods:** Using Poisson probability distribution the number of nurses selected for simulation training was calculated by reviewing a 6-month period of emergency room nurses schedules. A schedule pattern was selected

that achieved 24/7 coverage in 8am to 8pm and 8pm to 8am shifts. Nurses working at least six 12-hour shifts in a 4-week period were selected for analysis. **Results:** Training 6 nurses working 8am to 8pm results in a 0.143 probability that a nurse would not be working, and training 15 nurses working a shift of 8am to 8pm resulted in a 0.006 probability that one of the nurses would not be working on a given day. Training 6 nurses working 8am to 8pm results in a 0.113 probability that a nurse would not be working, and training 15 nurses results in 0.002 probability that one of the nurses would not be working on a given day. **Conclusions and Implications:** Poisson probability distribution is a reliable method to determine a number of nurses to train for simulation in order to increase the likelihood that one trained nurse is working on any given shift. Additionally, using this scheduling method, Poisson can be applied specifically to other health care specialties where there are no fixed schedules, and the need to have a health care individual with specialized skills is essential.

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Acupuncture for the Treatment of Vulvodynia

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Purpose: A randomized controlled pilot study was conducted to evaluate the effect of an acupuncture protocol for the treatment of vulvodynia. **Hypotheses:** 1) Acupuncture reduces vulvar pain and dyspareunia in women with vulvodynia. 2) Acupuncture increases sexual function in women with vulvodynia. **Significance:** The incidence of vulvodynia in US women has been reported to be as high as 16%. Research suggests that there is no consistently effective standardized treatment for vulvodynia. **Methods:** Thirty-six women with vulvodynia met inclusion criteria, and 36 women completed the study. The women were randomly assigned either to the acupuncture group or to the wait-list control group. The 18 participants assigned to the acupuncture group received acupuncture 2 times per week for 5 weeks for a total of 10 sessions. **Results:** Vulvar pain and dyspareunia showed statistically significant reductions, and sexual function showed a statistically significant increase for women in the acupuncture group as compared to the wait-list control group. Acupuncture showed a trend for increased vaginal lubrication and reduced affective pain. Acupuncture did not increase sexual desire, sexual arousal, ability to orgasm, or sexual satisfaction in women with vulvodynia. **Discussion:** This was the first randomized controlled pilot study to examine the use of acupuncture for the treatment of vulvodynia. The acupuncture protocol was feasible and in this small sample reduced vulvar pain and dyspareunia, and increased sexual function in women with vulvodynia. This study should be replicated in a larger double-blind randomized controlled trial, and if results indicate, this acupuncture treatment protocol should be considered a valid and important option in the treatment of this incapacitating pain syndrome.

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Continuity, Confidence, Compassion and Culture: Lessons learned from Japanese midwives

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Purpose: To explore midwifery practice through the eyes of Japanese midwives and midwifery students, with the aim of identifying traditional childbirth practices and models of midwifery care that lead to higher rates of physiologic birth as experienced by women in Japan. **Research Questions:** What specific cultural factors influence pregnancy care and childbirth practices in Japan? What factors and practices are associated with physiologic birth in Japan? How could traditional Japanese practices be utilized by midwives in the United States to improve birth outcomes? **Significance:** Despite its relationship with Western culture, Japan continues to promote physiologic birth without complications, at lower rates than many other developed nations. With a comparatively low cesarean rate of 18.6% in 2011 and one of the lowest maternal mortality rates in the world, cultural factors are clearly important. Recognition of traditional Japanese midwifery practices and unique models of midwifery care that can increase opportunities for physiologic birth have the potential to reverse the increasing trend for birth intervention in other countries. **Methods:** Mixed methods were used to explore midwifery practices in Japan. A pilot survey, translated into Japanese, was administered to midwives (n = 9) and midwifery students (n = 9) in 2 prefectures in Japan (one urban, one rural). Two focus groups were conducted to further explore culturally specific midwifery attitudes, practices, and future challenges in maintaining low birth-intervention rates in Japan. Visits to hospital and community settings (*Josanin* or birthing homes) enhanced understanding of described practices. **Results:** The prominent role of midwives in all low-risk pregnancies in Japan was felt to increase opportunities for women to achieve physiologic birth. Interventions commonly used in the United States were reserved for complicated pregnancy. Japanese midwives recognized danger in increasing epidural use and the value of midwifery care in preventing unnecessary intervention. Important aspects of care included midwifery presence, compassion, confidence in women, non-pharmacologic pain relief, movement/upright labor positions, and education provided by midwives. **Discussion:** Greater access to continuity of midwifery care in the United States could contribute to better birth outcomes. A larger study of Japanese midwives is planned to further explore effective practices that could be used in US settings to improve opportunities for physiologic birth.

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Factors Associated with Adolescent Pregnancy, Psychological Distress, and Suicidal Behavior in Jamaica: An Exploratory Study

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Purpose of the Study: To describe the sociodemographic profile and explore the personal experiences of pregnant Jamaican adolescents and the impact of pregnancy on their psychological health. **Background:** The Jamaican Global School-based Health Survey (2010) found that 23% of adolescents aged 13 to 15 years reported seriously considering suicide, and 22% had actually attempted suicide one or more times during the last 12 months. The 2008 Jamaica Reproductive Health Survey has shown a teen pregnancy rate of 72 per 1000. The survey shows concerns about the high rate of maternal mortality, premature newborns, labor complications, low birth weight, and low and poor utilization of antenatal health care. Research that links adolescent pregnancy and suicidal behavior is lacking in Jamaica. Adolescent pregnancy and psychosocial health have been priorities for both the International Confederation of Midwives and the World Health Organization. Research within the Caribbean and Latin America has noted psychological distress and suicidal behaviors reaching prevalence of between 13% and 67% among pregnant adolescents. This study, which explores the self-reported perceptions of pregnant adolescents, seeks to inform policy and practice as it pertains to adolescent maternity health care. **Methods:** Methods used include guided individual and focus group interviews of adolescents attending the multidisciplinary Teen Pregnancy Clinic at the Victoria Jubilee hospital and the traditional adult antenatal clinic at Spanish Town Hospital to elicit themes regarding perceptions, values, resilience, knowledge of community resources, perceptions of social support, and psychological distress. University and Ministry of Health ethics approval was obtained. Grounded theory analysis with NVIVO software was utilized. **Findings:** Findings of our pilot of 30 participants is presented utilizing thematic analysis. Comparisons will be made between the outcomes of teens who participate in a specialized adolescent prenatal care program compared to the traditional antenatal care model. The following preliminary themes have been identified: perceptions of self, values, resilience, knowledge of community resources, perceptions of social support, psychological distress, powerlessness, motherhood. Although motherhood is valued, most of these pregnancies are unplanned by the mother and sexual activity is forced in 1 out of 5 of teens aged 15 to 19 years. **Discussion:** Many Jamaican adolescent mothers face barriers to education, self-determination, and family planning. Adolescent-centered health care could mitigate stressors.

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