

2017

# Effect of Multiple Skin-to-Skin Experiences on Exclusive Breastfeeding Rates

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# Walden University

College of Health Sciences

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Joanna Horst

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2017

Abstract

Effect of Multiple Skin-to-Skin Experiences on Exclusive Breastfeeding Rates

by

Joanna Foster Horst

MSN, Drexel University, 2009

BSN, Immaculata University, 2006

Project Submitted in Partial Fulfillment of  
the Requirements for the Degree of  
Doctor of Nursing Practice

Walden University

May 2017

## Abstract

Breastmilk feeding at birth demonstrates short- and long-term medical and neurodevelopmental advantages. Infants who are exclusively breastfed demonstrate less nausea, vomiting, and diarrhea, and they experience less upper respiratory and ear infections than do infants who are not breastfed. One strategy that supports breastfeeding initiation is providing skin-to-skin contact (STS) with mothers and newborns immediately upon birth. The purpose of this project was to evaluate the impact of a second session of STS on the postpartum unit on exclusive breastfeeding rates at discharge. A retrospective comparison design using Swanson's caring model was used to guide the evaluation study that examined and compared the rate of exclusive breastfeeding before and after the new model of care was implemented. The historical controls rate included all delivered women in a 3-month period who expressed a desire to exclusively breastfeed and who had one session of STS. In this group, the exclusive breastfeeding rates were 46% at discharge. After the practice change, the 75 women who expressed a desire to exclusively breastfeed and who had the second session of STS demonstrated exclusive breastfeeding rates of 72% at discharge. The increased rate of exclusive breastfeeding and the promotion of newborn health represent a major contribution to positive social change through the introduction of a second session of STS. The extension of the STS practice from only the immediate post delivery setting to the postpartum setting provides a contribution to nursing practice that can be shared in any birth or similar practice setting.

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## Dedication

This project is dedicated to my husband, David L. Horst. Without his encouragement, support, and consideration I could never have accomplished this enormous goal. You are my one and only, forever and ever.

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Thank you to Dr. Debra Stavarski. Thank you for the many hours you have dedicated to mentoring, training, and teaching me. For helping me to learn that with hard work, focus, and a vision, excellence can be achieved. Thank you for becoming my friend along the journey. Thank you to my doctoral committee for your work in guiding me toward this final goal of completing my DNP.

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## Section 1: Overview of the Project

### **Introduction**

National organizations, such as The American Academy of Pediatrics (AAP) and the World Health Organization (WHO), recognized exclusive breastfeeding as the standard recommendation for infant nutrition. The AAP (2012) executive summary stated that “breastfeeding and human milk are the reference normative standards for infant feeding and nutrition” (p. 600). Despite the recommendations from professional organizations and the knowledge of the merits of breastfeeding, the WHO (2016) reported that only 36% of infants were exclusively breastfed from 0–6 months in 2013.

One strategy that has demonstrated the support of breastfeeding initiation is providing skin-to-skin contact (STS) with mothers and newborns immediately upon birth. STS is defined as the mother and baby staying in bare skin contact with each other for a period of uninterrupted time following delivery (Moore, Anderson, Bergman, & Dowswell, 2012, p. 12). To promote exclusive breastfeeding, the health system where this project took place implemented an intervention of STS at the time of delivery. As a result of implementing STS, the study site health system saw improvement in breastfeeding rates at discharge. The second session of STS was then proposed to take place in the postpartum unit and the evaluation of this new process was the foundation for this DNP project.

### **Problem Statement**

Breastmilk demonstrates both short- and long-term medical and neurodevelopmental advantages. Infants who are exclusively breastfed demonstrate less

nausea, vomiting, and diarrhea, and they experience less upper respiratory and ear infections than infants who are not breastfed, (AAP, 2012). Exclusive breastfeeding for 6 months has also demonstrated a decrease incidence of childhood obesity (WHO, 2014). Exclusively breastfed babies demonstrate a decrease in the development of allergies and a decrease of both hypertension and hypercholesterolemia in adulthood (Stahl, 2013). The WHO (2014) recommends exclusive breastfeeding for the first 6 months of life. According to the WHO (2014), breastfeeding is one of the most effective means of ensuring both child health and survival. If every child was breastfed within the first hour of life, exclusively breastfed for the first 6 months of life, and continued to receive breastmilk for the first 2 years of life, then 800,000 children's lives would be saved globally each year (WHO, 2016).

Breastfeeding rates in the United States have improved but continue to fall short of the Healthy People 2020 goal of 81.9% of all infants to receive some breastmilk (The Centers for Disease Control and Prevention [CDC], 2014). In 2011, 79% of all U.S. newborns were ever breastfed, and 49% were still receiving breast milk at 6 months of age ( [CDC], 2014). In the exclusive breastfeeding category, the rate in the United States at 3 months is 40.7% and at 6 months is 18.8% (CDC, 2014). In the state where this project took place, the exclusive breastfeeding rate at 3 months is 34.0%, and at six months is 15.3%, which are well below the national average (CDC, 2014). The hospital where this project occurred has demonstrated exclusive breastfeeding rates of 45% upon discharge.

The span of control for this project was the evaluation of data from a practice change which occurred in the postpartum unit in the hospital where the birth occurred. The population that I focused on in this project was the exclusive breastfeeding data obtained from the medical records of women who delivered at the health system. In the retrospective data review, I analyzed rates of exclusive breastfeeding upon the discharge of women who experienced one session of STS immediately after delivery. Those data were compared to exclusive breastfeeding rates upon the discharge of women who experienced the second session of STS upon admission to the postpartum unit.

Since the WHO and AAP both identified breastmilk as the best nutrition for newborns, a key goal of mine with this study was identifying strategies to promote exclusive breastfeeding. One strategy that has demonstrated the support of breastfeeding initiation is providing STS with mothers and newborns immediately upon birth. Keeping mothers and babies together in a safe STS experience following birth has demonstrated improved outcomes for both mother and newborn (Crenshaw, 2014). When women are provided the opportunity to have an experience of STS immediately upon birth after either a vaginal or a cesarean section delivery, the mother demonstrates increased comfort and independence with breastfeeding (Aghdas, Talat, & Sepideh, 2014). Newborns who receive STS may demonstrate respiratory, temperature, and glucose stability and both mothers and newborn demonstrate less stress, with the newborn exhibiting less crying (Phillips, 2013).

Another outcome of STS is improved breastfeeding initiation. Babies who are experience STS are more likely to breastfeed, as healthy full-term newborns instinctively

suckle after 55 minutes of STS with their mother (Mann, 2013). The experience of STS within the first 2 hours after the birth of a baby is a period of high sensitivity and bonding (Aghdas et al., 2014). I have observed that post delivery, the mother is more relaxed, her anxiety surrounding the birth experience has decreased, and her post delivery pain is addressed therefore, the time is right for reinforcing the STS experience with a second session of STS.

In this project, I examined the exclusive breastfeeding rates at discharge for mothers who received one session of STS for a 3 month period prior to the practice change. These data provided a historical comparison of exclusive breastfeeding rates. With the historical data, I compared the exclusive breastfeeding rates at the discharge of those who received a second session of STS in the postpartum unit with the breastfeeding data from mothers who did not receive any STS. Therefore, the purpose of this project was to evaluate a new practice of implementing the second session of STS on the postpartum unit and to evaluate what effect this practice change had on exclusive breastfeeding rates at discharge. Therefore, the research that guided this project was: Does the introduction of the second session of STS upon admission to the postpartum unit increase exclusive breastfeeding rates at discharge?

### **Significance**

The significance of this project to the field of nursing practice was to increase the number of children who are exclusively breastfed, and therefore, reap the health benefits associated with breastfeeding. Initiating the second session of STS on postpartum requires no additional resources, supplies, or physician orders. The experience is nursing

driven and nursing has the opportunity to embrace this practice. The nurses on postpartum have the opportunity to contribute to a mother-infant's experience, bonding, and feeding choice. When nurses understand the practice implications and health benefits for newborns, they are willing to shift their focus from task oriented to experience oriented and protect that experience between mother and newborn (Norris-Grant & Jagers, 2014).

### **Purpose Statement**

The experience of STS immediately after birth is a safe and healthy birth practice. When a woman has the opportunity to experience STS, she demonstrates increased maternal behaviors, displays a higher confidence level in holding and caring for her newborn, and breastfeeds for a longer duration (Phillips, 2013). When term newborns are placed in STS with their mothers immediately after birth, they demonstrate higher levels of respiratory, temperature, and glucose stability and demonstrate less stress and crying (Phillips, 2013). Mothers and newborns have a psychological need to be together after birth and during the hours and days that follow; unlimited opportunities for STS promote bonding and enhance breastfeeding establishment (Crenshaw, 2014).

To date, there have been no other researchers that have evaluated the effect of introducing the second session of STS after admission to postpartum. The guiding principle for this project was that babies who have the opportunity to be placed STS are more likely to breastfeed and will instinctively suckle after 55 minutes of STS (Mann, 2013). The experience of STS contact after vaginal delivery in the hospital where the project occurred was consistently in the 70th percentile. However, baseline data on chart

reviews on all women who delivered by a C-section revealed that only 20% had STS in the operating room (O.R.), in January 2016 and 24 % in February 2016. This organization was not alone in exhibiting this trend. Researchers support this trend in the United States and the United Kingdom, with obstacles being identified as lack of interdisciplinary collaboration in the operating room at the head of the bed with anesthesia, lack of support from the obstetrician performing the surgery, and nurses being more task focused than experience focused when in the operating room, (Gregson, Meadows, Teakle, & Blacker, 2016). The first task I wanted to accomplish with this project was to improve STS rates after C-section delivery. My evidence-based practice (EBP) project enabled the rate of STS for both vaginal and C-section delivery to increase to an average rate of 98%. With STS then available to all women, the practicum site instituted the introduction of a second session of STS on the postpartum unit. In this DNP project, I then evaluated the effect this practice change had on exclusive breastfeeding rates at discharge.

### **Practice-Focused Question**

Breastfeeding a newborn is a learned practice and one that requires support and education. Strong support in breastfeeding demonstrates increased breastfeeding rates (WHO, 2014). STS contact between mothers and their newborns supports breastfeeding. The question I explored during this project was: Does the introduction of the second session of STS upon admission to the postpartum unit increase exclusive breastfeeding rates at discharge?

### **Nature of the Doctoral Project**

To evaluate the effectiveness of the new model of care using a second session of



STS, I obtained data from the hospital study site's postpartum unit. The de-identified outcome measures collected from the health system's electronic medical records were entered into an SPSS file. The data was then analyzed for the purpose of evaluating the effect that the introduction of the second session of STS upon admission to the postpartum unit had upon exclusive breastfeeding rates at discharge.

I collected four data points to evaluate the outcomes of the hospital's new model of care and to meet the purpose of this doctoral project. The first data point was the retrospective historical data of exclusive breastfeeding rates of all delivered patients upon discharge for 3 months prior to the project start month. The second data point was the exclusive breastfeeding rates overall at discharge for the duration of the hospital project by month. The third data point was the historical data of the percent of women who had one session of STS immediately after birth and exclusively breastfed their newborn up to hospital discharge. The fourth data point was the percent of women who had both a session of STS immediately after birth and the second session of STS on postpartum and exclusively breastfed their newborn upon hospital discharge.

The approach I used to organize and analyze the data was to gather and compare the four retrospective data points. The comparison between each of the four data points provided a view of the impact that STS has on the exclusive breastfeeding rates at discharge, beginning with a comparison of the rates of exclusive breastfeeding regardless of an STS experience and continuing through to identify the impact of the second session of STS. The purpose of the project was to evaluate a new practice of a second session of

STS in the postpartum unit and the effect this practice change had on exclusive breastfeeding rates at discharge.

### **Significance to Mothers and Newborns**

The project findings offer a potential contribution to nursing practice through the evaluation of the initiation of the second session of STS on postpartum and the effect it has on exclusive breastfeeding rates. Because many organizations now initiate one session of STS in labor and delivery, the practice is familiar and widely accepted (CDC, 2014). During the first STS experience, a woman is still experiencing pain and her emotions are still very high. By the time a woman and newborn are stable for transfer to postpartum, any anxiety she was experiencing surrounding the anticipation of the birth is diminishing, and her pain is either gone or controlled in this time period. Many women come to postpartum having had something to eat or drink so their hunger is subsiding. In the first few hours after birth, many women experience a feeling of wonder and excitement as she looks at the child she has been curious about for 9 months. The postpartum room is private and quiet with few interruptions, unlike labor and delivery. By introducing the second session of STS during this calming phase as she is admitted to her postpartum room, the woman is provided with an opportune time to solidify breastfeeding and maximize the bonding that began during the first session of STS.

### **Significance to Nurses**

The practice change that was implemented at the hospital study site expanded the STS practice from the labor and delivery setting only to the addition of STS within the postpartum setting. The postpartum nurse understands and respects how a woman's body

and emotions respond to the birth of her baby and provides support for this new practice. Nurses have the opportunity to educate and influence women in a positive manner by encouraging exclusive breastfeeding through education and creating experiences around the birth that support breastfeeding initiation (National Center for Chronic Disease Prevention and Health Promotion, 2013).

The improved exclusive breastfeeding rates as a result of this practice change can be transferred and adapted at any hospital or birth center that provides STS once in labor and delivery. This project would be easily transferable since it requires no additional equipment, paperwork, or other resources. When observing for barriers to STS on the postpartum unit at the hospital study site, I identified a natural time to place an infant STS for the second session in the established workflow. Upon admission to postpartum, a newborn assessment is performed by the receiving nurse and ends with the weighing of the newborn. By simply placing a diaper on the baby and then transferring the baby bare skinned to the mother, rather than back to the crib, adds no burden of work to the nurse's workflow. The mothers are rewarded by their baby with this practice change. Newborns normally cry while being weighed, so the experience of STS stops the newborn from crying when placed skin-to-skin with the mother, providing a positive bonding experience with breastfeeding as a natural next step. In order to adapt this practice change, other organizations could examine their workflow to identify the natural time to reintroduce STS on postpartum.

### **Implications for Social Change**

The implications for positive social change that result from this project are the increase of exclusive breastfeeding rates. The WHO (2014), has identified that despite breastfeeding initiatives, global breastfeeding rates remain below target. In the world's wealthiest countries, breastfeeding rates have increased from 16% in 1993 to 36% in 2014, and in the poorest countries breastfeeding rates went from 25% in 1993 to 37% in 2014 (Rollins et al., 2016). The global focus must shift to social acceptance and mass media education regarding the health benefits to both mother and baby from exclusive breastfeeding. The legislation, policy, and workplace support are necessary to support women to pump once they return to work (Rollins et al., 2016). Lastly, women of childbearing ages need education, even before they become pregnant, to empower them to take charge. Women can take control of what their children are fed and provide them education regarding the power of human milk to improve outcomes for their baby in terms of metabolism, immune system, and brain support (Stahl, 2013) Women can not only contribute to the health of her child through breastfeeding but can also help the family finances by not requiring the expense of formula and bottles, which for most families is a very positive social and financial benefit.

## Summary

Exclusively breastfeeding infants from birth to 6 months of life is the recommendation for infant nutrition (WHO, 2016). One strategy that has demonstrated the support of breastfeeding initiation is providing STS between mothers and newborns immediately upon birth. Babies who are placed in STS are more likely to breastfeed, as healthy full-term newborns instinctively suckle after 55 minutes of STS with their mother (Mann, 2013). I conducted this project to evaluate a new model of care where the introduction of a second session of STS on the postpartum unit was implemented for the purpose of increasing exclusive breastfeeding rates at discharge.

## Section 2: Background and Context

### **Introduction**

In the United States, exclusive breastfeeding rates are not where they should be as exclusive breastfeeding rates for babies at 3 months are only at 40.7% rather than the 46.2% the WHO recommends (WHO, 2016). In Pennsylvania, the state where this DNP project took place, exclusive breastfeeding rates are 34.0% for babies 3 months old (Pennsylvania Department of Health [DOH], 2015). One strategy that has demonstrated the support of breastfeeding initiation is providing STS between mothers and newborns immediately upon birth. STS is defined as the mother and baby being in bare skin contact with each other for a period of uninterrupted time following delivery (Phillips, 2013). Both the mother and the newborn demonstrate less stress, and the newborn exhibits less crying (Phillips, 2013). STS contact within the first hour after birth increases breastfeeding initiation (Svensson, Velandia, Matthiesen, & Welles-Nystrom, 2013).

The practice-focused question for this DNP project was: Does the introduction of the second session of STS upon admission to the post-partum unit increase exclusive breastfeeding rates at discharge? Labor and delivery room nurses have embraced the practice of STS immediately upon birth for the purpose of bonding and the promotion of breastfeeding. In this project, I also wanted to determine if postpartum nurses embraced STS on postpartum and demonstrated their active support of bonding and breastfeeding by supplying the baby and mother with multiple experiences of STS would promote exclusive breastfeeding. In this project, I evaluated a hospital-implemented practice change for the purpose of examining exclusive breastfeeding rates. If outcomes

demonstrated increased exclusive breastfeeding rates, then the evidence would support the recommendation for a new model of care by introducing STS on the postpartum unit.

I developed this project because the benefits of STS contact between a mother and newborn are well documented, STS has demonstrated improved breastfeeding initiation, and because to date there have been no other studies that evaluated the effect of introducing a second session of STS after admission to postpartum. The guiding principle for this project was that babies who have the opportunity to be placed in STS for a second session of STS on postpartum are more likely to breastfeed. My assumption was that since the mother's anxiety, pain, and hunger have been addressed and since postpartum is a more private atmosphere with fewer interruptions, that the second session of mother-newborn STS will enhance bonding and solidify breastfeeding. The hope was that the second session of STS will provide the mother with the confidence and experience to exclusively breastfeed (Clarke, Watson, & Brewer, 2009).

Section 2 will include an overview of the concepts, models, and theories used to guide the project. In Section 2, I will also review the project's relevance to nursing practice, local background and context, as well as my role as the DNP student. I will conclude the section with a summary.

### **Concepts, Models, and Theories**

The theory I used to guide this project was Swanson's theory of caring, which was based on Watson's theory of caring (Watson, 2015), and relates to introducing the second session of STS. The Swanson theory is a middle range theory based on five caring

practices (Andershed & Olsson, 2009). The five caring practices of the Swanson theory are:

- **Knowing:** Attempting to understand a life event, and how that event has to mean for another person.
- **Being with:** Being emotionally present for and with the other person. To share their feelings.
- **Doing for:** Performing acts that bring comfort, protection, meet their needs while protecting their dignity.
- **Enabling:** Facilitating the passage from one stage to another. Informing, validating, supporting.
- **Maintaining belief:** Maintaining belief that the other person can make it through a major transition, facing the future with meaning, believing in the other person's capacity. (Andershed & Olsson, 2009)

Swanson's theory of caring provided a framework for nursing staff in both labor and delivery and postpartum. My application of the five caring practices in this project was:

- **Knowing:** Both the labor and delivery and postpartum nurses have been educated to the benefits of breastfeeding and know how to assist with breastfeeding and how to safely place a newborn STS.
- **Being with:** The post delivery mother has a nurse with her for the delivery recovery phase and during the admission to postpartum phase. A woman who is successful with breastfeeding reports the breastfeeding help they received



while in the hospital as a significant reason for their success (Brown, Raynor, & Lee, 2011).

- **Doing for:** In the immediate post delivery phase, the labor and delivery nurse is placing the newborn skin-to-skin on the mother's body for her. In most instances, the nurse is also assisting with position and latching for the first several breastfeeding sessions. On the postpartum unit, the nurses begin to teach and assist the mother in learning to become independent with infant holding and breastfeeding.
- **Enabling:** A phenomenon of birth is that a woman enters the birth center a woman; however, she leaves as a mother. The care, support, and education provided by the labor and delivery and postpartum nurses enable women to make that transition successfully.
- **Maintain belief in women who want to exclusively breastfeed:** Breastfeeding is a commitment that is not an easy choice; it is exhausting, can be painful, and is perceived as inconvenient (Rollins et al., 2016). As nurses support, educate, and encourage a woman to breastfeed, the woman's feelings of confidence grow with each successful breastfeeding experience (Redshaw, Hennegan, & Kruske, 2014).

The practice change that I evaluated in this project provided a demonstration of the Swanson theory of caring during the first session of STS. The second session of STS provided a reinforcement of the theory by offering woman assistance during one of the

most important transitions in their life: The transition from being a pregnant woman to a breastfeeding mother.

Other elements of nursing care that also demonstrate the Swanson theory of caring are the personal nature of labor and then the delivery that a woman shares with her nurse. This experience demonstrates the forming of a strong bond and trust. The trust that has been formed enables the nurse to effectively introduce STS and then breastfeeding. The transition to postpartum can be concerning for woman, as they do not have a relationship yet with the postpartum nurses. Women reported that the support that they receive during the postpartum period with breastfeeding from their nurses is a significant indicator for on-going breastfeeding success (Brown et al., 2011). Assisting with the second session of STS and with breastfeeding upon admission to the postpartum unit, the nurses demonstrated providing this support for the patient. Applying this concept to the baby did encourage nurses both in labor and delivery and postpartum to encourage STS because they understood the health benefits of STS and how it supports breastfeeding initiation.

The Swanson theory of caring has been adapted to other perinatal projects. The Swanson theory of caring was used when creating a group prenatal care model. When applied in the field, the five concepts from Swanson's theory of caring add importance to the act of nurses trying to understand how a patient feels and encourages nurses to put themselves in the pregnant woman's shoes. Group prenatal care at the study site adapted Swanson's theory of caring through the use of team dynamics and the facilitation of group learning. Applying the theory allows each woman to learn at her own pace while

facilitating and encouraging personal growth through new knowledge. The theory's adaptation to group prenatal care demonstrated an increase in retention of parenting tools enhancing the women's confidence (Thielen, 2012).

### **Relevance to Nursing Practice**

The body of existing scholarship around both breastfeeding and STS is robust. The scholarship around breastfeeding begins with the science of human milk. The benefits of human milk to the newborn include the complexity that human milk adjusts to meet the need of the infant at different stages of growth (Stahl, 2013). Human milk is superior to all other forms of infant nutrition (AAP, 2012). Human milk protects the infant from diarrhea, causes less vomiting, and leads to fewer infections such as respiratory and ear (WHO, 2016). Those infants who are exclusively breastfed for at least 6 months also demonstrate fewer allergies, less obesity, and decreased risk of developing hypertension and hypercholesterolemia (Stahl, 2013).

Breastfeeding has also demonstrated the ability to increase survival and the health of children (WHO, 2016). Breastfeeding is free and is available in every country and socioeconomic situation. Success in breastfeeding is broader than just a woman's desire to breastfeed. Society has not promoted breastfeeding by offering the benefits of breastfeeding education to women at younger ages so that they understand the benefits long before they have to choose how to feed their baby. The formula industry is large and undermines women's breastfeeding initiation by offering free formula and free product give-away programs aimed to tempt new breastfeeding moms with an easier path (PA, DOH, 2015). To overcome campaigns aimed to promote bottle feeding, a change is

needed. Through providing policy and economic support for both the advancement of breastfeeding and help to sustain breastfeeding once a woman returns to work (Rollins et al., 2016), the results of this project will help to address this concern through the support of establishing exclusive breastfeeding.

The WHO (2016,) has called for increased rates of exclusive breastfeeding. The WHO (2014) stated that if every child in the world was breastfed within an hour of life, was only fed breastmilk for the first 6 months of life, and continued to be offered breast milk for the first 2 years of life, they estimate that 800,000 children's lives would be saved annually (WHO, 2014). The WHO has also set breastfeeding targets globally. The WHO has increased the goal for 2020 in the ever breastfed category to 82% from the 2010 goal of 75%. In 2013, the WHO (2016) reported that only 36% of infants were exclusively breastfed from 0—6 months.

Another important benefit of exclusive and prolonged breastfeeding is not only the health benefits to the infant but also the health benefits to the mother. Positive health benefits to the mother include decreasing the risk of premenopausal breast cancer, ovarian cancer, osteoporosis, and hypertension (Meedya, Fahy, Yoxall, & Parratt, 2014). There are also psychological benefits to breastfeeding which include a strong maternal-infant bond and a deep relationship between mother and infant (Meedya, et al., 2014). A key strategy that supports breastfeeding initiation is STS contact between mother and newborn within the first hour of life.

An example of existing scholarship is a nurse-driven prospective study in 19 hospitals where researchers compared STS within the first 3 hours and the effects on

breastfeeding versus women who did not have STS. The exclusive breastfeeding rates were higher in those who had STS for 1–15 minutes with an odds ratio of 1.376% and a 95% confidence interval of 1.189–1.596. For those who had STS for 16–30 minutes the odds ratio was 1.665 and the 95% confidence interval was 1.468–1.888. For 31–59 minutes, the odds ratio was 2.357 and the 95% confidence interval was 2.061–2.695, while for more than 1 hour the odds ratio was 3.145 and the 95% confidence interval was 2.905–3.405. The results demonstrated that the longer time spent in STS the greater relationship to exclusive breastfeeding (Bramson et al., 2010).

Standard practice at the organization where this project took place was to ask the women upon admission to labor and delivery what their feeding choice was for their newborn. This answer was documented in the electronic medical record (EMR). Standard practice for all vaginal delivery patients is to place all medically stable newborns immediately on the mother's bare chest; then the newborn is covered with a warm blanket providing warmth to the newborn's back and modesty for the mother. The goal of vaginal STS practice is for the newborn to stay on the mother's chest until the first breastfeeding occurs. For women who were not planning to breastfeed, sometimes the intensity of the newborn bonding, as well as the newborn's natural instinct to breastfeed during this time will change a women's decision and she will try breastfeeding. After the first hour of STS, the newborn is removed, cleaned off, weighed, and measured. Eye ointment and Vitamin K is administered while the newborn is STS.

When a woman delivers her baby by C-section, STS is a more challenging experience requiring buy-in from the woman, obstetrician, and anesthesiologist. At this

study site facility, the STS rates for C-section patients were only 20% in January 2016. The hospital sought a remedy and conducted a full assessment to identify the barriers to STS in the operating room O.R. after a C-section and find a remedy. In this project, I conducted observations of C-sections. What I observed was a lack prioritizing STS for any member of the operating room team. The nursing staff identified a solution. The solution was to ask the women if they wanted an STS experience in the operating room. The woman's response was written on the operating room whiteboard under the antibiotic timing and called out during the universal timeout for the whole team to hear and prioritize. Another barrier to STS with C-section patients I identified was an unrealistic goal set by one individual that STS had to occur within 15 minutes of birth or it "didn't count." This unrealistic goal had been set by an individual staff nurse with no evidence to back it. Based on WHO guidelines of breastfeeding being initiated within the first hour of life a more realistic STS initiation goal was set as within the first hour of life. Staff nurses, obstetricians, and anesthesiologists embraced the change and STS rates after a C-section are now overall 98%. This rate did not include infants who required care in the Neonatal Intensive Care Unit, or woman with high medical acuity who are too ill to hold their babies.

For the practice change being evaluated, once a mother and her newborn are admitted to the post-partum unit, bedside report occurs between the labor and delivery nurse to the post-partum nurse. Barriers to STS identified were minimal. The greatest barrier identified to offering STS on postpartum was also noted in the one article found focusing on STS on the postpartum unit. That barrier was visitors and other people

wanting to hold the newborn (Ferrarello & Hatfield, 2014). Asking family to wait to hold the newborn is an easy nursing role.

### **Local Background and Context**

In a Cochrane review that looked at 34 studies, it was demonstrated that STS contact immediately after delivery provided the newborn with improved stabilization of the heart rate, respiratory rate, blood oxygen saturation, blood glucose levels, and temperature consistency (Moore, Anderson, Bergman, & Dowswell, 2012). Other newborn responses to STS are a decrease in crying, and a more rapid adjustment to life outside of the uterus, (Frederick, Busen, Engebretson, Hurst, & Schneider, 2015). The secondary outcome discovered when a mother and newborn were provided STS contact immediately after delivery was the improved outcomes of breastfeeding rates (Moore et al., 2012). According to the WHO, newborns have improved health outcomes when being fed exclusively with breast milk, (Moran-Peters, Zauderer, Goldman, Balerlein, & Smith, 2014). The AAP position on newborn feeding is that breastfeeding and human milk be considered the normative feeding newborns should receive, (AAP, 2012). In the Moore et al., Cochran review when newborns are placed STS after delivery the overall rate of breastfeeding was both higher, and for a longer duration than the mother-newborn couplet who did not experience STS (Moore et al., 2012).

The institutional setting for this practice change was a large academic medical center. The center is located in the northeast of the United States. The local demographic population is 58.2% Hispanic, 48.4% Caucasian, and 13.2% African American, the remainder as other.

The hospital where this project occurred is a not for profit, the board of directors runs, Joint Commission certified, Magnet designated hospital. The hospital mission statement is to provide compassionate, accessible, high-quality, and cost-effective healthcare to the community and to promote health and to educate healthcare professionals and to participate in appropriate clinical research. The health system core values include advancement, inclusiveness, respect, and responsibility. The hospital delivers approximately 3,500 babies per year.

Definitions and terms relevant to understanding the doctoral project include:

*Breastfeeding: Newborn feeding method whereby the newborn derives nourishment of human milk from the birth mother*

*Exclusive breastfeeding: The newborn nutrition is derived only from human milk and receives no formula*

*Formula feeding: The newborn nutrition is derived from cow's milk or soy-based processed formula*

*Labor and Delivery: The hospital unit where women deliver their newborns*

*Operating Room: Operating Room are the three Operating Rooms within Labor and Delivery where C-Sections are performed to deliver newborns*

*Post-partum: The hospital unit where women and newborns are admitted and cared for post-delivery recovery to hospital discharge*

*Skin to skin: Skin to skin (STS) is defined as the mother and baby are bare skin contact with each other for a period of uninterrupted ti*



The national, state and local context of breastfeeding rates is as follows.

Breastfeeding rates in the United States are on the rise. In 2011, 79% of all newborns received some breast milk, and 49% were still receiving breast milk at 6 months of age (CDC 2014). The exclusive breastfeeding rates in the United States at 3 months is 40.7% and at 6 months 18.8% (CDC, 2014). In the state origin for this project, the exclusive breastfeeding rate at 3 months is 34.0%, and at 6 months 15.3% (CDC, 2014). In the county of this project, 73.0% of newborns received some breastmilk (PA, DOH, 2015). The exclusive rate is not published at this time. At the hospital of this project origin, the exclusive breastfeeding rate average is 45% upon discharge. The difference in the rate of exclusive breastfeeding from discharge from hospital to 3 months is concerning.

### **Role of the DNP Student**

The professional context of this doctoral project was that this doctoral student was an employee of the health system where the project occurred. Exclusive breastfeeding rates at the hospital were below both the state and national benchmarks. Two years ago, this Doctorate of Nursing Practice (DNP) student provided leadership to evaluate and strategize for the improvement of exclusive breastfeeding. Four key strategic areas of focus were initiated for the advancement of breastfeeding. First was working with the lactation consultants (LC). Learning how they respond to patient's needs, and their processes to assure maximum women received breastfeeding support. Second the establishment of data collection from the LC team with all feeding methods of all newborns at discharge for tracking and trending. The third, included a focus on the hardwiring of the practice of STS after a vaginal delivery. This also involved the

accountability of documentation within each patient's EMR. The fourth area of focus was on postpartum. Too many women were coming to the hospital with the plan to exclusively breastfeed but were being discharged giving their baby formula. In order to advance breastfeeding, there needed to be an understanding of why the mother changed her plan while in the hospital. The EMR template was updated so that the nurse caring for the mother and newborn had to write in the reason the mother gave for not keeping her plan. Most common reasons were fatigue and nipple soreness. These results were discussed at nursing huddles, staff meetings, and one on one with the postpartum nursing staff.

As a hospital employee, the project of introducing the second session of STS on postpartum was carried out. The goal of the project was to increase exclusive breastfeeding rates. The second session of STS was developed and implemented on postpartum. The full evaluation of the measurable outcomes of this practice change required the attention this DNP project provided.

The logic behind this new concept was developed as a result of watching the reaction that both the women and the newborn have to STS in labor and delivery, which seemed powerful but restrained. The restrained observation seemed linked to the lack of privacy in labor and delivery with the pain associated with the delivery of the placenta and perineal repair. There are also frequent checks on both the women and newborn for stability after delivery. Immediately after the delivery of a baby, the woman's feelings of anxiety surrounding the birth are still very high, and her pain is not always controlled. Immediately after delivery, many women feel hungry and thirsty. By the time a woman is

transferred to the post-partum unit, her birth anxiety is often gone, her pain is now addressed, and she has had a drink and something to eat. The postpartum rooms are all private, quiet, and peaceful. Introducing the second session of STS on postpartum becomes a calm, natural family experience rather than a task to be completed. My role in the hospital-based project as a DNP student was to evaluate the data derived from the hospital-based project and in doing so determine the effect the second session of STS has on exclusive breastfeeding rates at discharge.

My motivation for this project was the advancement of exclusive breastfeeding for the promotion of health for both women and their newborns. Breastfeeding intent is a strong predictor of breastfeeding initiation, but breastfeeding support is more often the gauge for the duration (Rollins et al., 2016). The main stimulus that is affecting the choice of this project is the desire to support women in their choice to breastfeed and to evaluate the effect of deliberately providing an experience that centers the woman's focus on her newborn and her new family member in a time of quiet, private bonding.

The purpose of the project was to evaluate a nursing practice change. The practice change was the introduction of the second session of STS upon admission to the postpartum unit. The goal was to determine if this new practice change would increase exclusive breastfeeding rates at discharge.

### **Summary**

The benefits of STS contact between a mother and newborn was well documented, and STS has demonstrated improved breastfeeding initiation. To date there are no other studies found that evaluate the effect of introducing the second session of

STS after admission to postpartum. The guiding principle for this project was that babies who have the opportunity to be placed STS for the second session of STS on postpartum are more likely to breastfeed. This project adapted Swanson's theory of caring and the five caring practices to the post delivery phase of nursing care. And in an effort to compliment the natural family bonding experience evaluated the introduction of a second session of STS on post-partum and the effect it has on exclusive breastfeeding rates at discharge. Section 3 will discuss data collection and analysis.

### Section 3: Collection and Analysis of Evidence

#### **Introduction**

This section will discuss the data collection and evaluation of the hospital-based project to introduce the second session of STS on the postpartum unit for the purpose of increasing exclusive breastfeeding rates at discharge.

#### **Problem Statement**

Breastfeeding and human milk are the suggested standard for infant feeding and nutrition (AAP, 2012). Breast milk demonstrates both short- and long-term medical and neurodevelopmental advantages. Infants who are exclusively breastfed demonstrate less nausea, vomiting, and diarrhea, and they experience less upper respiratory and ear infections (Jayasekara, 2014). Exclusive breastfeeding for 6 months has also demonstrated decreased incidence in childhood obesity, the development of allergies, and has even demonstrated the decrease of both hypertension and hypercholesterolemia in adulthood (Stahl, 2013). The WHO (2014) recommends exclusive breastfeeding for the first 6 months of life. Breastfeeding is one of most effect means of ensuring both child health and survival. According to the WHO, if every child was breastfed within the first hour of life, exclusively breastfed for the first 6 months of life, and continued to receive breastmilk for the first 2 years of life, 800,000 children's lives would be saved globally each year. However, in the United States, exclusive breastfeeding rates are not where they should be with the exclusive breastfeeding rate at 3 months only at 40.7%, rather than the WHO recommended 46.2%, and in the state where this project took place, the rates are even lower at 34.0% (DOH, 2015)).

At the hospital under study in this project, the exclusive breastfeeding rates average 45% upon discharge. The difference in rates of exclusive breastfeeding between discharge from the hospital to 3 months is concerning. The span of control for this project was the hospital where the birth occurred. The populations that I evaluated in this project were the women who ever breastfed in the hope of promoting and exclusive breastfeeding at discharge.

One strategy that has demonstrated the support of breastfeeding initiation is providing STS with mothers and newborns immediately upon birth. STS is defined as the mother and baby sharing bare skin contact with each other for a period of uninterrupted time following delivery (Bramson et al., 2010) The experience of STS within the first 2 hours after the birth of a baby is a period of high sensitivity and bonding (Aghdas et al., 2014). When woman are provided the opportunity to have an experience of STS immediately upon birth after both a vaginal and a C-section with breastfeeding, they demonstrate higher breastfeeding self-efficacy even with the prima gravida (Aghdas et al., 2014).

The statement of purpose I developed for this doctoral project was: Mothers who express a desire to breastfeed upon admission and experience the first session of STS in labor and delivery and who then experience a second session of STS on postpartum have an increased rate of exclusive breastfeeding rates upon hospital discharge as compared to historical controls. Breastfeeding is a learned skill. Supporting woman as they begin to breastfeed can improve breastfeeding rates.

### **Institutional National, State, and Local Context**

This project took place in a large academic medical center in the northeast of the United States. The local population served by the organization was 58.2% Hispanic, 48.4% Caucasian, and 13.2% African American; the remainder was listed as other racial/ethnic groups. In 2011, 79% of all newborns received some breastmilk, and 49% were still receiving breast milk at 6 months of age (CDC, 2014). The exclusive breastfeeding rate in the United States at 3 months is 40.7% and at 6 months is 18.8% (CDC, 2014). In the state where this project took place, the exclusive breastfeeding rate at 3 months is 34.0%, and at 6 months is 15.3% (CDC, 2014). In the county of this project, 73.0% of newborns received some breastmilk (PA, DOH, 2015). Exclusive rates in the county of origin were not published at the time of the study. At the hospital study site, the exclusive breastfeeding rates average 45% upon discharge. The difference in rates of exclusive breastfeeding upon discharge from the hospital to 3 months is concerning.

### **Practice-Focused Question**

Exclusively breastfeeding for infants from birth to 6 months of life is the standard for infant nutrition because of the short- and long-term medical and neurodevelopmental advantages (WHO, 2016). One strategy that has demonstrated the support of breastfeeding initiation is providing STS with mothers and newborns immediately upon birth. Babies who are placed STS are more likely to breastfeed, as healthy full-term newborns instinctively suckle after 55 minutes of STS with their mother (Mann, 2013). In this project, I evaluated a new model of nursing practice by introducing the second

session of STS on the postpartum unit for the purpose of increasing exclusive breastfeeding rates at discharge. The practice focused question for this DNP project was: Does the introduction of the second session of STS upon admission to the postpartum unit increase exclusive breastfeeding rates at discharge?

The project purpose was founded on the well-documented benefits of STS contact between a mother and newborn (Phillips, 2013). STS has demonstrated improved breastfeeding initiation, although I found no studies that evaluated the effect of introducing the second session of STS after admission to postpartum. The guiding principle for this project was that babies who have the opportunity to be placed in STS for the second session on postpartum are more likely to breastfeed (Mann, 2013). Since the mother's anxiety, pain, and hunger have been addressed and since postpartum is more private with fewer interruptions, the mother-newborn bonding will solidify breastfeeding providing the mother with the confidence and experience to exclusively breastfeed (Clarke et al., 2009). The approach used for this project aligned with the practice-focused question for the purpose of measuring the change in exclusive breastfeeding rates upon discharge from the hospital as a result of introducing a new practice of the second session of STS on postpartum.

### **Sources of Evidence**

In this project, I examined the exclusive breastfeeding rates at discharge for mothers who received no STS or one session of STS compared to those who received the second session of STS in the postpartum unit. The sources of evidence included:



- The exclusive breastfeeding rates at discharge for women who experienced one session of STS in labor and delivery for the 3 months prior to the practice change start date.
- The exclusive breastfeeding rates at discharge for women who experienced two sessions of STS. One in labor and delivery and a second on postpartum.
- The exclusive breastfeeding rates at discharge for women who experienced no STS during their hospital course for the 3 months prior to the practice change.
- The number of women within the group of 75, who indicated upon admission to labor and delivery, their intent to exclusively breastfeed but were not exclusively breastfeeding upon discharge
- The exclusive breastfeeding rates at discharge regardless of the mother's stated plan on admission and regardless of having any STS experiences.

I evaluated historical data using retrospective comparisons between exclusive breastfeeding rates and one session of STS in labor and delivery. Data were organized by a 3-month period prior to the implementation of the STS practice change. The data included all women who delivered in the 3-month time frame to determine the number of women who voiced their desire to exclusively breastfeed their infant, the number of women who had one STS session, the number of women who had one experience of STS and exclusively breastfed at discharge, and the number of women who exclusively breastfed at discharge regardless of an STS experience. Data were evaluated for the difference between exclusive breastfeeding rates upon the discharge of those women who

stated upon admission that it was their intent to exclusively breastfeed and reviewed to see if they did in fact exclusively breastfeed while in the hospital.

Next, I compared the breastfeeding rates at the discharge for women who received one STS session in the retrospective data and breastfeeding outcomes to those who received a second STS session and the breastfeeding outcomes. Inferential statistics were computed to answer the practice question. The exclusive breastfeeding rates at the discharge of all patients were compared to the exclusive rate of breastfeeding at discharge for those who received the second session of STS. Descriptive statistics were computed to describe the sample and the outcomes the project demonstrated. I explored the demographic data related to the practice-focused question, such as education level, race, and age. For all statistics as mentioned, a  $p$ -value of  $< 0.05$  was considered statistically significant.

The sample size of the practice change cohort I evaluated was 75 patient participants. For the purposes of this study, women or their newborns whom experienced any medical complications or instability such as hemodynamic instability, any mother transferred to critical care, or newborn requiring neonatal intensive care intervention were excluded from this project analyses. I excluded women who were HIV positive and who had tested positive for substance or alcohol abuse from the project due to the AAP recommendations that they do not breastfeed their infants. Non-English speaking mothers for whom a representative of interpretive services was not present or could not interpret the women's language were excluded from participating in the project analyses as well.

## **Evidence Generated for the Doctoral Project**

### **Participants**

I was provided the aggregate data for this project by the study site institution in the form of retrospective exclusive breastfeeding. The STS rates for 3 months before the hospital-based, prospective, quality improvement study was provided. Lastly, the exclusive breastfeeding rates were provided for 75 patients before and after the second session of STS was implemented on postpartum.

### **Procedures**

Participants in the hospital-based prospective project were enrolled in a practice change project. The project focused on woman who stated pre-delivery that is was their intention to exclusively breastfeed their infant. I evaluated the outcomes of this practice change in order to determine if a second session of STS had an impact on exclusive breastfeeding at discharge. I had received permission from the hospital and director of nursing research to have full access to the retrospective and hospital-based, prospective project data. Data from the 75 patients who received the second session of STS were entered into SPSS numbered 1–75. I ran the data in order to produce descriptive statistics which were computed to describe the sample and the outcomes the project demonstrated. Demographic data were explored related to the practice question, such as education level, race, and age. These data were reviewed for specific group differences. Participants' names and medical record numbers were de-identified for me to perform data analysis on.

**Protections**

All the data provided to me for evaluation and analysis for this project was de-identified. I maintained data integrity for analyses in a protected Word file saved in a private computer with password access required. Data integrity was maintained through the health system Health Insurance Portability and Accountability Act policies and procedures around patient information in the EMR. The data file will be destroyed after 5 years. The Walden University IRB approval number is 02-09-17-0601285.

**Analysis and Synthesis**

I conducted the evaluation and analysis of the hospital practice change project from information derived from the EMR. De-identified data were provided to me for the purpose of evaluation. Once provided, I added the aggregate data from the hospital-based practice change into the SPSS program. The hospital statistician was available to provide support and answer questions.

The analysis procedures used in this doctoral project to evaluate outcomes were that I computed the difference between exclusive breastfeeding rates upon the discharge of those women who stated upon admission that it was their intent to exclusively breastfeed. Descriptive statistics were computed to describe the sample. Descriptive statistics were used to measure central tendency, mean, median, and mode, as well as frequency data. Demographic data were explored related to the practice question, such as education level, race, and age.

### **Summary**

In summary, exclusive breastfeeding has been identified as the best method to feed infants and the practice of STS has demonstrated the promotion of breastfeeding initiation by increasing exclusive breastfeeding rates (Mann, 2013). In this DNP project, I provided an evaluation of the effect of a nursing practice change. This change was measure the effect the introduction of a second session of STS upon admission to the postpartum unit has on exclusive breastfeeding rates at discharge. The expected outcome of the data evaluation provided from the hospital practice change was the demonstration of new evidence that supports women in their choice to exclusively breastfeed. The second expected outcome was evidence that supports the practice change with the extension of STS from only occurring in labor and delivery to include the practice on the postpartum unit.

## Section 4: Findings and Recommendations

### **Introduction**

The purpose of this DNP project was to evaluate the introduction of the second session of STS upon admission to the postpartum unit to determine if this new practice change would increase exclusive breastfeeding rates at discharge. In Section 4, I will review the findings and implications of the practice change evaluation. The recommendations to nursing practice were made as a result of my data analysis. The strengths and limitations of the DNP project will be also be included in the section.

Exclusive breastfeeding is the recommended means of nutrition for newborns by both the AAP (2012) and the WHO (2016). Offering one session of STS immediately upon birth has been one process that has increased breastfeeding rates (Aghdas et al., 2014). Offering the second session of STS upon admission to the postpartum unit was a practice change at the practicum site. I actively evaluated this practice change and analyzed the data outcomes. The goal was to ascertain if this nurse-driven practice change made an impact on exclusive breastfeeding rates upon hospital discharge.

### **Findings and Implications**

#### **Historical Data Findings**

In order to determine if the introduction of the second session of STS upon admission to the postpartum unit had any impact, it was important that I understood the historical context and obtained baseline data. I was provided data for the retrospective review of 3 months prior to the implementation of the practice change on all delivered

patients by the institution. The historical data were obtained through the EMRs of all women who delivered a baby at the practicum site in July, August, and September of 2016. For every patient, I identified three data points:

- Predelivery desire to exclusively breastfeed their newborn.
- If the woman had one session of STS within 1 hour of delivery
- If the woman had one session of STS and were exclusively breastfeeding upon hospital discharge.

The overall exclusive breastfeeding rate was also calculated for each month of July, August, and September 2016 regardless of their predelivery desire to exclusively breastfeed and regardless of having one session of STS. These data results are shown in Table 1.

Table 1

*Historical Data*

Measure	Rate	Numerator	Denominator	Outcome
<b>July 2016</b>				
Excl BF desire	158	158	231	68%
1 STS	220	220	231	95%
1 STS d/c Excl BF	107	107	231	46%
Excl BF d/c	118	118	231	51%
<b>August 2016</b>				
Excl BF desire	151	151	240	63%
1 STS	227	227	240	94.5%
1 STS d/c Excl BF	113	113	240	47%
Excl BF d/c	116	116	240	48%
<b>September 2016</b>				
Excl BF desire	144	144	224	64%
1 STS	194	194	224	87%
1 STS d/c Excl BF	101	101	224	44%
Excl BF d/c	109	109	224	48%

**Key**

**Excl BF desire:** Pre-delivery desire to exclusively breastfeed newborn

**1 STS:** Number of patients who has 1 session of STS

**1 STS d/c Excl BF:** Patient had one session of STS and was discharged exclusively breastfeeding

**Excl BF d/c:** Patient was exclusively breastfeeding upon discharge regardless of STS or desire pre-delivery to exclusively breastfeed



The historical baseline data provided historical controls. From the historical data I could determine the rates of a woman who expressed a desire to exclusively breastfeed their newborn predelivery. The three month July, August, and September 2016 average rate was 65% of women stated predelivery that it was their desire to exclusively breastfeed their newborn.

The historical data also provided me with control data on the rate of exclusive breastfeeding at discharge on the woman who had one session of STS. A woman demonstrates increased maternal behaviors, displays a higher confidence level in holding and caring for her newborn, and breastfeeds for a longer duration when she has the opportunity to experience STS (Phillips, 2013). Newborns demonstrate higher levels of respiratory, temperature, and glucose stability and cry less when they are placed STS with their mothers immediately after birth (Phillips, 2013). We have learned that STS promotes bonding and enhances breastfeeding establishment (Crenshaw, 2014). The historical data demonstrated that the 3 month July, August, and September 2016 period's average rate of having one session of STS at delivery was very high at 93%. This rate was regardless of delivery mode and demonstrated extremely high support for STS at the practicum site. Of the woman who stated predelivery that it was their desire to exclusively breastfeed their newborn and who had one session of STS, only 46% of the women who delivered in July, August, or September 2016 were exclusively breastfeeding at discharge.

The findings from the historical control data demonstrated that while 65% of the women stated predelivery that it was their desire to exclusively breastfeed, only 49% of

women were discharged exclusively breastfeeding. The historical data did not demonstrate that providing one session of STS increased exclusive breastfeeding rates at discharge. The rate of exclusive breastfeeding in the women who had one session of STS was 46%. The implications of the historical data contradict the findings of other studies which demonstrated higher rates of breastfeeding with one session of STS (Aghdas et al., 2014).

In a randomized control trial by Aghdas et al. (2014), maternal breastfeeding self-efficacy was evaluated through offering one session of STS immediately after birth. The researchers found that 114 women who delivered by vaginally demonstrated successful breastfeeding initiation in 56% of the women with one STS session. Of the women who did not have STS, breastfeeding initiation was only 36% successful (Aghdas et al., 2014). While the findings of the study suggested improvement in initiation of breastfeeding, a limitation of the study was that it did not provide evidence that the women intended to exclusively breastfeed by the time of discharge as was found in this study.

Redshaw, Hennegan, and Kruske (2014) found that 95% of women ( $n = 3047$ ) with one session of STS after delivery reported they were breastfeeding their newborns upon hospital discharge. The 95% findings by Redshaw et al. is high, given the findings of this study. My findings in this study raise the question as to how one session of STS results in such a high percentage of breastfeeding at discharge. In this DNP project, I took the benefits of STS to the next level by evaluating the introduction of a second session of STS on postpartum and the effect it has on exclusive breastfeeding rates at discharge.

**Practice Change Data Findings**

The practice change that I evaluated in this study involved 75 patients who stated predelivery that their intention was to exclusively breastfeed their newborn. The intent to exclusively breastfeed was documented in the EMR upon admission to labor and delivery. Each of the 75 women was offered the opportunity to participate in the second session of STS after admission to postpartum for the purpose of enhancing bonding and breastfeeding initiation with their newborn. Demographic information was provided by each of the 75 women. The demographic data results are shown in Table 2.

Table 2  
*Skin to Skin Demographic Descriptive Data*  
 Skin to skin study results: Descriptive data continuous data (n=75)

Variable	Mean	Median	Mode	SD	Min	Max
Mother age	28.35	28.0	31	4.99	16	38
Gravida	2.04	2.0	1	1.35	1	9
Babies breastfed prior	0.75	0.0	0	1.14	0	7
Babies exclusively breastfed while in Hospital	0.68	0.0	0	1.15	0	7
Babies given both breastmilk and formula	0.25	0.0	0	0.90	0	7
Mother Age exclusively breastfeed while in hospital	29.00			4.58		

Descriptive data discrete data

Variable	Category	Count	Percent	<i>p-value</i>
Employed	No	21	28.0	0.282
	Yes	54	72.0	
Race/Ethnicity	Asian	1	1.3	0.042*
	Black	3	4.0	
	Hispanic	21	28.0	
	Native Hawaiian	1	1.3	
	White	45	60.0	
	Other*	3	4.0	
	Prefer not to answer	1	1.3	
Education	Jr. High	2	2.7	0.109
	High School	24	32.0	
	Associate Degree	9	12.0	
	Bachelor's Degree	24	32.0	
	Master's Degree	11	14.7	
	Doctoral Degree	2	2.7	
Marital Status	Other	3	4.0	0.022*
	Married	46	61.3	
	Single	28	37.3	
Breastfeeding successful	Other	1	1.3	
	No	6	8.0	
Second Breastfeeding successful	Yes	69	92.0	
	No	7	9.3	
Feeding level at discharge	Yes	68	90.7	
	Exclusive Breastfeeding	54	72.0	
	Breastfeeding and Formula	18	24.0	
	Exclusive Formula	3	4.0	

I analyzed the resulting data by testing independent proportions within different groups to identify any statistical significance for exclusive breastfeeding upon hospital discharge. The mean age of the 75 women was 28.35, with 38 being the maximum age and 16 being the minimum. The mean gravida was 2.04, with 9 being the maximum and 1 the minimum.

Of the 75 participants in the cohort, 71 experienced the first session of STS immediately upon birth. One patient did not experience STS due to the woman's medical needs, and three did not due to newborn medical needs. Of the 75 in the cohort, there were 70 who experienced the second session of STS upon admission to the postpartum unit. Four newborns were admitted to the neonatal intensive care unit. The women did still have the opportunity to participate in STS with their newborns once the newborn's condition was stable. One patient did not experience any STS with her newborn due to her need for additional care.

Analysis of the demographic data demonstrated statistical significance ( $p < 0.05$ ) for exclusively breastfeeding upon hospital discharge in three demographic areas. In the race/ethnicity variable, 18.5% of Hispanic, 3.7% of African American, and 70.4% of Caucasian women were exclusively breastfeeding upon hospital discharge. The outcome of 70.4% in the Caucasian category was statistically significant with a  $p$ -value of 0.042. When the race/ethnicity was recoded and analyzed as Caucasian and non-Caucasian, the  $p$ -value was 0.003.

The second area of statistical significance was the education variable. When analyzing the education data by high school or less, college or some college, and

Master's or higher, the college or some college demonstrated 52.9% exclusively breastfeeding upon hospital discharge with a  $p$ -value of 0.014 and indicating that the higher level of education, the more likely the woman was to be exclusively breastfeeding upon hospital discharge. The third area of statistical significance was the marital status variable. When analyzing this data, I found that 70.4% in the married category were exclusively breastfeeding upon hospital discharge with a  $p$ -value of 0.022 indicating that the women who were married were more likely to be exclusively breastfeeding upon hospital discharge than women who were unmarried (see Table 3).

Table 3

*Demographic Associations with Exclusive and Non-exclusive Breastfeeding at Discharge*

	<b>Exclusive breastfeeding</b>	<b>Non-exclusive Breastfeeding</b>	<b>p-value</b>
<b>Employment</b>			
Not employed	31.5%	19%	0.282
Employed	68.5%	81%	
<b>Race/Ethnicity</b>			
Asian	0.0	4.8%	0.042*
Black	3.7%	4.8%	
Hispanic	18.5%	52.4%	
Native Hawaiian	1.9%	0.0	
White	70.4%	33.3	
Other	3.7%	4.8%	
Prefer not to answer	1.9%	0.0	
<b>Race Recode</b>			
White	70.4%	33.3%	0.003*
Non-white	29.6%	66.7%	
<b>Education</b>			
Jr. High	1.9%	4.8%	0.109
High School	22.2%	57.1%	
Associated Degree	13.0%	9.5%	
Bachelor's Degree	37.0%	19.0%	
Master's Degree	16.7%	9.5%	
Doctoral Degree	3.7%	0.0	
Other	5.6%	0.0	
<b>Education Recode</b>			
High school or less	22.5%	61.9%	0.014*
College	52.9%	28.6	
Master's or higher	21.6	9.5	
<b>Marital Status</b>			
Married	70.4%	38.1%	.022*
Single	27.8%	61.9%	
Other	1.9%	0.00	

Next, I analyzed data through SPSS for frequency and cumulative percent around breastfeeding outcomes (see Table 4). In the cohort of 75, 52.0% of the women had not breastfed before this delivery, a majority were first-time breastfeeding mothers. In the cohort of 75, of those women who were not first-time mothers, 58.7% had not exclusively breastfed a baby while in the hospital previously, and 41.3% had exclusively breastfed other babies while in the hospital prior to this pregnancy. The next analysis

Table 4

*Babies' Breastfed Before This Baby*

<b>Valid Percent</b>	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative</b>
0	39	52.0	52.0	52.0
1	26	34.7	34.7	86.7
2	5	6.7	6.7	93.3
3	3	4.0	4.0	97.3
4	1	1.3	1.3	98.7
7	1	1.3	1.3	100.0

I performed was that of breastfeeding success in the first and the second session of STS (see Table 5).

Table 5

*Babies Exclusively Breastfed While in the Hospital Before This Baby*

<b>Valid Percent</b>	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative</b>
0	44	58.7	58.7	58.7
1	21	28.0	28.0	86.7
2	5	6.7	6.7	93.3
3	3	4.0	4.0	97.3
4	1	1.3	1.3	98.7
7	1	1.3	1.3	100.0



Within the cohort of 75 women, breastfeeding was successful during the first session of STS in 92.0% of the women. The data were then analyzed for breastfeeding success during the second session of STS. During the second session of STS, there was a 90.7% success rate in breastfeeding; this represents one additional patient not being successful in the second attempt. Reasons for lack of breastfeeding success include maternal and newborn acuity not allowing for breastfeeding and maternal exhaustion.

When preparing for this DNP project, I planned to perform an ANOVA analysis of the cohort data in order to test group means differences. However, in order to run an ANOVA, there must be a variation that is present in all groups ((Polit, 2010)CITE). I learned that with the analysis of this data that that was not possible. When entering the cohort data into SPSS the yes/no question of exclusive breastfeeding upon discharge caused a change in analysis method. Therefore, instead of the ANOVA analysis, I performed a comparison of two proportions. The comparison of two proportions was conducted comparing historical data to the cohort of 75 women (see Table 6).

Table 6

*First Skin to Skin and Breastfeeding Successful*

Valid percent	Frequency	Percent	Valid Percent	Cumulative Percent
0 (No attempt)	1	1.3	1.3	1.3
No (Not successful)	5	6.7	6.7	8.0
Yes (Successful)	69	92.0	92.0	100.0
<i>Second Session of Skin to Skin Breastfeeding Success</i>				
0 (No attempt)	1	1.3	1.3	1.3
No (Not successful)	6	8.0	8.0	9.3
Yes (Successful)	68	90.7	90.7	100.0

Table 6 demonstrates that within the historical data group, the highest proportion of women who experienced one session of STS and were exclusively breastfeeding upon discharge was 47% in August. With a 3-month historical group, the combined proportion of women who experienced one session of STS and were exclusively breastfeeding upon discharge was 46%.

My analysis of the data from the cohort who experienced two sessions of STS revealed that the cohort who experienced the second STS session upon admission to the postpartum unit demonstrated a 72% proportion of exclusively breastfeeding upon discharge. That is a 26% increase over the historical group who had one session of STS. When conducting a grouped analysis comparing those who had one session of STS to those who had two sessions of STS and who were also exclusively breastfeeding upon discharge, I found a  $Z$  value of -2.9615 and  $p$ -value of 0.003. The results of the practice change demonstrated a statistically significant improvement of exclusive breastfeeding upon discharge for women who experienced two sessions of STS.

### **Implications**

I designed this DNP project to answer the following DNP project question: Will the introduction of the second session of STS upon admission to the postpartum unit increase exclusive breastfeeding rates at discharge? In order to discover the impact that the second session of STS had on exclusive breastfeeding upon discharge, I determined the following points:

- The exclusive breastfeeding rates at discharge for women who experienced one session of STS in labor and delivery was 46% for the 3 months prior to the practice change start date.
- The exclusive breastfeeding rate was 72% at discharge for women who experienced two sessions of STS, one in labor and delivery and the second on postpartum.
- The exclusive breastfeeding rates at discharge for women ( $n = 33$ ) who experienced no STS during their hospital course for the 3 months prior to the practice change was 25%. This shows that 75% did not exclusively breastfeed.
- Twenty-eight percent of women indicated upon admission to labor and delivery their intent to exclusively breastfeed but did not exclusively breastfeed after two sessions of STS.
- The exclusive breastfeeding rates at discharge, regardless of the mother's stated plan on admission, was 49%, which was higher than the 46% who experienced one session of STS and were discharged exclusively breastfeeding.

The data analysis was performed comparing the historical data of exclusive breastfeeding rate with one session of STS as compared to exclusive breastfeeding rates with two sessions of STS. The data did demonstrate a statistical significance difference improving exclusive breastfeeding rates with two sessions of STS. The logical implication is that the second session of STS which is a nursing practice should not only be continued at the practicum setting but can be implemented at any birth center.

Implementing the second session of STS upon admission to the postpartum unit is a practice change. However, introducing STS on the postpartum unit is a practice change that is nurse initiated, nurse led, and can be nurse sustained. This practice change has no cost, requires no supplies or equipment, and can be available in every birth setting regardless of the socioeconomic or cultural setting as long as the mother and infant are medically stable.

### **Recommendations**

Recommendations are made based on the understanding that both the AAP and the WHO recommend exclusive breastfeeding for infants. Moreover, given the results of the current study indicating that 65% of women indicate a desire pre delivery to exclusively breastfeed their infant, 46% of women who experienced one session of STS and 72% who had two sessions of STS chose to exclusively breastfeed at discharge. The recommendation of implementing a second session of STS upon admission to the postpartum unit is made.

The second recommendation is for nurse leaders to take the time to evaluate practice changes in order to explore the effect a change has on patient outcomes. Take the time to establish baseline data as a starting point for practice changes when possible. Then develop the practice change in a way where outcomes can be measured and compared to baseline data. Involve key stakeholders for their input in any practice changes for buy-in and for sustainability. Then share the outcome with the key stakeholders to inspire practice excellence and discovery.

The third recommendation is for the global community. According to the WHO, breastfeeding is one of the most effective means of ensuring both child health and survival (WHO, 2014). Offering two sessions of STS can be extended to every birth setting. The first STS session immediately upon delivery does demonstrate improved respiratory, temperature, and glucose stability for the newborn (Phillips, 2013). Another outcome that STS has shown is improved breastfeeding initiation. Babies who are placed STS are more likely to breastfeed, as healthy full-term newborns instinctively suckle after 55 minutes of STS with their mother (Mann, 2013). The immediate post-delivery phase is a time of high emotion and is a busy time within the delivery room. Even though STS during this time is very meaningful, the placenta is being delivered, perineal repair is occurring, with frequent fundal checks. The postpartum phase is a time that is calmer, and quieter, more private. STS in this time frame as demonstrated has the ability to provide both the mother and newborn a positive breastfeeding experience. Introducing the second session of STS on upon admission to postpartum has the ability to increase exclusive breastfeeding rates and to improve child health and survival in any setting and any global community.

### **Strengths and Limitations of the Project**

The strength of this DNP project was the improved outcome of exclusive breastfeeding rates with the introduction of the second session of STS. Another strength of this project was the ease in which other birth centers can also introduce the second session of STS to improve their exclusive breastfeeding rates. The third strength was the improved health outcomes appreciated in newborns who have the opportunity to receive

breastmilk as their primary nutrition. The fourth strength of this DNP project was the reinforcement as nursing leaders to pause when making practice changes and gather baseline data. Then to measure outcomes from the practice change in order to recognize how nurses how the ability to improve patient outcomes from purely nursing driven concepts and designs.

The limitation of this project was time. The gathering of baseline data from the EMR was very time consuming and labor intensive. This could be a deterrent to others seeking to gather baseline data. A second limitation was the limited number within the cohort of 75 who were offered a second session of STS. The third limitation of the project was the women themselves. Of the 75 who stated that it was their desire to exclusively breastfeed their newborn 28% left not exclusively breastfeeding. If time permitted it would be interesting to conduct a qualitative study on the 28% to ask why they did not leave exclusively breastfeeding.

### **Summary**

In summary, the purpose of this DNP project was to evaluate a nursing practice change. That practice change was the introduction of the second session of STS upon admission to the postpartum unit in order to determine if this new practice change would increase exclusive breastfeeding rates at discharge. The data analysis of historical data and compared with a cohort of 75 women who upon admission expressed the desire to exclusively breastfeed. They were then offered two sessions of STS. The exclusive breastfeeding rate of the historical comparison group after one session of STS was 46% compared to the 72% exclusive breastfeeding rate of the cohort who were offered two

sessions of STS. This DNP project demonstrated statistical significance ( $p = 0.003$ ) of exclusive breastfeeding rates with one session compared to two sessions of STS. This nursing practice change is effective and beneficial to patient outcomes. In section five, the dissemination plan is explained.

## Section 5: Dissemination Plan

### **Introduction**

The purpose of this DNP project was to evaluate the introduction of the second session of STS upon admission to the postpartum unit to determine if this new practice change would increase exclusive breastfeeding rates at discharge. My evaluation of the practice did demonstrate a statistically significant change in exclusive breastfeeding upon discharge in the women who had the second session of STS. My next phase with this DNP project is the dissemination of this new knowledge to the key stakeholders. The first area of focus was in the practicum setting and to the nurses who participated in the practice change. The next area of new knowledge dissemination is to the obstetrical nursing community at large.

### **Dissemination Plan**

My dissemination plan for this project is three-fold. The first level of dissemination is to the nursing leadership and the staff nurses at the study site who participated in the practice change. The practice change of introducing the second session of STS on the postpartum unit required the buy-in, cooperation, and follow through from the staff nurses on the unit. The postpartum nurses were very engaged in the practice change and were anxious to hear if there was an impact on exclusive breastfeeding. I, therefore, started by conducting six huddles with the staff nurses on postpartum to share my findings with them. I encouraged them to do two things with this information. First, do not stop the two sessions of STS and sustain this practice change to improve



breastfeeding outcomes. Second, I encouraged them to find inspiration in the practice change and then the evaluation process and to follow through with creative thoughts and ideas, gather baseline data, roll out the practice change, then evaluate the impact on patient outcomes. I met separately with the obstetrical nursing leadership to share the good news and to also encourage them to not be afraid to try new practice ideas with a measurement of success in mind. I lastly encouraged them to sustain the two sessions of STS moving forward.

The second level of dissemination occurred in a poster presentation on the first EBP problem I addressed at the beginning of the DNP project process. I identified that STS in the operating room was only occurring 20% of the time after C-section deliveries. As a result of the EBP project, STS is now occurring in the O.R. after C-sections 98% of the time. This project and its outcomes up to August 2016 were submitted and accepted as a poster presentation at the Sigma Theta Tau International Conference in Indianapolis, Indiana in September 2016 (see Appendix). Presenting this project at the Sigma Theta Tau International Conference allowed me to disseminate my project to nurses from around the world. I was also invited to share my poster at a regional research annual conference in October 2016. The thrill of the day was when the keynote speaker, Marilyn Oermann, stopped at my poster, read it, and asked if I had submitted an abstract to publish. She suggested I submit an abstract to the Association of Peri Operative Nurses which is an immediate goal. The dissemination of new knowledge through poster presentations broadens the audience through the publication of new knowledge, and this is where most nurses will read and identify practice changes (Oermann et al., 2006).

My third plan to disseminate the information is through the submission of an abstract to the *Nursing for Women's Health Journal*. This journal focuses on EBP for women's health, obstetric, and neonatal nursing. Since the outcome of this practice change did make a significant impact on exclusive breastfeeding rates at discharge, this is a topic this journal has a demonstrated interest in. Publishing the findings can allow for the advancement of two sessions of STS to increase exclusive breastfeeding rates, not only in the United States, but globally, as this journal is read internationally.

### **Analysis of Self**

This DNP project has enabled me to take an idea, grow it, and develop it around multiple hospital departments. This DNP project has been a lesson in perseverance. The process has provided me with many lessons in project management and patience. Nurses are used to doing; nurses are not as used to waiting for processes. A nurse's time is measured in hours, while project time is measured in more abstract ways. Those ways have provided me with a lesson in reevaluating what a success means. Learning to collaborate with many layers to create sustainable change is always a very valuable lesson.

This DNP project was also a wonderful opportunity to learn from the preceptor at the practicum site. The practicum mentor meticulously and freely gave lesson after lesson on writing, presentation, and data collection. She was an example of mentorship at its finest.

Lastly, looking back at the beginning of this process to now, there was a very clear advancement in knowledge, writing, communication, and critical thinking. We grow

as human beings when we learn, we grow when we have to start again, and we grow when we succeed. The DNP project process has allowed me to grow into a DNP.

### **Summary**

In conclusion, my evaluation of a practice change that introduced the second session of STS upon admission to the postpartum unit for the advancement of exclusive breastfeeding did demonstrate a statistically significant improvement. STS is nursing led and is a practice that requires no order, no equipment, and no resources. Nurses in every birthing center globally can replicate this practice change. STS is a powerful tool, which can be used to enhance not only a newborn's well-being but also to enhance exclusive breastfeeding rates.

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## Appendix: Sigma Theta Tau International Poster Skin-to-Skin in the Operating Room

# A DNP Project: Improving Skin-to-Skin in the OR following a C-section

Joanna Horst, MSN, RN, NEA-BC

**Purpose**  
Identify barriers to Skin-to-Skin contact (STS), after a C-section delivery; increase STS and exclusive breastfeeding (BF) rates.

**Evidence Summary**

- Newborns placed on their mother's bare skin immediately following birth provides physiologic and psychological benefits for the newborn and the mother (Moran-Peters, Zauderer, Goldman, Balerlein, & Smith, 2014, p. 296).
- A Cochrane review of 34 studies demonstrated that STS contact immediately after delivery improves stabilization of newborn heart rate, respiratory rate, blood oxygen saturation, blood glucose levels, and temperature consistency (Moore, Anderson, Bergman, & Dowswell, 2012, p. 5).
- STS contact immediately after delivery improves breastfeeding rates (Moore et al., 2012, p. 12).
- Both the World Health Organization (WHO) and American Academy of Pediatrics (2012) recommends human milk as the standard nutrition for newborns.

**Significance of Problem**

- Reading Hospital: STS contact after vaginal delivery was consistently in the 70th percentile; however, baseline data for STS contact after C-section was 20th percentile.
- Evidence supports similar trends in both the US and the UK. Obstacles identified included lack of interdisciplinary collaboration in the OR among nursing, anesthesia, and obstetrics, and nurses being more task-focused than experience-focused when in the OR (Gregson, Meadows, Teakle, & Blacker, 2016, p. 25).

**Method**

- Observation of C-section process flow to identify postoperative STS barriers in the OR
- Dialogue with key stakeholders to discuss perceived barriers, share observations, and clarify misperceptions regarding STS in the OR
- Review of charts for data abstraction
- Use of four-step change process to facilitate interdisciplinary care team, patient, and family change of practice

Assessment → Planning → Facilitation → Advocacy  
*Kelly & Penney, 2011, p. 133*

- Results: Skin-to-Skin rates in the OR after a C-section

**Skin-to-Skin Rates in the OR after a C-section**

Time Period	STS Rate (%)
15:00-18:00	20%
18:00-21:00	24%
21:00-00:00	50%
00:00-03:00	54%
03:00-06:00	54%
06:00-09:00	53%

**Findings**

Barriers to STS in the OR after a C-section identified at Reading Hospital were:

- Lack of OR team communication around STS
- Not including the mom in the decision to participate in STS
- Staff focus on tasks rather than patient experience
- Opportunities around interdisciplinary collaboration in the shared goal of STS evidence-based practice changes
- Circulating nurse adds mom's goal for STS and BF to OR whiteboard communication
- Universal time-out now includes communication to the entire OR team of mom's desire for STS and BF
- Redefined time frame goal for STS in the OR to align with WHO first-hour-of-life recommendation
- Defined STS exclusion criteria for mom and baby to improve documentation

**Leadership Lessons Learned**

First-hand experience of practice, processes, and nursing workflow enables leaders to observe and assess both barriers and drivers for planned change. Facilitating change at the point of care engages leaders in collaboration with front line caregivers to redesign workflow to enhance the patient experience rather than be task focused.

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