2017

Translating Evidence of Skin-to-Skin and Rooming-in to Practice

Francisca Njoku
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Francisca Njoku

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Mary Verklan, Committee Chairperson, Nursing Faculty
Dr. Tracy Wright, Committee Member, Nursing Faculty
Dr. Dana Leach, University Reviewer, Nursing Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2017

Abstract

Translating Evidence of Skin-to-Skin and Rooming-in to Practice

by

Francisca Njoku

MS, Lehman College, 2013

BS, University of Belize, 2006

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

August 2017

Abstract

The old practice of separating the mother-baby-dyad was without measurable benefits to mothers or their infants. Evidence has shown that skin-to-skin care (SSC) prevents hypothermia and hypoglycemia, decreases crying during painful procedures in newborns, and reduces maternal anxiety, stress, and postpartum depression. Rooming-in care (RIC) has been linked to an increase in the rate of breastfeeding and mother-infant interaction, as well as a decrease in the infant morbidity rate. This project assessed the effect of an educational intervention to increase rates of SSC and RIC in an obstetric unit, in addition to measuring nurses' attitudes and barriers in relation to SSC and RIC. The obstetric nurses received educational content related to SSC and RIC based on Kotter's model of change. A pre and postintervention evaluation showed a significant increase in the rates of SSC and RIC from pretest of 10%, to posttest of 96%; and RIC from pretest of 10% to posttest of 92%. Using a Wilcoxon test, a significant difference was found from pretest to posttest for every subscale score of the Mother-Newborn Skin-to-Skin Contact Questionnaire and Nurse Attitudes and Barriers to nonseparation Scale ($p < 0.001$), with the exception of belief about obstacles for SSC, which yielded a nonsignificant change ($p = 0.57$). This DNP project led to changes in the organization's culture, including the closure of the well-baby nursery. This project promoted social change across the organization, in that the team health care providers delivered evidence-based, standardized, unbiased, and family-centered care to the mother-baby dyad.

Translating Evidence of Skin-to-Skin and Rooming-in to Practice

by

Francisca Njoku

MS, Lehman College, 2013

BS, University of Belize, 2006

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

August 2017

Dedication

I dedicate this project in honor of my husband, Mr. Augustine Njoku, my favorite writing critic. I sincerely value your creative and intelligent ideas for better writing. I also dedicate this project to honor my lovely children: Praise, Confidence, Favour, and Goodness. Your ability to independently do your homework, help with house chores, and know when Mom was studying gave me an edge to continue the part of the DNP. I will not forget to remember my late father, Mr. Vernantius Chinagorom. You supported me from the time I was a little girl. You always told me, "Francisca, you have the potential to become anything you want to be in life." Although you are no longer alive, your kind words and encouragement are still resilient in me.

.

Acknowledgments

I wish to acknowledge the guidance and support of my practicum preceptor, who is my role model, mentor, and "professional angel" in clinical expertise, relationship, and attitudes at the workplace. I thank my professor and faculty chair, Dr. Mary Verklan, for her expert feedback on this project. I also acknowledge nursing leadership and the chairperson of women's health services for their support and contributions. Above all, I acknowledge my DNP writing preceptor, the director of nursing, and the director of risk management for their incredible support and oversight.

.

.

Table of Contents

List of Tables

List of Figures

Section 1: Overview of the Evidence

Introduction

Improving the well-being of infants is a significant public health goal for the United States. The well-being of children defines the health of the next generation. Further, the health of children is important in the effort to envision future public health challenges for families, communities, and the healthcare system (U.S. Department of Health and Human Services, 2010). Within the obstetric nursing practice in the healthcare setting of this DNP project, I embarked on evidence-based practice (EBP) changes that would improve the health of newborns, specifically through the implementation of skin-to-skin contact (SSC) and rooming-in care (RIC). Physical contact provides infants with physiological stability, warmth, optimal transition to extrauterine life, and opportunities for breastfeeding (Holmes, McLeod, & Bunik, 2013). Mothers who room-in with their infants have been shown to have increased positive interactions such as looking at, touching, and admiring their babies (Svensson, Velandia, Matthiesen, Welles-Nystrom, & Widström, 2013). The practice of separating the mother-baby dyad soon after delivery for some hours deprives newborns of immediate skin-to-skin contact with their mothers and does not facilitate bonding. When nurses are knowledgeable about best practices, it is more likely that they will educate, motivate, and support mothers in order to attain the best outcomes for mothers and babies. This paper describes a DNP project directed toward improving the skin-to-skin holding and rooming-in rate at an urban hospital in the eastern United States. The paper provides an overview of the project, a review of the scholarly evidence, and an outline of how the project was operationalized.

Background/Context

Despite evidence showing the importance of SSC and RIC (Baby-FriendlyUSA, 2013), mother-infant separation post birth was common in the project setting. The factors contributing to early separation of mothers and their infants were lack of evidence-based knowledge, fear for the safety of babies, the urge to complete nursing assignments, and the need for time to finish documentation. Inadequate knowledge of updated clinical information is a threat to EBP. Nurses were reluctant to acquire continuing education and seldom attended local, state, or national nursing conferences (Eslamian, Moeini, & Soleimani, 2015). For these nurses, attending the facility's continuing education programs is not enough to increase knowledge specific to mother-baby care. Conferences organized by professional organizations such as the Association of Women's Health, Obstetrical and Neonatal Nurses, National Association of Neonatal Nurses, and Academy of Neonatal Nurses can broaden nurses' knowledge for this specialty area.

The fear of babies falling from the hands of their mothers was a barrier that hindered SSC and RIC (Dalbye, Calais, & Berg, 2011). Mothers were afraid and lacked confidence for holding their newborns. This fear led the organization to create a safe-baby-care sheet that ensured rounding on the mother-baby dyad (Appendix J). However, the literature reviewed did not identify skin-to-skin holding time as a cause for a neonatal fall (Monson, Henry, Lambert, Schmutz, & Christensen, 2008). Monson et al., (2008) attributed newborn falls to mothers falling asleep, walking in hallways carrying their babies, and sitting in reclining chairs while awake with their babies. Education on how to

safely hold a baby during skin-to-skin contact provided by the bedside nurse enhanced neonatal safety and decreased mothers' fear of their children falling.

Hurrying to finish assignments and documentation constituted another barrier to EBP. Nurses, midwives, and physicians want to know the weight and medical record number of a newborn for their delivery documentation. The process of obtaining the weight of a newborn disrupted skin-to-skin practice within the first hour of birth. Though every member of the healthcare team received education on the benefits of early SSC, the implementation of this method required a coordinated effort (Brady, Bulpitt, & Chiarelli, 2014). The first hour of birth is a golden time, a critical period for emotional development, attachment, breastfeeding initiation, and infant neurological development (Miesnik, & Reale, 2007). The first hour of birth represents a delicate psychophysiological period that programs future physiological behavior (Moore, 2012). During the duration of the golden hour, the naked infant, through skin-to-skin holding, is held against the mother's bare chest between her breasts, with both covered with a warm blanket (Aghdas, Talat, & Sepideh, 2014). Evidence has shown that maternal-infant separation, even for a short period, is a major factor that can decrease the neonate's ability to initiate breastfeeding and may lead to a reduction in maternal confidence and self-efficacy (Aghdas et al., 2014).

Problem Statement

Baloh, Uthicke, and Moon (2008) posited that both the structure and the culture of an organization could be a challenge to EBP changes. In this project site, newborns were taken to the low-risk nursery immediately after birth and were brought back to their

mothers after routine care approximately 4 to 6 hours later. The nurses were more comfortable in providing transition care, including medications and the first bath, in the nursery than at labor and delivery. The babies were also returned to the nursery whenever their mothers wanted to rest or sleep. The separation of infants from their mothers interfered with mother-baby bonding and the ability of mothers to learn their newborns' feeding clues. Additionally, mothers who did not room-in with their infants have been found to roughly handle their babies in comparison to mothers who roomed-in with their babies (Dumas et al., 2013).

The Joint Commission, New York Breastfeeding Coalition, Baby-FriendlyUSA, Association for Women's Health, Obstetrical and Neonatal Nursing (AWHONN), and American Academy of Pediatrics have identified the importance of skin-to-skin holding and rooming-in care for the success of breastfeeding (Baby-FriendlyUSA, 2013). Skin-to-skin and rooming-in have been shown to reduce maternal stress (Stikes & Barbier, 2013), improve the neonate's cardiopulmonary status (Aucott, 2002), lessen the rate of hypoglycemia (Yamauchi & Yamanouchi, 1990), and increase breastfeeding rates (Murray, Ricketts, & Dellaport, 2007). Practices that involved separating babies from their mothers negatively impacted baby-mother bonding as well as the initiation of breastfeeding (Academy of Breastfeeding Medicine Protocol Committee, 2009). The identified problem for this project was that a need exists for an intervention aimed at increasing the rate of skin-to-skin and rooming-in for the immediate postpartum mother-baby dyad. An anticipated long-term effect of this practice change was an increase in the breastfeeding rate.

Obstetric nurses expressed discomfort and lack of knowledge in relation to skin-to-skin and couplet care. My interaction with the postpartum nurses showed that the transitional care instituted to keep the mother-baby dyad together in the recovery area was a source of fretfulness and frustration. The nurses were frustrated because the labor and delivery and postpartum units were not on the same floor. Thus, the nurses needed to walk one floor down to labor and delivery for neonatal admissions. Another area of frustration was the lack of cooperation between the two units. Nurses from the respective units required effective communication and teamwork. Therefore, coupled with these barriers, the proposed change in the delivery of postpartum nursing care presented many challenges as it involved a shift from current practice to an evidence-based care model (Brady, Bulpit, & Chiarelli, 2014).

An additional stressor placed on the postpartum nurses was the practice of "stress care hypoglycemic policy." The administration classified 17 conditions that designated a newborn as a stress care baby. A stress care baby requires monitoring for hypoglycemia throughout the transitional period after birth. Monitoring of hypoglycemia by heel stick was an added burden, along with the extra time needed to provide neonatal interventions. Although SSC and RIC align with best practices and national guidelines (Baby-Friendly, 2013), the obstetric nurses viewed these practice changes as a burden that was added to hypoglycemic monitoring.

Purpose Statement

The purpose of the Doctor of Nursing Practice (DNP) project was to improve the use of SSC and RIC best practices following nursing staff education. The training

included electronic information, PowerPoint presentation during unit meetings, and face-to-face discussions. Pre- and posteducation data and rates of SSC and RIC were collected to meet the purpose of the doctoral project. After data collection, the information was statistically analyzed. The replacement of newborns' admission to the low-risk nursery with evidence-based couplet care encouraged mother-child bonding and eventually increased the breastfeeding rate (Baker & Naumann, 2015). A review of 34 randomized studies in 2,177 mothers by Moore (2012) showed that SSC improved interaction for the mother-baby dyad and made mothers more likely to breastfeed exclusively and for a longer period.

Keeping mothers and their newborns together facilitated them learning each other's cues and helped parents to play a larger role in the care of their babies (Brenneman & Prince, 2014). During rooming-in, mothers identified and responded to early feeding cues (Allen, 2015). Feeding in response to signals increased feeding frequency. Milk production does not come as an excretion. Rather, milk production is heralded by sight, smell, the sound of a baby's movement, and feeling stimuli (Young, 2005). When feeding frequency increases through signals, the incidence of jaundice, hypoglycemia, and weight loss will decrease (Young, 2005).

Project Objectives

The DNP project had three objectives. The first objective was to increase SSC of mother-baby dyads at the project site from 10% to 55% during the first hour after birth. The first hour following birth is called the *Golden Hour* and is very critical to neonates in terms of nutrition, warmth, and extrauterine transition (Gams, 2015). Skin-to-skin

holding helps in mother-infant bonding, provides the newborn with constant warmth and accelerates breastfeeding initiation (Haxton, Doering, & Gingras, 2012). SSC not only provides warmth for newborns, but also makes latching to the breast easier and the breastfeeding process enjoyable, rather than being a struggle for the mother-baby dyad.

The second objective was to increase the number of mothers who were rooming-in with their babies to 55% from the current rate of 10%. Rooming-in, also known as *couplet care*, involves caring for both the mother and her newborn in the same room (Beal, Dalton, & Maloney, 2015). Babies were taken to the newborn nursery immediately after birth, where they remained for 4 to 6 hours to transition to extrauterine life, or until their mothers were transferred to the postpartum unit. During the night or whenever the mother wanted to sleep, the baby was returned to the nursery. Rooming-in has been noted to increase mother-baby bonding, provide warmth, and increase breastfeeding initiation and duration (Davies & Michael, 2015). When mother and baby are in the same room, there will be adequate provision of warmth through frequent SSC. This process will likewise increase breastfeeding initiation because the mother will be knowledgeable and observant of the baby's feeding cues.

The third objective was to evaluate nurse attitudes and barriers to SSC and RIC practices. It was important for nurses to be knowledgeable and have the skills and positive attitude needed to expedite the translation of evidence through SSC and RIC. Success in the implementation of EBP relies upon positive attitudes among nurses (Mehrdad, Joolaee, Joulaee, & Bahrani, 2012).

Project Question

Will an educational program on skin-to-skin contact and rooming-in care improve the rate of skin-to-skin holding and rooming-in practices in an obstetric unit within 2 months?

Evidence-Based Significance of the Project

Clinical decisions regarding practice changes that are based on research findings are more likely to result in desired patient outcomes across various settings and geographic locations (Youngblut & Brooten, 2001). A Cochrane systematic review of 34 randomized studies involving 2,177 mothers and their babies (Moore, Anderson, Bergman & Dowswell, 2012) examined the impact of early SSC for the mother-baby dyad. The authors concluded that SSC for the mother-baby dyad has positive effects on infants' health, behavior, and breastfeeding. Babies who had SSC cried less, had better psychological development, and had a longer duration of breastfeeding (Moore et al., 2012).

SSC has positive effects on both term and preterm babies. Feldman, Rosenthal, and Eidelman (2014) compared the behaviors of premature infants who had SSC versus infants who had incubator care and found that the 73 premature infants who had SSC had increased autonomic function. The study concluded that those who had SSC showed decreased stress response, increased executive functions, and better cognitive control over the period from 6 months to 10 years of age (Feldman et al., 2014). SSC's benefits exceed the postpartum period. The long-term effects may enhance growth and development through the childhood period and beyond.

SSC was a determinant of RIC success. These processes work together to produce quality care for the mother-baby dyad. A qualitative study (Lin, Lee, Kuo, Mu, & Shu, 2004) found that mothers who roomed-in with their newborns expressed happiness during the process. Rooming-in was regarded by the mothers as a time of joy because they experienced the pleasure of nursing their babies. They had the opportunity to see when their newborns were crying, learn their hunger cues, and engage in total participation in the care of their babies. Further, the study concluded that there was family cohesion as the father of the baby and other relations were involved in the care of the newborn.

Reduction of Gaps

The overall goal of the practice change was to increase bonding between mothers and their newborns by implementing couplet care. Bonding is a unique and long-term emotional link that begins with SSC contact and continues throughout life (Johnson, 2013). Meeting the infant for the first time is a unique experience that women and their partners remember and value with enormous salience (Redshaw, Hennegan, & Kruske, 2014). According to Redshew et al. (2014), the first mother-infant contact and holding provides an opportunity to start relationship building that will be long term. Skin-to-skin care and RIC facilitate emotional attachment for the mother-baby dyad.

Reduction of gaps in practice means changing practices that are not evidence-based. The lack of practice of SSC and RIC encouraged the separation of mothers and their infants. Immediately after delivery, nurses admitted babies to the nursery for transition care and bathing. Mothers were left without their babies in labor and delivery.

Occasionally, there were delays in transferring the mothers to the postpartum unit because of the long-lasting effects of the epidural or the simple reason that the postpartum mother has not voided (Leach, 2011). If the effects of epidural and the mother's inability to void after labor were the reasons for keeping mothers in labor and delivery, then there was no contraindication for healthy newborns to be removed to the well-baby nursery. Maternal-infant separation, even for a short time, may lead to a reduction in maternal confidence and self-efficacy (Aghdas, Talat, & Sepideh, 2014). The early separation of newborns from their mothers hindered the parents from learning their infants' feeding cues. Similarly, it may have made it more difficult for mothers to take care of their babies at home after discharge (Stage, Mathiesen, Emmersen, Greisen, & Damm, 2010).

The nursing profession, as the largest segment of the healthcare workforce, should be on the front lines of patient care and EBP changes (Institute of Medicine [IOM], 2010). Nurses' lack of knowledge related to practice changes that are based on evidence was a gap that needed to be filled. Obstetric nurses need to explore avenues to advance knowledge and accept innovations that will improve care quality and patients' safety (Bradshaw, 2010). Nurses should be current in their knowledge and use of EBP that will help to improve the lives of mothers and babies.

Implications for Social Change

The American Association of Colleges of Nursing (AACN) DNP Essential 11 focuses on systems leadership for quality improvement (AACN, 2006). As a DNP student, I was prepared to improve maternal-infant well-being through initiatives that

would improve healthcare delivery for the mother-baby dyad and the community. This process included the implementation of a sustainable practice change of SSC and RIC. Sustainable couplet care and SSC contributed to increasing nursing knowledge, which helped and sustained the new practices of SSC and RIC (Mundell, Kennedy, Szostek, & Cook, 2013).

RIC and SSC facilitate bonding between mothers and their infants. The psychological processes of bonding and attachment between parents and their newborns are crucial for societal health and development (Westrup, 2015). A study using interactional pattern analyses (Green & Phipps, 2015) concluded that newborns who had kangaroo care with their mothers had better social interaction compared with infants who had incubator care. Social interaction results may be enhanced because of family bonding and are essential for societal health because society starts with families.

The initiation of SSC immediately after birth and RIC throughout the hospital stay have been noted to have a positive psychological effect on both the mother and her newborn baby. When mothers and their infants have regular time together, children stay warm and mothers learn to recognize their children's needs (Anderson, Moore, Hepworth, & Bergman, 2007). A mother's tender and loving response to her infant's needs builds a connection that will last a lifetime (Bystrova et al., 2007). Strong ties between parents and their children form a foundational model for intimate relationships, fostering a sense of security and positive self-esteem for children (Mahmood, Jamal, & Khan, 2011). Healthy self-esteem is a child's armor against the challenges of life.

Children who know their strengths and weaknesses and who feel good about themselves have an easier time handling conflicts and resisting negative pressures in today's complex world (Anderson et al., 2007). Children with self-esteem tend to smile more readily and enjoy life better than those with no self-esteem (Kids Health, 2015). Self-esteem, smiles, and tolerance are needed to handle the stresses of the workplace, marriage, and society in general.

Definition of Terms

For this EBP initiative, the following definitions were used:

Baby-friendly: Baby-friendly is a designation a maternity site can receive by proving to external appraisers the facility's compliance with the Ten Steps to Successful Breastfeeding (Philipp & Radford, 2006).

Couplet care: The process of having the mother-baby dyad remain together throughout the hospital stay and under the care of one nurse (Baker & Naumann, 2015).

Evidence-based practice (EBP): EBP is the principle used in clinical decision making to provide care based on individual perspective, clinical expertise, and the best available research evidence (Phillips et al., 2013).

Exclusive breastfeeding: The process by which an infant is fed only on breast milk, excluding water, other liquids, and solids, except for oral rehydration solution, drops/syrups of vitamins, minerals, or medicine (World Health Organization [WHO], 2015).

Hyperbilirubinemia: An elevated bilirubin level resulting in jaundiced skin, and often necessitating phototherapy (Brethauer, 2010).

Kangaroo care: Kangaroo care involves immediate contact after birth, whereby the naked baby is held against the mother's skin, between the breasts, and until the first feed or for as long as the mother wishes (Mahmood et al., 2011).

Mother-baby dyad: The mother-baby dyad is a process whereby a mother and her newborn are kept together in one room throughout their hospital stay (Bayes, Fenwick, & Hauck, 2012).

Newborn: A *neonate*, or a child who is less than 28 days of age (WHO, 2016).

Rooming-in care (RIC): A system whereby a mother and her newborn are kept together in one room for the duration of their hospital stay (Faria, Magalhaes, & Zerbetto, 2010).

Skin-to-skin (SSC) care holding: "SSC is defined as the placing of the naked newborn prone on the mother's bare chest at birth or soon afterward" (Puig & Sguasseron, as cited in Haxton et al., 2012, p. 222). SSC is also done after the first hour of life.

Assumptions and Limitations

Assumptions

Five assumptions supported the project. The first assumption was that the nurses would want to learn about the best practices of SSC and RIC and then incorporate the strategies into their care practices. The second assumption was that the mothers and their significant others would be willing to participate in, and interested in, the skin-to-skin and rooming-in process. Third, I assumed that the lactation consultant would play an active role in assisting in the education process for the nurses, physicians, and mothers on

the importance of SSC and RIC. The last assumption was that the nurses would support the parents who were rooming-in with their newborns.

Limitations

There were three major limitations identified with the project. The first limitation was that not all mothers would want to perform SSC and RIC. The patient population was composed of women from various religious, tribal, and age groups. Mothers from some groups are uncomfortable exposing their breasts in the presence of a group of people (Thomson, Ebisch-Burton, & Flacking, 2015). Additionally, if the mothers did agree to SSC and RIC, they might not want their babies to room-in 24 hours a day.

While older parents might feel exhausted from the stress of labor and delivery, younger mothers might feel paranoid and worried that something bad might happen to their newborns (Lai, Hung, Stocker, Chan, & Liu, 2015).

A young mother might not feel safe having her baby in the room with no other adult present. Mothers may think that their own recovery is the priority and that they will be able to take care of their infants better when they go home. Another limitation was the high workload of the nurses, which did does not permit them enough time to stay to help with SSC or RIC. It was not uncommon for the nurses to perform the duties of a clerk and a nursing assistant in addition to their nursing responsibilities, which, coupled with sophisticated computer documentation, gave them little time with the mother-baby dyad.

Summary

An extrauterine life characterized by critical physiological and psychological adaptation for the mother and newborn is stabilized by the proximity of mother and

newborn (McInerney & Gupta, 2015). Therefore, the closeness of the mother-baby dyad promotes EBP, patient safety, quality, and patients' preference (Gawlinski & Rutledge, 2008). The nurses lacked the knowledge needed to implement SSC and RIC practices, in part due to the traditional method of separating mothers and newborns. As a DNP student who had integrated a foundation of EBP, advocacy, aggregate health care, and global perspective, I was uniquely positioned to lead the practice change.

This section has presented a brief overview of the problem and purpose statement and the strategies that were applied to fulfill the project's objectives. Fulfilling the project goals required changing organizational traditions and practices. These changes included SSC, RIC, and minimal/ no use of the nursery. Nurses, as the largest group in the healthcare industry, were at the forefront of the change.

Section 2: Review of Scholarly Evidence

Introduction

The mastery of skills and practices necessary for healthcare providers who care for the mother-baby dyad is essential in an ever-growing and complex healthcare system. Knowledge regarding neonatal physiology, infant stress, mother-baby interactions, cardio-respiratory support (Ludington-Hoe, 2011), and evidence-based interventions to stabilize a neonate has advanced in nursing practice (Haxton et al., 2012). The traditional method of separating infants from their mothers immediately after birth has been shown to not have a basis in evidence (Stikes & Barbier, 2013). Delivery room experience for the mother-baby dyad should begin with SSC, followed by RIC throughout the hospital stay. In this section, I discuss the literature review and explain the choice of theoretical and conceptual framework for the DNP project.

Review of the Literature

Databases used in the search included PubMed, EBSCOhost, CINAHL Plus, AHRQ evidence reports, Google Scholar, and the Cochrane library. The field-specific terminology of *skin-to-skin*, *kangaroo care*, *bonding*, *thermo-regulation*, *infant stress*, *rooming-in*, *brain function*, *transitional nursing*, *early initiation of breastfeeding*, *rooming-in*, *hypoglycemia*, and *practices that increase breastfeeding rate* were used in conducting a comprehensive literature review. Additional sources searched were the American Academy of Pediatrics (AAP); American Academy of Breastfeeding Medicine (AABM); Association for Women's Health, Obstetric, and Neonatal Nurses (AWHONN); American College of Obstetricians and Gynecologists (ACOG); and Baby-

FriendlyUSA position statements. The review also included past dissertations and conference presentations from Walden students. Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) summary tools (Newhouse, Dearholt, Poe, Pugh, & White, 2007) were used to evaluate the literature located.

Thirty studies met the project criteria. I rejected 10 studies because they focused on other languages or were conducted outside the United States. The10 studies selected for the literature review were randomized controlled trials (RCTs), systematic reviews, or retrospective studies published in 2007 or later. The choice of studies was made with the aim of offering objective and robust data that could be validated (Sonuga-Barke et al., 2014). Verified data are elements that help to foster and solidify EBP changes.

Specific Literature

The origin of SSC may be traced to 1978, when Dr. Edgar Rey Sanabria, a professor of neonatology, instituted kangaroo care (Greydanus & Merrick, 2014). Kangaroo care is comparable to the way in which kangaroos hold their young close to their skin (Hall & Kirsten, 2008). The practice entails placing the diapered infant in skin-to-skin position, with the newborn's chest lying directly upon the mother's bare chest and then keeping them together, covered with a warm blanket (DiMenna, 2006). Sanabria's intention in instituting kangaroo care was to combat the high rate of infection and abandonment of preterm and low-weight infants among women in Bogota, Colombia (Ludington-Hoe, 2011). Health care providers used kangaroo care as a substitute for keeping babies warm because incubators were not available (WHO, 2003). Sanabria posited that mothers should have continuous skin-to-skin contact to protect their

newborns from hypothermia until after the first feeding (Greydanus & Merrick, 2014). In recognition of Sanabria's idea of physical closeness between premature and low-birthweight babies and their mothers, the WHO awarded him the Sasakawa Health Prize in 1991.

The transition of the newborn to extrauterine life is a major life process. Therefore, Phillips (2013) recommended that premature/low-weight neonates and term infants have equal opportunity to transition to extrauterine life by placing them skin-to-skin with their mothers. Evaluating and analyzing current literature are integral processes within an EBP change project. In the following subsections, I discuss specific research related to SSC and RIC

Skin-to-Skin Contact

The ability of SSC to regulate the infant's temperature and prevent hypothermia has been well understood. When the newborn is placed prone on the mother's bare chest, there is a transfer of heat (Moore, 2012). Moore (2012) divided 50 neonates into an SSC group and a control group and found that newborns in the SSC group achieved rapid thermal regulation as compared to the control group at 24 hours and 48 hours after birth. The primary reason that newborns were deprived of SSC in the past was the belief that an infant would develop hypothermia if placed naked on the mother's chest and that, therefore, the radiant warmer was a desirable place to keep neonates immediately after birth. In contrast to this belief, Nimbalkar et al. (2014) concluded that early SSC for 24 hours after birth decreases the incidence of hypothermia for the initial 48 hours of life and subsequently.

Ludington-Hoe et al. (2006) expanded on the effects of thermal transfer with SSC by investigating temperature regulation in twins. The researchers noted that the maternal skin regulated infants' temperature without medical intervention. Temperature decreased during the initial transfer of twins to their mother's chest but adjusted after a period of 90 minutes to be more than half a degree Centigrade higher than what it was before skin-to-skin placement. It was also found that when the infants' temperatures were higher, the mother's skin temperature decreased to facilitate a neural thermal environment for the twins (Ludington-Hoe et al., 2006). Because the mother's breast can regulate temperature to suit the needs of the neonate, even infants who are not thermodynamically stable can benefit from participating in SSC.

Vilinsky and Sheridan (2014) wrote that evaporation, radiation, conduction, and convection are the four mechanisms that cause heat loss in newborns. When infants are left unattended, heat is lost through radiation. Babies lose heat through radiation to any surface in the surroundings (Vilinsky & Sheridan, 2014). Such surfaces include walls or any material close to the child that is cooler than him or her (Davis, 2009). SSC becomes an alternative and the most natural way to keep the newborn warm (Vilinsky & Sheridan, 2014). Therefore, in order to protect infants from hypothermia, obstetric nurses have educated mothers on the importance and the effects of SSC and have applied this knowledge to everyday practice.

In a systematic review of 34 randomized controlled trials involving 2,177 subjects, Moore (2012) concluded that early SSC helped to regulate physiological processes and behavior. Expressions such as infant crying and grimacing diminished, and

latching onto the breast was better managed. The routine cares given to the newborn during the transition, such as Vitamin K injections and prophylaxis eye care, are accompanied by infant crying that can be ameliorated by using SSC.

Phillips (2013) opined that the type of reception that a newborn receives might determine his or her perception of life as either difficult, easy, hostile, safe, painful, lonely, or warm. Phillips further warned that "the events surrounding birth have the potential to set the stage for patterns of subconscious thought processes and behaviors that persist for a lifetime" (p. 67). The awareness and understanding of events surrounding one's birth are skewed, but the vividness and precision of specific details and activities are often astonishing (Phillips, 2013). Nurses should recognize the importance of encouraging the mother-baby dyad to remain together using SSC.

Transient hypoglycemia in the newborn was not an uncommon finding due to the high-risk population that was served by the project site. Healthy infants are capable of using glycogenolysis and lipolysis in restoring a physiologic hypoglycemia (Rozance & Hay, 2012). Use of SSC helped to maintain a neural thermal environment, such that the newborn conserved glucose and oxygen. Walters, Boggs, Ludington-Hoe, Price, and Morrison (2007) conducted a descriptive study to examine whether blood glucose values influenced SSC. Nine full-term neonates were placed in SSC within 1 minute of birth until the first breastfeeding. Blood glucose taken at 60 minutes post birth varied from 43 to 85mg/dl for infants who had not feed and from 43 to 118 mg/dl for those who had fed. The researchers attributed the healthy glucose levels to SSC. The findings were relevant to my project because the subjects' socioeconomic and medical characteristics were

similar to those of the obstetrical and neonatal population at the health care organization (Moore, Anderson, Bergman, & Dowswell, 2012).

The benefits of SSC extend to the mother during the postpartum period. Using a longitudinal quasi-experimental design, Bigelow and colleagues (2012) studied the effects of SSC on postpartum depression for the first 3 months following delivery. Thirty mothers assigned to an experimental group who participated in SSC had lower scores on depression scales at 1 month as compared to a control group (*N = 60*). Mothers in the SSC group had greater reduction in their salivary cortisol measured during a home visit as compared to mothers in the control group (Bigelow et al., 2012). Activity in the maternal adrenal axis is negatively influenced by childbirth. SSC reactivates the adrenal axis pathways and helps in minimizing the risk of depression (Feldman, Rosenthal, & Eidelman, 2014). Additionally, oxytocin hormone that is released during SSC decreases maternal anxiety and further reduces stress (Feldman et al., 2014). Though the study was done in Canada, the patient population had similar demographics to the health care organization project site. Additionally, complications of postpartum depression are prevalent in all socioeconomic groups and across cultures (Bigelow, Power, MacLellan-Peters, Alex, & McDonald, 2012)

Pregnancy, labor, and child care may be stressful conditions for mothers. Mothers with depressive symptoms tend to be less sensitive, less engaged, and more irritable and may show less emotion and warmth toward their infants (Bigelow et al., 2012). The simple intervention of SSC may help to combat stress and place the mother in a better position to care for her newborn. Though most parents have reported positive perceptions

of SSC, researchers have cautioned that some mothers do not feel comfortable with the procedure. In some cases, mothers have reported wanting to do SSC but feeling resistant to use it because of infants' negative reactions or because of their own perceptions that the procedure was done incorrectly (Fegran, Helseth, & Fagermoen, 2008). Obstetric nurses should assist mothers as much as possible in the process of SSC during the period immediately following birth and throughout the rooming-in period.

Rooming-in Care

The method of separating infants from their mothers immediately after birth necessitated the introduction of RIC. Rooming-in is the process of keeping infants and their mothers in the same room throughout the hospital stay (Jaafar, Lee, & Ho, 2012). The nonseparation of infants from their mothers after birth increases the breastfeeding rate and mother-infant interaction in addition to reducing the infant morbidity rate (Jaafar, Lee, & Ho, 2012). Couplet care, a model of nursing care whereby mothers and babies are not separated after delivery except for safety reasons, should be the standard of practice (Spradlin, 2009). The keeping of the mother-baby dyad in one room throughout the hospital stay is a family-orientated practice. A support person such as the spouse and the siblings of the newborn baby are allowed to stay in the same room with the postpartum mother. Keeping the family united after delivery and throughout the hospital stay allows better family bonding as the same nurse remains available to provide care and answer questions the mother or family may have (Spradlin, 2009). *The American Nurse*, an official publication of the American Nurses Association (2012), published the view

that keeping newborns in the same room with their mothers offers the best natural habitat and provides opportunities for breastfeeding.

Similarly, couplet care provides opportunities for continuity of care, stronger bonding, attachment, self-regulated interaction, and harmonized sleep patterns (Grubbs & Cottrell, 1996). During this process, mothers take part in the care of their newborns. Mothers sleep when their newborns are sleeping, and the environment self-regulates for the benefit of the mother and her infant. The benefits of couplet care also extend to the staff members of a health care organization. The staff benefit from enhanced teaching capability, less conflict and duplication of jobs, lower patient loads, improved communication, increased accountability, and responsibility (Grubbs & Cottrell, 1996). The combination of lower patient load, and improved communication fosters increased job satisfaction. Not only does couplet care increase job satisfaction, it also decreases newborn admissions to higher level care and increases patient satisfaction (Baker & Naumann, 2015). As previously discussed, because couplet care offers the most natural habitat for the newborn, the incidence of nosocomial infections is reduced, leading to a reduced admission rate for newborns. In this way, couplet care makes mothers happy. Happiness is a hallmark of patient satisfaction.

Jaafar, Lee, and Ho (2012) conducted a systematic review of RCTs involving 176 women to assess the effects of mother-infant separation versus rooming-in on duration of breastfeeding. It was concluded that the exclusive breastfeeding rate was significantly lower in the mother-infant separation group compared to the rooming-in group. Rooming-in care facilitated the mother's learning of her infant's feeding cues and

behaviors. Infants' feeding cues include hand-to-mouth activity, smacking lips, rooting, and movement of extremities (Philipp & Radford, 2006). A mother learning her infant's feeding cues, and knowing when the infant is ready to breastfeed will increase the breastfeeding rate. A systematic review was conducted using the Cochrane pregnancy and childbirth group's trials register, which propagates equivalent practice to that obtainable at the project site.

Bystrova et al. (2009) conducted a randomized clinical trial on early contact versus separation by examining its effects on mother-infant interaction. The researchers examined four experimental groups consisting of 176 mother-infant pairs. The dyads were divided into 4 groups: Group 1 newborns had SSC with their mothers and RIC, Group 2 newborns were dressed and given to their mothers post birth, Group 3 infants were kept in the nursery, and Group 4 neonates were kept in the nursery but roomed-in at their mother's request to the unit. The mother-infant interaction was videotaped according to the Parent-Child Early Relational Assessment (PCERA). The researchers found that close contact using SSC and RIC had a long-term positive effect on mother-infant interaction as evidenced by maternal sensitivity, infant's self-regulation, and dyadic mutuality. Reciprocity of the mother-infant dyad positively affected the PCERA variables at 1 year of life (Bystrova, 2009). Similarly, swaddling of the infant was found to decrease the mother's sensitivity to the infant; the ability to affectionately involve the infant as well as empathy and reciprocity in the dyad was remarkably diminished (Bystrova, 2009). Increasing the knowledge, and participation in SSC among mother-

infant dyads will result in less cold stress, improved baseline pulse, and respiratory rates in newborns (Chiu & Anderson, 2009).

Stage, Mathiesen, Emmersen, Greisen, and Damm (2010) examined the effects of RIC on neonatal morbidity. The record of an old cohort of *N =103* infants routinely admitted to NICU and a new cohort of *N = 102* infants offered rooming-in care were assessed for neonatal morbidities such as hypoglycemia, hypothermia, and admissions to the neonatal intensive unit (NICU). Neonatal morbidity and neonatal hypoglycemia were significantly less common in the new cohort than in the old group, with 26% versus 55% for neonatal morbidity, and 41% versus 63% for neonatal hypoglycemia, respectively. The researchers concluded that neonatal care with RIC was associated with reduced newborn morbidity when compared with traditional separation of infants from their mothers (Stage et al., 2010). Rooming-in care is, therefore, a safe, and recommended practice that improves the health of healthy infants. Based on the evidence, RIC, and SSC benefit both mothers and their babies. Thus, the mother-infant dyad should be given an opportunity for SSC and RIC unless separation is medically indicated (Crenshaw, 2014).

Although the review above promotes rooming-in, nurses should be aware that clinical situations are unique, that families differ, and that RIC may not work in all cases. Rooming-in care is about the psychological well-being of the mother and infant safety (Waller-Wise, 2012). Staff must not forget that regardless of the health education offered to a laboring and then postpartum mother, the hospital stay may be complicated by the mother having a feeling of lack of control and lack of self-confidence (Kuo et al., 2012). The standard of maternity care should be centered on the physical and psychosocial needs

of the mother, the neonate, and her family (Kuo et al., 2012). Therefore, efforts to increase the practice of RIC and SSC should be patient centered.

General Literature

Skin-to-Skin as a Pain Relief Measure

Ludington-Hoe and Hosseini (2005) conducted a randomized trial with 24 infants to determine the physiological and behavioral pain response in neonates who had heel stick. The researchers randomized 24 premature babies. Group A, received 3 hours of SSC/ kangaroo care before the heel stick, and Group B, received traditional nursing care inside the incubator before the heel stick. Using ANOVA and Mann-Whitney U statistics, the researchers found that markers of pain, such as heart rate, respiratory rate, oxygen saturation, and crying time before, during, and after heal stick markedly reduced in the neonates that had SSC with their mothers compared to babies who had traditional care. Three infants did not cry and slept more while on SSC/ kangaroo care with their mothers as compared to the infants inside the incubator. Though Ludington-Hoe and colleagues approves SSC, they cautioned that the infant may associate SSC with painful experience. In the above-mentioned study, babies had SSC for 3 hours but, SSC proves to be effective even for 20-30 minutes (Ludington-Hoe et al., 2005).

Modi and Glover (1998) extended the Ludington-Hoe, Hosseini, and Torowicz study by examining the effects of SSC on plasma cortisol level and beta-endorphin levels before heel stick. The researchers found a 66% decrease in cortisol with a 74% drop in beta-endorphin levels in the SSC group compared to the infants who received a massage. The significant decline in plasma and salivary cortisol was attributed to the reduction of

hypothalamic-pituitary-adrenal (HPA) axis activity (Ludington-Hoe et al., 2005). The study concluded that SSC dampens HPA activity before heel stick. While some researchers preferred SSC for routine procedures such as the heel stick, Vivancos, Leite, Scochi, and Santos (2010) found no statistical difference in infants who had SSC before Hepatitis B injection.

The project facility identified 17 medical conditions for stress care management, because the medical conditions required additional nursing surveillance. One of these circumstances was hypoglycemia in which heel sticks were done in the newborns every hour until their glucose level stabilized. Mild stress, such as pain during heel sticks, may result in permanent changes in catecholamine neurotransmission of the limbic system and cause exaggerated behavior like mild stress during adult life (Ludington-Hoe et al., 2005). Skin-to-skin contact is viewed as a solution for pain caused by heel sticks. One of the objectives of this DNP project was to facilitate the education, and adoption of SSC and RIC by obstetric nurses involved in the direct care of mother-baby dyads.

Neonatal Abstinence Syndrome (NAS) and RIC

Using a retrospective chart review, McKnight et al. (2015) examined the effects of rooming-in program for newborns at risk for NAS on the need for pharmacologic treatment and length of hospitalization. The researchers reviewed medical charts of 24 newborns in a 13-month period before implementation of RIC, and 20 infants after implementation of RIC. Rooming-in-care was associated with a reduced need for pharmacologic treatment for NAS and a shorter hospital stay. Pritham (2013), in a systematic review conducted from 1990 to 2013, found that maternal contact, SSC, and

RIC decreased the symptoms of NAS (2013). Opioid-dependent women given methadone and buprenorphine to ameliorate withdrawal symptoms, transfers the medication through breast milk to their newborn (Pritham, 2013), resulting in decreased symptoms of NAS in breastfed infants. Skin-to-skin contact and RIC are practices that support opioid-dependent women to breastfeed their children (Pritham, 2013).

Sudden Unexpected Postnatal Collapse (SUPC)

Sudden Unexpected Postnatal Collapse (SUPC) is a rare event that every postpartum nurse should know. Unexpected Postnatal Collapse is an apparent life threatening event or a sudden unexpected death in infancy occurring within the first week of life (Herlenius & Kuhn, 2013). Of the 398 cases reviewed by Herlenius and Kuhn (2013), approximately one-third of reported events occurred during the first 2 hours between 2 and 24 hours, and between one and 7 days after birth. Two hours' post birth correlates with the time the mother-baby dyad is practicing SSC. A retrospective study found that the neonates at risk for SUPC were born at greater than 35 weeks' gestation with no known risk factors for congenital anomalies, prematurity, and perinatal asphyxia (Herlenius & Kuhn, 2013). The identified risk factors for SUPC include infants lying on their face in an occluded position of the mouth and nose/bent neck (Herlenius & Kuhn, 2013). Other authors opined that SUPC occurred among babies whose parents were left unattended by healthcare providers (Davanzo et al., 2014). A new mother who is left unattended with no prior birth experience may not have the requisite knowledge of proper positioning during SSC and the newborn's signs of wellness (Davanzo et al., 2014). Therefore, the process of avoiding SUPC entails that the perinatal nurses are

knowledgeable regarding the risks of SUPC, and have the skills to educate the mothers about the safe positioning of their newborns'

Ludington-Hoe and Morgan (2014), suggested the use of the "RAPP" (respiratory, activity, perfusion, and position) assessment tool to monitor the wellbeing of infants during SSC practice, and to quickly evaluate the babies' physiological condition and position. Ludington-Hoe and Morgan (2014) recommendation for the use of RAPP for assessment may be acceptable; however, they recommend that there be 2 hours of continuous surveillance by the perinatal nursing staff for the mother-baby dyadThe researchers also suggested that electronic monitoring of the neonate be done, which was another additional expense the perinatal department cannot afford. The best alternative is to educate the nursing staff and mothers on the risks of this rare event and how to prevent its occurrence.

Rounding

The use of structured rounding by obstetric nurses did not only prevent falls among the mother-baby dyad, it also helped to improve the patient's satisfaction score. Rounding was a practice of visiting patients every hour or half an hour and offering care within standardized protocol (Halm, 2009) and provides opportunity for monitoring SUPC. Rounding has been used as a practice for postpartum mobility assessment, and as a tool for implementing changes. The application of SSC and RIC care required an hourly rounding by the obstetric nurses. When a mother, baby, and family relative are in the same room, there is a need to check often, making sure that they are physiologically and psychologically stable. Reviving and sustaining family-centered care requires the

incorporation of observation, and feedback from family advisors, and health care providers. Through rounding, nurses at the bedside were empowered to initiate evidence-base approaches to improving the outcome and quality of life for the mothers and their families (Fabry, 2015).

Theoretical and Conceptual Framework

A relevant theory to change and improve behavior or practice shown to be useful for the DNP project was Kotter's approach. It is a leadership model with broad applications (Marshall, 2014). Dr. John P. Kotter is a retired Harvard Business School professor who spent over 3decades examining changes, looking at what promotes and impedes successful organizational change (Marshall, 2014). Kotter considered that organizational change can be managed using a dynamic, nonlinear, 8 -step approach (Campbell, 2008; Guzman et al., 2011). The selection of Kotter's change model was informed because unlike other models; it enabled us to gain insight and wisdom from expertise borrowed from the business industry (Noble, Lemer, & Stanton, 2011). The model was adaptable at each critical step of the process (Reeves & Deimler, 2011). Thus, Kotter's change model was selected to guide and support behavioral changes necessary to promote the successful implementation of SSC and RIC (Marshall, 2014).

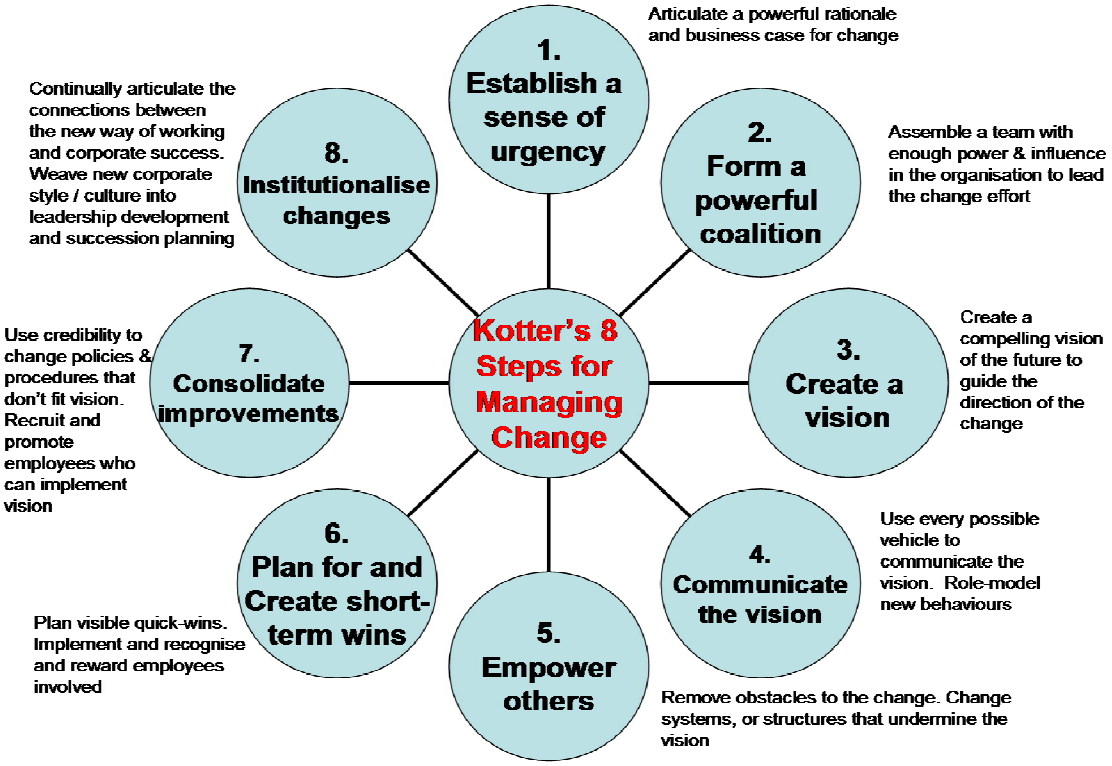


Figure 1. Kotter's model. Adapted from "Leading a Change: Why Transformation Efforts Fail", by J. P. Kotter, 2007, *Harvard Business Review*, *92*, p. 99. Copyright 2007 by Harvard Business Review. Reproduced with permission.

Figure 1 is a representation of the major steps of Kotter's model. The model includes the eight steps: Such as establishing a sense of urgency, forming a powerful coalition, creating a vision, and communicating the vision, empowering people in the organization to act on the vision, planning for vision short-term performance improvements, consolidating improvements to produce more change, and finally, institutionalizing new approaches to SSC and RIC practices (Kotter, 1995). The process of allowing the mother-baby dyad enough time to transition to extra-uterine life, and

caring for them in the same room until hospital discharge were new approaches to care that was institutionalized.

The first step was the establishment of a sense of urgency. Jodi and Meyers (2009) noted that there was a necessity for practice change by acknowledging that SSC and RIC represented a complex process of interaction between mother and baby that was far more than association. Interaction and bonding between a mother and her child are about creating a new person: immune system, brain function, socialization, and long-term health (Ludington-Hoe, 2011). Kangaroo care/SSC was not only endorsed, but the American Academy of Pediatrics recommended it as a standard of care (Ludington-Hoe, 2011). The sense of urgency was extended to the reimbursement requirement. The Joint Commission (2013) and the New York State Department of health (2011) required NYS hospitals to support exclusive breastfeeding to maintain credentialing and reimbursements status. Disrupting or delaying SSC may make self-attachment and breastfeeding difficult (Dumas et al., 2013). Moore, Anderson, Bergman and Dowswell (2012), opined that early separation also may disturb maternal infant bonding, reducing the mother's affective response to her baby which can reduce breastfeeding rate

The establishment of a sense of urgency led to a second step which was the formation of a powerful coalition that guided and led the SSC and RIC (Kotter & Cohen, 2012). I identified a group of four nurses as SSC and RIC champions. These nurses acted as a support group and ensured the initiation of SSC within one hour of birth and that RIC was in place. The second step also entailed engaging the stakeholders, chief operating officer, chief nursing officer and the department of obstetrics leadership group.

The involvement of stakeholders was essential because a significant change was impossible unless the head of the organization was an active supporter (Kotter, 2007). Kotter's change model steps built upon each other in a logical manner based on increasing information and involvement from key stakeholders (Csont, Groth, Hopkins, & Guillet, 2014). Involving other people such as the patients, family members, certified nurses' aides, midwives, and doctors helped to broaden the coalition team.

The creation of a compelling vision came next. The project envisioned an increase in mothers participating in SSC and RIC. Increasing the rate of SSC and RIC was a sensible idea. Without a consistent vision, the change effort might have resulted in confusing mandates and leading to disorganization such that nurses would make no progress with the change initiative (Kotter, 2007). During the period of vision propagation, the stakeholder's concerns, obstacles, suggestions, and vision were addressed. Meeting stakeholders' needs helped to broaden the vision, and people took it as their project and intervention.

Though Kotter's model built on each step in a logical manner, step 4 (communicating the vision) and step 5 (empowering others) occurred simultaneously (Kotter, 1995). There were thorough discussions of SSC and RIC using consistent communication during staff meetings by making nurses aware of the vision and through education and reminders by the SSC and RIC champions, their perception of SSC and RIC was altered as they incorporated the changes into their practice (White, 2016). The awareness of SSC and RIC were created through different media formats such as posters,

pamphlets, texts, interrupt emails, promotional messages, and visual aids. Communication also involved been a role model and been available to answer questions

Step 5 of Kotter's model included the removal of obstacles to the change, change system, or structures that undermined the vision (Kotter, 2007). The project endeavored to remove every obstacle that would hinder the SSC and RIC, creating protocols, processes, and structures in the system that enabled the change to take place (Day & Shannon, 2015). The greatest barrier to the acceptance of SSC was the completion of nursing tasks, for example, infant bathing, and obtaining baby's birth weight immediately after birth. It was essential to incorporate evidence-based practice into the reorientation of nursing tasks, such as deferring the first bath until after 12 hours of birth and using the last estimated birth weight for admission procedures (Dabrowski, 2007). The postponing of infant bathing and baby's weighing helped to foster bonding, and prevented separation of the mother-baby dyad in the immediate delivery process.

Step 6 was the planning and the creation of short-term wins. At step 6 the key players of the vision were recognized and honored. The giving of little card, verbal appreciation, sending emails motivated the nurses. Without motivation, the people involved in the change would not have helped, and the efforts would be fruitless (Kotter, 2007). The team also consolidated positive change result to produce more change. Credibility and confidence were built among the staff as they were empowered to recognize that change has come

Kotter described the seventh step as the consolidation of improvements. During the phase of consolidation, credible evidence was used to change systems and structures

that were not consistent with the vision. The nurses admitted the newborns in labor and delivery instead of the newborn nursery. The admission of the infant in labor room demanded the creation of a transitional nurse from the postpartum staff. The high-risk guideline for monitoring of glucose level (Appendix K) was another system policy that was changed. Heel stick for the monitoring of hypoglycemia was restricted to only at risks infants as specified in the guidelines. The AAP (2012) limits glucose monitoring to the large for gestational age, small for gestational age, babies born to diabetic mothers, late pre-term infants, and children who are symptomatic for hypoglycemia.

The final stage of Kotter's change model was the institutionalization of the new approaches. Nurses incorporated transitional nursing in labor and delivery, and assisted mothers to do SSC and RIC. Monitoring and evaluating of the change were done in the form of new employee performance appraisal, and reward system to influence the nursing staff to adhere to the new values. The organization put practices in place to ensure continued successful implementation of the project, and that the improvement initiative stayed until the philosophy: "in this organization, we practice SSC, and do not separate mother-infant dyad unless medically indicated" was second nature.

Summary

The literature reviewed showed the primary reasons for SSC as the prevention of hypothermia, and hypoglycemia in the newborn, and decreasing crying during painful procedures. Reduction of maternal anxiety, stress, and postpartum depression was also evident. Rooming-in care was shown to increase breastfeeding, mother-infant interactions, and decreased infant morbidity rate. Kotter presented his model as a

framework for empowering people in an organization to act on a vision. The change process involved the removal of any obstacle that would hinder the change, the creation, and changes in policies, protocols, and practices in an organizational system that enabled the change to take place. The next section of the DNP project focus on the project design, population, data collection, data analysis, and the project evaluation mechanism.

Section 3: Methodology

Introduction

The purpose of the DNP project was to improve the use of SSC and RIC best practices following an educational intervention. The project was a practice improvement initiative. The participants were a sample of obstetric nurses. The nurses were evaluated using a standardized outcome measurement, The Mother-Newborn Skin-to-Skin Contact Questionnaires (MSSCQ; Nahidi, Tavafian, Heidarzadeh, Hajizadeh, & Montazeri, 2014), and the Nurse Attitudes and Barriers to Non-Separation Scale (Barry & Williams-Willis, 2011) for knowledge, attitude, and practice. The breastfeeding department keeps a monthly record of SSC and RIC rates, but I also reviewed the medical records for compliance by counting the number of incidences of SSC and RIC. The charts excluded patient identifiers. In Section 3, I discuss the population, data collection, data analysis, and evaluation plan.

Project Design/Methods

The DNP project used a posteducational measurement method to evaluate the effect of an educational intervention in a clinical setting (LoBiondo-Wood, Haber, Cameron, & Singh, 2014). The effectiveness of the educational intervention on SSC and RIC was the outcome of the measurement (Grove, Burns, & Gray, 2013). I did not use a controlled experimental design for the project because of the difficulty of establishing a causal relationship (Onyejuruwa, 2014). Lack of randomization may be a weakness of the practice improvement project (Harris et al., 2006).

Population and Sampling

The setting was a community family-oriented hospital serving a large and highly educated population in the northeastern region of the United States. It had a complete range of services including pediatrics, geriatrics, wellness, sexually transmitted disease, and women's health. The obstetric unit served a culturally diverse population and was staffed by nurses of varied cultural and ethnic backgrounds.

The Target Population

The target population was the obstetric nurses. The obstetric department had about 100 nurses at the start of the project, but this number had decreased at the project's completion. The nurses had varied age, cultural, and educational backgrounds. Their ages ranged from 20 to 69 years, and their work experience varied from a minimum of 1 year to 42 years. They included nurses from Africa, Asia, South America, and Europe, as well as the United States. In terms of educational preparation, the obstetric nurses included 27 individuals with baccalaureate degrees, 18 individuals with associate's degree, three licensed practical nurses, two individuals with master's degrees, one advanced practice nurse, and one doctorate-prepared (PhD) nurse.

The sampling method was nonprobability convenience sampling because all of the obstetric nurses in the clinical site were involved. Convenience sampling is inexpensive, feasible, easily accessible, and less time consuming in compare to other sampling methods (Grove, Burns, & Gray, 2013). Morrison, Lee, Gruenewald, and Marzell (2015) recommended purposeful sampling of places of interest (health care organizations), use of recruitment strategies appropriate to the environment, and the

provision of full information on response rates at all levels of sampling in order to reduce sampling bias in location-based sampling. Therefore, to reduce bias associated with convenience sampling, I ensured that all the obstetric nurses had at least 1 year of experience working with newborns and met the inclusion criteria for the DNP project.

The project used the entire population or the census of the obstetric nurses in the clinical site as the sample. Using G*power software 3.0 (Faul, Erdfelder, Lang, & Buchner, 2007), with alpha set at .05 and power at 0.80 with an effect size of 0.30, the sample size was an estimate of 100 obstetric nurses. The use of a census eliminated sampling error and provided data for all the obstetric nurses in the facility

Data Collection

Data collection began once Walden University Institutional Review Board (IRB) approval (01-12-17-0443685) and project site management approval were obtained. A sign-in sheet was provided, and return of an anonymous questionnaire signaled consent. Data collection involved several steps: My practicum preceptor called the first meeting, in which I had the opportunity to introduce my project, the process, and the expectations. I distributed the Mother-Newborn Skin-to-Skin Contact (MSSCQ) and the Nurse Attitudes and Barriers to Non-Separation Scale (NABNSS) pretest questionnaires (Appendices C and E) to the obstetric nurses. The MSSCQ used a 3-point Likert scale (*agree*, *neither agree nor disagree*, and *disagree*), and the NABNSS used a 5-point Likert scale (*strongly agree*, *agree*, *undecided*, *disagree*, and *strongly disagree*). The demographic data (Appendix H) did not include identifiers to protect the privacy of the participants.

In a meeting with my practicum preceptor, we determined that because the rates of SSC and RIC were collected by the breastfeeding department, the numbers would be retrieved retrospectively from that department. I also verified the rates of SSC and RIC in the EMR. The breastfeeding department provided the rates of SSC and RIC for the months of February and March. At the completion of pretest data collection, I presented a 1-hour PowerPoint titled "All About Skin-to-Skin and Rooming-in Care" (Appendix I) in unit meetings, one-to-discussions, and small-group meetings. The daily meetings were conducted to cover the various shifts as well as staff who might be going on vacation. In the presentation, I discussed SSC and RIC, the benefits of the new care model, and strategies for helping mothers to engage in SSC and RIC. The PPowerPoint presentation placed emphasis on performance of SSC for all babies, irrespective of their feeding method, and nonseparation of the mother-infant dyad throughout the hospital stay (BabyFriendlyUSA, 2013). The results of the pretest questionnaires and data on the rates of SSC and RIC before the implementation of the project served as a baseline. After the educational intervention, I obtained post data from the breastfeeding department for the months of April and May. I verified the postintervention rates of SSC and RIC information in the EMR. The obstetric nurses returned the distributed questionnaires. The pretest results were compared with the posttest results to determine the immediate changes in knowledge, attitudes, and compliance with SSC and RIC. Patient identifiers were not revealed; confidentiality was preserved. Permission was not needed from the patients because the project was a quality improvement initiative. At the end of the

practice effort (after my graduation from the DNP program), a posttest measurement will be conducted to assess the long-term effects of the intervention.

Instruments

The obstetric nurses' knowledge, attitudes, and practice were measured using the MSSCQ (Appendix C) and NABNSS (Appendix E). The MSSCQ was modified to suit the project, and the modification affected neither the reliability nor the validity of the instrument (Nahidi et al., 2014). The items on the questionnaire used a Likert-scale format, with response options ranging from *strongly disagree* to *strongly agree*. The MSSCQ was developed in 2014 by Nahidi et al. as a psychometrical evaluation instrument for measuring mother-newborn SSC. The MSSCQ was derived from the PRECEDE-PROCEED model. Green and Kreuter developed the PRECEDE-PROCEED model for use in planning public health activities. The model guided the evaluation process, implementation, impact and outcomes of the intervention (Zaccagnini & White 2011).

The MSSCQ had internal consistency of Cronbach's alpha 0.92 and test-retest stability of 0.94 (Nahidi et al., 2014). The MSSCQ had good construct validity. According to Nahidi et al. (2014), the MSSCQ's construct validity was determined using both exploratory factor analysis (EFA) and confirmatory factor analyzes (CFA). The EFA loaded 82 questionnaire items on 15 factors and 3 distinct constructs that jointly accounted for 60.61% of observed variance whereas CFA determined (MSSCQ) is a model for appropriate fitness and acceptable value for clinical practice, midwifery and nursing studies (Nahidi et al., 2014)

The obstetric nurses' knowledge, attitudes, and practices were also measured with the NABNSS (Appendix E). The items on the questionnaire used a Likert scale that ranged from *strongly disagree* to *strongly agree*. The NABNSS was developed by Barry and Williams-Wills in 2011 and was the result of a combination of two previously reported instruments. One of these tools, "Is Your Prenatal Practice Mother-Friendly? A Strategy for Improving Maternal Care," was developed as an evidence-based tool for health practitioners to improve maternal care (Hotelling, 2004) in compliance with the Coalition for Improving Maternity Services (CIMS). The other, titled "Attitude and Awareness of Nurses About Rooming-in System," was used in determining optimal strategies for a system of rooming-in (Kim, Kim, Kim, Cho, & Kim, 2010). The instrument had a Cronbach's alpha of 0.897 on nurse's attitude and 0.932 on nurse's confidence (Barry & Williams-Willis, 2011). A Cronbach's alpha of 0.8 and 0.9 indicates good internal consistency. The instrument's construct validity was evaluated and revised by a panel of obstetric clinicians (Barry & Williams-Willis, 2011). There was no record of the validity, which may be a limitation.

Protection of Human Subjects

The DNP project was a practice improvement initiative. I completed a web-based training course entitled "Protecting Human Research Participants" (Appendix F). Groves, Burns, and Gray (2013) said that a project involving even greater than minimal risks to participants requires human protection. I kept all data anonymous in order to protect the privacy and confidentiality of the participants. The participants' names were not on the questionnaires, and responses and comments remained anonymous. Patient identifiers

such as names and dates of birth were removed from SSC and RIC data to ensure confidentiality and protection of patients' information. The questionnaires and the data were stored in a locked file cabinet, which remained in a locked private office. The computer that was used for data storage and analysis was password protected.

Data Analysis

The question for the improvement initiative project was the following: "Will an educational program on SSC and RIC improve the rate of skin-to-skin holding and rooming-in practices from 10% to 55% in a postpartum unit within 2 months?" The obstetric nurses' attitudes toward and fluency in the performance of SSC and RIC were measured and codified. The MSSCQ codes were 2 for *agree*, 1 for *neither agree nor disagree*, and 0 for *disagree*; the NABNSS codes were 1 for *strongly disagree*, 2 for *disagree*, 3 for *undecided*, 4 for *agree*, and 5 for *strongly agree*. The coded data were grouped under pretest and posttest data. Many of the distributions violated the assumption of normality for a paired sample *t* test because the skewness or kurtosis statistic was above an absolute value of 2.0 (Grove, Burns, & Gray, 2013). Therefore, a nonparametric Wilcoxon test was used to test the relationship between the pretest and posttest results.

The demographic survey sheet was a self-report questionnaire that was used to describe the characteristics of the participants (Appendix H). The demographic data were analyzed using descriptive statistics such as mean and percentages. The software that was used to complete the analysis was the International Business Machines (IBM) Statistical Package for the Social Sciences (SPSS) version 21 (SPSS, 2012).

Data for the SSC and RIC rates 2 months prior to implementation of the project initiative were retrospectively collected from medical records and the breastfeeding department as baseline data. A bar chart was used to compare the pre- and posteducational intervention on SSC and RIC (Zaccagnini & White, 2011). The time constraints for the project did not permit the collection of enough data points, but statistical significance was achieved. Zaccagnini and White (2011) advised that graphs, trends, bar charts, and patterns of practice can be used as measures of change. The SSC and RIC measures were analyzed through documentation of SSC practice and RIC in the electronic medical records pre and post practice initiative to detect differences in the rate of practice. The NABNSS and MSSCQ questionnaires were analyzed using SPSS version 21 to compute statistical significance. A statistically significant value indicated a change in the obstetric nurses' attitudes, knowledge, self-efficacy, and practice in relation to SSC and RIC.

Project Evaluation Plan

Leading a change and transforming practice require a framework that will guide the process. The effectiveness of the project was evaluated through the project's goals and desired outcome. The project was assessed using the realistic paradigm from the beginning to the end of the process (Figure 2). The strength of the realistic evaluation was that it encouraged understanding of the relationship between the context, mechanism, and outcome (Brimdyr, Widström, Cadwell, Svensson, & Turner-Maffei, 2012).

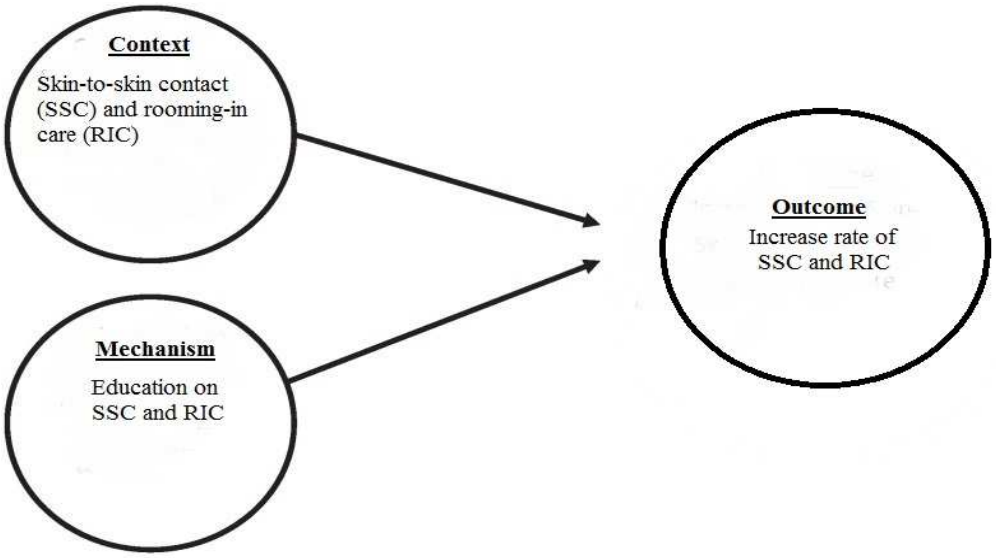


Figure 2. The realistic evaluation paradigm. Adapted from "A Realistic Evaluation of Two Training Programs on Implementing Skin-to-Skin as a Standard of Care," by K. Brimdyr, A. M. Widström, K. Cadwell, K. Svensson, and C. Turner-Maffei, 2012, *Journal of Perinatal Education, 21*(3), p. 151.

The context was the practice of SSC and RIC, whereas the mechanism was the education about SSC and RIC. The expected outcome was an increase in the rates of SSC and RIC. The limitation of this paradigm is that it does not contribute specifically to scientific knowledge; rather, it was used to inform the obstetric nurses about the EBP of SSC and RIC (Pawson & Tilley, 1997).

The evaluation also answered the following questions relating to the project:

1. Was the project objective achieved?
2. What impact did the project have on the obstetric nurses' knowledge, skills, and abilities in relation to SSC and RIC?
3. Did all the obstetrics nurses benefit from the education about SSC and RIC?

4. Did the project improve the willingness of the obstetric nurses to engage in SSC and RIC?
5. What impact did best practices of SSC and RIC have on the rates of SSC and RIC?
6. What impact did the PowerPoint presentation (Appendix I) have in terms of increasing the rate of SSC and RIC?

The realistic evaluation provided data to support sustainability of the practice improvement initiative with the goal of increasing rates of SSC and RIC and leading similar projects in other organizations.

Summary

A review of the literature identified several interventions to minimize mother-infant separation and to facilitate mother-infant togetherness. The process of keeping the mother-infant dyad together required a change in nurses' knowledge, attitudes, and practices (Bernaix, Beaman, Schmidt, Harris, & Miller, 2010). In this section, I have discussed the educational intervention and the evaluation of the effects of the intervention using pre- and posttest data. Obtaining data required protection of human subjects, even with the minimal intervention. A valid and reliable instrument was used to bring meaning to the DNP project. The best evaluation resulted in the best EBP. EBP improved the lives of children and mothers and had an impact on the nursing profession. Nurses were therefore empowered to be champions of excellent care. In the next section, I summarize the findings, implications, and project strengths and limitations, and I present an analysis of myself as a DNP project leader.

Section 4: Findings, Discussions, and Implications

Introduction

The project assessed the outcome of a nurse education concerning rates of SSC and RIC in an obstetric unit, in addition to measuring nurses' attitudes and barriers to SSC and RIC. Thus, answer to the question "will an educational intervention increase the rates of SSC and RIC in an obstetric unit within 2 months?" was provided. Overall, the combination of Kotter's change model and EBP changes with an active-learning approach triggered, and supported changes in practice that benefited the mother-baby dyad. While Kotter's model directed the progress of the project, the learner-centered teaching methods that actively engaged the nurses in the learning process had a positive impact on knowledge transfer, attitudes, practices, and SSC and RIC rates, as was also demonstrated in a similar study (Herreid, 2011). In section 4, I present summary of the findings, discuss the results in the context of the literature, and offer implications, project strengths, project limitations, and an analysis of myself.

Summary of Findings

The purpose of the DNP project was to increase rates of SSC and RIC from 10% to 55% in an obstetric unit in the northeastern region of the United States using Kotter's model of change and evidence-based educational intervention among nurses. The project question was the following: "Will an educational program on skin-to-skin contact and rooming-in care improve the rate of skin-to-skin holding and rooming-in practices in an obstetric unit within 2 months?" The project involved three objectives to address the question:

1. To increase SSC rates of mother-baby dyads at the project site from 10% to 55% during the first hour after birth.
2. To increase the percentage of mothers rooming-in with their babies to 55% from the present 10%.
3. To evaluate obstetric nurses' attitudes and barriers in relation to SCC and RIC practices.

Demographics

Demographic characteristics for the sample (N = 49) can be found in Table 1. The sample size for the project was 49 female nurses (N = 49). Nurses' ages varied from less than 30 years to more than 60 years, with the greatest proportion of nurses being between the ages of 31 and 59 years. Descriptive statistics were used to analyze the demographic characteristics of race, age, job title, years of experience in nursing, years of nursing experience in obstetrics, and level of education. These characteristics were recorded as nominal data with frequencies and percentages. The race with the greatest frequency was African American, and the majority of participants were registered nurses. Most of the nurses had more than 10 years working in the obstetric unit and held a baccalaureate degree (BSN).

Table 1

Demographic Characteristics

Variables	Level	Frequency (%)
Race		
	White	8 (16.4%)
	African American	23 (46.9%)
	Asian	13 (26.5%)
	Hispanic	4 (08.2%)
	Other	1 (02.0%)
Age		
	< 30	4 (08.2%)
	30-39	14 (28.6%)
	40-49	9 (18.4%)
	50-59	16 (32.7%)
	> 60	6 (12.2%)
Job title		
	RN	43 (89.6%)
	LPN	3 (06.1%)
	APRN	1 (02.1%)
Years of experience		
	< 5 years	12 (24.5%)
	5-10 years	7 (14.3%)
	> 10 years	30 (61.2%)
Years of obstetrics experience		
	< 3 years	8 (16.3%)
	2-5 years	8 (16.3%)
	5-10 years	9 (18.4%)
	> 10 years	24 (49.0%)
Education		
	ADN	18 (37.5%)
	BSN	27 (56.3%)
	MSN	2 (04.2%)
	Other	1 (02.1%)

Note. $N = 49$.

Project Objective 1

The first objective of the project was to increase the rates of SSC of mother-baby dyads at the project site from 10% to 55% during the first hour after birth. The preintervention period consisted of the months of February and March. Chart audits were completed by the breastfeeding department to ascertain the number of women who did SSC within the first hour of an infant's birth. The rates of SSC were compiled monthly by the breastfeeding department and displayed in the form of a chart on the unit's notice board. The data for the months of February and March were provided to me by the department. I also double checked the data in the EMR for confirmation. To guide the development of the educational intervention, I carried out an observation of the practice of SSC so that the education could meet the learning needs of the obstetric nurses. One-hour educational sessions were delivered to the nurses to develop and increase their knowledge on SSC. The sessions were given daily on different shifts to reach a maximum number of nurses. The educational sessions took the form of small- and large-group presentations and discussions.

Following the educational intervention, pre- and postintervention data were compared to determine the changes in practice. The prospective review of SSC in the EMR showed a 92% increase by the end of April and a 96% increase by the end of May (Figure 3). The significant increases in the rates of SSC from 10% to 92% and 96%, respectively, demonstrate that the educational intervention on SSC among obstetric nurses was successful and went above the 55% expectation. Educational interventions that aim to support the implementation of EBP among nurses are discussed in the

literature. Brimdyr, Widström, Cadwell, Svensson, and Turner-Maffei (2012) determined that the application of an educational intervention led to a significant and sustainable change in practice.

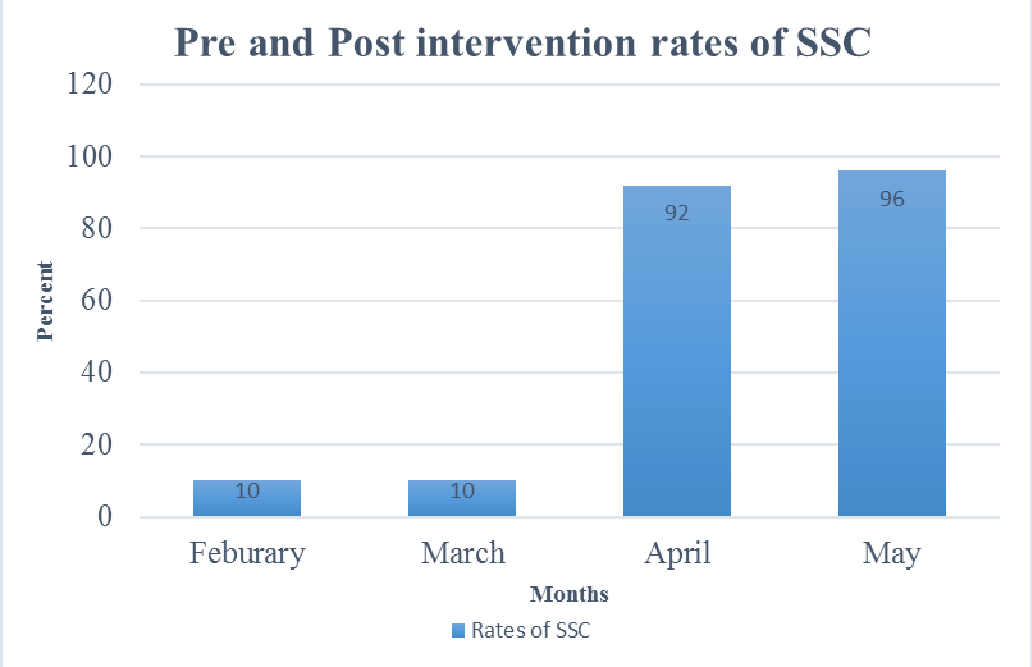


Figure 3. Pre- and postintervention rates of skin-to-skin contact.

Project Objective 2

The second objective of the project was to increase the number of mothers who were rooming-in (RIC) with their babies to 55% from the present 10%. The traditional trend of separating a mother and her baby immediately after birth for nonurgent care was documented in the EMR for the months of February and March 2017, before the educational intervention (Figure 4). The separation of the mother-baby dyad was a routine firmly rooted in maternity care at the clinical site. This unreasonable and non-evidence-based practice puts the newborn under stress (Bystrova et al., 2003). Routine care such as ophthalmic eye ointment, Vitamin and. Hepatitis B vaccines can be given

while the newborn is on his or her mother's bare chest, and infant weighing can wait until 1 hour post birth. After the educational intervention, there was an increase in the rates of RIC from 10% to 90% in April and 92% in May. The significant increase exceeded the projected 55% rate for RIC for the DNP project. The rapid increase was in part due to the nurses' willingness to learn and apply the EBP. The leadership team was very supportive of the project and had a goal of becoming a Baby Friendly institution as well as maintaining the Baby Friendly status.

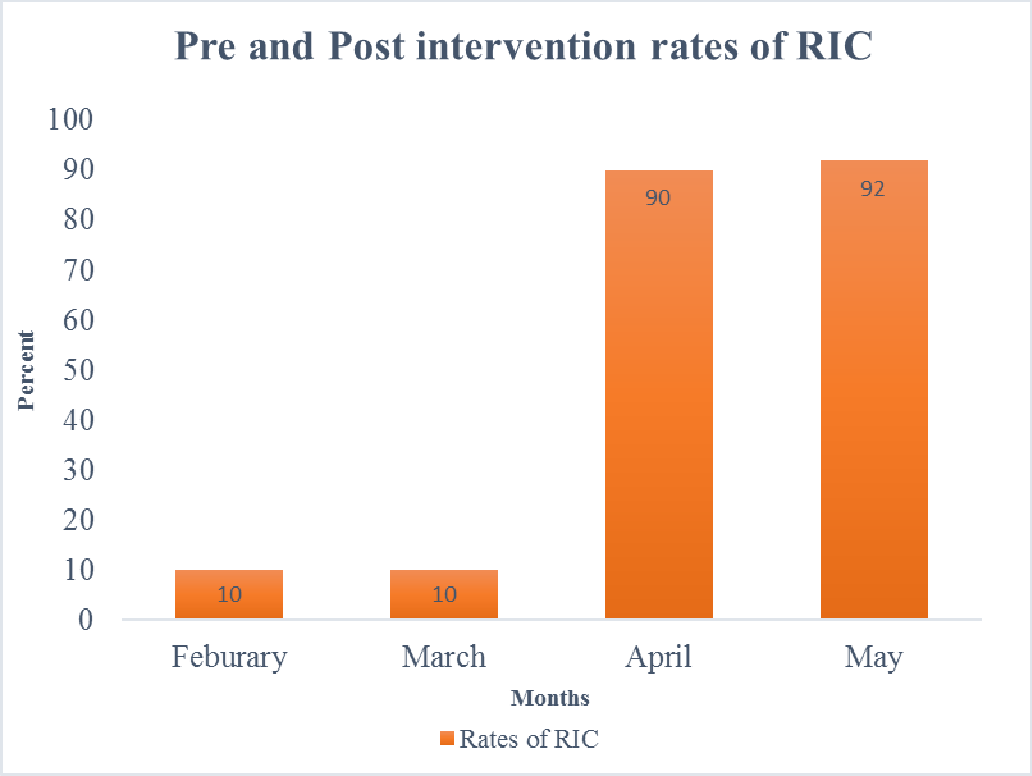


Figure 4. Pre- and posteducation rates of rooming-in care.

Project Objective 3

The third objective of the project was to evaluate obstetric nurses' attitudes and barriers to SSC and RIC practices. The MSSCQ assessed the nurses' attitudes using the

Likert scale of *agree*, *neither agree nor disagree*, and *disagree*. The NABNSS also examined the attitude variable, but with a 5-point Likert scale. Subscale scores for each content area of the MSSCQ and the NABNSS were calculated by adding the Likert-type items. The subscale scores were computed for the two instruments for both the pre and the post surveys. The subscale scores were checked for normality using skewness and kurtosis statistics. The skewness and kurtosis statistics for the subscale score distribution (pre or post) were above the absolute value of 2.0. The distribution was then assumed to be nonnormal. Therefore, to compare the within-subjects' effects of the subscale scores, nonparametric Wilcoxon signed ranks test was used. Medians and interquartile (IQR) ranges were reported to give context to the inferential findings. Statistical significance was assumed at an alpha value of 0.5, and all analyses were conducted using SPSS version 21 (Samuel, 2010).

For the within-variables, there were significant increases from pre to post educational intervention. The subscales related to the obstetric nurse's attitude, newborn's health, mother's physical health, belief about obstacles of SSC, belief in self-efficacy, mental health, service provided to mothers, preparation, encouraging factors, self-motivation, occupational satisfaction, nonseparation, and feeling confident ($p <$ .001). There was a significant decrease pre to post for managerial planning, and self-motivation ($p <$.001). Belief about obstacles to SSC for within-subjects' analysis yielded a nonsignificant change ($p =$.57). I conducted the analysis of the questionnaire with the help of a statistician. The authors of the instruments did not respond to email

communication; thus, the original scoring rubric was not applied, which may have been a limitation.

Table 2

Pre and Post Scores for MSSCQ and NABNSS: Values and Median (Interquartile Range)

Subscale	Pre scores	Post scores	*p*-value
Obstetrics nurse's attitude	16.0 (9.0)	22.0 (1.0)	< .001
Newborn's health	9.0 (7.0)	14.0 (0.0)	< .001
Mother's physical health	4.0 (2.0)	8.0 (0.5)	< .001
Belief about obstacles of SSC	6.0 (5.5)	8.0 (6.0)	.57
Belief in self-efficacy	10.0 (7.0)	14.0 (0.0)	< .001
Mental health	6.0 (4.0)	8.0 (0.0)	< .001
Managerial planning	8.0 (4.0)	8.0 (0.0)	< .001
Service provided to mother	6.0 (4.0)	8.0 (0.0)	< .001
Preparation	13.5 (8.0)	16.0 (0.0)	< .001
Encouraging factors	11.0 (7.0)	14.0 (0.0)	< .001
Self-motivation	8.0 (4.0)	8.0 (0.0)	< .001
Occupational satisfaction	3.0 (3.0)	6.0 (1.0)	< .001
Non-Separation Scale	98.5 (35.3)	124.5(21.8)	< .001
"I feel confident"	35.0 (10.5)	43.5(9.0)	< .001

Discussion of Findings in the Context of the Literature

Following the implementation of the evidence-based intervention using education and Kotter's model of change, communication/teamwork improved, resulting in a significant shift in practice. Literature has shown that educational interventions can improve clinical practice. Herreid (2011) opined that when learners are involved in the learning process and interact with peers, information retention of EBP increases by 60% to 80%. Brimdyr et al. (2012) concurred that a combination of expert education and

practical applications of evidence led to significant and sustainable changes in clinical practice.

Routine mother-infant separation shortly after birth was a common practice at the project site. Mother-infant dyad separation deviates from EBP (Moore, Anderson, Bergman, & Dowswell, 2007). The literature showed that neonatal morbidity was contingent on close and virtually continuous maternal contact (Widström et al., 2011). Thus, Widström recommended that SSC continue until the end of the first successful feeding, regardless of the method of feeding. Skin-to-skin contact enhanced early infant self-regulation (Widström et al. 2011). Performing SSC and RIC, such that the mother and her newborn remained in the same room until hospital discharge, improved mother-infant bonding. It has been shown that keeping babies with their mothers increases mother-infant bonding and facilitates the presence of maternal behaviors (WHO, 2003). Mother-infant bonding begins with SSC and continues throughout life. Bonding has implications for the future parent-child relationship and for the infant's physical, psychological, and social development (Feldman, Eidelman, Sirota, & Weller, 2002).

The combination of nurse education and a guiding model enhanced a practice change. Although Kotter's model was designed to be used in the business world, use of the model in the healthcare field has resulted in success as well (Kotter, 2007). Events occurring in the business community are comparable to those in health care organizations, and thus the same scenario can be usefully applied. Evidence-based clinical changes using a systematic approach can reshape organizational structure to reflect future goals and objectives (Day & Shannon, 2015).

Implications

Policy

Nursing, healthcare institutions, and health policies should be based on the best evidence for practice. Nurses, as the largest body of health care providers, should practice at the full extent of their training and education (IOM, 2010). Nurses should be aware that quality randomized controlled trials and observational studies have replaced theoretical reasoning from basic sciences. Randomized controlled trials and observational studies should be translated into health care and organizational policies (Greenhalgh, Howick, & Maskrey, 2014). Evidence-based policy has become the focus of a dynamic intellectual community. Health care providers are committed to making clinical practice more scientific and empirically grounded. When the care delivered is rooted in EBP, safer, more consistent, and cost-effective care is provided to patients (Greenhalgh et al., 2014).

Skin-to-skin and RIC, as recommended by the American Academy of Pediatrics (AAP, 2012), are the standards of practice. Any interruption of immediate SSC and RIC of the mother-baby dyad is a suboptimal clinical practice that is inconsistent with current recommendations by ACOG, AAP, and AWHONN (Turenne, Héon, Aita, Faessler, & Doddridge, 2016). The obstetric unit has adopted the policy and practice of SSC and keeping the mother-baby dyad in one room until hospital discharge. In addition, phototherapy is now being conducted in the mother's room. Based on the DNP project, it was determined that there was no reason to have a well-baby nursery, and the nursery has been phased out.

Practice

Evidence supports immediate, uninterrupted SSC and RIC post birth in all stable mother-baby dyads. Achieving an increase in the rates of SSC and RIC required the nurses to understand the literature surrounding SSC and RIC and how the practice changes were based on the evidence. Persons caring for the mother-infant dyad should acquire the knowledge and attitudes needed to promote nonseparation practice in obstetric units. The idea of health care is not the offer of a free medical bill, but involves nurses at the forefront of evidence-based maternal care (Mason, 2009). At a time when patients are looking for competent, high quality health care among rising costs, nurse-led EBP becomes the solution (Coddington & Sands, 2008). A transformed health care demands a transformed nurse, and a transformed practice. Because of the combination of education inspired by active learning, EBP, and the use of Kotter's model, nurses have shown positive results in the use of SSC and RIC in their practice.

Future practice requires constant educational training on EBP for nurses who practice in obstetric units. Many of the nurses do not have exposure to evidence-based maternal infant practices, and often rely on basic sciences and past experiences that are outdated and nonevidence based. The education department should conduct continuing further education to increase and maintain nurses' knowledge, attitudes, and practices.

Research

Giving the results of the DNP project, the effects of the educational intervention could be evaluated on families. Haxton and friends (2012) assessed the effects of SSC duration on the rates of breastfeeding initiation. The researchers concluded that SSC

helps in increasing the rate of breastfeeding. Future project demands the examination of the combined effects of SSC and RIC on breastfeeding. The project also offers an opportunity to evaluate the effects of educational intervention on a larger population. The evaluation will enable generalization and the formulation of SSC, RIC, and breastfeeding policies.

It is an acceptable idea to implement the educational intervention of SSC and RIC for nurses working in every area of the obstetric unit, such as the prenatal clinics, and neonatal intensive unit. The nurses should be evaluated on the effects of evidence-based education on knowledge, attitudes, and clinical practice using validated observational or randomized controlled trials (RCTs). Observational studies can use the same standards as RTCs and should, be used as a corresponding method rather than analytic technique (Ligthelm, 2007).

The effects of the educational intervention could be evaluated on families. Haxton and friends (2012) assessed the effects of SSC duration on the rates of breastfeeding initiation. The researchers concluded that SSC helped in increasing the rate of breastfeeding. Future project demands the examination of the combined effects of SSC and RIC on breastfeeding. This project also offers an opportunity for a study to evaluate the effects of educational intervention on a larger population so as to enable generalization, and the formulation of SSC, RIC, and breastfeeding policy.

Social Change

Traditionally, mothers have held their children in their arms following birth, while resting, or sleeping. Women have always been known to provide their kids with safety,

warmth, and nourishment (Crenshaw, 2007). This “desire for closeness” is a physical and emotional cord that unites mothers, and their children (Young, 2013). Before the implementation of this DNP project, babies were separated from their mothers immediately after birth, father of the babies had restricted visiting hours, and siblings under the age of 12 years were not allowed to visit their mothers in the obstetric unit. The practice of visiting time restrictions was changed, and now families can visit at any time, and significant others are giving the opportunity to sleep over night to help their wife and the newborn. Nonseparation helps in family dynamics and bonding (Nichols, Crow, & Balakas, 2015). The beneficial outcome that resulted from creating a positive bonding supported the health care practice that encourages positive attachment for the infant and their parents (Young, 2013)).

The relationship between the physicians, nurses, and nurses’ aide working in this obstetric unit has improved. There are more care coordination, teamwork, and less sense of superiority or inferiority among the nurses. The new relationship has resulted in the emergence of a team spirit. Prompt and efficient applications of EBP of SSC and RIC have led to an improvement in the safe and efficacious care of the mother-baby dyad. Nurses who are competent in applying EBP practices have positively influenced the birthing experience of families in this project site. Improved teamwork, coordination, and communication at the workplace have ensured safety and patient protection while developing confident, and competent obstetric practitioners. The translation of the evidence-based practices of SSC and RIC by the obstetric nurses into daily clinical care has resulted in a positive impact on present and future nursing practice. This DNP project

has the potential of improving nurses' knowledge. Better nursing experience will have improved patient outcome and enhanced social change.

Project Strengths and Limitations

Strengths

This DNP project had three major strengths. Kotter's model of change was useful in guiding the implementation and evaluation of the process, fostering an understanding of the context of the practices of SSC and RIC at the obstetric unit. Utilizing a theoretical model can enhance the ability of a change to meet its intended outcome (Cooney, Pernick, Rice, & Monago, 2016). Though Kotter's model was developed for use in the business world, Sibbald, Wathen, and Kothari, (2016), highlighted that lessons learnt in the business community can be applied to healthcare organization. Similarly, (Kash, Spaulding, Johnson, & Gamm, 2014) reported on the suitability and sustainability of the Kotter's model for implementing an EBP of SSC and RIC, thus supporting its relevance.

The use of an active learning approach through the educational power point which allowed for a dynamic teaching and learning was strength of the DNP project. Active teaching/learning methods are consistent with recent recommendations in perinatal education because they promote the confidence and competence that matches the increasingly sophisticated needs of families in today's world (Drake, 2016) The focus on the interactive educational participation of nurses facilitated the change in practice at the clinical milieu (Turenne, Héon, Aita, Faessler, & Doddridge, 2016).

I saw strength in the involvement of immediate superiors who in turn involved the senior leadership team. The backing and commitment of the leadership team at the

project site was a contributing factor to the success of the project. The project leadership role was of great importance in motivating the nurses and in creating an efficient working environment that helped with the practice changes (Anantatmula, 2010). A project done without the support of leadership will not succeed. Following implementation, monthly rates of SSC and RIC are continuing to be tracked and recorded by the breastfeeding department.

Limitations

Despite the strengths as identified above, this DNP project presented some significant limitations. The population was a small convenience sample of the obstetrical nurses. The estimated number of the participant was 100 nurses, but before the completion of the project, the number was decreased. The reduction in the number of participants was because of nurses who moved to other facilities, annual vacations, maternity leaves, and refusal to return the surveys. Small project participant sizes hinder the generalizability of findings to a large population (Grove, Burns & Gray, 2013). Though a gift incentive was given with the completion of the education and survey, not all nurses complied with the return of the survey. However, the sample size of the project was similar to past projects that were carried out in an obstetric unit.

Reaching and obtaining the scoring rubrics for the questionnaire used for this DNP project was a challenge. The authors of the survey could not be reached, and the one that was reached was not helpful. The inability to obtain the scoring rubrics caused a delay in the completion of the project.

Recommendations for Remediation of Limitations in Future Work

The time constrains of the project resulted in using a convenience sample of one obstetric unit. Future project demands a larger sample size from two or more healthcare institutions. A larger sample would serve to increase the generalizability of results and clinical outcomes (Grove, Burns & Gray, 2013). Kaplan, Chambers, and Glasgow (2014) wrote that the analysis of "big data" integrates information from many persons and different data source. Collecting and analyzing "big data" will give more room for correct assessment of nurse attitudes, barriers and rates of SSC and RIC.

The evidence-based practice education for SSC and RIC should be extended to all the nurses working in the maternal child clinical areas. Education or evidence that improves practice should be part of new hire orientation, annual continuous assessment, and continuous education events. Prompt and continuous education will improve nursing knowledge and update nurses' knowledge with new clinical evidence that enhances the mother-baby dyad 's safety and quality care.

The use of instruments constructed by other professionals was a challenge. Future quality improvement project requires finding available instruments and their authors before choosing and confirming a topic. A boarder search of instruments should consider authors within the United States and people who are willing to give permission before initiating a project. The evidence-based process is consistent with quality improvement and demands different resources and approach (Zaccagnini, & White, 2011). This DNP project addressed an inadequate practice and introduced an evidence-based intervention to solve the problem of decreased SSC and RIC (Zaccagnini, & White, 2011).

Analysis of Self

As Scholar

The DNP prepared nurse is an effective leader in clinical practice, policy and hospital protocols. Translating evidence to practice by interfacing between research and clinical practice (AACN, 2006) requires the use of essential 3 of the Essentials of Doctoral Education. I gained proficiency in clinical scholarship and analytic methods for evidence-based practice of SSC and RIC (AACN, 2006). The DNP program developed me into a practice specialist/consultant in collaboration and general knowledge of SSC and RIC practices. The ability to search, critique literature, and present a clear, and concise information to the stakeholders was a developmental milestone.

As Practitioner

This DNP project gave me an edge to develop from a timid to a knowledgeable and powerful practitioner. I have become immersed in SSC and RIC practices that other nurses are consulting me as their personal resource and capable practitioner. The ability to assess a given health problem, design, implement, and evaluate a project in collaboration with other healthcare providers is a growth beyond measure. These strong characteristics are required of a DNP student, in order to bring lasting solution to nonEBP. As a practitioner, I am equipped, knowledgeable, and confident to participate in the advancement of nursing through project design, presentation, and mentoring of new graduate nurses. The academic growth was successful due to the preparation I got as a student. The DNP curriculum prepares advanced practice nurses for the implementation of best practices that will improve patient care (Zaccagnini, & White, 2011).

As Project Developer

I was an active team leader able to provide an intermediary interface between research, policy, and practice (AACN. 2006). My role was the development and implementation of an EBP consistent with advancing professional scholarship. The professional scholarship is a systematic inquiry of professional practice, that provides leadership skills used to analyze, translate, and apply current evidence to clinical practice for the advancement of nursing, and the wellbeing of the mother-baby dyad (Limoges, & Acorn, 2016). I contributed to nursing scholarship by challenging current practices of SSC and RIC at the practice site, offered evidence-based knowledge, corrected inadequate practices, transformed care, and advanced nursing knowledge of EBP related to SSC and RIC.

The development and implementation of the project emphasized the importance of sound and effective leadership. The DiSC model profiled my personality as dominance (self-assured), direct and result oriented. The dominant personality is strong willed, and a strong-minded person who likes to accept challenges, acting, and getting immediate results. As a dominant personality, I exhibited dominance response and directed, changed, fixed, and controlled the situation (DiSC Classic 2.0 profile, 2014).). I succeeded even when the environment was unfavorable.

Another area of maturity was the development of communication skills. The ability to conceptualize a new care model of SSC and RIC that was based on evidence needed excellent communication skills. This ability enabled me to communicate the importance of the practice improvement to the nurses, physicians, leadership, and people

that were outside the professional, and organizational spectrum. The ability to listen carefully, speak clearly, and put professionals at ease was a virtue that has made this DNP project worth doing (Weber & Farrell, 2016). As a DNP student, I have developed advanced communication skills to lead quality improvement initiative in any health care system.

Developing a project means working with diverse population of nurses. The diversity included nurses from different training, works of life, and beliefs in SSC, and RIC. The ability to work with different generations of nurses and listen to their concerns was a strength that developed over time. Going to the labor and delivery area to admit the newborn babies instead to maintain the RIC principle was a burden to the older nurses. The wisdom and understanding to handle this challenging situation was demonstrated by developing appropriate and timely solutions to the complaints made by nurses.

Future Professional Development

The process of completing this DNP project prepared me as a collaborative worker and a mentor towards the development of other nurses. There were a lot of delays during the time of this project. The delay ranged from getting an approval from the authorities of the project site to searching for the authors of my questionnaires. The setback helped me to develop as a patient scholar. The knowledge learned through disappointments gave me an advantage to work with people outside the organizational spectrum. To achieve success in nursing, one needs to work across the professional arena because effective collaborative partnership allows members to exchange ideas, and

practice shared decision making (Zaccagnini & White, 2011). Because I could defend and accomplish this DNP project, the future of developing similar projects is very robust.

Improving practice at the clinical site through a mentoring relationship was evident in one of the nurses who examined the effects of SSC on neonatal hypoglycemia. The nurse found that there was less neonatal hypoglycemia after the practice of SSC was initiated as compared to the use of the traditional nursery or issolette. Though this claim needs more than anecdotal data, it was a sign that I was well positioned to influence nurses and make an impact in EBP. Graduating as a DNP prepared nurse is not the end of practice change, but the beginning of a professional and ethical responsibility to creating innovations, and making the voice of nurses heard in the healthcare world. The nursing job was not, in Nightingale's view, something delegated to nurses by physicians (Zaccagnini & White, 2011). Nursing is a management role, separate, and district from medicine with the job of managing the environment, observing patient's interaction with the environment, and assisting the patient toward health through EBP.

Summary

Section 4 discussed the project findings, statistical significance, findings in the context of literature, framework, implications, strengths, limitations, and the analysis of self. The results supported the evidence that nurse education had an impact on attitude, and the rates of SSC, and RIC. The process of keeping the mother-baby dyad as a pair without separation is an EBP that helped to improve the well-being of the mother and her newborn baby. Section five addressed the method of the DNP project dissemination.

Section 5: Scholarly Product

Introduction

Despite the substantial literature on evidence-based clinical practices in maternal health that have proven effective with controlled trials, a major challenge to the nursing profession has been to spread these advances in knowledge broadly and rapidly. The information from a successful DNP project should have application outside the four corners of the health care organization (Zaccagnini & White, 2011). No matter the method chosen for dissemination, the process should be formally planned with the intent of spreading knowledge, and the associated evidence-based interventions to stimulate adoption, and enhance the integration of evidence. There is a call for nurses to disseminate their findings, whether their projects met the expected goals or not (Oermann & Hays, 2016). The DNP project is not only a requirement, and a fulfilment for a doctoral degree, but also a synthesis and transmission of knowledge gained during studies (AACN, 2006). Of the numerous means and formats available for the dissemination of knowledge, I have chosen a poster presentation as a convenient and fast way to disseminate evidence in support of SSC and RIC. The choice of poster presentation is timely and meets the targeted audience.

Poster Presentation

Events that would facilitate the dissemination of the DNP project occur during Nurses' Week and the yearly conference organized by AWHONN. The chief nursing officer of the clinical site, who is also a DNP-trained nurse, has asked me to disseminate and present the DNP findings to nurses during Nurses' Week (Figure 5). As a member of

AWHONN, I will also present my project at the next yearly conference. The poster presentation will capture the interest of nurses, give them an opportunity to answer questions (Figure 5), and serve as an avenue for education on the need to increase rates of SSC and RIC in any obstetric unit.

.

Translating Evidence to Practice Through Skin-to-Skin and Rooming-in Care

Dr. Francisca Njoku (DNP, FNP-BC, RN)

Background

Mother-infant separation post birth was common in a hospital in the northeastern United States. The contributing factors to early separation of the mother and her infant were lack of evidence-based practice knowledge, fear for the safety of babies, the urge to complete nursing assignments, and time needed to finish documentation.

Project Question

Will an educational program on skin-to-skin contact and rooming-in care improve the rate of skin-to-skin holding and rooming-in practices in a postpartum unit within 2 months?

Project Objectives

To increase the rate of SSC in the mother-baby dyads at the project site from 10% to 55% during the first hour after birth.

To increase the number of mothers rooming-in with their babies to 55% from the present 10%.

To evaluate nurse attitudes and barriers to SSC and nonseparation practice.

Theoretical and Conceptual Framework

Kotter's eight-step change model enabled us to gain insight and wisdom from expertise borrowed from the business industry (Noble, Lemer, & Stanton, 2011) and was adaptable at each critical step of the EBP process (Reeves & Deimler, 2011).

Project Design and Method

A pre and post one-group design using nonparametric Wilcoxon signed-rank test (Grove, Burns & Gray, 2013), evaluating nurse attitudes and barriers to SSC and RIC.

A posteducational measurement method to evaluate the effect of an educational intervention on SSC and RIC rates (LoBiondo-Wood, Haber, Cameron, & Singh, 2014).

Data Collection

Pre- and posteducation data were retrieved over a 4-month period, along with 2 months of retrospective chart review and 2 months of retroactive chart review posteducation.

The Mother-Newborn Skin-to-Skin Contact Questionnaire (MSSCQ) and Nurse Attitudes and Barriers to Non-Separation Scale (NABNSS) were used to evaluate the nurses' attitudes and barriers to SSC and RIC.

Demographic data were requested from 58 nurses, and 49 returned the questionnaires, for an 84% response rate.

Data Analysis

Coded data for MSSCQ and nurse attitudes were grouped under pretest and posttest data. A nonparametric Wilcoxon test was used to test the relationship between the pretest and posttest results.

Pre and post chart review was used to capture the effects of education on SSC and RIC rates.

Descriptive statistics were used to analyze the demographic data.

Results and Discussion

There was a statistically significant increase in subscale scores from pre to post for obstetric nurses' attitude and NABNSS ($p < .001$). There was a nonsignificant increase in score for the obstetric nurses' belief about obstacles to performing skin contact subscale of the MSSCQ, $p = .57$. A statistically significant increase in NABNSS and IFC were found, $p < .001$.

Skin-to-skin and RIC rates had a significant increase from 10% to 96% and 92%, respectively.

The racial group representing the largest number of participants was African American. The oldest participants were over 60 years of age, and the job title for the largest number of participants was registered nurse. The majority of the nurses had worked for more than 10 years in an obstetric unit, and the largest number of nurses had a baccalaureate degree (BSN).

Social Change

Results of the study indicated better social interaction for the mother-infant dyad (Green & Phipps, 2015). A strong tie between parent and child fosters a sense of security and positive self-esteem for the child (Mahmood, Jamal, & Khan, 2011).

Additionally, there was better teamwork and communication among the members of the healthcare team.

Nurses' ability to translate evidence to practice will impact present and future practice and outcomes.

Conclusion

Nurse education increased the rates of SSC and RIC, improved nurse attitudes and beliefs, improved teamwork, and enhanced family dynamics.

References

Green, S. L., & Phipps, W. D. (2015). Interactional pattern analysis of mother–baby pairs: Kangaroo mother care versus incubator care. *South African Journal of Psychology*, *45*(2), 194-206.

Grove, S. K., Burns, N., & Gray, J. R. (2013). *The practice of nursing research: Appraisal, synthesis, and generation of evidence* (7th ed.). St. Louis, MO: Elsevier Saunders.

Mahmood, I., Jamal, M., & Khan, N. (2011). Effects of mother-infant early skin-to-skin contact on breastfeeding status: A randomized controlled trial. *Journal of the College of Physicians and Surgeons Pakistan*, *21*(10), 601-605.

Noble, D., Lemer, C., & Stanton, E. (2011). What has change management in industry got to do with improving patient safety? *Postgraduate Medical Journal, 87*(1027), 345-348. doi:10.1136 /pgmj.2010.097923

Reeves, M., & Deimler, M. (2011). Adaptability: The new competitive advantage. *Harvard Business Review, 89*(7), 135-141.

Figure 5. Project poster for dissemination.

Summary and Conclusions

Flaws in the clinical setting are best addressed through specific, scientific-evidence-based interventions. Skin-to-skin and RIC decrease the neonatal mortality rate, impact mother-infant bonding, and shorten hospital stays (Chi Luong et al., 2015). Mother-newborn closeness, especially for the first few hours following birth, improves the control of pain in both the newborn and the mother (Dabrowski, 2007), and has no adverse impact on the young. This DNP project affirmed that providing mother/infant dyads with SSC, and keeping them in the same room until discharge is a standard of care that promotes positive social change and enhances family, and team dynamics. Therefore, SSC and RIC should be practiced by all maternal health units.

References

Academy of Breastfeeding Medicine Protocol Committee. (2009). *ABM Clinical Protocol #3: Hospital guidelines for the use of supplementary feedings in the healthy term breastfed neonate, revised 2009*.

Aghdas, K., Talat, K., & Sepideh, B. (2014). Effect of immediate and continuous mother-infant skin-to-skin contact on breastfeeding self-efficacy of primiparous women: A randomised control trial. *Women and Birth, 27*(1), 37-40.

Allen, M. (2015, June). *Mission possible: Nurses improving the health of moms and babies by dancing the 10 steps to successful breastfeeding*. Paper presented at the annual convention of the Association of Women's Health, Obstetric and Neonatal Nurses, Long Beach, CA.

American Association of Colleges of Nursing. (2006). *The essentials of doctoral education for advanced nursing practice*. Retrieved from http://www.aacn.nche.edu/publications/position/DNPEssentials.pdf

American Nurses Association. (2012). Title of article. *American Nurse, 44*(6), 5.

Anantatmula, V. S. (2010). Project manager leadership role in improving project performance. *Engineering Management Journal*, *22*(1), 13-22.

Anderson, G. C., Moore, E., Hepworth, J., & Bergman, N. (2007). Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database of Systematic Reviews*, *2007*(3).

Aucott, S., Donohue, P. K., Atkins, E., & Allen, M. C. (2002). Neurodevelopmental care in the NICU. *Mental Retardation and Developmental Disabilities Research*

Reviews, *8*(4), 298-30. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed /12454906#

Baby-FriendlyUSA. (2013). Home page. Retrieved from http://www.babyfriendlyusa.org/

Baker, C. S., & Naumann, S. T. (2015). Transitioning to couplet care. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, *44*(s1), S27-S28.

Baloh, P., Uthicke, K., & Moon, G. (2008). A business process-oriented method of KM solution design: A case study of Samsung Electronics. *International Journal of Information Management*, *28*(5), 433-437.

Barry, G. T., & Williams-Wills, L. (2011). *Nurse attitudes and perceived barriers to non-separation*. Retrieved from http://www.advocatehealth.com/documents/seminars /26_Nurses_Attitudes_Awareness_Barriers_toNon-Separation.pdf

Bayes, S., Fenwick, J., & Hauck, Y. (2012). "Off everyone's radar": Australian women's experiences of medically necessary elective caesarean section. *Midwifery*, *28*(6), e900-e901. doi:10.1016/j.midw.2012.01.004

Beal, J. A., Dalton, M. F., & Maloney, J. A. (2015). Should mother–baby rooming-in be the standard of care? *American Journal of Maternal/Child Nursing*, *40*(2), 74-75.

Bernaix, L. W., Beaman, M. L., Schmidt, C. A., Harris, J. K., & Miller, L. M. (2010). Success of an educational intervention on maternal/newborn nurses' breastfeeding knowledge and attitudes. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 39*(6), 658-666.

Bigelow, A., Power, M., MacLellan-Peters, J., Alex, M., & McDonald, C. (2012). Effect of mother/infant skin-to-skin contact on postpartum depressive symptoms and maternal physiological stress. *Journal of Obstetrics, Gynecological and Neonatal Nurses, 41*(3), 369-382. doi:10.1111/j.1552-6909.2012.01350.x

Bradshaw, W. G. (2010). Evidence-based practice. *Neonatal Network, 29*(2), 117-125. doi:10.1891/073-0832.29.2.17

Brady, K., Bulpitt, D., & Chiarelli, C. (2014). An Interprofessional quality improvement project to implement maternal/infant skin-to-skin contact during cesarean delivery. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 43*(4), 488-496. doi:10.1111/1552-6909.12469

Brenneman, A., & Price, K. M. (2014). Couplet care: The magic within. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, *43*(Suppl. 1), S28-S28. doi:10.1111/1552-6909.12413

Brethauer, M. (2010). Maternal experience with neonatal jaundice. *MCN: American Journal of Maternal Child Nursing*, *35*(1), 8-14.

Brimdyr, K., Widström, A. M., Cadwell, K., Svensson, K., & Turner-Maffei, C. (2012). A realistic evaluation of two training programs on implementing skin-to-skin as a standard of care. *Journal of Perinatal Education, 21*(3), 149-157.

Bystrova, K., Ivanova, V., Edhborg, M., Matthiesen, A. S., Ransjö-Arvidson, A. B., Mukhamedrakhimov, R., ... Widström, A. M. (2009). Early contact versus separation: Effects on mother–infant interaction one year later. *Birth*, *36*(2), 97-109.

Bystrova, K., Widström, A.M., Matthiesen, A.S., Ransjo-Arvidson, A.B., Welles-Nystrom, B., & Wassberg, C. (2007). Skin-to-skin contact may reduce negative consequences of "the stress of being born": A study on temperature in newborn infants subjected to different ward routines in St. Petersburg. *Acta Paediatrica, 92*(3):320-326.

Bystrova, K., Widström, A. M., Matthiesen, A. S., Ransjö-Arvidson, A. B., Welles-Nyström, B., Wassberg, C., ... & Uvnäs-Moberg, K. (2003). Skin-to-skin contact may reduce negative consequences of "the stress of being born": A study on temperature in newborn infants, subjected to different ward routines in St. Petersburg. *Acta paediatrica*,*92*(3), 320-326.

Campbell, R. (2008). Change management in health care. *Health Care Manager, 27*(1), 23-39

Chi Luong, K., Long Nguyen, T., Thi, H., Huong, D., Carrara, H. P., & Bergman, N. J. (2016). Newly born low birthweight infants stabilize better in skin-to-skin contact than when separated from their mothers: A randomised controlled trial. *Acta Paediatrica*. 105(4), 381-390.

Chiu, S. H., & Anderson, G. C. (2009). Effect of early skin-to-skin contact on Mother preterm infant interaction through 18 months: Randomized controlled trial. *International journal of nursing studies*, *46*(9), 1168-1180.

Coddington, J. A., & Sands, L. P. (2008). Cost of health care and quality outcomes of patients at nurse-managed clinics. *Nursing Economics*, *26*(2), 75.

Cooney, M. A., Pernick, J., Rice, K., & Monago, E. A. (2016). Utilization of

change theory to implement an appreciative advising model. *Journal of Research, Assessment, and Practice in Higher Education*, *1*(1), 8.

Crenshaw, J.T. (2014). Healthy Birth practice #6: Keep mother and baby together-It's best for mother, baby, and breast-feeding. *Journal of Perinatal Education, 23*(4), 211-217. Doi:10.1891/1058-1243.23.4.211

Crenshaw, J. (2007). Care practice# 6: No separation of mother and baby, with unlimited opportunities for breastfeeding *The Journal of Perinatal Education*, *16*(3), 39-43.

Csont, G. L., Groth, S., Hopkins, P., & Guillet, R. (2014). An evidence based approach to breastfeeding neonates at risk for hypoglycemia. *Journal of Obstetrics, Gynecological and Neonatal Nurses, 43*(1), 71-81. doi: 10.1111/1552-6909.12272

Dabrowski, G. A. (2007). Skin-to-skin contact: Giving birth back to mothers and babies. *Nursing for women's health*, *11*(1), 64-71.

Dalbye, R., Calais, E., & Berg, M. (2011). Mothers' experiences of skin-to-skin care of healthy full-term newborns–a phenomenology study. *Sexual & Reproductive Healthcare*, *2*(3), 107-111.

Davanzo, R., Travan, L., Verardi, G., Corubolo, E., De Cunto, A., Paviotti, G., ... & Demarini, S. (2014). Preventing sudden unexpected postnatal collapse in term and late preterm newborn infants: A surveillance protocol. *Italian Journal of Pediatrics*, *40*(Suppl 2), A5.

Davies, L., & Michael, C., (2015, June). Implementing complete couplet care. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 44(S1).

Davis, M. A. (2009). *Invasion biology*. Oxford University Press on Demand.

Day, G. E., & Shannon, E. (2015). Leading and managing change. *Leading and Managing Health Services: An Australasian Perspective*, 295.

DiMenna, L. (2006). Considerations for implementation of a neonatal kangaroo care protocol. *Neonatal Network*, *25*(6), 405-412.

DiSC Classic 2.0 profile (2014). Retrieved from https://www.inscapehttpsepic.com/reports/FRANCISCANJOKURLDHP0TCZBW02EVEV04ZEV40VSWR.PDF

Drake, E. (2016). Challenges and creative strategies in undergraduate nursing education in maternal-child health. *Journal of Perinatal & Neonatal Nursing*, *30*(3), 179-183.

Dumas, L., Lepage, M., Bystrova, K., Matthiesen, A., Welles-Nyström, B., & Widström, A. (2013). Influence of skin-to-skin contact and rooming-in on early mother–infant interaction: *A randomized controlled trial. Clinical Nursing Research*, *22*(3), 310-336 27p. doi:10.1177/1054773812468316

Eslamian, J., Moeini, M., & Soleimani, M. (2015). Challenges in nursing continuing education: A qualitative study. *Iranian Journal of Nursing and Midwifery Research*, *20*(3), 378.

Fabry, D. (2015). Hourly rounding: perspectives and perceptions of the frontline nursing staff. *Journal of Nursing Management*, *23*(2), 200-210 11p. doi:10.1111/jonm.12114

Faria, A. C., Magalhaes, L., & Zerbetto, S. R. (2010). Rooming-in care implementation: Difficulties faced through the perspective of a nursing staff. [Portuguese]. *Revista Eletronica De Enfermagem*, *12*(4), 669-677.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175-191

Fegran, L., Helseth, S., & Fagermoen, M.S. (2008). A comparison of mothers' and fathers' experiences of the attachment process in a neonatal intensive care unit. *Journal of Clinical Nursing, 17*(6), 810-816.

Feldman, R., Eidelman, A. I., Sirota, L., & Weller, A. (2002). Comparison of skin-to-skin (kangaroo) and traditional care: parenting outcomes and preterm infant development. *Pediatrics*, *110*(1), 16-26.

Feldman, R., Rosenthal, Z., & Eidelman, A. I. (2014). Maternal-preterm skin-to-skin contact enhances child physiologic organization and cognitive control across the first 10 years of life. *Biological Psychiatry*, *75*(1), 56-64.

Gams, B. (2015, June). A6C-beyond baby friendly: Implementation of the power hour! In *Association of Women's Health, Obstetric and Neonatal Nurses (June 13-17, 2015)*. Awhonn

Gawlinski, A., & Rutledge, D. (2008). Selecting a model for evidence-based practice changes: A practical approach. *American Association of Colleges Nursing advanced critical care, 19*(3), 291-300

Green, S. L., & Phipps, W. D. (2015). Interactional pattern analysis of mother–baby pairs: Kangaroo mother care versus incubator care. *South African Journal of Psychology, 45*(2), 194-206.

Greenhalgh, T., Howick, J., & Maskrey, N. (2014). Evidence based medicine: A movement in crisis? *British Medical Journal*, *348*, g3725.

Greydanus, D.E., & Merrick, J. (2014). Newborn care: what we can learn from the kangaroo mother. *Frontiers in Public Health, 2*.

Grove, S.K., Burns, N., & Gray, J.R. (2013). The practice of nursing research: Appraisal, synthesis, and generation of evidence (7th ed.). St. Louis, MO: Elsevier Saunders.

Grubbs, L., & Cottrell, B. (1996). Notes from the field. Nurses' attitudes and concerns about couplet care. *Nursing Management, 27*(1), 54-56 3p.

Guzmán, W. Z., Gely, M. I., Crespo, K., Matos, J. R., Sánchez, N., & Guerrero, L. M. (2011). Transformation of a dental school's clinical assessment system through Kotter's eight-step change process. *Journal of Dental Education*, *75*(4), 485-495.

Hall, D., & Kirsten, G. (2008). Kangaroo mother care-a review. *Transfusion Medicine*, *18*(2), 77-82

Halm, M. A. (2009). Hourly rounds: what does the evidence indicate? *American Journal of Critical Care*, *18*(6), 581-584

Harris, A. D., McGregor, J. C., Perencevich, E. N., Furuno, J. P., Zhu, J., Peterson, D. E., & Finkelstein, J. (2006). The use and interpretation of quasi experimental studies in medical informatics. *Journal of the American Medical Informatics Association: JAMIA*, 13(1), 16–23. http://doi.org/10.1197/jamia.M1749

Haxton, D., Doering, J., Gingras, L. (2012). Implementing skin- to- skin contact at birth using the Iowa model. *Nursing for Women's Health, 16*(3), 222-230.

Herreid, C. F. (2011). Case study teaching. *New directions for teaching and learning*,*2011*(128), 31-40. Retrieved from https://scholar.google.com/scholar?q=herreid%2C+C.F+2011&btnG=&hl=en&as_sdt=0%2C33

Herlenius, E., & Kuhn, P. (2013). Sudden unexpected postnatal collapse of newborn infants: A review of cases, definitions, risks, and preventive measures. *Translational Stroke Research*, *4*(2), 236-247

Holmes, A. V., McLeod, A. Y., & Bunik, M. (2013). Association of Breastfeeding Medicine clinical protocol# 5: peripartum breastfeeding management for the healthy mother and infant at term, revision 2013. *Breastfeeding Medicine*, *8*(6), 469-473.

Hotelling, B. A. (2004). Is your perinatal practice mother-friendly? *A Strategy for Improving Maternity Care. Birth, 31*(2), 143-147.

Institute of Medicine (US). (2010). The future of nursing: Leading change, advancing health, Washington DC: National academies press.

Jaafar, S. H., Lee, K. S., & Ho, J. J. (2012). Separate care for new mother and infant versus rooming-in for increasing the duration of breastfeeding. *Cochrane Database Syst Rev*, *9*. doi:10.1002/14651858.CD006641.pub2

Jodi, R.G., & Meyers, D. (2009). Toward optimal health: Maternal benefits of breastfeeding. *Journal of Women's Health, 18*(9), 1307-1310.doi:10.1089/jwh.2009.1646

Johnson, K. (2013). Maternal-Infant bonding: A review of literature. *International Journal of Childbirth Education, 28*(3). Joint Commission. (2013) Core Measure Sets: Prenatal care. Retrieved from http://www.jointcommission.org/assets/1/6/S11.pdf

Kaplan, R. M., Chambers, D. A., & Glasgow, R. E. (2014). Big data and large sample size: A cautionary note on the potential for bias. *Clinical and Translational Science*, *7*(4), 342-346.

Kash, B. A., Spaulding, A., Johnson, C. E., & Gamm, L. (2014). Success factors for strategic change initiatives: A qualitative study of healthcare administrators' perspectives. *Journal of Healthcare Management*, *59*(1), 65-82.

KidsHealth (2015). Bonding with your baby. Retrieved from http://kidshealth.org/parent/pregnancy_newborn/communicating/bonding.html

Kim, E. Y., Kim, Y. M., Kim, J. S., Cho, D. S., & Kim, E. K. (2010). Attitude and awareness of nurses about rooming-in system. Korean *Journal of Women Health Nursing, 16*(2), 137-146.

Kotter, J. P., & Cohen, D. S. (2012). The heart of change: Real-life stories of how people change their organizations. *Harvard Business Press*.

Kotter, J.P. (1995). Leading change: Why transformation efforts fail. *Harvard Business Review* 59-67. http://www.mainecompact.org/documents/faculty Rewards/

Kotter Leading Change-

Kotter, J. P. (2007). Leading Change why Transformati0n Efforts Fail. *Harvard Business Review*, 96-102.

Kuo, D. Z., Houtrow, A. J., Arango, P., Kuhlthau, K.A., Simmons, J.M., Neff, J.M. (2012). Family-centered care: Current applications and future directions in pediatric health care. *Maternal and Child Health Journal, 16*(2), 297-305. http://dx.doi.org/10.1007s10995-011-0751-7

Lai, Y. L., Hung, C. H., Stocker, J., Chan, T. F., & Liu, Y. (2015). Postpartum fatigue, baby-care activities, and maternal–infant attachment of vaginal and cesarean births following rooming-in. *Applied Nursing Research*, *28*(2), 116-120.

Leach, S. (2011). 'Have you had a wee yet? Postpartum urinary retention. *The practicing Midwife*, *14*(1), 23-25.

Ligthelm, R. J., Borzì, V., Gumprecht, J., Kawamori, R., Wenying, Y., & Valensi, P. (2007). Importance of observational studies in clinical practice. *Clinical therapeutics*, *29*(6), 1284-1292.

Limoges, J., & Acorn, S. (2016). Transforming practice into clinical scholarship. *Journal of Advanced Nursing*, *72*(4), 747-753.

Lin, L., Lee, T., Kuo, S., Mu, P., & Shu, H. (2004). The lived experience of postpartum women receiving rooming-in care. *Journal of Nursing*, *51*(1), 35-44 10p

LoBiondo-Wood, G., Haber, J., Cameron, C., & Singh, M. (2014). *Nursing research in Canada*: Methods, critical appraisal, and utilization. Elsevier Health Sciences.

Ludington-Hoe, S. M., & Hosseini, R. B. (2005). Skin-to-skin contact analgesia for preterm infant heel stick. *American Association College Nurses Clinical Issues*, *16*(3), 373.

Ludington-Hoe, S.M., Lewis, T., Morgan, K., Cong, X., Anderson, L., & Reese, S. (2006). Breast and infant temperatures with twins during shared kangaroo care. *Association of Women's health, obstetrics and Neonatal Nurses, 35*, 223-231.

Ludington-Hoe, S. M., & Morgan, K. (2014). Infant assessment and reduction of sudden unexpected postnatal collapse risk during skin-to-skin contact. *Newborn and Infant Nursing Reviews*, *14*(1), 28-33.

Ludington-Hoe, S. (2011). Thirty years of kangaroo care science and practice. *Neonatal Network 30*(5), 357-362.

Mahmood, I., Jamal, M., & Khan, N. (2011). Effects of mother-infant early skin-to-skin contact on breastfeeding status: A randomized controlled trial. *Journal of the College of Physicians and Surgeon Pakistan, 21*(10), 601-605.

Marshall, M. L. (2014). The Impact of implementation of an evidence-based practice model in a long term acute care hospital. Retrieved from http://corescholar.libraries.wright.edu/nursing dnp/3.

Mason, D.J. (2009). Reforming Health Care Reform. *American Journal of Nursing* June 2009-Vol 109-issue 6-p9 doi:10.1097/01.NAJ.0000352438.49908.2f

McKnight, S., Coo, H., Davies, G., Holmes, B., Newman, A., Newton, L., & Dow, K. (2015). Rooming-in for Infants at Risk of Neonatal Abstinence Syndrome. *American Journal of Perinatology*.

McInerney, C.M., & Gupta, A. (2015). Delaying the first bath decreases the incidence of neonatal hypoglycemia…. Proceeding of the 2015 Association Women Health Obstetrics and Neonatal Nursing convention.: *Journal of Obstetrics, Gynecologic & Neonatal Nursing, 44S73*-4. doi:10.111/1552-6909.12650

. Mehrdad, N., Joolaee, S., Joulaee, A., & Bahrani, N. (2012). Nursing faculties' knowledge and attitude on evidence-based practice. *Iranian Journal of Nursing and Midwifery Research*, *17*(7), 506.

Miesnik, S. R., & Reale, B. J. (2007). A review of issues surrounding medically elective cesarean delivery. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, *36*(6), 605-615.

Monson, Henry, Lambert, Schmutz, & Christensen (2008). Preventing in-hospital newborn falls. *American Journal of Maternal Medicine, 38*(6), 359-366

Moore, E. R. (2012). Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database of Systematic Reviews*, (5), doi:10.1002/14651858.CD003519.pub3

Moore, E. R., Anderson, G. C., Bergman, N., & Dowswell, T. (2012). Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database Systematic Reviews*, *5*.

Morrison, C., Lee, J. P., Gruenewald, P. J., & Marzell, M. (2015). A critical assessment of bias in survey studies using location-based sampling to recruit patrons in bars. *Substance Use & Misuse*, *50*(11), 1427-1436.

Mundell, W. C., Kennedy, C. C., Szostek, J. H., & Cook, D. A. (2013). Simulation technology for resuscitation training: A systematic review and meta-analysis. *Resuscitation*, *84*(9), 1174-1183.

Murray, E. K., Ricketts, S., & Dellaport, J. (2007). Hospital practices that increase breastfeeding duration: Results from a population-based study. *Birth*, *34*(3), 202-211.

Nahidi, F., Tavafian, S. S., Heidarzadeh, M., Hajizadeh, E., & Montazeri, A. (2014). The mother-newborn skin-to-skin contact questionnaire (MSSCQ): development and psychometric evaluation among Iranian midwives. *BioMed Central pregnancy and childbirth, 14*(1), 1.

Newhouse, R. P., Dearholt, S. L., Poe, S. S., Pugh, L. C., & White, K. M. (2007). Johns Hopkins nursing evidence–based practice models and guidelines. Indianapolis, IN: Sigma Theta Tau International.

New York State Department of Health. (2011). Maternity Practices for Breastfeeding Success. Retrieved from http://www.nysbreastfeeding.org/maternity-practices/

Nichols, K., Crow, K., & Balakas, K. (2015). Beyond implementation: sustaining family-centered rounds. *The American Journal of Maternal/Child Nursing*,*40*(3), 145-152.

Nimbalkar, S. M., Patel, V.K., Patel, D.V., Nimbalkar, A.S., Sethi, A., & Phatak, A. (2014). Effects of early skin-to-skin contact following normal delivery on incidence of hypothermia in neonates more than 1800g: randomized control trial. *Journal of Perinatology, 34*(5), 364-368.

Noble, D., Lemer, C., & Stanton, E. (2011). What has change management in industry got to do with improving patient safety? *Postgraduate Medical Journal*, *87*(1027), 345-348 4p. doi:10.1136/pgmj.2010.097923

Oermann, M. H., & Hays, J. C. (2015). Writing for publication in nursing. Springer Publishing Company.

Onyejuruwa, F. I. (2014). Impact of an educational intervention on nurses' knowledge and caring behavior for late preterm infants' Doctoral dissertation, Florida Atlantic University Boca Raton, Florida

Pawson, R., & Tilley, N. (1997). Realistic evaluation. London, United Kingdom: Sage.

Phillips, R. (2013). The sacred hour: uninterrupted skin-to-skin contact immediately after birth. *Newborn & Infant Nursing Reviews, 13*(2), 67-72 6p. doi:10.1053/j.nainr.2013.04.001

Philipp, B. L., & Radford, A. (2006). Baby-Friendly: Snappy slogan or standard of care? *Archives of Disease in Childhood. Fetal and Neonatal Edition*, *91*(2), F145–F149. doi:10.1136/adc.2005.074443

Phillips, A. C., Lewis, L. K., McEvoy, M. P., Galipeau, J., Glasziou, P., Hammick, M. … Williams, M. T. (2013). Protocol for development of the Guideline for Reporting EBP Educational interventions and Teaching (GREET) statement. *Bio Med Center Medical Education*, *13*, 9. doi: 10.1186/1472-6920-13-9

Pritham, U. A. (2013). Breastfeeding promotion for management of neonatal abstinence syndrome. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, *42*(5), 517-526.

Redshaw, M., Hennegan, J., & Kruske, S. (2014). Holding the baby: Early mother--infant contact after childbirth and outcomes. *Midwifery*, *30*(5), e177-87 1p. doi:10.1016/j.midw.2014.02.003

Reeves, M.., & Deimler, M. (2011). Adaptability: The new competitive advantage. *Harvard Business Review, 89* (7), 135-141

Rozance, P. J., & Hay, W. W. (2012). Neonatal hypoglycemia—answers, but more questions. *Journal of Pediatrics*,*161*(5), 775–776. doi:10.1016/j.jpeds.2012.06.034

Samuel, J. (2010). Getting started with SPSS for windows. Retrieved from http://rt.uits.iu.edu/visualization/analytics/sats/spss-getting-started-windows.php

Sibbald, S. L., Wathen, C. N., & Kothari, A. (2016). An empirically based model for knowledge management in health care organizations. *Health Care Management Review*, *41*(1), 64-74.

Sonuga-Barke, E. J., Brandeis, D., Cortese, S., Daley, D., Ferrin, M., Holtmann, M., ... & Dittmann, R. W. (2014). Nonpharmacological interventions for ADHD: Systematic review and meta-analyses of randomized controlled trials of dietary and psychological treatments. *American Journal of Psychiatry*

Spradlin, L. (2009). Implementation of a couplet care program for families after a cesarean birth. *Association of periOperative Registerd Nurses Journal*, *89*(3), 553-562 8p. doi:10.1016/j.aorn.2008.07.019

SPSS, I. (2012). IBM SPSS statistics version 21. *Boston, Mass: International Business Machines Corp*.

Stage, E., Mathiesen, E., Emmersen, P., Greisen, G., & Damm, P. (2010). Diabetic mothers and their newborn infants - rooming-in and neonatal morbidity. *Acta Paediatrica*, *99*(7), 997-999 3p. doi:10.1111/j.1651-2227.2010.01779.x

Stikes, R., & Barbier, D. (2013). Applying the plan-do-study-act model to increase the use of kangaroo care. *Journal of Nursing Management, 21*(1), 70-78.doi:10.1111/jonm.12021

Svensson, K. E., Velandia, M. I., Matthiesen, A. S. T., Welles-Nyström, B. L., & Widström, A. M. E. (2013). Effects of mother-infant skin-to-skin contact on severe latch-on problems in older infants: A randomized trial. *International Breastfeeding Journal*, *8*(1), 1.

Thomson, G., Ebisch-Burton, K., & Flacking, R. (2015). Shame if you do–shame if you don't: women's experiences of infant feeding. *Maternal and Child Nutrition*, *11*(1), 33-46.

Turenne, J. P., Héon, M., Aita, M., Faessler, J., & Doddridge, C. (2016). Educational intervention for an evidence-based nursing practice of skin-to-skin contact at birth. *Journal of Perinatal Education*, *25*(2), 116-128.

U.S. Department of Health and Human Services (2010). Healthy people 2020 leading health indicators: progress update. Retrieved from http://www.healthypeople.gov/2020/LHI/LHI-ProressReport-

Vilinsky, A., & Sheridan, A. (2014). Hypothermia in the newborn: An exploration of its cause, effect and prevention. *British Journal of Midwifery*, *22*(8), 557-562 6p

Vivancos, R. B. Z., Leite, A. M., Scochi, C. G. S., & Santos, C. B. D. (2010). The skin to skin contact at birth and newborn crying during vaccination against Hepatitis B. *Acta Paulista de Enfermagem*, *23*(4), 461-465.

Waller-Wise, R. (2012). Mother-baby care: The best for patients, names and hospitals. *Nursing for Women's Health, 16*(4), 273-278.doi:10.1111/j.1751-486X.2012.01744.x [Context Link].

Walters, M. W., Boggs, K. M., Ludington-Hoe, S., Price, K. M., & Morrison, B. (2007). Kangaroo care at birth for full term infants: A pilot study*: The American Journal of Maternal/Child Nursing*, *32*(6), 375-381.

Weber, K., & Farrell, T. (2016). Developing therapeutic communication skills: Integration of standardized client simulation in an associate degree nursing program.

Westrup, B. (2015). Family-centered developmentally supportive care: The Swedish example. *Archives de Pédiatrie*, *22*(10), 1086-1091.

White, K. M. (2016). Change theory and models: Framework for translation. *Translation of Evidence into Nursing and Health Care*.

Widström, A. M., Lilja, G., Aaltomaa-Michalias, P., Dahllöf, A., Lintula, M., & Nissen, E. (2011). Newborn behaviour to locate the breast when skin-to-skin: A possible method for enabling early self-regulation. *Acta paediatrica*, *100*(1), 79-85.

World Health Organization. (2015). E-library of evidence for nutrition actions *(e-LENA)*, http://www.who.int/elena/titles/exclusive_breastfeeding/en/

World Health Organization. (2016). Infant, newborn, http://www.who.int/topics/infant_newborn/en/

World Health Organization. (2003). Kangaroo mother care: A practical guild. Geneva: Department of reproductive health and research, World Health Organization.

Yamauchi, Y., & Yamanouchi, I. (1990). Breastfeeding frequency during the first 24 hours after birth in full-term neonates. *Pediatrics, 86*(2): 171-175.

Young, D. (2005). Rooming-in at night for mothers and babies: Sweden shows the way. *Birth: Issues in Perinatal Care*, *32*(3), 161-163 3p.

Young, R. (2013). The Importance of bonding. *International Journal of Childbirth Education*, *28*(3).

Youngblut, J. M., & Brooten, D. (2001). Evidence-based nursing practice: *Why is it important? Publmed.Gov 12*(4), 468-476 http://www.ncbi.nlm.nih.gov/pubmed/11759419

Zaccagnini, M.E., & White, K.W. (2011). *The doctor of nursing practice essentials*: A new model for advanced practice nursing (custom ed.). Sudbury; MA: Jones & Bartlett publishers.

Appendix A: Harvard Business Publishing

Tim Cannon (Harvard Business Publishing)

Feb 1, 12:08

Dear Francisca Njoku,

Thank you for your telephone call reply and clarification. Please note as long as the Harvard Business Review article material is only being used to fulfill the class assignment in the pursuit of your degree, permission would be granted at no charge as long as the material is fully cited (see following).

Reprinted with permission from "Leading Change: Why Transformation Efforts Fail by John P. Kotter. Harvard Business Review, January 2007. Copyright 2007 by the Harvard Business Publishing Corporation; all rights reserved.

If the thesis is later published or distributed as training material, however, then there would be a royalty charge for use of the HBP material that would be based on how much material is used and the print run.

Regards,

Tim Cannon
Permissions Coordinator
HARVARD BUSINESS PUBLISHING
300 North Beacon Street | 4E | Watertown, MA 02472
voice: 617.783.7587
fax: 617.783.7556
web: www.harvardbusiness.org

Appendix B: BioMed Central

Dunncan Suarez" <info@biomedcentral.com> <info@biomedcentral.com>
To
austinfranca123@yahoo.com
Today at 9:37 AM
Dear Dr. Njoku,

Thank you for contacting BioMed Central.

The article you refer to is an open access publication. Therefore you are free to use the article for the purpose required, as long as its integrity is maintained and its original authors, citation details and publisher are identified.

For detailed information about the terms please refer to the open access license:

http://www.biomedcentral.com/about/policies/license-agreement

If you have any questions please do not hesitate to contact me.

Best wishes,

Joel Lagmay
Customer Services
info@biomedcentral.com
Phone: +44 (0)203 192 2009
Fax: +44 (0)203 192 2010
www.biomedcentral.com
----------Your Question/Comment ----------

Dear editor,
Please grant me permission to use "The Mother-Newborn Skin-to-Skin Contact Questionnaire (MSSCQ) published in BMC Pregnancy and Childbirth article with doi:10.1186/1471-2393-14-85 of February 24th 2014. The questionnaire is to be used for my Doctor of Nursing project at Walden University.
Please treat this request as urgent as I am constrained by time.
Thanks.
Francisca Njoku
ref:_00D20CUt._50020x2zYnAAI:ref

Appendix C: The Mother-Newborn Skin-to-Skin Contact Questionnaire

The Mother-Newborn Skin-to-Skin Contact Questionnaire (MSSCQ)

Predisposing factors	*Agree (2)*	*Neither agree nor disagree (1)*	*Disagree (0)*
Obstetrics nurse's attitude			
1. Skin contact improves mother's physical health.			
2. Skin contact improves neonate's physical health.			
3. Skin contact makes mother take better care of the child.			
4. Skin contact improves mother's success in breastfeeding.			
5. Skin contact improves mother's satisfaction.			
6. Skin contact improves mother's mental health.			
7. Skin contact establishes verbal/emotional bonding between obstetric nurse and mother.			
8. Skin contact creates a sense of security in the newborn.			
9. Skin contact enhances mother's love for the newborn.			
10. Skin contact reduces mother's stress.			
11. Being skilled in performing skin contact by obstetric nurse improves the results.			
Newborn's health			
12. Skin contact improves newborn's immunity system.			
13. Skin contact improves the development of the newborn.			
14. Skin contact establishes an emotional bond between parents and the newborn.			
15. Skin contact regulates the newborn's blood oxygen level.			
16. Skin contact regulates the newborn's heartbeat.			
17. Skin contact improves the newborn's breathing.			
18. Skin contact regulates the newborn's body temperature.			
Mother's physical health			
19. Skin contact accelerates placental delivery.			
20. Skin contact accelerates the uterus's return to normal.			
21. Skin contact promotes oxytocin release in mother.			
22. Skin contact reduces post-labor bleeding.			
Obstetric nurses' belief about obstacles of performing skin contact			
23. The newborn's ill situation hinders skin contact.			
24. Skin contact is not feasible for ill mothers.			
25. Problems of mothers undergoing C-section affect skin contact.			
26. Problems of neonates born to C-section affect skin contact.			

27. Mother's fatigue caused by nonstandard intervention during labor affects skin contact.			
Obstetric nurse's belief in self-efficacy			
28. I believe skin contact is essential.			
29. I believe skin contact entails positive results.			
30. I believe skin contact is important.			
31. I believe I can perform skin contact with minimum facilities.			
32. I believe my recommendations for skin contact are acceptable for the mother.			
33. I believe I can use my knowledge to perform skin contact.			
34. I believe in positive results of the skin contact and I perform it.			
Mental health			
35. Skin contact establishes an emotional bond between mother and newborn.			
36. Skin contact improves the acceptance of motherhood role by the mother.			
37. Skin contact creates a sense of security in mother and newborn.			
38. Skin contact results in future attachment between mother and child.			
Enabling factors	***Agree (2)***	***Neither agree nor disagree (1)***	***Disagree (0)***
Managerial-planning			
1. Presence of a supportive program in obstetrics unit will improves skin-to-skin contact.			
2. Skill-teaching programs in hospital improve skin-to-skin contact.			
3. Placing skin-to-skin contact in policies of the hospital will improve its implementation.			
4. Encouraging the nurse through hospital sponsored education will improve skin-to-skin contact.			
Service provided to mother			
5. Physiologic delivery has a positive impact on skin-to-skin contact.			
6. Encouraging the mother to have skin contact in labor room will improve skin-to-skin contact.			
7. Collaboration of the labor-supporting team improves skin-to-skin contact.			
8. Professional ethical commitment of the nurse improves skin-to-skin contact.			

(table continues).

/

Preparations			
9. Educating mothers during pregnancy improves skin-to-skin contact.			
10. Educating companions improves skin-to-skin contact.			
11. Educating the parents during pregnancy improves skin-to-skin contact.			
12. Including skin-to-skin contact in educational curricula of nursing students will improve its implementation.			
13. Mandating skin-to-skin contact to all hospitals will improve its implementation.			
14. Placing a point for skin-to-skin contact in ranking of hospitals will improve its implementation.			
15. Developing regulations for evaluating nurses based on skin-to-skin contact will improve its implementation.			
16. The supervision of authorities on correct skin-to-skin contact will improve its implementation.			
Reinforcing factors	***Agree (2)***	***Neither agree nor disagree (1)***	***Disagree (0)***
Encouraging factors for obstetrics nurses			
1. Encouraging colleagues improves skin-to-skin contact.			
2. Patient's confidence in the delivery team improves skin-to-skin contact.			
3. Mother's calmness during skin-to-skin contact will encourage the obstetric nurse			
4. Newborn's calmness during skin-to-skin contact will encourage the obstetric nurse.			
5. Mother's satisfaction with skin-to-skin contact will encourage the obstetric nurse			
6. Mother's desire for skin-to-skin contact will encourage the obstetric nurse			
7. Mother's request for skin-to-skin contact will encourage the obstetric nurse to perform it.			
Self-motivation			
8. Obstetric nurses' awareness of advantages of skin-to-skin contact improves its implementation.			
9. Obstetrics nurses' desire for skin-to-skin contact will encourage her to perform it.			
10. Awareness of advantages of skin-to-skin contact through media will			

(table continues)

improve its implementation.			
11. Obstetrics nurses' support for skin contact will encourage its implementation.			
Obstetrics nurse's occupational satisfaction			
12. Obstetrics nurses' occupational satisfaction affects skin contact.			
13. Ability to delegate tasks that do not require obstetric nurses to perform affects skin to skin contact.			
14. Providing independence and granting the responsibility of normal delivery to obstetrics nurses affects skin contact.			

Appendix D: Permission for Nurse Attitudes and Perceived Barriers to Non-Separation

April 14th, 2016

[redacted]

Dear Ms. Njoku,

Thanks for contacting us for a permission to use the questionnaire used for "Nurse Attitudes and Perceived Barriers to Non-Separation". On behalf of myself and Lorian Williams-Willis we are pleased to grant you copyright permission for the sole use of your capstone DNP project at Walden University.

Best wishes,

[redacted]

This is an attachment from an email

Appendix E: Nurse Attitudes and Barriers to Non-Separation Scale

Nurse Attitudes and Barriers to Non-Separation Scale

Directions: This is a survey to find out more about your thoughts on your current rooming-in practice. Rooming-in for purposes of this study is defined as the infant remaining with the mother in the same room day and night for day except when medically necessary for them to be apart.

Read each sentence and circle the number that best indicates the degree to which you agree or disagree with the statement **(1=strongly disagree 2=disagree 3= undecided 4=agree 5=strongly agree).**

		Strongly disagree	Disagree	Undecided	Agree	Strongly Agree
1.	Overall, I agree with non-separation practice	1	2	3	4	5
2.	If I delivered a baby, I would choose non-separation for myself	1	2	3	4	5
3.	I recommend non-separation to my patients	1	2	3	4	5
4.	I recommend non-separation to my friends/family	1	2	3	4	5
5.	I am aware of the non-separation practice at our facility	1	2	3	4	5
6.	I am in favor of the non-separation practice at our facility.	1	2	3	4	5
7.	A system of 24 hour non-separation is better than just daytime non-separation	1	2	3	4	5
8.	I have a positive perception of non-separation	1	2	3	4	5
9.	I attend conferences/subscribe and read journals on mother-infant care to stay abreast of evidenced-based practice	1	2	3	4	5
10.	Non-separation strengthens the mother-infant bond	1	2	3	4	5
11.	Non-separation increases the possibility of infection for the baby	1	2	3	4	5
12.	Non-separation improves breastfeeding rates	1	2	3	4	5
13.	Mothers express difficulty sleeping and exhaustion when non-separation occurs	1	2	3	4	5
14.	Non-separation increases the mothers confidence in her ability to care for her infant	1	2	3	4	5
15.	Non-separation disturbs infant sleep and rest	1	2	3	4	5
16.	There are cultural differences in mothers'	1	2	3	4	5

		Strongly disagree	Disagree	Undecided	Agree	Strongly Agree
	preference for non-separation					
17.	I inquire about the mother's cultural preferences for non-separation on admission	1	2	3	4	5
18.	Non-separation increases the risk for an accident to the baby (i.e., suffocation, falls)	1	2	3	4	5
19.	Mothers feel annoyed about non-separation	1	2	3	4	5
20.	I feel annoyed about the non-separation practice	1	2	3	4	5
21.	Physicians promote non-separation at our facility.	1	2	3	4	5
22.	Physicians are aware of the non-separation practice at our facility.	1	2	3	4	5
23.	Bedside nurses promote non-separation at our facility.	1	2	3	4	5
24.	Bedside nurses are aware of the non-separation practice at our facility.	1	2	3	4	5
25.	Nursing leaders promote non-separation at our facility.	1	2	3	4	5
26.	Nursing leaders are aware of the non-separation practice at our facility.	1	2	3	4	5
27.	Mothers are aware of the non-separation policy at our facility	1	2	3	4	5
28.	Mothers choice to room-in is strongly influenced by the attitudes and behaviors expressed by the nurse	1	2	3	4	5
29.	Does the presence of a nursery on your unit increase your non-separation practice	1	2	3	4	5
30.	Does the absence of a nursery on your unit increase your non-separation practice	1	2	3	4	5
31.	I am aware of the Perinatal Guidelines for non-separation practices.	1	2	3	4	5

(table continues)

Directions: The statements below list different nursing activities related to promoting rooming-in. Read each statement below and circle the number that best describes the degree to which you rate your confidence level **(1=strongly disagree 2=disagree 3= undecided 4=agree 5=strongly agree).**

	"I feel confident":	**Strongly disagree**	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**
1.	Promoting non-separation	1	2	3	4	5
2.	Teaching mothers about non-separation	1	2	3	4	5
3.	Teaching mothers how to care for their infant	1	2	3	4	5
4.	Preparing mothers for the adjustments of parenthood	1	2	3	4	5
5.	Instructing mothers on the benefits of non-separation to breastfeeding	1	2	3	4	5
6.	Presenting the benefits for non-separation when the situation arises	1	2	3	4	5
7.	Discussing the importance of early contact between mother and infant	1	2	3	4	5
8.	Problem-solving with mothers experience difficulty with breastfeeding	1	2	3	4	5
9.	Promoting non-separation to doctors and other medical staff	1	2	3	4	5

Additional Comments about the Non-Separation Practice

_____

_____

_____

_____

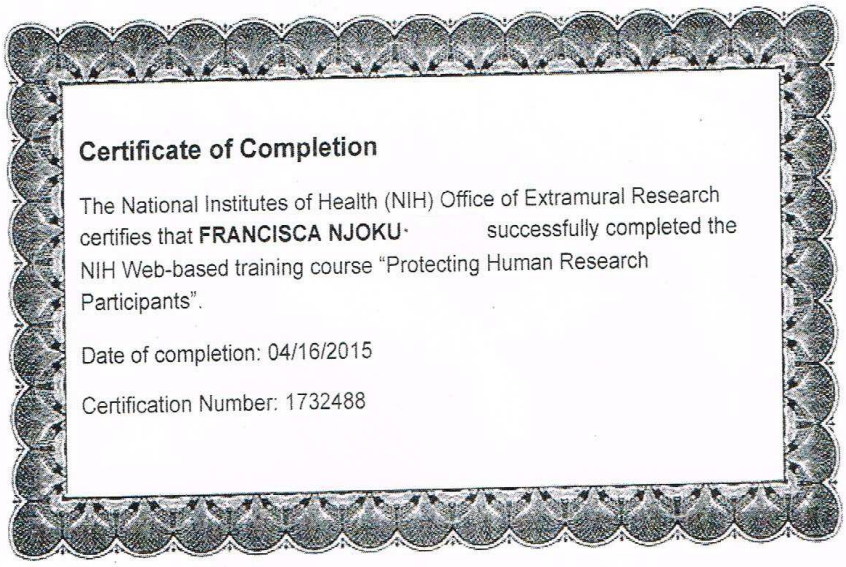
_____

_____

_____

_____

Appendix F: Certificate of Completion for Protecting Human Research Participants



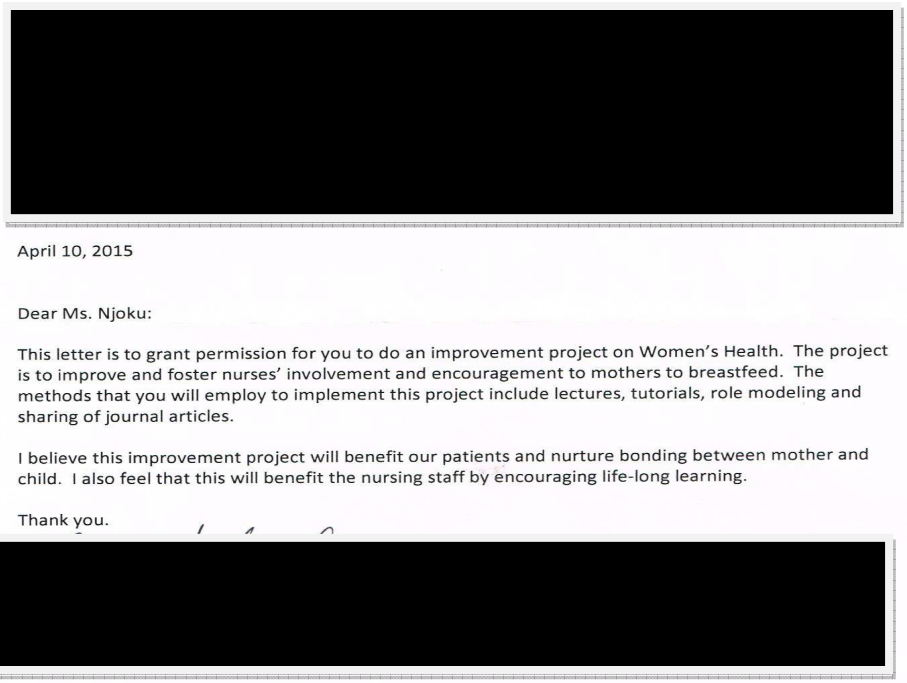
Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **FRANCISCA NJOKU** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 04/16/2015

Certification Number: 1732488

Appendix G: Clinical Site Permission Letter



April 10, 2015

Dear Ms. Njoku:

This letter is to grant permission for you to do an improvement project on Women's Health. The project is to improve and foster nurses' involvement and encouragement to mothers to breastfeed. The methods that you will employ to implement this project include lectures, tutorials, role modeling and sharing of journal articles.

I believe this improvement project will benefit our patients and nurture bonding between mother and child. I also feel that this will benefit the nursing staff by encouraging life-long learning.

Thank you.

[redacted]

Appendix H: Demographic Data

Demographic Data:

(1) Gender: (1) Female------- (2) Male---------

(2) Racial or Ethnic Background:

(a) White (non-Hispanic)-------(b) Black, African American------- (c) Asian------ (d) American Indian or Alaskan native-----

(e) Hispanic, Latino------- (f) Two or More races (non-Hispanic) -------- (g) Other----------

(3) Age (Circle one)

< 30

30-39

40- 49

50-59

> 60

(4) Job Title: _____

(5) Years of experience in Nursing: < 5yrs-------- 5-10yrs-------- > 10yrs----------

(6) Years of experience in Maternity & Child Nursing (1) < 3yrs-------- (2). 2-5ys--------- (3) 5-10yrs------- (4) > 10yrs--------

(6) Highest Nursing Education: (1) Diploma------- (2) Associates degree------ (3) BSN------ (4) MSN------- (5) Doctorate------- (6)

Other---------

Appendix I: Educational Power Point Presentation

All about Skin-to-Skin and Rooming-in Care
By
Francisca Njoku, FNP


INTRODUCTION

- The origin of ssc is traced back to 1978 when Dr. Edgar Rey Sanabria, a Professor of Neonatology, instituted kangaroo care (Greydanus & Merrick, 2014).
- Kangaroo care is compared to the way kangaroos hold their young close to their skin (Hall & Kirsten, 2008).

Dr. Edgar Rey

INTRODUCTION CONT'

- The practice entails placing the diapered infant in skin-to-skin position with the newborn's chest lying directly upon the mother's bare chest and keeping them together while they are covered with a warm blanket (World Health Organization, 2015).

BENEFITS OF SKIN-TO-SKIN

- Newborn's thermal regulation. When the newborn is placed prone on his/her mother's bare chest, there is a transfer of heat (Moore, 2012).
- Early ssc can help to regulate physiological processes and behavior (Moore, 2012). Behaviors such as infant crying and grimacing were diminished, while latching onto the breast were better managed

BENEFITS CONTS'

- Healthy newborns are capable of using glycogenolysis and lipolysis to restore a physiologic hypoglycemia (Rozance & Hay, 2012). Use of ssc will help to maintain a neural thermal environment, such that the newborn will conserve glucose and oxygen

BENEFITS CONT'

- Skin-to- skin holding helps in maternal infant bonding, and helps the mother-baby dyad to learn each other (Haxton, Doering, & Gingras, 2012).
- Skin-to-skin contact reactivates the adrenal axis pathways and helps in minimizing the risk of depression (Feldman, Rosenthal, & Eidelman, 2014). Additionally, oxytocin hormone that is released during SSC decreases maternal anxiety and further reduces stress (Feldman et al.)
- Supports healthy people 2020 goals, Joint commission, and Baby Friendly Hospital Initiative and the Prenatal Core measure set, exclusive breast milk feeding(PC-05)

SKIN-TO-SKIN CONTACT ALGORITHM

- Prenatal and labor and delivery nurses will explain the practice and benefits of SSC to mothers and their family
- Dry and stimulates newborns in immediate delivery period
- Remove wet towel and cover infant with warm blanket
- Place head cap on infant, while still on bare chest of mother
- Delay routine care such as weighing, eye care until after one of interrupted SSC
- Stay with mother-infant dyad until after one hour post birth, observing and providing support.

ROOMING-IN CARE

- Rooming- in, also known as couplet care, involves caring for both mother and her newborn in the same room throughout the hospital stay (Beal, Dalton, & Maloney 2015).

BENEFITS OF RIC

- Rooming-in care is recommended by the American Academy of Pediatrics (AAP), American Colleges of Obstetrics and Gynecology (ACOG), and Association of Women Health Obstetrics and Neonatal Nurses (AWHONN) as best practice
- Family-orientated practice. Support person such as the spouse, and the siblings of the newborn baby are allowed to stay in the same room with the post-partum mother.

BENEFITS CONT'

- Couplet care provides opportunity for continuity of care, stronger bonding, attachment, self-regulated interaction, and harmonized sleep patterns (Grubbs and Cottrell (1996).
- Mothers learn infant's feeding cues such as hand to mouth activity, smacking lips, rooting, and movement of extremities (Philipp & Radford, 2006)

BENEFITS CONT'

- Improves patient satisfaction rate
- Nurses spend less time on procedures such as hypoglycemia check and babies fussiness
- Nursery space will be available for other use such as visitor's waiting area.

PARENTS EDUCATION

- Educate mothers to sleep when newborn is sleeping
- Plan to have a support person during hospital stay
- Normal newborn's sleeping and feeding pattern
- Plan to limit visitors in the first day post-partum to avoid over-stimulation and allow mother and newborn to rest from process of delivery
- Use of call bell
- Safe baby sleeping position

(Continuation)

ROOMING ALGORITHM

- One hour after the delivery of a newborn, labor and delivery nurse call to give report to the transitional nurse
- Transitional nurse take equipments needed for admission such as bassinet, vitamin K injections, Erythromycin and Hepatitis B vaccine
- Newborn admission is done at labor and delivery by the mother's bedside
- Infant bath should be done 12 hours after delivery
- Pediatric assessments, vital signs, weights etc. should be done in mom's room

SUMMARY

- Allowing the mother-baby dyad enough time to transition to extra-uterine life and further keeping them in the same room until hospital discharge are new approaches to care that needs to be institutionalized. Keeping the mother-baby dyad in the same room is the most natural habitat for the newborn which will continue at home upon discharge.

The baby with a wet diaper, is the only one that wants a change

REFERENCES

- Feldman, R., Rosenthal, Z., & Eidelman, A. I. (2014). Maternal-preterm skin-to-skin contact enhances child physiologic organization and cognitive control across the first 10 years of life. Biological psychiatry, 75(1), 56-64.
- Greydanus, D.E., & Merrick, J. (2014). Newborn care: what we can learn from the kangaroo mother. Frontiers in public health, 2.
- Grubbs, L., & Cottrell, B. (1996).Notes from the field. Nurses' attitudes and concerns about couplet care. *Nursing Management, 27*(1), 54-56 3p.

REFERENCES CONT'

- Hall, D., & Kirsten, G. (2008). Kangaroo mother care-a review. Transfusion Medicine,18(2), 77-82
- Haxton, D., Doering, J., Gingras, L. (2012). Implementing skin- to- skin contact at birth using the Iowa model. Nursing for Women's Health, 16(3), 222-230
- Moore, E. R. (2012). Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database of Systematic Reviews*, (5), doi:10.1002/14651858.CD003519.pub3

REFERENCES

- Philipp, B. L., & Radford, A. (2006). Baby-Friendly: snappy slogan or standard of care? *Archives of Disease in Childhood. Fetal and Neonatal Edition, 91*(2), F145–F149. doi:10.1136/adc.2005.074443
- Rozance, P. J., & Hay, W. W.(2012). Neonatal Hypoglycemia—Answers, but More Questions. *The Journal of Pediatrics, 161*(5), 775–776. doi:10.1016/j.jpeds.2012.06.034
- World Health Organization (2015).E-Library of Evidence for Nutrition Actions (e-LENA).Retrieved on 8/11/15 from http://www.who.int/elena/titles/exclusive_breastfeeding/en/

(Continuation)

Appendix J. Nursing Rounding Sheet

[redacted]

Patient's Name: _____ Date: _____ Fall Risk: Yes No

Medical Record Number: _____

PURPOSE: Hourly rounds ensure that our mothers and babies have safe, excellent service at all times. SAFETY IS A PRIORITY IN OUR AREA. Smile when greeting each patient; Introduce yourself; Identify patient; Ask questions; Address needs; Exit by asking "is there anything else that you need?" and indicate when you will return next.

	DAY TOUR									EVENING TOUR							
	7 AM	8 AM	9 AM	10 AM	11 AM	12 N	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
HAND HYGIENE																	
PATIENT STATUS (Y/N)																	
Awake																	
In bed with infant																	
Bathroom																	
In chair with infant																	
Off Unit (testing/NICU)																	
Infant rooming in																	
Infant in bassinette																	
Infant feeding (BF/BT)																	
PATIENT NEEDS																	
Pain (Y/N)																	
Ice & water (Y/N)																	
Toileting assistance (Y/N)																	
ENVIRONMENTAL NEEDS																	
Floor/spill (Y/N)																	
Call bell in reach (Y/N)																	
Lighting in room																	
Side rails up (Y/N)																	
Pt. board updated (Y/N)																	
INITIAL EACH ENTRY																	

STAFF INITIALS	STAFF FULL NAME (PRINT)	STAFF INITIALS	STAFF FULL NAME (PRINT)

.

[redacted]

Patient's Name: _____ Date: _____ Fall Risk: Yes No

Medical Record Number: _____

PURPOSE: Hourly rounds ensure that our mothers and babies have safe, excellent service at all times. SAFETY IS A PRIORITY IN OUR AREA. Smile when greeting each patient; Introduce yourself; Identify patient; Ask questions; Address needs; Exit by asking "is there anything else that you need?" and indicate when you will return next.

	NIGHT TOUR													
	12 MN	12:30 AM	1 AM	1:30 AM	2 AM	2:30 AM	3 AM	3:30 AM	4 AM	4:30 AM	5 AM	5:30 AM	6 AM	6:30 AM
HAND HYGIENE														
PATIENT STATUS (Y/N)														
Awake														
In bed with infant														
Bathroom														
In chair with infant														
Off Unit (testing/NICU)														
Infant rooming in														
Infant in bassinette														
Infant feeding (BF/BT)														
PATIENT NEEDS														
Pain (Y/N)														
Ice & water (Y/N)														
Toileting assistance (Y/N)														
ENVIRONMENTAL NEEDS														
Floor/spill (Y/N)														
Call bell in reach (Y/N)														
Lighting in room														
Side rails up (Y/N)														
Pt. board updated (Y/N)														
INITIAL EACH ENTRY														

STAFF INITIALS	STAFF FULL NAME (PRINT)	STAFF INITIALS	STAFF FULL NAME (PRINT)

Appendix K: Guideline for Newborn Glucose Monitoring

NEWBORN STRESS CARE

[redacted]

☒ ☐Other

LOCATION:	DEPARTMENT: **WOMEN'S HEALTH SERVICES**	
Subject: **NEWBORN STRESS CARE**	Section: **N**	
	Supersedes:	Effective: **3/2007**
	Distribution: **WHS**	Revised: **8/2015** **1/2011**
	Reviewed: **10/2012**	
Prepared by:	Approved by:	

[redacted]

STANDARD:

1. The transition period from intrauterine life to extrauterine life involves tremendous physiological changes. It is not simply an isolated moment in time, but could last up to 6 hours.
2. The ability of the newborn to make this transition successfully depends on a number of factors including, but not limited to gestational age, sufficiency of placental support and ease of labor and delivery.
3. All infants who require stress care due to an anticipated difficult transitional period will be identified and observed closely.
4. In the Newborn, glucose levels decline from birth until 1-3 hours after birth, at which point they spontaneously rise. Therefore from birth until 3 hours after birth shall be defined as a stress period for those infants at risk.

POLICY:

Optimal care will be provided to the infant identified as requiring stress care throughout the transitional period.

RELATED POLICIES:

1. Newborn management of hypoglycemia
2. Newborn admission assessment

RESPONSIBLE STAFF/ACTION:
REGISTERED NURSE

The Registered Nurse will identify those newborns at risk for a difficult transition to extrauterine life. These infants would include, but not limited to all the following:

1. Criteria:

NEWBORN STRESS CARE

- LGA > 4000 grams
- SGA < 2500 grams
- Prematurity < 37weeks
- Twins, multiple births
- Extramural deliveries
- Hypothermia/cold stress admission T< 96.5 degrees F
- Meconium stained fluid
- GDM or DM, Non-insulin & insulin dependent
- Hypertension/Preelampsia
- Lack of prenatal care
- Demerol/Phenegan 2 hours prior to delivery
- Non-reassuring fetal heart rate tracing
- Tight nuchal cord, true knot
- Shoulder Dystocia and/or difficult deliveries
- Operative deliveries i.e. C/S, forceps, vacuum
- Placental Previa or Abruption
- Low Apgar score < 7 at 5 minutes

2. Obtain vital signs as per admission policy (every half-hour for two hours)
3. Obtain dextrostick reading prior to feeding.
4. Dextrosticks should be repeated every hour for three hours or until within normal limits for three hours (see newborn management of hypoglycemia policy)
5. Feeding is appropriate after the first dextrostick, if no signs of respiratory distress are noted.
6. Notify the Provider of any abnormal findings, which may include, but not limited to all the following:
   - Tachypnea, cyanosis, grunting, flaring, retractions, pallor, decreased capillary refill, tachycardia, bradycardia, lethargy, poor suck or feeding, excessive jitteriness, temperature >100.4 degrees F or temperature < 96.5 degrees F, Hypoglycemia<40mg/dL, Hyperglycemia>120mg/dL

REFERENCES:

1. NANN Guidelines for Neonatal Nursing Policies, Procedures, Competencies, and Clinical Pathways, 4th Edition, 2006.
2. Mattson, S.& Smith, J.E.. (2004). Core curriculum for maternal-newborn nursing. Elsevier: USA.

REVIEW DATE:_____ SIGNATURE:_____

_____

_____

_____

_____