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The Importance of Skin-to-Skin Initiated in the Operating Room

by

Katina Miller

A project submitted to the faculty of
Gardner-Webb University School of Nursing
in partial fulfillment of the requirements for the
Master of Science in Nursing Degree

Boiling Springs, North Carolina

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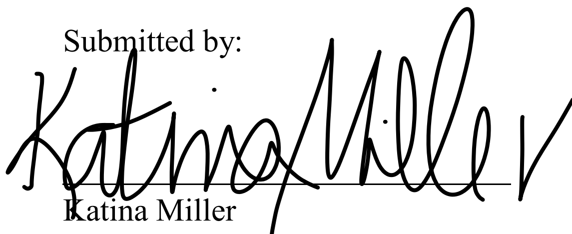
Submitted by:



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Abstract

The benefits of skin-to-skin contact have been well-documented for both infants and mothers. Out of all the different modes of delivery a pregnant patient can have, skin-to-skin contact is performed the least amount for mothers who deliver via cesarean section compared to mothers who have a vaginal delivery. All mothers, should they choose, should be allowed to have skin-to-skin contact with their infant in the operating room. This project was designed to increase skin-to-skin contact between a mother and their infant shortly after birth via cesarean section at least 75% of the time. Education was conducted during team huddles and staff meetings to promote skin-to-skin contact, shortly after birth, in stable infants in a local community hospital. A collaboration of interdisciplinary team members occurred to encourage skin-to-skin contact for stable infants born by cesarean section and to make sure that documentation reflected when skin-to-skin contact was initiated and discontinued. Chart audits would be conducted for 2 months after team members were educated, to ensure all team members were practicing the new process change. Leadership was on board to coach and counsel staff that were not practicing the new process. Skin-to-skin contact is recommended by the World Health Organization and is the best practice for all nursing staff and patients.

Keywords: skin-to-skin contact, cesarean sections, operative delivery

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CHAPTER I

Introduction

Skin-to-skin contact has many benefits not only for the infant but for the mother as well. Women who give birth vaginally have higher rates of engaging in skin-to-skin contact with their infant immediately (83%) following delivery, compared to women who either have an operative vaginal delivery (66%) or a cesarean section (31%) (Kahalon et al., 2021). Women who can hold their infant skin-to-skin immediately after birth allows for bonding but is also linked to increased patient satisfaction. A woman's satisfaction with her birth experience can not only lessen the risk of postpartum depression but also aid in avoiding a malpractice lawsuit being filed because the woman is involved in her care (Kahalon et al., 2021). It is very important in family-centered care that a woman feels that she has a part in her care.

Problem Statement

The benefit of skin-to-skin contact for both infants and mothers is well documented, yet for women who undergo a cesarean section, skin-to-skin contact is done the least amount in the operating room compared to women who have a vaginal delivery.

Significance

The Baby-Friendly hospital initiative began to promote breastfeeding as well as keeping mothers and their infants together. The World Health Organization (WHO) recommends that hospital staff promote immediate, uninterrupted skin-to-skin contact and initiate breastfeeding as soon as possible (WHO, 2018). Skin-to-skin contact has many benefits for the infant as well as the mother. According to Almutairi (2022), "Routine implementation of skin-to-skin contact is encouraged because of its beneficial

effects on pre and full-term infants and their mothers have been extensively studied and documented: physiological stability, improved cardiorespiratory function, reduced hypoglycemia, better thermoregulation, less pain, earlier breastfeeding initiation, and longer duration and exclusivity of breastfeeding, better sleep, and brain maturation" (p. 13). Skin-to-skin contact with the infant strengthens maternal emotional well-being by helping the mothers to experience less stress and feel more competent (Almutairi, 2022). Skin-to-skin contact reduces postpartum depression symptoms and plays a role in preventing postpartum hemorrhages by lessening the third stage of labor which reduces postpartum blood loss (Almutairi, 2022).

Purpose

The purpose of this project was to allow women who have cesarean deliveries to be able to engage in skin-to-skin contact in the operating room immediately following delivery. Women who deliver by cesarean section can wait for 30 minutes to an hour to be able to hold their baby. Hospital staff needs to initiate skin-to-skin contact, in the operating room, as often as it is initiated for women who have vaginal deliveries. The benefits of skin-to-skin contact have been well documented, thus, should be implemented as soon as possible after a mother delivers, however she delivers. By allowing skin-to-skin contact, bonding occurs, and a mother's birth experience is more enjoyable.

Theoretical or Conceptual Framework

John Bowlby's Attachment Theory will be used to guide this project. Bowlby studied the relationship between mothers and their children. During his research, he found that a child is dependent on their mother to orient them to space and time, provide a safe environment, satisfies their impulses, and restricts others (Bretherton, 1992).

Bowlby also found that for a person to grow up mentally healthy, they must experience a warm, intimate, and continuous relationship with their mother or mother substitute in which both the mother and child find satisfaction and enjoyment (Bretherton, 1992).

When an infant is born, they look to their mother for not only food but for comfort as well. During pregnancy, an infant hears their mother's voice and heartbeat, and putting an infant skin-to-skin, gives the infant that soothing touch and the sound of their mother’s heartbeat that was comforting in the womb. Forming this attachment helps the newborn to feel safe. Infants who are securely attached to their mothers, cry less, and explore their surroundings more in the presence of their mothers; insecurely attached infants cry more frequently even when being held by their mothers and do not explore much of their environment (Bretherton, 1992). Skin-to-skin contact initiated right after birth will help establish an attachment and create a healthy mother-and-infant bond.

Definition of Terms

Skin-to-skin contact is defined as placing a naked infant on a mother’s bare chest where the top of the baby’s head is just under the mother’s chin within minutes after birth, and the infant's head is turned to the side to support breathing (WHO, 2017).

Summary

A women’s birth experience can impact many things in her life. This is an exciting time and very influential. One that she will remember for years to come. Most women going into labor, assume they will have a vaginal delivery and be able to hold their baby as soon as it is born. For women who have a cesarean section, that is not always the case. It can be 30 minutes to an hour or longer for them to be able to hold their baby. Women’s services units should include skin-to-skin contact in the operating room

for those mothers. Even if they can only hold their baby for 5 minutes it will make a world of difference in the birth experience of the mother. Allowing this bonding time to occur as soon as possible is beneficial to the infant and the mother. Caregivers of pregnant women must get creative with solutions that will allow for skin-to-skin contact in the operating room and promote bonding between the mother and the infant.

CHAPTER II

Literature Review

A literature review was conducted by examining a variety of databases and search engines to see the data related to skin-to-skin contact after cesarean sections. These databases included the Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, Google search engine, OVID, and the digital library. The key terms used during the search were skin-to-skin contact and cesarean section, skin-to-skin contact, and birth satisfaction.

Literature Related to Problem Statement

Skin-to-Skin and Birth Satisfaction

Kahalon et al. (2021) conducted a survey among pregnant women to explore the association between skin-to-skin contact and birth satisfaction across different modes of birth. Participants included 1,833 women who were at least 24 weeks gestation. Participants were asked to complete a survey that included demographic information, mode of birth, and if the infant was placed skin-to-skin immediately following the birth, in addition to the Global Birth Satisfaction Scale. The participants' answers were then analyzed using the factorial analysis of covariance (ANCOVA). The results of the study concluded that most women reported skin-to-skin contact shortly after birth, but the frequency differed among the birth type, with cesarean births being the lowest at only 31% compared to vaginal deliveries at 66%. The study also concluded that women who participated in skin-to-skin immediately after birth, reported higher birth satisfaction, despite the mode of birth 2 months postpartum. While the study did find that overall, women who experienced vaginal deliveries indicated a higher level of birth satisfaction,

women who experienced skin-to-skin contact following any mode of delivery, experienced a higher level of birth satisfaction than those that did not experience skin-to-skin contact.

Kheiri et al. (2017) used a randomized, controlled, double-blinded parallel clinical trial to ascertain the effect of skin-to-skin contact between the mother and infant after a cesarean section delivery on the mother's satisfaction. When a mother is not satisfied with her birth experience, noncompliance with providers can occur. Also, a mother's dissatisfaction with neonatal care can lead to negative psychological effects like post-traumatic stress disorder, reluctance to get pregnant again, choosing cesarean section or abortion, negative interaction between mother and infant, and negatively impact the relationship between the mother and father. To be eligible for the study, mothers had to have undergone a cesarean section with spinal anesthesia between the gestational age of 37-42 weeks and not have a history of anti-depressive medication or psychotropic drug use, smoking or addiction, or/and the infant could not be diagnosed with pathological icterus. Participants were divided into the control and experimental group. In the experimental group, skin-to-skin contact was performed for a minimum of 30 minutes in the recovery room and three times a day throughout the hospital stay, the control group received normal, routine care. Following participation in either the control or experimental group, participants were asked to complete a 9-item satisfaction questionnaire. The results of this study showed that the satisfaction of mothers who were allowed skin-to-skin contact after a cesarean section was significantly higher than the control group in all nine items of the questionnaire and by improving satisfaction, maternal and postpartum care also improved.

Healthcare Professionals' Beliefs About Skin-to-Skin Care Tool Development

Crenshaw et al. (2021) found that no instrument existed to assess how healthcare professionals' beliefs and potential barriers affected them implementing skin-to-skin during a cesarean section. Women who undergo cesarean sections are at risk for delayed or withheld skin-to-skin contact during a cesarean section, so Crenshaw et al. (2021) conducted a study that would: (1) develop an instrument, *Health Professionals Beliefs about Skin-to-Skin Care During a Cesarean*, (2) establish the validity and reliability of this instrument, and (3) describe healthcare professionals' beliefs about skin-to-skin contact during a cesarean section. During the development of the instrument, questionnaires, focus groups, and literature were used to identify core beliefs influencing the practice of immediate skin-to-skin contact during a cesarean section. The final version of the instrument contained 23, 6-point Likert scale items and eight open-ended, narrative responses to gain a further understanding of healthcare professionals' beliefs about skin-to-skin contact beginning in the operating room. Participants of this study included healthcare professionals who are involved in maternal/newborn care during a cesarean section. The validity of the instrument was assessed by using: (1) factor analysis, (2) Kaplin-Meyer-Olkin measure of sampling adequacy, and (3) Barlett's test of sphericity. The eight qualitative questions were evaluated using narrative content analysis to create content categories. The results of the study concluded that the *Health Professionals Beliefs about Skin-to-Skin Care During a Cesarean* instrument is distinctive in comparing the strength of beliefs about skin-to-skin contact and support for skin-to-skin contact during a cesarean section. This instrument is also an effective tool to use for quality improvement initiatives pertaining to individual units to evaluate

readiness, educational needs, and evaluate progress. By using this tool, identifying, and addressing barriers, skin-to-skin contact during a cesarean section will improve as well as breastfeeding outcomes.

Effects of Skin-to-Skin Contact on Mothers and Newborns

The cesarean section rate has greatly increased over the last decade, which has also increased the rate of separation between the mother and newborn. This separation can lead to adverse physical and psychological effects on both the mother and newborn. A study conducted by Batool et al. (2018) was performed to determine the effect of skin-to-skin contact between mother and neonate immediately after a cesarean section on neonatal behavioral state. A randomized controlled interventional study was performed on both mothers and newborns using two groups of skin contact and control. This study only included mothers who had undergone a cesarean section. The Anderson Behavioral State Scoring System was used to assess how the intervention affects the behavior of the newborns. The intervention group consisted of newborns who were taken to the radiant warmer immediately after birth, dried and stimulated, and a quick examination performed, placed on the mother's chest for skin-to-skin contact. The control group consisted of newborns who were taken immediately after birth to the radiant warmer and then after drying, stimulating, and assessing, taken to the father or mother's companion. Both groups' behavioral scores were recorded at the same time. Descriptive statistics, chi-square, fisher, and co-variance analysis were used to determine the results of the study. ANCOVA analysis was used to assess the behavioral state score after the intervention, and the results showed that there was a significant difference between the behavioral scores of the neonates after the intervention between the two groups. This study

concluded that skin-to-skin contact immediately after cesarean section influences a newborn's behavioral state, and babies are more likely to be awake and calmer than infants who were not allowed skin-to-skin contact. Therefore, skin-to-skin contact should be initiated as soon as possible after birth by cesarean section to improve the baby's health and bonding between the mother and infant.

Vamour et al. (2019) conducted a pilot study to determine if immediate skin-to-skin contact impacted maternal comfort in the operating room after a cesarean section by measuring the Analgesia Nociception Index and comparing the numeric pain rating scale in patients before and after skin-to-skin contact. Participants included in this observational, descriptive pilot study were pregnant with a single fetus and had elective cesarean sections. The Analgesia Nociception Index was measured by the PhysioDoloris monitor and both the Analgesia Nociception Index and numeric pain scale were recorded by the anesthesiologist or midwife before and after skin-to-skin contact during the cesarean section. The data collected was analyzed using Statistical Package for the Social Sciences software and the evolution of numerical parameters was repeatedly measured using the nonparametric Wilcoxon test. The results did show that maternal comfort appeared to be improved by skin-to-skin contact during cesarean sections. Skin-to-skin contact was immediately started after birth on average at the 4-minute mark and typically lasted 21 minutes. Even though this study showed promising results, it was not representative of the general population and because of the exclusions, could create a selection bias. There was no control group in this study and to truly confirm the data, a randomized controlled trial should be performed. This would be hard to accomplish since it would be unethical to withhold skin-to-skin contact between a mother and her newborn.

Skin-to-Skin Contact and Hypothermia

Skin-to-skin contact is not often done in the operating room after a cesarean section for fear that the infant will suffer from hypothermia since operating rooms are set at lower temperatures. Singh Joy (2010) conducted a study to determine whether skin-to-skin contact after a cesarean section would result in decreased body temperature in the infant. Two groups of pregnant women who had undergone a cesarean section were randomly assigned to the skin-to-skin contact group or routine care group after a cesarean section. Routine care consisted of bathing, drying, and dressing the newborn after birth and then being held by a family member. The skin-to-skin contact group was also bathed and dried but not dressed and was placed on the mother's chest for skin-to-skin contact when she returned to her room for a minimum of 2 hours. The results of the study revealed no significant differences in mean temperatures of infants in either group so babies that are delivered by cesarean section and have skin-to-skin contact are not at an increased risk for hypothermia.

Skin-to-Skin Contact and Cesarean Section

Kjelland et al. (2020) conducted a study to examine the effect of having a designated newborn nursery nurse to provide skin-to-skin care in the operating room and post-anesthesia care unit that helps to support the infants' transition to extrauterine life. Due to the many responsibilities of the operating room staff, the ability to provide skin-to-skin care in the operating room may not always be possible, and designating a nurse for this purpose could help to provide skin-to-skin contact in the operating room. Where the study was conducted, the cesarean section rate is 29.9% and there was only a designated newborn nursery nurse on the dayshift. This newborn nursery nurse was

highly experienced and after birth, the infant was placed directly on the mother's chest and covered with a warm blanket, where they remained together, uninterrupted unless a need occurred that required separation. The next day, a survey was conducted using a 4-question, yes or no, survey to evaluate maternal satisfaction with having a designated newborn nursery nurse to allow for skin-to-skin contact in the operating room. The results showed a strong satisfaction with the skin-to-skin experience and that mother-infant bonding truly benefited from skin-to-skin contact in the operating room. Mothers also felt that being allowed to have skin-to-skin contact during a surgical birth made the experience feel more natural. Creative staffing is one way to allow for a designated newborn nursery nurse but could decrease the regularity of offering skin-to-skin in the operating room.

Guala et al. (2017) conducted a study to examine the effects of skin-to-skin contact with either mother or father in the operating room, and the relationship between the start and length of breastfeeding. To be included in this study, participants had to be at least 37 weeks pregnant, receive information about breastfeeding during pregnancy, and be extremely motivated to breastfeed their infant. The sample size consisted of 252 women who underwent a cesarean section. Of those participants, three groups were formed: (1) skin-to-skin contact with the mother, (2) skin-to-skin contact with the father, and (3) no skin-to-skin contact. Information was collected in three rounds. The first data collection was done by the pediatrician at hospital discharge, and the second and third rounds of data collection were carried out by interviews done over the telephone to examine the baby's eating habits at 3 and 6 months of age. OpenEpi was used for statistical analysis including contingency tables and the Kelsey test for the calculation of

sample size. During the first analysis, it was found that there were significant statistical differences in exclusive breastfeeding amongst infants who had skin-to-skin contact with the mother as opposed to no skin-to-skin contact or skin-to-skin contact with the father. The same trends for exclusive breastfeeding of the infants at 3 months of age were also found with the group of infants who had skin-to-skin after birth in the operating room. The data trend did decrease at the 6-month mark but continued to show that exclusive breastfeeding rates among infants who had skin-to-skin contact remained higher compared to the other groups. The results of this study proved that there is a statistical association between infants who have skin-to-skin contact with their mother and breastfeeding rates at discharge that carries to 3 and 6 months after birth with exclusive breastfeeding continuing. The study did find that skin-to-skin contact with the father after a cesarean section rate did not affect breastfeeding rates positively and was more closely related to the group that did not do skin-to-skin contact with the infant after birth, but if the mother is unable to provide skin-to-skin contact after birth, encouraging the father to do skin-to-skin contact will allow for bonding.

Abdollahpour et al. (2016) understood that traumatic childbirth can negatively impact the mental health of postpartum nurses, and they conducted a randomized clinical trial study on women who had a traumatic childbirth to determine the impact on the implementation of the nine stages of the magical hour, including skin-to-skin contact, on post-traumatic stress after a traumatic childbirth. A convenience sample of 84 mothers was divided at random into the intervention group and a control group. To measure if the mothers suffered a traumatic birth, a 4-question survey was used. To investigate post-traumatic stress, the Impact of Event Scale was used. It contains a 22-item questionnaire

to evaluate mental helplessness in the face of specific traumatic events in life. The participants in the intervention group were allowed to initiate nine stages of the magical hour, the control group just had routine care. Data was collected for the study at 2-weeks, 4-6 weeks, and 3-month intervals using telephone interviews. The results of the study concluded that skin-to-skin contact and implementation of the infants' instinctive stages, decrease the average score of post-traumatic stress over time in the mothers. By decreasing stress, it allows the mother to care for her newborn. This study used a small sample size, and more research should be conducted over a longer period of time to explore the impact of the magical hour on women who have had a traumatic birth.

Skin-to-Skin Contact and Breastfeeding

Agudelo et al. (2021) performed a randomized multicenter parallel clinical trial to determine the effect of immediate skin-to-skin contact, compared to early skin-to-skin contact on the duration of breastfeeding. Two study groups were formed between mothers and infants, immediate skin-to-skin contact, and early skin-to-skin contact. The immediate skin-to-skin contact was initiated within 1 minute of birth and the early skin-to-skin contact group was initiated at 60 minutes of life. The newborns were followed for 6 months through discharge from the hospital, the doctor's office, and a follow-up telephone survey to discuss if the infant was still breastfeeding. The data was analyzed using the Shapiro-Wilk test, Chi test, Fisher's exact test, and central tendency. A survival analysis was also performed on skin-to-skin contact on the effect of exclusively breastfeeding using the non-parametric Kaplan-Meier method. Surprisingly, the results showed that there was no difference between the two groups regarding exclusively breastfeeding at 3 and 6 months of life.

Literature Related to Theoretical Framework

No research articles were found that included Bowlby's Attachment Theory and skin-to-skin contact.

Strengths and Limitations of Literature

The literature demonstrates that there are few studies that have been done on skin-to-skin contact in the operating room; however, those that have been done show the benefits to both the mother and the infant (Batool et al., 2018; Vamour et al., 2019). Mothers who can hold their infants immediately after birth have a better birth experience which promotes bonding and breastfeeding (Agudelo et al., 2021; Batool et al., 2018; Guala et al., 2017). Allowing skin-to-skin contact between the mother and infant promotes patient satisfaction, breastfeeding, and helps with decreasing stress from a traumatic birth (Abdollahpour et al., 2016). There have not been a lot of studies conducted on skin-to-skin contact being performed during cesarean sections, and if there were studies done, the sample size was small, warranting further research. Even though skin-to-skin contact is recommended, the literature shows that staff is either not doing it or there were many differences in the time skin-to-skin contact was initiated and the length of the skin-to-skin contact.

Summary

Skin-to-skin contact is both important for the mother and infant. The literature shows that women who can have skin-to-skin contact immediately after birth or as early as possible after a cesarean section are able to bond with their newborns and feel closer to them (Stevens et al., 2019). Skin-to-skin contact also improves a women's birth experience and even helps the mother if the birth was traumatic. There is no evidence that

by doing skin-to-skin contact in the operating room, that hypothermia is caused in the neonate. By providing a designated staff person to care for the infant and establish skin-to-skin contact helps mothers get the birth experience they want, and staff can continuously assess the newborn. Delaying skin-to-skin contact during a cesarean section can cause feelings of separation and disconnection between the mother and infant (Stevens et al., 2019). The World Health Organization recommends that skin-to-skin contact be initiated shortly after birth to promote breastfeeding. Most hospitals have adopted the Baby-Friendly Hospital Initiative (BFHI) but fail to initiate skin-to-skin contact in the operating room. Further research and education should be done to see the full benefits of allowing mothers to have skin-to-skin contact in the operating room after cesarean sections. Collaborations between all staff members involved, including registered nurses and certified nurse anesthetists, should occur to provide the best care to both mother and infant.

CHAPTER III

Needs Assessment

The research shows the benefits of skin-to-skin contact for not only the mother, but also the infant, so why is there such a discrepancy in mothers who are able to have their baby go skin-to-skin immediately after birth when they have an operative delivery? Operative births, such as a cesarean section, have the lowest percentage of infants going skin-to-skin in the operating room. A mother wants to see and hold her baby that she has carried for 9 months, and this is hard to achieve on their own during a surgical birth. Mothers have shared that engaging in early skin-to-skin contact with their newborn, after a cesarean section, allowed for increased bonding with their newborn and improved their birthing experience (Stevens et al., 2019). It is important that healthcare professionals and organizations value the importance of skin-to-skin contact between infants and their mothers (Stevens et al., 2019). Skin-to-skin contact also allows for early initiation of breastfeeding and promotes a longer duration of exclusive breastfeeding (Guala et al. 2017). Many hospitals have adopted the BFHI to support breastfeeding, and one of the best ways to do this is by skin-to-skin contact between the mother and infant immediately after delivery.

Target Population

In 1992, the World Health Organization and the United Nations Children's Fund developed the Baby-Friendly Hospital Initiative (BFHI) These organizations together recommended immediate and continuous skin-to-skin contact, over prolonged periods of time, be initiated between the newborn and the mother, yet this intervention remains the least implemented during cesarean sections (Vamour et al., 2019). Women who are

greater than 37 weeks pregnant and undergoing a cesarean section under either spinal or epidural anesthesia, will benefit the most from initiating skin-to-skin contact while in the operating room. Circulating nurses and Certified Nurse Anesthetists will be affected by this process change of allowing skin-to-skin contact during the procedure. The nurse dedicated to the initial assessment of the baby will also have to be educated on the process improvement of placing the baby skin-to-skin when stable, while in the operating room.

Target Setting

This project will take place in a community, non-profit labor and delivery, recovery, and postpartum unit. This hospital performs around 150-200 deliveries monthly with last year's (2021) delivery total being 1,908 births. There are 14 labor rooms, two triage rooms, two operating rooms, three bay post-anesthesia care units, and 24 postpartum beds available for patients to use in this department. This hospital is designated Baby-Friendly and promotes skin-to-skin contact within 5 minutes of birth or as soon as the infant is stable.

Sponsors and Stakeholders

This community hospital has a dedicated registered nurse that circulates all cesarean sections that occur Monday through Friday between 7 am-3 pm. This registered nurse would help to sponsor this project as the person ensures the patient and infant are able to participate in skin-to-skin contact. This hospital is also Baby-Friendly certified, making the leadership team and lactation consultant, the sponsors for patients receiving skin-to-skin contact in the operating room to be compliant with the BFHI. Patient satisfaction is very important to hospital systems, and patients being allowed to have

skin-to-skin contact in the operating room would significantly increase patient satisfaction. More and more pregnant patients are coming to the hospital with a plan for the birth experience that they wish to have, and this includes skin-to-skin contact, making them stakeholders in this project.

SWOT Analysis

Figure 1 depicts the SWOT analysis used within this project.

Figure 1

SWOT Analysis

Strengths	Weaknesses
• Improves bonding between mother and infant • Helps to enable successful breastfeeding by allowing breastfeeding to begin as soon as possible and establishing longer and more effective breastfeeding. • Improves maternal satisfaction with the birth experience • Reduces newborn transfers to a neonatal intensive care unit by promoting newborn physiological stability	• Risk of maternal and/or newborn hypothermia • Difficult with newborn positioning due to surgical drapes and the mother's position on the operating room table • Risk for newborn fall
Opportunities	**Threats**
• Staff preparation includes knowledge, perceptions, and training about skin-to-skin contact in the operating room. Using evidence-based continuing education and having staff 'champions' to encourage buy-in from the staff. • Interdisciplinary involvement (anesthesia, doctors, and nurses)	• Healthcare providers views that skin-to-skin contact should be delayed until the newborn has been assessed. • Perceived to be an unnecessary burden on staff and interfere with surgery and anesthesia • Adequate nursing staff

Available Resources

Currently, this hospital is already Baby-Friendly certified, and the staff has already undergone many hours of education on the benefits of skin-to-skin contact. All staff is aware of the importance of skin-to-skin contact to promote bonding and encourage exclusive breastfeeding. The World Health Organization and UNICEF have issued a guide on the 10 steps to successful breastfeeding that should be reviewed by all current and new employees. Educating and encouraging staff to initiate skin-to-skin contact in the operating room would need to be done for staff during the huddle, which is before shift updates, and at staff meetings.

Desired and Expected Outcomes

1. All patients that have a cesarean section will be able to have skin-to-skin contact in the operating room, as soon as possible, after birth if the infant is stable.
2. There will be bonding between the infant and the mother.
3. There will be increased satisfaction with the mother's birth experience.
4. There will be decreased neonatal intensive care unit admissions.
5. There will be an increase in exclusive breastfeeding rates and a decrease in formula supplementation.

Team Members

All team members employed on the unit will play a huge role in the success of implementing skin-to-skin contact in the operating room. The clinical practice specialist for this organization is instrumental in initiating new policies and procedures in women's services. This team member would need to be involved to help with the education and implementation of the changes. The lactation consultants will also be influential in

initiating skin-to-skin contact, as that helps to promote exclusive breastfeeding. The registered nurse that circulates all cesarean sections will also be an important team member of this project. Any nurse that is dedicated to the infant only during cesarean sections will be included in decision-making about how to best implement skin-to-skin contact in the operating room. Certified nurse anesthetists who circulate the operating room during a cesarean section will be active team members in initiating this project and helping with the care of the mother and infant once skin-to-skin contact is initiated. Anesthesiologists and obstetricians will be important in supporting skin-to-skin contact in the operating room.

Cost/Benefit Analysis

To save cost, the education on skin-to-skin contact during cesarean sections will be done during huddles (pre-shift meetings) in the mornings and evenings, and at the monthly staff meeting. Team members helping with the project will provide education over 2 weeks. No supplies will be needed, as no handouts will be given to the staff for this project. The only cost incurred will be for the hospital to pay the staff planning to attend an already scheduled staff meeting. The estimated cost of this is approximately $3,200 based on an average pay of around $35.00 an hour per team member, for around 89 employees. The cost for this would occur regardless of the implementation of this project, as team members are attending the staff meeting for multiple purposes.

Skin-to-skin contact has many benefits including reducing neonatal intensive care unit admissions. The average cost of a term infant admitted to the neonatal intensive care unit for a mean duration of 2.2 days is between $2,500-2,900 compared to a normal, uncomplicated newborn costing $800 (Cheah, 2019). That is a cost saving of up to

$1,700-2,100 just by initiating skin-to-skin contact in the operating room for stable infants. The benefits of skin-to-skin contact far outweigh the cost.

CHAPTER IV

Project Design

This project is designed to increase compliance with skin-to-skin contact from all parties involved in taking care of pregnant women during a cesarean section. By increasing compliance with skin-to-skin contact in the operating room, mothers and infants will have the ability to begin bonding as close to birth as possible. Earlier bonding also increases the infant being able to breastfeed sooner. Education will be the biggest component of commencing this project. Team member engagement and involvement will also be instrumental in getting this project started. After a 2-week educational period, skin-to-skin contact should be occurring in every cesarean section if the infant is stable. Staff taking the time to initiate skin-to-skin contact in the operating room will increase birth satisfaction for mothers.

Goal

The purpose of this project is that skin-to-skin contact will occur in the operating room when the infant is stable, in more than 75% of cesarean sections. Mothers will be afforded the birth experience that they want and need. Infants will be able to bond with their mothers faster and breastfeeding will be initiated quicker. All staff members will be educated and understand that skin-to-skin contact in the operating room is important and to be Baby-Friendly compliant, should be occurring.

Objectives

1. Skin-to-skin contact will occur in the operating room, if the infant is stable, for all cesarean sections.

2. Skin-to-skin contact will be documented by staff and chart audits will occur for 2 months following education.

Plan and Material Development

To initiate skin-to-skin in the operating room, education must happen first. All staff members who are employed in the Women's Services department will be educated on the importance of skin-to-skin in the operating room and implementing skin-to-skin during cesarean sections during pre-shift meetings (huddle) for a 2-week time. The anesthesia team will be educated by the surgical services manager and by staff while on the unit. A PowerPoint (Appendix) presentation will be used during the monthly staff meeting to reinforce the importance of implementing skin-to-skin contact in the operating room for every cesarean section where the infant is stable.

Timeline

This project from start to finish would be about 3 months. Educating staff and all interdisciplinary teams would be the priority to make sure everyone knows the importance of doing skin-to-skin contact in the operating room. Educating during huddles and staff meetings will take 2 weeks. After everyone has been educated and understands the expectation of doing skin-to-skin contact in the operating room, skin-to-skin contact should be occurring in all stable infants delivered by cesarean section. Audits will then be done for a minimum of 2 months to verify that skin-to-skin contact is occurring in all stable infants born by cesarean section. Staff will need to understand the importance of charting skin-to-skin contact to assist with the auditing process.

Budget

Most of the education for this project will occur while staff are at work. There will be education done during the already scheduled staff meeting and no supplies will be needed to conduct the project. This project will be a presentation, so no handouts will be provided to staff. The only cost that would occur would be to the hospital for the already scheduled staff meeting with a team member salary of around $35.00/hr. for around 89 employees for a total cost of around $3,200.00

Evaluation Plan

To evaluate skin-to-skin contact in the operating room, chart audits will be conducted for a minimum of 2 months. These audits will begin 2 weeks after all education between staff and interdisciplinary teams has occurred. While educating staff, charting will be clearly explained so everyone knows the importance of making sure to chart when skin-to-skin was initiated and when skin-to-skin contact was discontinued. This will aid in the auditing process. Data will then be analyzed to make sure that this unit is meeting the 75% goal of infants having skin-to-skin contact in the operating room.

CHAPTER V

Dissemination

Skin-to-skin contact is vital to not only the infant but the mother as well. It is such a simple task to perform but has a profound impact on both mother and infant. Research has shown the many benefits for the infant when doing skin-to-skin contact with the mother, but it has also shown the benefits the mother receives while doing skin-to-skin contact with her baby (Agudelo et al., 2021; Batool et al., 2018; Guala et al., 2017; Kahalon et al., 2021; Kheiri et al., 2017; Stevens et al., 2019; Widstom et al., 2019). Skin-to-skin contact is frequently done after vaginal deliveries at a rate of 83%, but only 31% after cesarean section deliveries (Kahalon et al., 2021). This project is focused on increasing the ability of mothers who undergo cesarean sections, to have skin-to-skin contact with their infant in the operating room. Mothers should be allowed to hold their baby immediately after delivery no matter what that mode of delivery may be. Educating and encouraging all team members to make skin-to-skin happen for both mothers and infants is essential in making this project a success.

Dissemination Activity

A PowerPoint presentation on the importance of implementing skin-to-skin contact was presented to the staff of a local community hospital during a women's services staff meeting. The manager and 17 team members were on the Zoom meeting during the presentation. This hospital is currently in the window for its Baby-Friendly redesignation. Skin-to-skin contact is one of the major focuses of Baby-Friendly because it helps to promote exclusive breastfeeding. This PowerPoint presentation was first reviewed with the nurse manager prior to the staff meeting. The nurse manager was very

receptive to the presentation and felt the slides contained pertinent information. The slides gave the appropriate amount of information and stressed the importance and benefits of skin-to-skin contact. She also felt that skin-to-skin contact should be occurring in the operating room and hoped that with this education, the staff would be more inclined to carry out the practice of skin-to-skin contact after cesarean section births in the operating room. She did have some suggestions about the wording of the last slide to make sure everyone feels included. Some feedback that was received from team members was also including a step-by-step guide of how to do skin-to-skin contact in the operating room and when to do skin-to-skin contact. Also, suggestions were made to clarify who will be responsible for the infant when skin-to-skin contact is occurring in the operating room.

Limitations

For any project to be successful, you must have “buy-in” from all team members involved. Currently, in healthcare, there is a nursing shortage that affects all aspects of staffing and could be an issue in implementing this project. There will need to be a team member that will perform the audits on skin-to-skin contact in the operating room to see if there has been an improvement in the rates of skin-to-skin contact in the operating room. There will also need to be follow-ups with the team members who are not performing skin-to-skin contact in the operating room. Leadership will have to be involved to make action plans for those team members who are not actively performing skin-to-skin contact in the operating room and solutions made to improve their compliance.

Implications for Nursing

All team members who are employed with this community hospital will need to change their current practice of waiting until the mother gets into the post anesthesia care unit to perform skin-to-skin contact, to implementing it while the mother is in the operating room. Nurses and any team member who provides care to a pregnant patient and newborn infant in the operating room will have to implement change and provide skin-to-skin contact between the mother and infant after the infant is stable. Documentation in the electronic medical record must also reflect when skin-to-skin contact was initiated and when it was discontinued to assist with the chart audits. Team members will have to change the culture in the operating room to reflect that skin-to-skin contact will always happen if the infant and mother are stable.

Recommendations

Skin-to-skin contact between mother and infant should become a normal occurrence in the operating room. The nurses who are non-compliant should be followed by leaders and have action plans created so that they will perform skin-to-skin contact in the operating room. Questions should be asked to these individuals concerning skin-to-skin contact to see where the limitations are and what the reasons are for not performing skin-to-skin contact in the operating room. During nursing annual validation each year, ongoing education should occur about how important skin-to-skin contact in the operating room is, not only for the infant but also for the mother. Random audits should continue yearly to make sure staff are compliant with skin-to-skin contact in the operating room and are at or above the 75% goal.

Conclusion

Skin-to-skin contact is a valuable intervention used between a newborn infant and its mother. The benefits are exponential not only for the infant but also for the mother. Unfortunately, this very useful intervention is utilized the least with patients who have cesarean sections. Some cesarean sections are scheduled, but not all, and women who do not get the birth experience they want, do want to hold their baby as soon as possible. This means that laboring patients who have a cesarean section want to be able to bond with the baby that they have worked so hard for, and they do not want to wait until they get in the recovery room to do so or see their significant other holding the baby in the operating room. Having team members collaborate with not only the patient but each other, allows for skin-to-skin contact to occur in the operating room. This skin-to-skin contact will benefit the infant by helping them keep their temperature up, blood glucose stable, and promote exclusive breastfeeding, hopefully keeping the infant out of the neonatal intensive care unit and saving the hospital and patients money. Skin-to-skin contact will give the mother the opportunity to bond with their baby and help ease the burden of their birth experience if the birth experience was not what the mother had hoped it would be. Team members who are involved with patients who have cesarean sections only have to change their current practice to accommodate skin-to-skin contact in the operating room. This change should become the new standard of care for all patients who experience a cesarean section. Skin-to-skin contact is a small, simple action done by team members causing a huge impact on families for years to come.

References

Abdollahpour, S., Khosravi, A., & Bolbolhaghighi, N. (2016). The effect of the magical hour on post-traumatic stress disorder (PTSD) in traumatic childbirth: A clinical trial. *Journal of Reproductive and Infant Psychology*, *34*(4), 403–412. https://doi.org/10.1080/02646838.2016.1185773

Agudelo, S. I., Gamboa, O. A., Acuña, E., Aguirre, L., Bastidas, S., Guijarro, J., Jaller, M., Valderrama, M., Padrón, M. L., Gualdrón, N., Obando, E., Rodríguez, F., & Buitrago, L. (2021). Randomized clinical trial of the effect of the onset time of skin-to-skin contact at birth, immediate compared to early, on the duration of breastfeeding in full term newborns. *International Breastfeeding Journal*, *16*(1). https://doi.org/10.1186/s13006-021-00379-z

Almutairi, W. M. (2022). Survey of skin-to-skin contact with obstetrics and pediatric nurses. *Nursing Reports*, *12*(1), 13–21. https://doi.org/10.3390/nursrep12010002

Batool, P., Masoud, R., Mahdieh, E., & Younes, J. (2018). The effect of skin-to-skin contact of mother and neonate immediately after cesarean on newborn behavioral state. *i-Manager's Journal on Nursing*, *8*(1), 15–21. https://doi.org/10.26634/jnur.8.1.14238

Bretherton, I. (1992). The origins of attachment theory: John Bowlby and Mary Ainsworth. *Developmental Psychology*, *28*(5), 759–775.

Cheah, I. G. (2019). Economic assessment of neonatal intensive care. *Translational Pediatrics*, *8*(3), 246–256. https://doi.org/10.21037/tp.2019.07.03

Crenshaw, J. T., Adams, E. D., Gilder, R. E., & Nolte, H. G. (2021). Measuring health professionals' beliefs about skin-to-skin care during a cesarean. *Maternal & Child Nutrition*, *17*(4). https://doi.org/10.1111/mcn.13219

Guala, A., Boscardini, L., Visentin, R., Angellotti, P., Grugni, L., Barbaglia, M., Chapin, E., Castelli, E., & Finale, E. (2017). Skin-to-skin contact in cesarean birth and duration of breastfeeding: A cohort study. *The Scientific World Journal*, *2017*, 1–5. https://doi.org/10.1155/2017/1940756

Kahalon, R., Preis, H., & Benyamini, Y. (2021). Who benefits most from skin-to-skin mother-infant contact after birth? Survey findings on skin-to-skin and birth satisfaction by mode of birth. *Midwifery*, *92*, 102862. https://doi.org/10.1016/j.midw.2020.102862

Kheiri, Z., Jabraeili, M., Seyedrasouli, A., Sadeghi-Bazrgani, H., & Jannatdoost, A. (2017). Impact of skin-to-skin care on satisfaction and experience of cesarean mothers: A randomized, double-blinded clinical trial. *Annals of Tropical Medicine and Public Health*, *10*(6), 1756–1762. https://www.researchgate.net/publication/322396424_Impact_of_skin-to-skin_care_on_satisfaction_and_experience_of_cesarean_mothers_A_randomized_double-blinded_clinical_trial

Kjelland, K., Monroe, M., Moore, T., Cooper, H., & Davies, C. C. (2020). A dedicated nurse for skin-to-skin care after cesarean birth. *Nursing Management*, *51*(7), 8–10. https://doi.org/10.1097/01.numa.0000669096.99601.c7

Singh Joy, S. D. (2010). Skin-to-skin contact after a cesarean and risk of hypothermia. *American Journal of Nursing*, *110*(8), 67. https://doi.org/10.1097/01.naj.0000387704.10522.0b

Stevens, J., Schmied, V., Burns, E., & Dahlen, H. G. (2019). Skin-to-skin contact and what women want in the first hours after a caesarean section. *Midwifery*, *74*, 140–146. https://doi.org/10.1016/j.midw.2019.03.020

Vamour, C., De Jonckheere, J., Mestdagh, B., Storme, L., Richart, P., Garabedian, C., & Rakza, T. (2019). Impact of skin-to-skin contact on maternal comfort in patients with elective caesarean section: A pilot study. *Journal of Gynecology Obstetrics and Human Reproduction*, *48*(8), 663–668. https://doi.org/10.1016/j.jogoh.2019.07.011

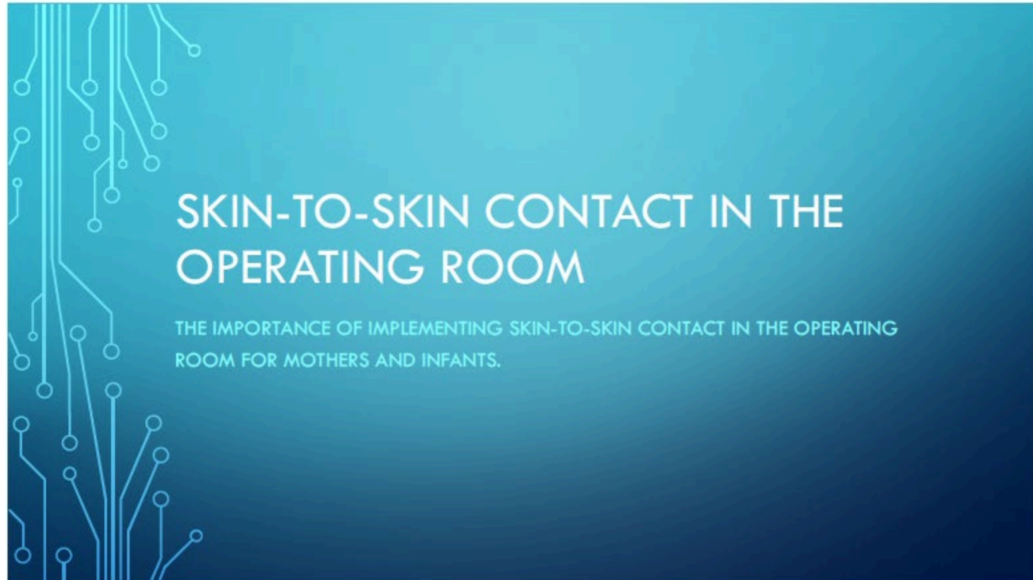
Widström, A. M., Brimdyr, K., Svensson, K., Cadwell, K., & Nissen, E. (2019). Skin-to-skin contact the first hour after birth, underlying implications and clinical practice. *Acta Paediatrica, 108*(7), 1192–1204. https://doi.org/10.1111/apa.14754

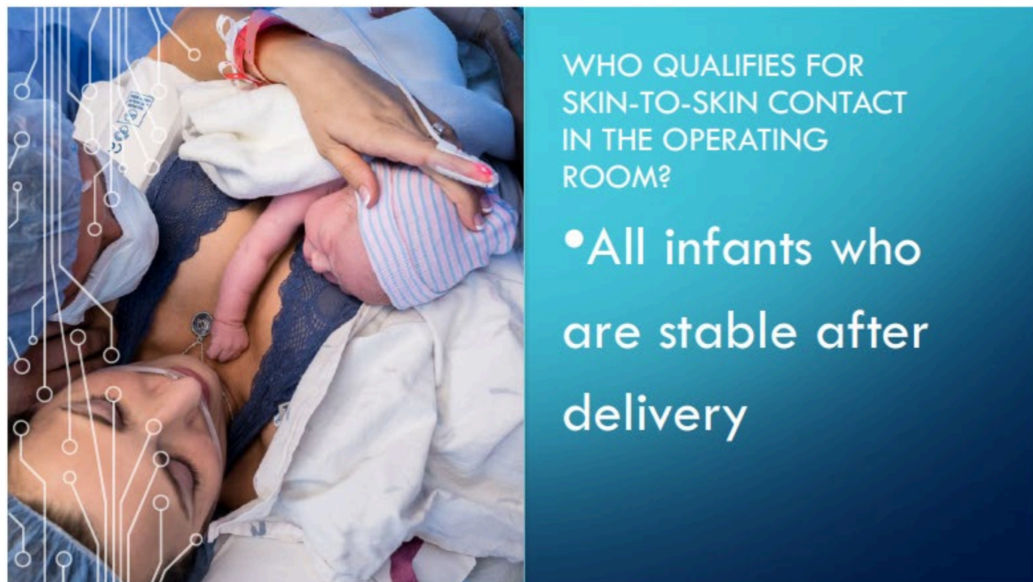
World Health Organization (WHO). (2017). *Guideline - Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services*. Retrieved July 4, 2022, https://apps.who.int/iris/bitstream/handle/10665/259386/9789241550086-eng.pdf

World Health Organization (WHO). (2018). *Ten steps to successful breastfeeding*. Retrieved June 11, 2022, https://www.who.int/teams/nutrition-and-food-safety/food-and-nutrition-actions-in-health-systems/ten-steps-to-successful-breastfeeding

Appendix

Skin-to-skin Contact in the Operating Room Education PowerPoint



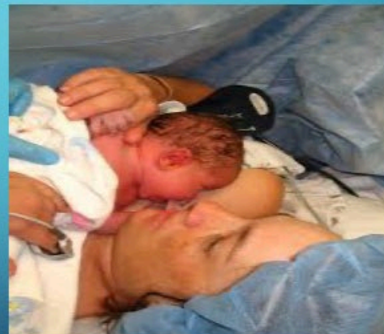


IS SKIN-TO-SKIN CONTACT HAPPENING IN THE OR???

Unfortunately, the answer to that is not as much as it should be. According Kahalon et al., 2021, women who had a cesarean section are engaging in skin-to-skin contact with their infant only 31% of the time compared to women who have a vaginal delivery at 83% of the time. This amount is even less in many countries at skin-to-skin contact being done only about half of the time.

WHY IS SKIN-TO-SKIN NOT HAPPENING????

- Complication of the women or infant
- Staff fear of change or lack of knowledge
- Staffing shortage
- Collaboration between specialties can be challenging



BENEFITS OF SKIN-TO-SKIN CONTACT
BENEFITS FOR INFANT
• Thermoregulation
• Less crying
• Increase breastfeeding initiation and exclusive breastfeeding
• Decrease pain
• Higher glucose levels
• Less NICU admissions
BENEFITS FOR MOTHER
• Earlier expulsion of the placenta
• Reduced bleeding
• Increased breastfeeding self-efficacy
• Lower maternal stress levels
• Increased bonding and connection

BIRTH SATISFACTION
-Skin-to-skin contact is important in increasing a women's positive birth experience which increases birth satisfaction.
-Women who feel as though they have failed because they had a cesarean section and not a vaginal delivery, find that skin-to-skin contact reduces feelings of disconnectedness, failure, and possible guilt.
-Being disconnected from their baby can cause women to feel many different emotions including feelings of sorrow and anger. Skin-to-skin contact feels "right" and "natural"
-Women want to hold and feed their baby as soon as possible not have them passed around or manhandled by everyone

BIRTH TRAUMA AND POST TRAUMATIC STRESS DISORDER

- Obstetric interventions and negative emotions during birth are predictors of post traumatic stress disorders following birth (PTSD-FC)

  -Mothers suffering from PTSD-FC self-blame, have emotional turmoil, loss of control, isolation, and dissociation from others

  -Emergency cesarean section were found to be a prominent risk factor for PTSD-FC and women who had cesarean sections felt guilty postpartum

Skin-to-skin contact can be an easy way to reduce post traumatic stress symptoms following childbirth among women who have cesarean sections

JUST DO SKIN-TO-SKIN IN THE OPERATING ROOM!!!

Mothers and infants want it, it promotes bonding, and increasing the mothers birth experience there for increasing her satisfaction with her birth.

REFERENCES:

Kahalon, R., Preis, H., & Benyamini, Y. (2022). Mother-infant contact after birth can reduce postpartum post-traumatic stress symptoms through a reduction in birth-related fear and guilt. *Journal of Psychosomatic Research*, *154*, 110716. https://doi.org/10.1016/j.jpsychores.2022.110716

Stevens, J., Schmied, V., Burns, E., & Dahlen, H. G. (2019). Skin-to-skin contact and what women want in the first hours after a caesarean section. *Midwifery*, *74*, 140–146. https://doi.org/10.1016/j.midw.2019.03.020

Widström, A. M., Brimdyr, K., Svensson, K., Cadwell, K., & Nissen, E. (2019). Skin-to-skin contact the first hour after birth, underlying implications and clinical practice. *Acta Paediatrica*, *108*(7), 1192–1204. https://doi.org/10.1111/apa.14754