

The Effects of Skin-to-Skin Contact Immediately after Birth on Breastfeeding

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Abstract

Clinical Problem: Initiating breastfeeding during hospitalization can take time and money from new mothers.

Objective: To evaluate if the use of immediate skin-to-skin contact increases the breastfeeding initiation rate and decreases average time from birth to first feeding during the hospitalization of new mothers. PubMed, CINHALL, and NGC were utilized to locate clinical trials and guidelines. The key search terms used in this search were skin-to-skin contact, breastfeeding initiation rate, and breastfeeding.

Results: The National Guideline Clearinghouse (NGC) recommends uninterrupted skin-to-skin contact at birth or soon after birth for all stable mother-infant dyads until first feed (Philip et al., 2010). Aghdas et al. (2014) showed that the successful breastfeeding initiation rate was 56.6% in the skin-to-skin (SSC) group as compared to 35.6% in the routine care (RC) group ($p=0.02$). The time from birth to initiation of first feed was 21.98 ± 9.10 SD minutes in the SSC group versus 66.55 ± 20.76 minutes in the RC group ($p<0.001$). Bramson et al. (2010) showed that with skin-to-skin contact for one to three hours immediately after birth, 72.1% of mothers exclusively breastfed compared to 11.2% of mothers without skin-to-skin contact ($p<.001$). Moore and Anderson (2007) showed that that infants in the skin-to-skin contact group had a higher mean sucking competency during the first breastfeeding compared to infants in the standard care group (8.7 ± 2.1 vs. 6.3 ± 2.6 ; $p < 0.02$) and were able to initiate effective breastfeeding sooner (935 ± 721 minutes vs. 1737 ± 1001 minutes; $p < 0.04$).

Conclusion: Skin-to-skin contact immediately after birth increases breastfeeding initiation rates and decreases average time from birth to first feeding during the hospitalization of new mothers compared to routine care.

The Effects of Skin-to-Skin Contact after Birth

Breastfeeding has been proven to provide many positive benefits for both the mother and infant, so much so that Healthy People 2020 have set goals to increase the percent of women who breastfeed their babies in the early postpartum period. The Healthy People 2020 goal for the proportion of infants who are ever breastfeed is 81.9%; Florida is currently behind in this goal - at 77.0% (Centers for Disease Control and Prevention, 2014). Once the mother decides that she does want to breastfeed, the next step after birth is to get the infant to initiate breastfeeding successfully. However, initiating breastfeeding is not always easy and there are different barriers that may slow this process down. According to Moore and Anderson, the best time to initiate breastfeeding is during the first two hours postpartum, during the “sensitive period” (Moore, 2007).

There has been different evidence based practices (EBPs) identified to help mothers initiate breastfeeding. This paper will address one of these practices, the use of immediate skin-to-skin contact after birth - placing the naked infant prone on the mother’s bare chest or abdomen during the first minute postpartum – and compare it with routine care provided by facilities. Routine care after birth consists of separating the mother and infant while the infant undergoes multiple protocols and assessments – ultimately separating the infant during the “sensitive period” when breastfeeding is most likely to occur. In new mothers during hospitalization, how does immediate skin-to-skin contact compared to standard care of new born infants affect the breastfeeding initiation rate and average time from birth to first feeding within 48 hours of birth?

If facilities are able to help mothers increase the breastfeeding initiation rate it will improve patient satisfaction, their outcomes, and will decrease the amount of time, effort and resources that may need to be spent if the infant does not initially begin this process on their

own. Florida Hospital Tampa (FHT) is in the process of becoming a baby-designated hospital. FHT has employed lactation specialists who will contribute to the project's success and their delivery process postpartum supports skin-to-skin contact.

Literature Search

PubMed, CINAHL, and NCG were utilized to locate evidence related to this PICOT question. The keywords used in this search were skin-to-skin contact, breastfeeding initiation rate, and breastfeeding. The search was narrowed down by selecting only peer reviewed articles, randomized controlled trials, and dates within the last ten years.

Literature Review

Three studies and one national guideline were used to evaluate the effects of skin-to-skin contact on breastfeeding initiation rates and average time between birth and first feed as compared to routine care (Table 1).

Aghdas, Talat, and Sepideh (2014) conducted a randomized controlled trial to evaluate the effect of mother-infant immediate skin-to-skin contact on primiparous mother's breast feeding self-efficacy. The sample involved 114 18-35 year-old first time mothers who intended to breastfeed their babies. The mothers were split into two groups skin-to-skin contact (SSC) group and routine care (RC) group. The Infant Breast Feeding Assessment tool (IBFAT) was used to measure "success in first breastfeeding." Phone interviews were also used to determine breastfeeding self-efficacy using breastfeeding self-efficacy scale (BES) on day 28 postpartum. At the end of the study, 92 mother-infant dyads were assessed - 47 dyads in SSC group and 45 dyads in the RC group. In the SSC group, breastfeeding self-efficacy was 53.42 ± 8.57 SD as compared to 49.85 ± 5.50 SD in the RC group. The successful breastfeeding initiation rate was 56.6% in the SSC group as compared to 35.6% in the RC group ($p=0.02$). The time from birth to

initiation of first feed was 21.98 ± 9.10 SD minutes in the SSC group versus 66.55 ± 20.76 minutes in the RC group ($p < 0.001$).

The strengths of this trial include: randomized control, the use of a standard assessment tool to collect data, similar demographics of participants, and similar population criteria (including participants being first-time mothers with no breastfeeding experience). The weakness of the study was that the final results included less than 100 participants. Also, this particular study focuses on breastfeeding self-efficacy; however breastfeeding initiation rates and time were also studied. .

Bramson, L., Lee, J., Moore, E., Montgomery, S., Neish, C., Bahjri, K., & Melcher, C. (2010) conducted a perspective cohort study to evaluate the effect of early skin-to-skin mother-infant contact during the first three hours following birth on the initiation of breastfeeding during the maternity hospital stay. This was a nurse-driven, hospital-based study that collected data from 19 different hospitals in California. The sample involved 21,842 mother-infant dyads who delivered a singleton infant (37-40 weeks gestation) between July 2005 and June 2006. The goal of the researchers in this study was to examine a variety of independent variables including maternal infant-feeding method intention, maternal sociodemographic characteristics, and duration spent in early skin-to-skin contact during the first three hours after delivery. The study used its own data collection tools, but used the same tools for each of the 19 hospitals. This study also examined a dose-response relationship between different amounts of time exposure to early skin-to-skin contact, and breastfeeding exclusivity. The results demonstrate that there is a positive dose-related effect between early skin-to-skin contact and breastfeeding exclusivity – the longer the time period of skin-to-skin contact the higher the breastfeeding initiation rate. With skin-to-skin contact for one to three hours immediately after birth, 72.1% of mothers

exclusively breastfed compared to 11.2% of mothers without skin-to-skin contact. The results of this study showed significant increase in breastfeeding initiation rates in mothers who had skin-to-skin contact with their infants compared to mothers without it ($p < .001$).

The strengths of this study include: a large sample size, different hospitals, variety in maternal sociodemographic characteristics, and the duration of the study (the study was conducted over a full fiscal year). Also, the study focused on breastfeeding initiation during the maternity hospital stay and used the same assessment tools at each hospital. The weaknesses of this study include that it was not a randomized controlled trial and there were no follow-up studies completed after the maternity hospital stay.

Moore and Anderson (2007) conducted a randomized control trial to evaluate the effects of mother-infant skin-to-skin contact during the first two hours after birth compared to standard care (holding the infant swaddled in blankets) on breastfeeding outcomes through one month follow-up. Participants included 21 healthy, primiparous mother-infant dyads that were randomly assigned to two groups – skin-to-skin contact or standard care. All mothers were taught how to recognize early infant feeding cues and correct latch-on techniques. The Infant Breast Feeding Assessment Tool was used to measure the success of first breastfeeding, and time to effective breastfeeding. The results showed that infants in the skin-to-skin contact group had a higher mean sucking competency during the first breastfeeding compared to infants in the standard care group (8.7 ± 2.1 vs. 6.3 ± 2.6 ; $p < 0.02$) and were able to initiate effective breastfeeding sooner (935 ± 721 minutes vs. 1737 ± 1001 minutes; $p < 0.04$).

The strengths of this trial include randomized control groups, similar population, primiparous mothers, and use of the same standard data collection tools to collect data from both groups. A weakness of this study is that the study used a small sample size of participants – only

21 mother-infant dyads were assessed. Although only a small sample of dyads were assessed, the results were significant.

The guideline retrieved from the NGC by the Academy of Breastfeeding Medicine Protocol Committee, provides information with an objective of “assisting families choosing to breastfeed with initiating and developing a successful and satisfying experience” (Philip et al., 2010). The model breastfeeding policy recommends skin-to-skin contact as soon as possible after birth, preferably within the first hour of birth, for mothers and infants that are stable. The NGC recommends allowing uninterrupted mother-infant contact for one hour in which breastfeeding will most likely be initiated.

Synthesis of Literature

Each of the three clinical trials concluded that mother-infant skin-to-skin immediately after birth produced positive results concerning breastfeeding initiation rates. Aghdas et al. (2014) study showed that the successful breastfeeding initiation rate was 56.6% in the SSC group as compared to 35.6% in the RC group ($p=0.02$). The time from birth to initiation of first feed was 21.98 ± 9.10 SD minutes in the SSC group versus 66.55 ± 20.76 minutes in the RC group ($p<0.001$). Bramson et al. (2010) study showed that with skin-to-skin contact for one to three hours immediately after birth, 72.1% of mothers exclusively breastfed compared to 11.2% of mothers without skin-to-skin contact. The results of this study showed significant increase in breastfeeding initiation rates in mothers who had skin-to-skin contact with their infants compared to mothers without it ($p<.001$). Moore and Anderson (2007) that infants in the skin-to-skin contact group had a higher mean sucking competency during the first breastfeeding compared to infants in the standard care group (8.7 ± 2.1 vs. 6.3 ± 2.6 ; $p < 0.02$) and were able to initiate effective breastfeeding sooner (935 ± 721 minutes vs. 1737 ± 1001 minutes; $p < 0.04$). Also, the

NGC model breastfeeding policy recommends mother-infant skin-to-skin contact as soon as possible after birth - allowing for uninterrupted mother-infant contact for at least one hour.

Research has shown that immediate skin-to-skin contact increases the breastfeeding initiation rate and decreases the average time from birth to first feed. It has been found that immediately after birth the infants experience a catecholamine surge which causes heightened sensitivity to odor cues which help guide the infant towards the mother's nipple (Moore, 2007). "When skin-to-skin contact is initiated immediately after birth, the fullterm infant has the ability to crawl unaided towards the mother's nipple and latch correctly within about 60 minutes" (Moore, 2007). It is best to initiate skin-to-skin contact as soon as possible because after 2 hours postpartum infants may enter a sleepy phase due to the decrease in catecholamine levels which may make it harder to arouse the infant and initiate feeding (Moore, 2007). Also, Bramson et al. (2010) showed that overall the longer the exposure time to skin-to-skin contact the higher the breastfeeding initiation rate. This evidence based practice is even recommended with cesarean section births and proven to increase breastfeeding initiation rate (Philip, 2010). The effects of skin-to-skin contact on pre-term infants has been researched but was not included in this paper.

Proposed Practice Change

Mother's that intend to breastfeed should be educated about the option of skin-to-skin contact after birth. If they are interested, skin-to-skin contact should be implemented immediately after birth instead of routine care if both the mother and infant are stable. Immediately after birth, the naked infant will be placed on the mother's bare chest with cord still attached while postponing standard protocols and care. Many of these protocols may even be performed while the newborn is on the mother's chest, including: cutting the umbilical cord, checking vital signs, placing cap and blanket on the infant for warmth, administering eye drops

and vitamin K injection, etc. However, it is best to leave the infant uninterrupted and postpone all protocols until after the first two hours (Aghdas, 2014). The mother-infant dyad should stay with skin-to-skin contact until completion of the first breastfeeding.

Change Strategy

All healthcare providers involved in this change should be educated on skin-to-skin EBP method - its benefits, impact on breastfeeding initiation, what changes will need to take place, their new roles in implementing the change, etc. Any questions or concerns should be expressed openly and addressed. Depending on the concerns or barriers, strategies should be targeted to those issues. After all healthcare providers are educated and understand the reason to implement skin-to-skin contact, a plan for change should be started. Florida Hospital Tampa's (FHT) EBP model is unknown but for the purpose of this paper the IOWA model will be used. The IOWA model fits the purpose of this project and is used by other teaching hospitals in the area that specialize in EBP research.

Roll Out Plan

Steps	Definition	Timeframe for Rollout
Step 1: Identify Triggers/Problem	<ul style="list-style-type: none"> Review new research, literature, and national guidelines regarding breastfeeding initiation methods Identify SSC as an effective method that should be put into practice Gain support of FHT Women's Center 	Completed January 2015
Step 2: Gather & Synthesize Evidence	<ul style="list-style-type: none"> Form a team Assemble and review evidence about SSC Critique and Synthesize Research for Use in Practice 	Completed March 2015

	<ul style="list-style-type: none"> • Assess feasibility, benefits, and risks of new practice 	
<p>Step 3: Pilot the Change</p>	<ul style="list-style-type: none"> • Design practice change plan and set goals to achieve • Collect Baseline Data • Implement EBP in the FHT Women’s Center • Evaluate Process and Outcomes • Modify the Practice Guideline 	<p>Implement April Evaluate October 2015</p>
<p>Step 4: Disseminate Evidence</p>	<ul style="list-style-type: none"> • Share project reports within and outside of the organization through presentations and publications • Educate expecting mothers on SSC 	<p>November 2015</p>

Iowa model of evidence-based practice (Melynk & Fineout-Overholt, 2014, p. 284)

Project Evaluation

Beginning in April, SSC will be implemented in all mothers who intend to breastfeed. Nurses will be in charge of assessing the mother and infants for successful breastfeeding and documenting if breastfeeding was initiated during the first 48 hours of hospitalization and time from birth to first feed – in new mothers only. Successful breastfeeding will be determined by assessing the infant’s latch, tongue positioned down, rhythmic sucking, and lips flanged. The goal set for this project is to increase breastfeeding initiation rates during hospitalization by at least 35%. In the beginning of October, SSC initiation rates and times will be compared to the baseline data –initiation rates and times of infants receiving routine care – to evaluate if breastfeeding initiation rates during hospitalization increased and if the average time from birth to first feed decreased during those months.

Dissemination of EBP

SSC can be encouraged locally in many ways – education being the most impactful method. Education materials about what SSC is, the benefits of it, etc., can be passed out in pamphlets and/or posters in Obstetrician offices and Women Centers - where expecting mothers can learn more about the option and ask any questions prior to going into labor. Education of healthcare providers is important as well because when an expecting mother verbalizes an interest in breastfeeding, providers will be able to offer information regarding this practice's effects on breastfeeding initiation. Also, Obstetricians, lactation specialists, and nurses, may be involved with other hospitals in the area where they can spread the information known about SSC. SSC can be adopted and encouraged regionally by education, written communication, PowerPoint presentations, nursing/medical journals, and nursing/medical seminars.

References

- Aghdas, K., Talat, K., & Sepideh, B. (2014). Effect of immediate and continuous mother–infant skin-to-skin contact on breastfeeding self-efficacy of primiparous women: A randomised control trial. *Women & Birth*, 27(1), 37-40. doi:10.1016/j.wombi.2013.09.004
- Bramson, L., Lee, J., Moore, E., Montgomery, S., Neish, C., Bahjri, K., & Melcher, C. (2010). Effects of early skin-to-skin mother-infant contact during the first 3 hours following birth on exclusive breastfeeding during maternity hospital stay. *Journal of Human Lactation*, 26(2), 130-137. doi: 10.1177/0890334409355779
- Centers for Disease Control and Prevention. (2014). *Breastfeeding Report Card*. Retrieved from <http://www.cdc.gov/breastfeeding/pdf/2014breastfeedingreportcard.pdf>
- Melnyk, B. M., & Fineout-Overholt, E. (2014). *Evidence-Based Practice in Nursing & Healthcare* (3rd ed.). Philadelphia, PA: Wolters Kluwer Lippincott Williams & Williams.
- Moore, E. R., & Anderson, G. C., (2007). Randomized controlled trial of very early mother-infant skin-to-skin contact and breastfeeding status. *Journal of Midwifery & Women's Health*, 52(2), 116-125. doi:10.1016/j.jmwh.2006.12.002
- Philipp, B. L., Bunik, M., Chantry, C. J., Howard, C. R., Lawrence, R. A., Marinelli, K. A., ..., Taylor, J. S. (2010). ABM clinical protocol #7: model breastfeeding policy. *Breastfeeding Medicine*. 5(4), 173-177. doi:10.1089/bfm.2010.986

