# Maternal Satisfaction and Experience with Skin-to-Skin Contact Immediately after Cesarean Birth:
# Implications for Practice

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## Abstract

Skin-to-Skin contact (SSC) immediately following birth is being recognized as important for mother and infant health and is related to mothers' satisfaction with the birthing experience. SSC immediately following cesarean birth can have similar outcomes, however the practice is not widely adopted. The purpose of this scholarly project was to describe the satisfaction and overall patient experience of birth mothers regarding SSC with their infants immediately following Cesarean Birth. The Modified Questionnaire Measuring Attitudes About Labor and Delivery (QMAALD) measured maternal satisfaction and the Picker Patient Experience survey measured patient experience. Thirty mothers who had a cesarean birth completed both surveys and while there was no relationship between separation time and higher scores, over 80% of the mothers had overall satisfaction and patient experience.

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## Dedication

This work is dedicated to my husband, Rick and my beautiful children Rachel, Jacob and Henry for their endless patience and love through this experience. This is also dedicated to my best friend of 34 years, Tina Kehoe, for her unconditional love and encouragement, my brother Paul Szabo for reminding me not miss the forest for the trees and my mother Sarah Feito, for showing me the benefit of hard work and the belief that there is always a way, even when the road seems impassible.

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# Maternal Satisfaction with Skin-to-Skin Contact Immediately after Cesarean Birth: Implications for Practice

## Introduction

Giving birth is an important life experience for women and one of the most profound life changes she will ever experience (Bryanton, Gagnon, Johnston & Hatem, 2008). In the United States and other countries, an increasing number of women have this momentous life experience in the operating room. In 2014, almost four million babies were born in the US with 30-35% born by Cesarean Section and these rates continue to increase in Virginia (CDC, 2014). This trend has been seen in other countries such as Mexico, Canada and some European, Asian and South American countries such as Brazil (Lobel & DeLuca, 2007).

The practice of skin-to-skin contact (SSC) also known as kangaroo care has been associated with positive outcomes including breastfeeding initiation, early infant stabilization and breastfeeding at discharge (Sundin & Mazac, 2015) However, in many hospitals, it is routine practice that the newborn is taken immediately after cutting the cord, where the baby is examined and then returned to the parents later (Armbrust, Hinkson, von Weizsacker & Henrich, 2016). This has had a negative impact on maternal satisfaction with their birth experience. Women who delivered by cesarean were more likely to report a loss of the optimal birthing experience, feelings of powerlessness and lack of control (Lobel & DeLuca, 2007).

The patient experience is an important element of healthcare and healthcare systems and has been recognized as one of the three pillars to quality healthcare along with clinical effectiveness and safety (Doyle, Lennox, & Bell, 2013). While hospitals have always been interested in patient experience, with increased competition, satisfaction surveys and changes implemented by the Affordable Care Act, the patient experience has been identified as a top priority (Stempniak, 2016). While the Hospital Consumer Assessment of Healthcare Providers and Systems is a

standardized survey (HCAHPS) created to assist hospitals in evaluating the patient's overall experience, an important challenge hospitals may face is defining exactly what the patient experience means (Stempniak, 2016).

The Beryl Institute (2016) has defined the patient experience as the sum of all interactions, shaped by an organizations culture, that influences patients' perceptions across the continuum of care. Yet, the concept of patient experience has had varied use and is more of an explanation than a term. In the Patient Experience Benchmarking Study, on average only 45% of US based hospitals and 35% of non-US based hospitals had a formal definition (Wolf, Niederhauser, Marshburn & LaVela, 2014).

The Birth Experience and Skin-to-Skin Contact

The use of skin-to-skin contact after birth has been shown to have numerous benefits for both mother and child and has been recognized worldwide (WHO, 2003). Skin-to-skin contact is when the infant is placed between the breasts of the mother after birth and was developed in Bogotá, Columbia as a method to save premature infants. In 2003, the World Health Organization (WHO) recognized the benefits of SSC and published an international practical guide specifically for healthcare professionals affirming the importance of skin-to-skin contact (SSC) after birth. Some of the benefits include improved thermoregulation, bonding and breastfeeding (WHO, 2003). The CDC reported SSC after cesarean birth was 28% in the state of Virginia for 2015, an increase of 1% from 2014.

With increased evidence of the benefits using SSC immediately after a vaginal delivery, SSC is now a standard of care. The first hour after birth where this is utilized is known as the golden or sacred hour (Phillips, 2013). The Baby Friendly Hospital Initiative (BFHI) launched by the WHO and UNICEF is a global program that recognizes hospitals and birthing centers that offer

optimal level of care for infant feeding and mother/infant bonding. SSC immediately after birth and continuing for at least an hour is step four of the ten step requirements for BFHI designation (Crenshaw, Cadwell, Brimdyr, Widstrom, Svensson, Champion, Gilder & Winslow, 2012).

Though there is evidence to support SSC use for vaginal and cesarean deliveries, the practice has not been widely implemented. Despite the evidence of SSC with improved outcomes such as physiologic stability of mother and newborn, many hospitals fail to implement into daily use because of perceived barriers in the obstetric setting including newborn hypothermia, safety for mother and newborn, staffing issues and increased risk of infection (Phillips, 2013). The evidence however shows parents prefer to have this experience with their newborns (Moran-Peters, Zauderer, Goldman, Baierlein & Smith, 2014).

**Purpose of the Scholarly Project**

The purpose of this scholarly project was to perform a descriptive study to evaluate the relationship of skin-to-skin contact immediately after cesarean birth and separation on maternal satisfaction and experience. The results can be used to implement a change in practice by providing nursing leaders and administration evidence of the benefits to offering each patient the option of skin-to-skin contact in the operating room. Mothers who have a family-centered Cesarean with skin-to-skin contact immediately after birth report greater satisfaction with their birth experience. By allowing the patient to control their birth experience, the patient is more likely to report a positive experience (Finigan & Davies, 2004). This experience could improve the HCAHPS scores and increase revenue with improved satisfaction of patients under their care. The results can also provide education for nurses and staff on improved experience with decreased separation of mother and infant immediately after birth, as studies indicate parents prefer to have this experience wit

h their newborn (Moran-Peters et al., 2014).

**Theoretical Framework**

The theoretical framework guiding this project is Anderson's Mutual Caregiving Model (1977). The model was chosen because it supports the development of opportunities for uninterrupted interaction immediately after birth. The basis for this model is mother and child are mutual caregivers to each other and benefit from not being separated at birth. He developed the acronym SMYLI to represent the concept: Self-regulatory Mother-Young Longitudinal Interaction and ASMYLI where there is an absence of SMYLI (Anderson, 1977). While the model was originally applied to vaginal birth, the concepts can be extrapolated to incorporate cesarean birth.

The model is subdivided into three categories of Antepartum, Intrapartum and Postpartum SMYLI (figure 1). Antepartum SMYLI discusses the bond already created by the placenta and fetal environment. The fetus is surrounded by amniotic fluid, receiving auditory stimulation from blood flow and maternal heartbeat as well as maternal voice. Intrapartum SMYLI involves a stress-free environment by positioning the just delivered infant above the placenta and the returning of the just delivered infant to the mother. Postpartum SMYLI involves ongoing self-regulatory interaction during the immediate and later postpartum periods and includes sensory contact, nutritive and non-nutritive sucking and auditory stimulation (Anderson, 1977).

These concepts can be extrapolated to cesarean birth, as they are not limited to only vaginal births. The concept of SMYLI can be used in the operating room with SSC. While the infant will be separated from the placenta immediately after birth, the infant can be placed safely on the mother's chest immediately after birth promoting optimal physiologic adaptation and comfort (Anderson, 1977).

**Review of the Literature**

To explore the current evidence of the effect SSC has on the patient's experience, a review of the literature was conducted. Though there is evidence to support SSC for vaginal and cesarean deliveries, SSC immediately after Cesarean birth is not readily practiced. Despite the evidence of SSC with improved outcomes, many hospitals fail to implement this practice into regular use because of perceived barriers in the obstetric setting. Studies of SSC during cesarean delivery however, indicate parents prefer to have this experience with newborns (Bryanton, et al., 2008, Lewis et al., 2014, Moran-Peter et al., 2014). Recently there has been an increase in the study of maternal and newborn benefits to SSC immediately after cesarean birth, however research remains limited on the effect SSC has on the patient's overall birth experience.

To study the effect SSC immediately after cesarean birth has on maternal satisfaction and patient experience, a systematic review of the literature was conducted from January 2006 to July 2016. The initial search was performed using the databases of Cochrane Library, MEDLINE and CINAHL (see search strategy in Figure 2). Limitations placed in search were studies had to be in the English language and published with the past 10 years. Inclusion criteria were: 1) Articles published in English 2) published since 2006, 3) studies of SSC after birth in the operating room and 4) the pregnancies were term and infants were healthy. The exclusion criteria were 1) a vaginal delivery, 2) a preterm or ill infant, 3) non-English language and 4) quality improvement studies. Five articles met the inclusion criteria. A summary of the published articles and findings are provided in Table 1.

A randomized controlled trial was conducted by Armbrust, Hinkson, von Weizsacker & Henrich from January to July 2014 to evaluate the safety and patients' delivery experience of the Charité Cesarean Birth (CCB). With this kind of birth, parents are integrated into the delivery

process by directly visualizing the birth, cutting the umbilical cord and early skin-to-skin contact (Armbrust et al., 2014). The study compared the CCB birth experience with traditional cesarean ($p = 0.001$); both mother and father were much more satisfied with the delivery ($p=0.001$). The study also found when the mother had a previous traditional section and now the CCB, they would choose the CCB again ($p=0.02$). The recommendation was that the practice of traditional cesarean should be reconsidered and should include the active involvement of the parents.

A prospective cohort study was conducted by Bryanton, Gagnon Johnston and Hatem from October 2004 to December 2005, to determine the factors that predict women's perceptions of the childbirth experience and to examine whether these vary with the type of birth a woman experiences. The study included 652 women and their newborns and data was collected 12-48 hours postpartum. This study suggests women's perception of their experience is strongly predicted by whether they are able to be with their infant and demonstrates the importance of non-separation of mother and baby for all births. This study confirmed findings that women having a planned cesarean birth perceive their birth experience less positively than other women who deliver vaginally.

A qualitative, focused medical ethnographic study explored and described the mother's experience of holding her neonate in SSC immediately after cesarean delivery during surgical closure and recovery (Fredrick, Busen, Engebretson, Hurst & Schneider, 2016). Eleven women between 23-38 years old were observed and interviews were conducted at 24-48 hours post-delivery. The results of the study found the desire to hold the neonate and know their condition was on the forefront of the mothers' mind before and during the cesarean. When the neonate was placed for SSC, they became immediately interactive with and responsive to one another. All the mothers commented on the calming nature of the SSC. They were able to share

comforting touch and allowed verbal interaction with the neonate. Mothers who were able to compare with a previous cesarean described their traditional cesarean with disappointment and feelings of loss compared with this cesarean. The mothers reported in general all women should have the same opportunity and "it should be standard practice." Implications for practice include a need to develop practice guidelines for SSC use and based on the results of the study, advanced practice nurses will have an opportunity to influence policy-related practice for SSC during cesarean (Fredrick et al., 2016)

A mixed-methods study examined women's perceptions of their preparation for and actual experience of a recent scheduled cesarean birth (Lewis, Hauck, Ritchie, Barnett, Nunan & Rivers, 2013). The results found no differences between women who had a scheduled cesarean and women having a vaginal birth. The mothers wanted to have choice and be with their baby as soon as possible. Being separated from their baby and partner had a detrimental effect in relation to how women conceptualized their birth. When the mother and baby were separated, the mothers reported that they felt they were just a number compared to mothers who experienced SSC who responded "could not be better". The authors also found when the mother's wishes were not met; it created animosity with the hospital and staff. Recommendations were that women should have their wishes respected and hospitals should embrace the family friendly model where women, partners and babies can stay together.

A randomized-controlled trial was conducted to pilot test a standardized intraoperative and postoperative nursing intervention protocol to minimize maternal-infant separation after cesarean (Nolan & Lawrence, 2009). This study included fifty women who were having a repeat cesarean delivery and their newborns. A protocol designed to minimize maternal-infant separation (NIMS) was implemented and the researchers hypothesized that women receiving this protocol

would have a more positive birth perception than women receiving usual care. The researchers found that while there was not a significant different between the NIMS group and the control group ($p>.05$), fifteen mothers in the NIMS group indicated their experience was better than they had expected. Four mothers in the NIMS group provided additional comments that included "how beautiful a feeling it was to snuggle with my newborn right after she was born" and "it was so much better this time, I wasn't separated from my baby and I think she is calmer and easier to please because I wasn't separated". The researchers found the NIMS intervention could be safely implemented and unsolicited comments from several of the mothers highlighted their positive feelings about their experience. The recommendations are to focus on nursing interventions that keep mother and infant in close proximity during and post-cesarean.

## Conclusion of Review of Literature and Support for Project

Though there is evidence to support SSC use for vaginal and cesarean deliveries, SSC immediately after a cesarean birth is not readily practiced. Despite evidence of SSC with improved outcomes, many hospitals fail to implement this practice into regular use because of the aforementioned perceived barriers in the obstetric setting. Studies of SSC following cesarean delivery however indicate parents prefer to have this experience with their newborns (Zauderer, Goldman, Baierlein & Smith, 2014). Recently, there has been an increase in the study and newborn benefits of SSC immediately after cesarean birth, however there is limited study on the effect SSC has on the patient's overall maternal satisfaction and patient experience.

## Definition of Terms

Complicated Cesarean – Cesarean procedure where there is an immediate danger to the mother or baby's life.

SSC immediately after cesarean birth – The newborn is placed skin-to-skin with the mother within five minutes of birth

Skin-to-skin contact (SSC) – the newborn is placed between the bare breasts of the mother so they are skin to skin.

Standard Care – Once the umbilical cord has been cut, the newborn is taken immediately to the warmer for evaluation and observation for an hour or more after birth.

Term gestation – women who are 37 weeks or greater in their pregnancy.

Uncomplicated cesarean birth – a cesarean where the mother and newborn are both medically stable.

## Methods

Currently, the cesarean rate in the United States is thirty-two percent and account for almost one-third of all deliveries and affects approximately 1.29 million women annually (Frederick et al, 2016). With the increasing number of women having or choosing a cesarean delivery, policies need to be implemented to improve maternal satisfaction by reducing the separation time between birth and maternal contact. The aim of this project is to examine the relationship of SSC immediately after cesarean birth on maternal satisfaction and overall patient experience.

### Purpose of Study

The purpose of this scholarly project was to describe the birth-mothers' experiences of SSC immediately after cesarean birth by gathering data on maternal satisfaction and overall patient experience. The question to be answered by this scholarly project is: Do birth mothers experiencing SSC immediately after a cesarean birth report more positive maternal satisfaction and overall patient experience?

## Setting

The data was collected from a hospital located in a suburban area located in the southeastern United States. The hospital is a 767-bed acute care hospital and reported 2,685 deliveries in 2015 (Virginia Health Information, 2017). The Labor and Delivery unit has fifteen labor, delivery and recovery rooms, three operating rooms and staffing includes: 65 Obstetricians, 8 Neonatologists, 2 Perinatologists, 3 Maternal-Fetal Specialists and 58 clinical staff including RN's, CRNA's and other allied health professionals (Virginia Health Information, 2016). Approval was received from the Vice President of Women's Services as well as the unit managers to collect data for this project at the implementation site.

Currently, the unit has a nursing policy to offer all women SSC immediately after cesarean and is supportive of this choice. All women who are facing a cesarean birth are educated and given the option of immediate skin to skin contact or they can decline. Some reasons for declining to participate include anxiety, pain and uncertainty of the experience. Some mothers may be unable to participate for medical reasons due to maternal or neonatal complications and this is explained to them. Some medical reasons that are contraindications of SSC immediately after cesarean birth include placenta previa, premature birth less than 28 weeks or when the life of the mother or neonate is at risk. However, if the mother is unable to participate and the neonate is stable, the father or partner may choose to participate in SSC in place of the mother. The patient's decision is then documented in the patient's record and if she has chosen to participate in SSC, the length of time from birth to first SSC is recorded. If the patient has chosen to participate in SSC, a special surgical drape is utilized so immediate SSC can take place.

## Procedures

Institutional Review Board (IRB) approval was obtained from both the University of Virginia Health Science Research IRB and implementation site. Mothers who met the inclusion criteria of being at least 18 years old, English speaking and having had a cesarean birth in the last 12-72 hours were identified from a patient census sheet available each shift. The researcher asked for a moment of their time in their room to explain the study and request their participation. If they agreed and all of their questions had been answered regarding the study, a consent form was given to them for their signature. The consent form can be found in fig. 3 of the Appendix.

Once consent was obtained, data was collected from the medical record on the time of separation from birth to first SSC with mother. Questionnaire data was collected using questions from both the modified Questionnaire Measuring Attitudes About Labor and Delivery (QMAALD) and the Picker Patient Questionnaire along with a short demographic survey (see appendix). No HIPPA protected identifying information was included and each pair of questionnaires was assigned a study number.

## Measures

The outcome data was collected using two instruments. The Modified QMAALD is a 29-item questionnaire used to measure maternal satisfaction after a cesarean birth and the Picker Patient Experience questionnaire is a 15-item questionnaire used to measure overall patient experience. Both tools have been tested and were found to be reliable and valid (Bryanton et al., 2008, Jenkinson et al., 2002).

### Modified QMAALD

The Modified QMAALD was developed by Cranley, Hedahl and Pegg in 1983 to measure maternal satisfaction with women undergoing a planned cesarean birth. This 29-item

questionnaire was adapted from the original QMAALD survey used to measure maternal satisfaction in women having a vaginal or emergent cesarean delivery. This questionnaire is measured at the 9th grade reading level based on Flesch-Kincaid grade level (Breese, P. & Burman, W., 2005). The modified questionnaire was developed from the literature and from clinical practice (Cranley et al, 1983). Responses are measured on a 4-point and 5-point Likert scale with a high-score indicating increased patient satisfaction. The questionnaire had a Cronbach's Alpha ranging from .84 to .91 for reliability (Cranley et al, 1983; Bryanton et al, 2008). The full questionnaire can be found in fig. 5 of the Appendix.

Picker Patient Experience Questionnaire

The Picker Patient Experience Questionnaire was developed by Jenkinson, Coulter and Bruster in 2002 to measure patient experiences in an in-patient care setting. The questions were selected from a bank of items used by the Picker Institute to assess quality of care and are measured by a 4 or 5-point Likert scale. The questionnaire is at a 7th grade reading level based on Flesch-Kincaid grade level (Breese & Burman, 2005). The purpose of developing the tool was to have a shorter survey that could identify and monitor trends and make comparisons between hospitals over time (Jenkinson et al, 2002). The questionnaire was tested in five countries and was found to be valid and reliable with a Cronbach's alpha score between 0.80 and 0.87. The questionnaire was not developed to be used alone, but as a basic core and therefore will be used in conjunction with the modified QMAALD. The full 15-item questionnaire can be found in fig. 6 of the Appendix.

### Data Analysis

The software used for data analysis was Microsoft Excel spreadsheet 2016 for Mac and IBM SPSS version 23 for Mac. A spreadsheet was created and data entered corresponding to the mother's study number.

Once the data was entered, descriptive and inferential statistics were run to describe the relationship of SSC immediately after Cesarean birth on maternal satisfaction and patient experience. A logistic regression analysis was also conducted to show if a relationship existed.

### Protection of Human Subjects

The proposal was accepted by the DNP committee and the Institutional Review Board for Health Sciences Research at the University of Virginia and implementation site IRB committee gave approval for the study. A consent form was created for this study following IRB guidelines and can be found in fig. 3 of the Appendix. There were no anticipated risks to the participants and their rights were explained including: 1) this is a voluntary study 2) they will not be negatively impacted if they decline to participate 3) they can withdraw at any time during the study and information and instructions are provided for them to do so, 4) defines the reasons for the study how the study will be conducted by questionnaire and 5) they will not be reimbursed for their participation. The data was kept in a secured location and data was entered on an Excel spreadsheet on an encrypted computer.

## Results

### Sample

The sample consisted of thirty mothers who delivered by cesarean section within 72 hours of completing the surveys. The majority of the mothers were between the ages of 30-39 (n=22, 71%) and a college graduate (n= 21, 67.7%). Almost half of the participants were Caucasian

women (41.5%) and a quarter were by African American women (24.4%), Arabic and multiracial comprised 9.8% of the sample and Hispanic, Latino and Other accounted for 7.2%. Over half of the mothers (n=20, 58.1%) reported having an income of more than $50,000 followed by mothers who made between $10,000 and $39,000 (n=6, 19.5%) and $40,000 to $49,000 (n=3, 9.7%). Three mothers declined to report their income (n=3, 9.7%). The mothers also reported over half were married (n=20, 64.5%) and one quarter were single (n=8, 25.8%). One mother reported being divorced (n=1, 3.2%) and one reported living with their mother (n=1, 3.2%). The full demographics are displayed in Table 2. For analysis purposes, the mothers were separated into two groups, mothers who received SSC (n=23) and mothers who did not (n=7) as the common factor. Of the mothers who did not receive SSC, two mothers chose not to participate in SSC, four mothers were unable due to medical reasons and one mother had no documented reason for not participating.

Time of Separation to Birth to SSC

The average time of separation from birth to SSC was 61.8 minutes (SD=136.0). Of the twenty-one mothers, nineteen received SSC within one hour of birth with 6 of them receiving SSC immediately after birth and twelve within one hour after birth. One mother received SSC at eleven hours after birth due to unforeseen complications.

**Maternal Satisfaction (Modified QMAALD)**

The Modified QMAALD survey was used to measure maternal satisfaction and has been tested for reliability in previous studies with a Cronbach Alpha of 0.81-0.91. The survey consists of 29 questions on a 5 point Likert scale. Scores for each question range from 1-5, with a 5 being very satisfied with their experience. The survey was completed by 30 mothers and for analysis purposes, the mothers were evaluated separately by SSC and non- SSC. Descriptive

statistics results showed the SSC group (n=23) had an overall mean score of 3.17 (SD=0.468) with scores ranging from 2.69 to 4.58. The non-SSC group (n=7) had an overall mean of 3.13 (SD=0.334) with scores ranging from 2.62 to 3.65. A Mann Whitney U test was used to compare the two groups due to the small sample size. The results found the survey scores were distributed the same between the two groups and not significant (p=0.848). Further analysis included comparing the overall survey scores to specific demographics including age, ethnicity, education, marital status and income. The Mann Whitney U test results showed there was no significance between the survey scores and demographic variables of age (p=0.973), ethnicity (p=0.69), education (p=0.186), marital status (p=0.492) and income (p=0.306).

A logistic linear regression was then run to analyze the relationship with the independent variable of the Modified QMAALD survey scores and the dependent variable of time from birth to SSC with mother. Of the 23 mothers who participated in SSC, thirteen mothers held their babies immediately after birth or within one hour of birth, while ten mothers first held their baby greater than one hour after birth. The results showed there was no relationship between the amount of separation time of birth to SSC and the Modified QMAALD scores (p=0.529, $R_2$ =0.019). The results are shown in fig. 7 in the appendices. The mothers who chose not to participate in SSC or were unable to hold their baby for medical reasons were analyzed separately by Mann Whitney U due to the small sample size (n=7) and found to have no significant differences in their scores (p=0.848) either based on their decision or inability to participate in SSC.

To further analyze and describe the relationship, individual questionnaire questions specific to SSC and satisfaction were chosen for analysis by Chi-Square to evaluate if there was a relationship between variables of the demographics and answers to specific survey questions.

The analysis included comparing the questions with the demographic variables utilized in the overall questionnaire score analysis.

Questions from the Modified QMAALD survey chosen for this analysis were more specific to SSC and overall satisfaction. The questions included were questions 10, which pertained to their experience compared to their actual delivery experience, question 11 about well in control they were during their delivery and question 12 asking how they felt as a member of the obstetric team. Other questions chosen were question 26, pertaining to how pleased were they with their delivery, question 27 regarding holding their baby for the first time, question 28 how soon after delivery did they touch their baby and question 29 how soon after delivery did they hold their baby. The results suggested significant differences between maternal age and question 10 ($p=0.012$), as well as ethnicity and questions 11 ($p=0.046$) and 12 ($p=0.020$). For question 10, mothers who were under the age of 30 were more satisfied with their experience going along with their expectation than mothers over 30 (66.6% versus 23.5%). For question 11, mothers who were non-Caucasian were more satisfied with their level of control during delivery than Caucasian mothers (54.6% versus 41.7%). The most significant difference was found with question 12, as mothers who were non-Caucasian were more satisfied with their level of being a useful and cooperative member of the obstetrics team than Caucasian mothers (72.8% versus 16.6%). There were no significant differences with ethnicity, education, marital status or income with questions 10 and age, ethnicity, education, marital status or income with questions 26-28. A comparison of the SSC and non-SSC groups were then analyzed with the individual questions. The results showed there was no significant differences between the two groups and questions.

**Patient Experience**

The Picker Patient Experience questionnaire was used to measure patient experience. All of the mothers were 12-72 hours post-cesarean delivery and admitted to the postpartum unit. The questionnaire consisted of 15 questions and because the survey was not meant to be used on its own, the data was analyzed in conjunction with the Modified QMAALD. The survey has been tested in previous studies with adequate reliability (Cronbach Alpha 0.80 -0.87) (Jenkinson, 2002).

The Picker Patient Experience questionnaire consists of 15 questions and the questions are scored as to whether the mother reported a problem or no problems. For this survey, the analysis was conducted using a code of 1 for a reported problem and 0 for no problems. All 30 mothers completed the survey and as with the Modified QMAALD survey, the SSC and non-SSC groups were analyzed separately. The overall mean score for the SSC group was 0.032 (SD=0.155) with scores ranging from 0-0.60. In the non-SSC group, the overall mean score was 0.136 (SD=0.361) with scores ranging from 0-0.93. Again, due to the small and unequal sample size, a Mann-Whitney U test was ran and found the scores were distributed the same with no significant differences between the SSC and non-SSC group ($p=0.598$). The overall survey scores were then compared to the demographic variables chosen in the Modified QMAALD survey analysis and found no significance between the variables of age ($p=0.919$), ethnicity ($p=0.169$), education ($p=0.166$), marital status ($p=0.413$) and income ($p=0.672$).

A logistic regression was run to determine if there was a relationship between independent variable of Picker patient experience scores and dependent variable of separation time from birth to SSC with mother. The results showed there was no relationship between separation time and the Picker patient experience scores ($p=0.931$, $R_2=0.000$). The results are shown in fig. 8 of the

appendix. The non-SSC group was analyzed separately by Mann Whitney U test due to small sample size and the results showed no significance between non-SSC and separation time ($p=0.598$) based on either their decision or inability to participate in SSC.

As with the Modified QMAALD, individual questions were chosen from the Picker patient experience questionnaire for analysis using Chi-square. The questions were chosen based on their level of involvement in decision making with their birth (choice) and for pain as this is a common occurrence with cesarean delivery. In question 6, the survey asked specifically about satisfaction with their involvement in decision making and question 10 asked about their experience with pain and relief measures. The questions were compared to the five variables of the demographics and found to have no significance for question 6 or 10. The two groups of SSC and non-SSC were then analyzed using the Mann-Whitney test with the questions and again there were no significant results with question 6 ($p=0.393$) or question 10 ($p=0.565$).

## Discussion

The results of this study found overall there were no differences between the SSC and non-SSC groups and their answers to the survey questions. Based on previous studies, this was an unexpected finding as the previous studies showed mothers having cesarean births and participating in immediate SSC, had more satisfaction with their birth experience than mothers who did not participate (Moran-Peters, Zauderer, Goldman, Baierlein & Smith, 2014). In this study, that was not the case. There were no differences between the SSC and non-SSC groups.

As for patient experience, the Picker Patient survey found no differences in the mothers' patient experience scores based on their participation or non-participation in SSC. This is new information as there are no previous studies specific to patient experience and SSC in cesarean births.

When further analyzed, there were some differences based on ethnicity and age in the modified QMAALD questionnaire scores. The study found in the SSC group, mothers under 30 and non-Caucasian had a higher maternal satisfaction than mothers over 30 and Caucasian.

**Strengths and Limitations**

The strength of this project is that it provides a description of the relationship of SSC immediately after cesarean birth on both maternal satisfaction and patient experience which had not been previously explored. The patient experience is an important element of healthcare and healthcare systems and has been recognized as one of the three pillars to quality healthcare along with clinical effectiveness and safety (Doyle et al., 2013). This particular relationship is important as evidence already shows mothers who receive SSC immediately after birth have higher satisfaction but what was not known is how maternal satisfaction impacted overall patient experience.

While the results of this study did not show a significant relationship between time from birth to first SSC with the mothers and their maternal satisfaction and patient experience scores, there are several variables that need to be considered. This study had a convenience sample of thirty mothers, 7 of which chose not to participate or could not participate in SSC and therefore, not generalizable to the population of post cesarean mothers. Secondly, while the sample was ethnically diverse, over half of the mothers had the same demographic make-up: over 30 years of age, college or post-college educated, married and of a higher income. Thirdly, the implementation site offers SSC to mothers having a cesarean delivery as a routine nursing policy. The mothers in this study were already given a choice as to their desire to participate in SSC immediately after birth or not, or because of medical reasons, knew it was not feasible.

Therefore, this study should be replicated in an urban or rural population to further describe the relationship between immediate SSC after cesarean delivery and maternal satisfaction and patient experience scores. While the study did have some significant results, with the small sample size, this could have been an occurrence of chance and therefore should be replicated with a larger sample size. One distinction this study did not make was a comparison of primipara and multipara mothers. This should be included in future studies as satisfaction and experiences with birth can vary between first time and experienced mothers.

**Implications for Nursing Practice**

This scholarly project will contribute knowledge and understanding of the relationship of SSC immediately after cesarean birth on maternal satisfaction and patient experience. Measuring the patient experience provides an opportunity at a System Level to improve care, enhance strategic decision-making, meet patient's expectations, effectively manage and monitor healthcare performance and document benchmarks for healthcare organizations (LaVela et al., 2014). Mothers who are satisfied and have a positive patient experience can lead to greater marketing and revenue by increasing patient census. The literature has provided evidence that mothers want to have input into their birth experience (Moran-Peters et al., 2014).

Nursing leaders and hospital administrators can use the results of this project to correlate maternal satisfaction and patient experience to Hospital Consumer Assessment of Healthcare Providers and Systems(HCAHPS) scores. These scores are used to measure a patients' satisfaction with their overall care and experience. Evidence supports when mothers have skin-to-skin contact immediately after birth, they report greater satisfaction with their birth experience. By allowing the patient to control their birth experience, the patient is more likely to report an overall positive experience (Finigan & Davies, 2004). Maternal satisfaction and patient

experience could improve HCAHPS scores of 75 percent or higher and increase revenue with improved satisfaction of patients under their care. The implementation site exceeded their benchmark score of 75 percent.

While hospitals have always been interested in patient satisfaction and experience, with increased competition, satisfaction surveys and changes implemented by the Affordable Care Act, the patient experience has been identified as a top priority (Stempniak, 2016). Secondly, maternal satisfaction drives the patient experience and therefore can directly affect HCAHPS scores. The data can then be used by the hospital system to correlate maternal satisfaction and patient experience with their HCAHPS scores. With increasing competition for healthcare dollars, a higher HCAHPS score can: 1) demonstrate a higher quality of care, 2) generate increased revenue, 3) increase patient choice of their hospital system and 4) generate more referrals to the hospital system. It is important for nurses and nurse leaders to further explore this relationship in different communities and define how mothers perceive SSC immediately after cesarean birth.

At the patient level, the results of this project may provide additional data, education and support for advanced practice nurses (APN) caring for pregnant mothers. As components of the affordable care act are implemented, APN's play an enhanced role as primary care providers and policy makers (Petersen, P., Keller, T., Way, S. & Borges, W., 2015). APN's can provide education during prenatal visits as well as provide evidence to create policy changes, improving practice in caring for women giving birth by cesarean. Mothers at risk for a cesarean delivery may not know they have a choice or the ability of holding their baby immediately after birth, even in the operating room. By educating the mothers during prenatal care, APN's can empower

the mother to make an informed decision about how and when her first meeting with her baby takes place.

As this hospital has shown, APN's, nurse leaders and staff can implement policy changes, allowing mothers to have more of a choice in their cesarean delivery experience. By offering SSC immediately after cesarean birth as a policy, mothers can have the option to decide when and where their first meeting will take place as well as be the first person to hold and touch their baby as studies indicate parents prefer to have this experience with their newborn (Moran-Peters et al., 2014).

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# Appendix

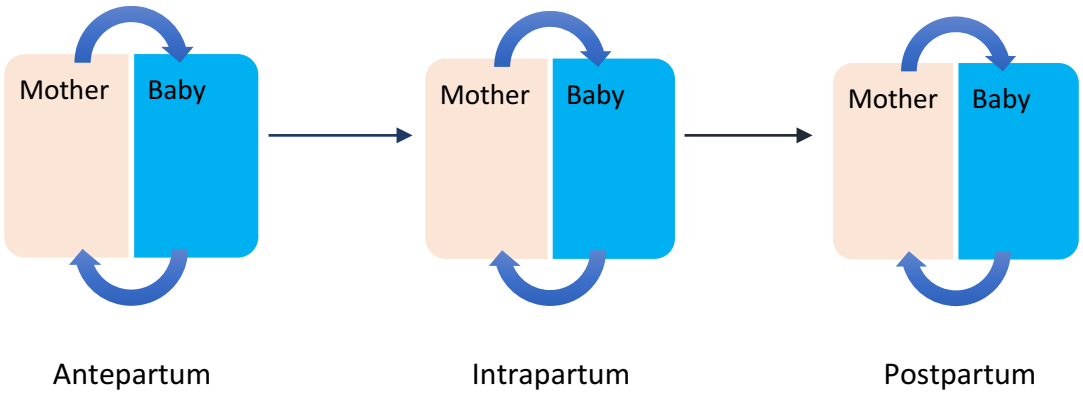


Figure 1: Anderson's Mutual Caregiving Model

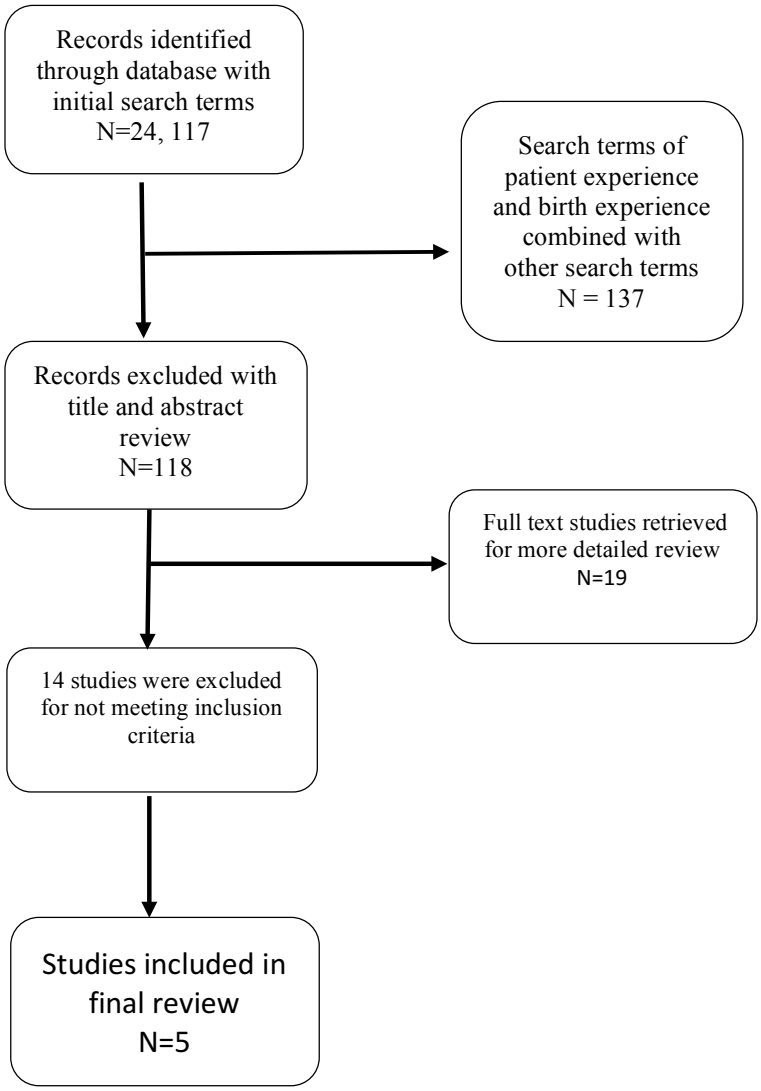


Figure 2: Flowchart of Literature Review

Table 1: Review chart of five studies included in systematic review

| Author | Purpose & Design | Sample | Methods | Major Findings |
|---|---|---|---|---|
| Armbrust, R., Hinkson, L., von Weizsacker, K., & Henrich, W. (2016). The charite cesarean birth: A family orientated approach of cesarean section. *Journal of Maternal-Fetal & Neonatal Medicine, 29*(1), 163-168. doi:http://dx.doi.org.proxy.its.virginia.edu/10.3109/14767058.2014.991917 | To evaluate the safety and patients' delivery experience of the Charite Cesarean birth where parents are integrated into the process. The design was a randomized controlled trial. | Women who were scheduled and had an absolute need for a primary Cesarean. They had to be > 37 weeks and without comorbidities such as bleeding or fetal anomalies. | A total of 205 women were randomized to modified cesarean or classic cesarean. Questionnaire was divided into three sections and was used to assess primary outcome measures regarding birth experience, expectations towards the birth and breastfeeding and their birth experience. | Patients who received the modified cesarean had a significant better and more positive birth experience when compared to the traditional cesarean. Patients (95%) who had a previous cesarean would choose the modified cesarean again. They felt less disappointed about having a cesarean and the |

| | | | | |
|---|---|---|---|---|
| | | | | visualization and direct contact lead to a greater sense of security. |
| Bryanton, J., Gagnon, A. J., Johnston, C., & Hatem, M. (2008). Predictors of women's perceptions of the childbirth experience. *JOGNN: Journal of Obstetric, Gynecologic & Neonatal Nursing, 37*(1), 24-34 11p. doi:10.1111/j.1552-6909.2007.00203.x | To determine the factors that predict women's perceptions of the childbirth experience and to examine whether these vary with the type of birth a woman experiences. The design is a prospective cohort study. | 652 women and their newborns who gave birth from Oct 2004 to Dec 2005. | The QMAALD was used for vaginal and emergency C-section while the modified QMAALD was used for planned C-section | The strongest predictor of experience was awareness of events during labor and birth followed by separation from the infant. The study found enhancement of patient awareness, relaxation, and control, promotion of partner support and **provision of** |

| | | | | |
|---|---|---|---|---|
| | | | | **immediate opportunities for women to be with their babies.** |
| Frederick, A. C., Busen, N. H., Engebretson, J. C., Hurst, N. M., & Schneider, K. M. (2016). Exploring the skin-to-skin contact experience during cesarean section. *Journal of the American Association of Nurse Practitioners, 28*(1), 31-38. doi:http://dx.doi.org.proxy.its.virginia.edu/10.1002/2327-6924.12229 | To explore and describe the mother's experience of SSC immediately after cesarean delivery. This was a medical ethnographic design. | 11 women aged 23-38 who were 39-40 weeks having a scheduled C-section | Direct observation during the C-section with field notes and individual interviews 24-48 hours post-partum. | SSC in the OR had a positive impact on the mothers, fathers and staff. SSC was found to empower the mother and bolstering maternal role confidence. |
| Lewis, L., Hauck, Y. L., Ritchie, S., Barnett, L., Nunan, H., & Rivers, C. (2014). Australian women's perception of their preparation for and actual experience of a recent scheduled caesarean birth. *Midwifery, 30*(3), e131-6. doi:http://dx.doi.org.proxy.its.virginia.edu/10.1016/j.midw.2013.12.009 | To address a gap in knowledge around perceptions of a scheduled Cesarean birth and illuminate what | 256 English-speaking women who attended KEMH and delivered their baby through SCS between | Data was collected in two stages: Stage 1 assessed their preparation for birth and stage II women participated in a | |

| | | | | |
|---|---|---|---|---|
| | might constitute a positive experience and to add knowledge by exploring a woman's perceptions of their preparation for and actual experience of a recent scheduled cesarean birth. | August and September 2012. | semi-structured audio-recorded telephone interview about preparation and actual birth experience. This was a mixed methods design. | |
| Nolan, A., & Lawrence, C. (2009). A pilot study of a nursing intervention protocol to minimize maternal-infant separation after cesarean birth. *JOGNN - Journal of Obstetric, Gynecologic, & Neonatal Nursing, 38*(4), 430-442. doi:http://dx.doi.org.proxy.its.virginia.edu/10.1111/j.1552-6909.2009.01039.x | To pilot test a standardized obstetric nursing intervention protocol (NIMS) designed to minimize maternal-infant separation in elective, | Fifty women having a live, term singleton, repeat cesarean delivery and their newborn. | The outcomes of maternal pain, anxiety, infant respiratory rate and temperature, infant salivary cortisol, breastfeeding and maternal | Childbirth perception: While there was no significant difference between the treatment and control group, four mothers |

| | | | | |
|---|---|---|---|---|
| | repeat cesarean deliveries. This was a pilot, randomized controlled trial. | | perception of childbirth were measured through medical record review, direct observation and survey mailed 4 weeks post discharge. | who received the NIMS protocol added comments such as they had a wonderful experience being with their baby from birth, a beautiful feeling to snuggle with newborn right after being born and it was so much better than previous and baby was calmer and easier to please because they weren't separated. |

# Informed Consent Agreement

**Please read this consent agreement carefully before you decide to participate in the study.**
**Purpose of the research study:** The purpose of the study is to describe the relationship between skin-to-skin contact immediately after cesarean birth on maternal satisfaction and experience when compared to the current standard of care.
**What you will do in the study:** Data will be collected by interview from two questionnaires: The Modified QMAALD, which measures maternal satisfaction and the Picker Patient Experience which measures the patient's experience.
**Time required:** The study will require about 1 hour of your time. The interviewer will read the questions from the questionnaire and you will give your response based on the choices given.
**Risks:** There are no anticipated risks in this study.
**Benefits:** There are no direct benefits to you for participating in this research study. The study may help us understand the relationship between skin-to-skin contact immediately after cesarean birth with maternal satisfaction and experience.
**Confidentiality:** The information you give in the study will be handled confidentially. No personal information will be collected. Each participant will be assigned to the skin-to-skin or standard care group and assigned a code number. Demographic information will be collected for study purposes only and will not be used to identify any participant. All data collected will be stored in a secured location and/or on an encrypted laptop. When the study is completed and the data has been analyzed, this list will be destroyed. Your name will not be used in any report.
**Voluntary participation:** Your participation in the study is completely voluntary. Participating in the study will not effect your treatment or services in anyway.
**Right to withdraw from the study:** You have the right to withdraw from the study at any time without penalty and any data collected will be destroyed.
**How to withdraw from the study:** If you want to withdraw from the study, please let the interviewer know you no longer wish to participate in the study. There is no penalty for withdrawing. If you would like to withdraw after your materials have been submitted, please contact: Terri Clinger at tsc5nd@virginia.edu.
**Payment:** You will receive no payment for participating in the study.
**If you have questions about the study, contact:**
Terri Clinger, MSN, RN, CPNP-PC
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University of Virginia, Charlottesville, VA 22903
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ALD4P@hscmail.mcc.virginia.edu
**If you have questions about your rights in the study, contact:**
Tonya R. Moon, Ph.D.
Chair, Institutional Review Board for the Social and Behavioral Sciences
One Morton Dr. Suite 500
University of Virginia, P.O. Box 800392
Charlottesville, VA 22908-0392

Telephone: (434) 924-5999
Email: irbsbshelp@virginia.edu
Website: www.virginia.edu/vpr/irb/sbs
**Agreement:**
I agree to participate in the research study described above.
**Signature:** _____ **Date:** _____
You will receive a copy of this form for your records.

Fig. 3: Informed Consent Document approved by Internal Review Board for Health Science Research University of Virginia and Implementation site IRB committee.

## SOCIAL DEMOGRAPHIC SURVEY

1. **What is your age?**
   - 18 to 29 years old
   - 30 to 49 years old
   - 50 to 64 years old
   - Above 65

2. **What is the highest level of education that you have accomplished?**
   - Some high school
   - High school graduate
   - Some college
   - Technical training
   - College graduate
   - Some post graduate work
   - Post graduate degree

3. **What is your primary language?**
   - English
   - Spanish
   - French
   - Others

4. **How would you classify yourself?**
   - Arab
   - Asian
   - Black
   - Caucasian
   - Hispanic
   - Latino
   - Multiracial
   - Would rather not say
   - Others

5. **What is your current marital status?**
   - Divorced
   - Living with mother
   - Married
   - Separated
   - Single

- Widowed
- Would rather not say

**6. How long have you been living there?**

- Less than 9 years
- 10 to 19 years
- 20 to 29 years
- 30 to 39 years
- More than 40 years
- All the time

**7. Where were you born?**

- United states
- England
- France
- Germany
- Any country in Asia
- Others

**8. What is your current family income?**

- Less than $10,000
- $10,000 to $19,000
- $20,000 to $29,000
- $30,000 to $39,000
- $40,000 to $49,000
- More than $50,000

Fig. 4 Modified from social demographic survey retrieved from: http://www.surveyquestionnaire.org/social-demographic-survey.html

## Modified Questionnaire Measuring Attitudes About Labour and Delivery Experience ID_____

**Please circle the number in the column that best describes the feeling state referred to in each question. Please note: "delivery" refers to cesarean birth.**

| | Not At all | Somewhat | Moderately | Very | Extremely |
|---|---|---|---|---|---|
| Example: How relaxed were you before delivery? (This answer would indicate that you were very relaxed though not extremely relaxed.) | 1 | 2 | 3 | 4 | 5 |
| 1. How relaxed were you before delivery? | 1 | 2 | 3 | 4 | 5 |
| 2. How successful were you in using the breathing or relaxation methods to help relieve tension before delivery? | 1 | 2 | 3 | 4 | 5 |
| 3. How relaxed were you during pre-delivery procedures (catheterization, scrub)? | 1 | 2 | 3 | 4 | 5 |
| 4. How confident were you before going to the delivery or operating room? | 1 | 2 | 3 | 4 | 5 |
| 5. How confident were you when you were getting the anesthesia? | 1 | 2 | 3 | 4 | 5 |
| 6. How confident were you during delivery? | 1 | 2 | 3 | 4 | 5 |
| 7. How relaxed were you during delivery? | 1 | 2 | 3 | 4 | 5 |
| 8. How pleasant or satisfying was the feeling state you experienced during delivery? | 1 | 2 | 3 | 4 | 5 |
| 9. How well in control were you during pre-delivery procedures? | 1 | 2 | 3 | 4 | 5 |
| 10. To what extent did your experience of having a baby go along with the expectation you had before delivery began? | 1 | 2 | 3 | 4 | 5 |
| 11. How well in control were you during delivery? | 1 | 2 | 3 | 4 | 5 |
| 12. To what extent do you consider yourself to have been a useful and cooperative member of the obstetric team? | 1 | 2 | 3 | 4 | 5 |
| 13. How useful was your partner in helping you while you were getting the anesthesia? N/A | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| 14. How useful was your partner in helping you through delivery? N/A | 1 | 2 | 3 | 4 | 5 |
| 15. To what degree were you aware of events during delivery? | 1 | 2 | 3 | 4 | 5 |
| 16. How unpleasant was the feeling state you experienced during delivery? | 1 | 2 | 3 | 4 | 5 |
| **Please see back of page** | | | | | |
| | **Not At all** | **Somewhat** | **Moderately** | **Very** | **Extremely** |
| 17. Do you remember your pre-delivery procedures as painful? | 1 | 2 | 3 | 4 | 5 |
| 18. Do you remember your delivery as painful? | 1 | 2 | 3 | 4 | 5 |
| 19. How scared were you during delivery? | 1 | 2 | 3 | 4 | 5 |
| 20. Did you worry about your baby's condition before delivery? | 1 | 2 | 3 | 4 | 5 |
| 21. Did you worry about your baby's condition during delivery? | 1 | 2 | 3 | 4 | 5 |
| 22. Did the equipment used during delivery bother you? | 1 | 2 | 3 | 4 | 5 |
| 23. Was the delivery experience realistic as opposed to dream- like? | 1 | 2 | 3 | 4 | 5 |
| 24. Did your partner (or other person) review your delivery experience with you? | 1 | 2 | 3 | 4 | 5 |
| 25. Did you feel better after reviewing the delivery experience? N/A | 1 | 2 | 3 | 4 | 5 |
| 26. Were you pleased with how your delivery turned out? | 1 | 2 | 3 | 4 | 5 |
| 27. Were you able to enjoy holding your baby the first time? | 1 | 2 | 3 | 4 | 5 |

28. How soon after delivery did you touch your baby?

| 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|
| Immediately | Within 1 hour | Within 2 hours | Within 4 hours | Within 8 hours or longer |

29. How soon after delivery did you hold your baby?

| 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|
| Immediately | Within 1 hour | Within 2 hours | Within 4 hours | Within 8 hours or longer |

Figure 5: The Modified QMAALD Survey questions with an answer of five being most satisfied. (Cranley et al.,1983).

**The Picker Patient Experience (PPE-15)**

Please circle your answer to the questions.

1. When you had important questions to ask a doctor, did you get answers that you could understand?

Yes, always/Yes, sometimes/No/I had no need to ask

2. When you had important questions to ask a nurse, did you get answers that you could understand?

Yes, always/Yes, sometimes/No/I had no need to ask

3. Sometimes in a hospital, one doctor or nurse will say one thing and another will say something quite different. Did this happen to you?

Yes, often/Yes, sometimes/No

4. If you had any anxieties or fears about your condition or treatment, did a doctor discuss them with you?

Yes, completely/Yes, to some extent/No/I didn't have any anxieties or fears

5. Did doctors talk in front of you as if you weren't there? Yes, often/Yes sometimes/No

6. Did you want to be more involved in decisions made

about your care and treatment?

Yes, definitely/Yes, to some extent/No

7. Overall, did you feel you were treated with respect and dignity while you were in hospital?

Yes, always/Yes, sometimes/No

8. If you had any anxieties or fears about your condition or treatment, did a nurse discuss them with you?

Yes, completely/Yes, to some extent/No/I didn't have any anxieties or fears

9. Did you find someone on the hospital staff to talk to about your concerns?

Yes, definitely/Yes, to some extent/No/I had no concerns

10. Were you ever in pain? Yes/No If yes ...

Do you think the hospital staff did everything they could to help control your pain?

Yes, definitely/Yes, to some extent/No

11. If your family or someone else close to you wanted to talk to a doctor, did they have enough opportunity to do so? Yes, definitely/Yes, to some extent/No/No family or friends were involved/My family didn't want or need in- formation/I didn't want my family or friends to talk to a

doctor

12. Did the doctors or nurses give your family or someone

close to you all the information they needed to help you recover?

Yes, definitely/Yes, to some extent/No/No family or friends were involved/My family or friends didn't want or need information

13. Did a member of staff explain the purpose of the medicines you were to take at home in a way you could understand?

Yes, completely/Yes, to some extent/No/I didn't need an explanation/I had no medicines—go to question 15

14. Did a member of staff tell you about medication side effects to watch for when you went home?

Yes, completely/Yes, to some extent/No/I didn't need an explanation

15. Did someone tell you about danger signals regarding your illness or treatment to watch for after you went home?

Yes, completely/Yes, to some extent/No

Figure 6: The Picker Patient Experience Questionnaire to measure patient experience with 0 being no problem and 1 reporting a problem (Jenkins et al. 2002) .

Table 2: Demographics of Mothers by Study Group

| | SSC Group | Non-SSC group |
|---|---|---|
| | n (%) | n (%) |
| **Age** | | |
| 20-29 | 6 (25) | 2 (77.3) |
| 30-39 | 17 (75) | 5 (22.7) |
| **Ethnicity** | | |
| Arab | 0 | 0 |
| Asian | 3 (13.0) | 0 |
| Black | 5 (21.7) | 2 (28.6) |
| Caucasian | 12 (52.2) | 5 (71.4) |
| Hispanic | 0 | 0 |
| Latino | 0 | 0 |
| Multiracial | 2 (8.7) | 0 |
| Didn't say | 0 | 0 |
| Other | 1 (4.3%) | 0 |
| **Education** | | |
| Some high school | 0 | 1 (14.3) |
| High school | 1 (4.3) | 0 |
| Some college | 3 (13) | 3 (42.9) |
| Technical Training | 1 (4.3) | 0 |
| College graduate | 8 (34.8) | 1 (14.3) |
| Some post graduate | 3 (13) | 0 |
| Post graduate | 7 (30.4) | 2 (28.6) |
| **Marital Status** | | |
| Divorced | 1 (4.3) | 0 |
| Living with Mother | 1 (4.3) | 0 |
| Married | 16 (69.6) | 4 (57.1) |
| Separated | 0 | 0 |
| Single | 5 (21.7) | 3 (42.9) |
| Widowed | 0 | 0 |
| Did not say | 0 | 0 |
| **Income** | | |
| Less than 10,000 | 0 | 0 |
| 10,000-19,000 | 1 (5.0) | 1 (14.3) |
| 20,000-29,000 | 1 (5.0) | 1 (14.3) |
| 30,000-39,000 | 2 (10.0) | 0 |
| 40,000-49,000 | 1 (5.0) | 2 (28.6) |
| More than 50,000 | 15 (60.0) | 3 (42.9) |
| Didn't say | 3 (15.0) | |

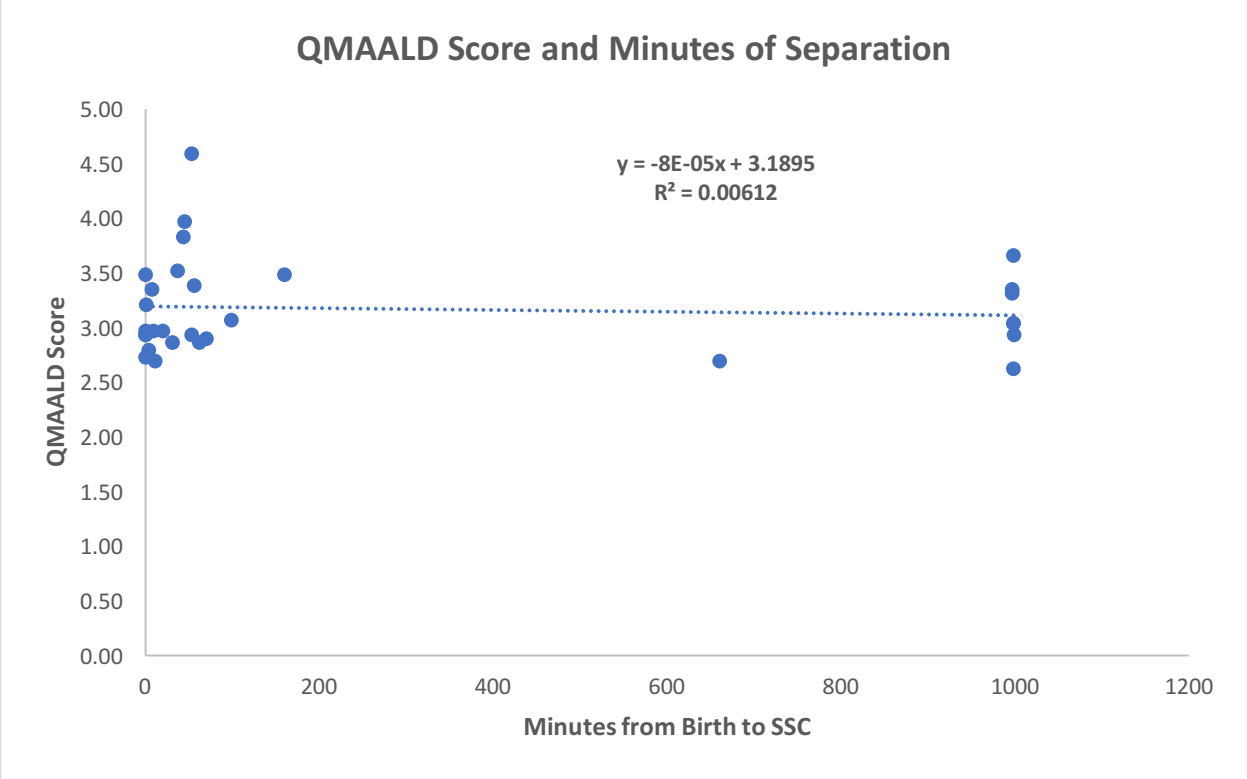


Fig. 7: Logistic Regression results of QMAALD scores and separation time

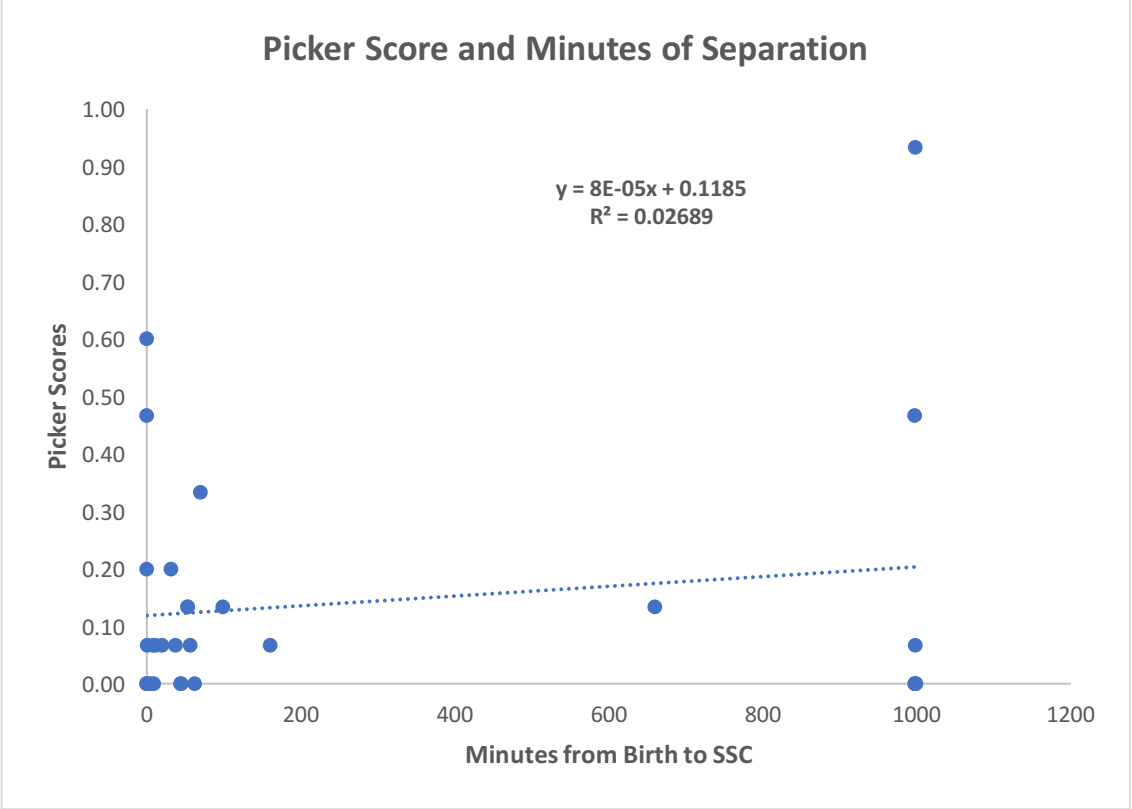


Fig. 8: Logistic Regression results of Picker survey scores and separation time.

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# Maternal Satisfaction and Patient Experience with Skin to Skin Contact Immediately after Cesarean Birth

Terri Clinger, DNP, CPNP-PC, Amy Boitnott, DNP, CPNP-PC, Emily Drake, PhD and Amber Price, DNP, CNM

ABSTRACT

**Objective**: To describe the relationship of immediate skin to skin contact after cesarean birth on maternal satisfaction and patient experience.

**Design**: A descriptive design

**Setting**: A community hospital in southeastern US.

**Participants**: Mothers between the ages of 18-44 who had delivered by cesarean section and currently inpatient.

**Methods**: The participants were asked to complete two questionnaires: QMAALD questionnaire to measure maternal satisfaction and the Picker Patient Questionnaire to measure patient experience. The questionnaires were completed 12-72 hours after giving birth. The scores were compared to the separation time between birth and first contact with mother.

**Results**: Thirty mothers completed both questionnaires. Women under 30 (66.6% versus 23.5%) felt their experience met their expectation for delivery and non-Caucasian women (72.8% versus 16.6%) felt more in control and a valued member of the team than Caucasian women and women over 30. There was no significant relationship found between separation time and scores.

**Conclusion**: While there was no significant relationship between separation time and higher scores, over 80% of mothers who experienced skin to skin contact after cesarean birth reported overall satisfaction and patient experience. Further research needs to be conducted to explore the relationship further in a different environment.

Precis: Over 80% of mothers who received skin to skin contact immediately after cesarean birth reported positive maternal satisfaction and overall patient experience.

Keywords: Cesarean Section, Skin to Skin Contact, Maternal Satisfaction, Patient Experience, Kangaroo Care

Giving birth is an important life experience for women and one of the most profound life changes she will ever experience (Bryanton, Gagnon, Johnston & Hatem, 2008). In the United States and other countries, an increasing number of women have this momentous life experience in the operating room. In 2014, almost four million babies were born in the US with 30-35% born by Cesarean Section and these rates continue to increase in Virginia (CDC, 2014). This trend has been seen in other countries such as Mexico, Canada and some European, Asian and South American countries such as Brazil (Lobel & DeLuca, 2007).

The practice of skin-to-skin contact (SSC) also known as kangaroo care has been associated with positive outcomes including breastfeeding initiation, early infant stabilization and breastfeeding at discharge (Sundin & Mazac, 2015) However, in many hospitals, it is routine practice that the newborn is taken immediately after cutting the cord, where the baby is examined and then returned to the parents later (Armbrust, Hinkson, von Weizsacker & Henrich, 2016). This has had a negative impact on maternal satisfaction with their birth experience. Women who delivered by cesarean were more likely to report a loss of the optimal birthing experience, feelings of powerlessness and lack of control (Lobel & DeLuca, 2007).

The patient experience is an important element of healthcare and healthcare systems and has been recognized as one of the three pillars to quality healthcare along with clinical effectiveness and safety (Doyle, Lennox, & Bell, 2013). While hospitals have always been interested in patient experience, with increased competition, satisfaction surveys and changes implemented by the Affordable Care Act, the patient experience has been identified as a top priority (Stempniak, 2016). While the Hospital Consumer Assessment of Healthcare Providers and Systems is a standardized survey (HCAHPS) created to assist hospitals in evaluating the patient's overall

experience, an important challenge hospitals may face is defining exactly what the patient experience means (Stempniak, 2016).

The Beryl Institute (2016) has defined the patient experience as the sum of all interactions, shaped by an organizations culture, that influences patients' perceptions across the continuum of care. Yet, the concept of patient experience has had varied use and is more of an explanation than a term. In the Patient Experience Benchmarking Study, on average only 45% of US based hospitals and 35% of non-US based hospitals had a formal definition (Wolf, Niederhauser, Marshburn & LaVela, 2014).

The Birth Experience and Skin-to-Skin Contact

The use of skin-to-skin contact after birth has been shown to have numerous benefits for both mother and child and has been recognized worldwide (WHO, 2003). Skin-to-skin contact is when the infant is placed between the breasts of the mother after birth and was developed in Bogotá, Columbia as a method to save premature infants. In 2003, the World Health Organization (WHO) recognized the benefits of SSC and published an international practical guide specifically for healthcare professionals affirming the importance of skin-to-skin contact (SSC) after birth. Some of the benefits include improved thermoregulation, bonding and breastfeeding (WHO, 2003). The CDC reported SSC after cesarean birth was 28% in the state of Virginia for 2015, an increase of 1% from 2014.

With increased evidence of the benefits using SSC immediately after a vaginal delivery, SSC is now a standard of care. The first hour after birth where this is utilized is known as the golden or sacred hour (Phillips, 2013). The Baby Friendly Hospital Initiative (BFHI) launched by the WHO and UNICEF is a global program that recognizes hospitals and birthing centers that offer optimal level of care for infant feeding and mother/infant bonding. SSC immediately after birth

and continuing for at least an hour is step four of the ten step requirements for BFHI designation (Crenshaw, Cadwell, Brimdyr, Widstrom, Svensson, Champion, Gilder & Winslow, 2012).

**CALLOUT: Although there is evidence showing improved outcomes with SSC after cesarean birth, it is not readily practiced due to perceived barriers.**

Though there is evidence to support SSC use for vaginal and cesarean deliveries, the practice has not been widely implemented. Despite the evidence of SSC with improved outcomes such as physiologic stability of mother and newborn, many hospitals fail to implement into daily use because of perceived barriers in the obstetric setting including newborn hypothermia, safety for mother and newborn, staffing issues and increased risk of infection (Phillips, 2013). The evidence however shows parents prefer to have this experience with their newborns (Moran-Peters, Zauderer, Goldman, Baierlein & Smith, 2014).

The purpose of this study was to evaluate and describe the relationship of maternal satisfaction and patient experience with skin to skin contact immediately after cesarean birth.

## Methods

### Design and Setting

This was a descriptive study conducted in a hospital in the southeastern US. The study protocol was approved by the hospital's Institutional Review Board and the University of Virginia Institutional Review Board of Health Science Research.

### Participants

Women who had delivered by Cesarean section were asked to participate in the study and complete two questionnaires. The inclusion criteria included: women between the ages of 18-44, could read and speak English, had a term pregnancy. Exclusion criteria included: Women

under 18 or over age 44, could not read or speak English, had a pregnancy less than 37 weeks' gestation or had anticipated complications.

Procedures

A total of thirty women who met inclusion criteria agreed to participate in the study. All thirty women signed the consent form before they were asked to complete the questionnaires. Once consent was obtained, participants were asked to compete two questionnaires, the modified QMAALD measuring maternal satisfaction with cesarean section and the Picker Patient questionnaire measuring patient experience.

The Modified QMAALD questionnaire was used to measure maternal satisfaction and has been tested for reliability in previous studies with a Cronbach Alpha of 0.81-0.91. The survey consists of 29 questions on a 5 point Likert scale. Scores for each question range from 1-5, with a 5 being very satisfied with their experience (Bryanton, et al., 2008).

The Picker Patient Experience Questionnaire was used to measure patient experience. The questionnaire was developed by Jenkinson, Coulter and Bruster in 2002 to measure patient experiences in an in-patient care setting. The questions were selected from a bank of items used by the Picker Institute to assess quality of care and are measured by a 4 or 5-point Likert scale.

**Results**

Sample

The sample consisted of thirty mothers who delivered by cesarean section within 72 hours of completing the surveys. The majority of the mothers were between the ages of 30-39 (n=22, 71%) and a college graduate (n= 21, 67.7%). Almost half of the participants were Caucasian women (41.5%) and a quarter were by African American women (24.4%), Arabic and multiracial comprised 9.8% of the sample and Hispanic, Latino and Other accounted for 7.2%.

Over half of the mothers (n=20, 58.1%) reported having an income of more than $50,000 followed by mothers who made between $10,000 and $39,000 (n=6, 19.5%) and $40,000 to $49,000 (n=3, 9.7%). Three mothers declined to report their income (n=3, 9.7%). The mothers also reported over half were married (n=20, 64.5%) and one quarter were single (n=8, 25.8%). One mother reported being divorced (n=1, 3.2%) and one reported living with their mother (n=1, 3.2%). The full demographics are displayed in Table 2. For analysis purposes, the mothers were separated into two groups, mothers who received SSC (n=23) and mothers who did not (n=7) as the common factor. Of the mothers who did not receive SSC, two mothers chose not to participate in SSC, four mothers were unable due to medical reasons and one mother had no documented reason for not participating.

Time of Separation to Birth to SSC

The average time of separation from birth to SSC was 61.8 minutes (SD=136.0). Of the twenty-one mothers, nineteen received SSC within one hour of birth with 6 of them receiving SSC immediately after birth and twelve within one hour after birth. One mother received SSC at eleven hours after birth due to unforeseen complications.

**Maternal Satisfaction (Modified QMAALD)**

The Modified QMAALD survey was used to measure maternal satisfaction and has been tested for reliability in previous studies with a Cronbach Alpha of 0.81-0.91. The survey consists of 29 questions on a 5 point Likert scale. Scores for each question range from 1-5, with a 5 being very satisfied with their experience. The survey was completed by 30 mothers and for analysis purposes, the mothers were evaluated separately by SSC and non- SSC. Descriptive statistics results showed the SSC group (n=23) had an overall mean score of 3.17 (SD=0.468) with scores ranging from 2.69 to 4.58. The non-SSC group (n=7) had an overall mean of 3.13

(SD=0.334) with scores ranging from 2.62 to 3.65. A Mann Whitney U test was used to compare the two groups due to the small sample size. The results found the survey scores were distributed the same between the two groups and not significant (p=0.848). Further analysis included comparing the overall survey scores to specific demographics including age, ethnicity, education, marital status and income. The Mann Whitney U test results showed there was no significance between the survey scores and demographic variables of age (p=0.973), ethnicity (p=0.69), education (p=0.186), marital status (p=0.492) and income (p=0.306).

A logistic linear regression was then run to analyze the relationship with the independent variable of the Modified QMAALD survey scores and the dependent variable of time from birth to SSC with mother. Of the 23 mothers who participated in SSC, thirteen mothers held their babies immediately after birth or within one hour of birth, while ten mothers first held their baby greater than one hour after birth. The results showed there was no relationship between the amount of separation time of birth to SSC and the Modified QMAALD scores (p=0.529, $R_2$ =0.019). The results are shown in fig. 1. The mothers who chose not to participate in SSC or were unable to hold their baby for medical reasons were analyzed separately by Mann Whitney U due to the small sample size (n=7) and found to have no significant differences in their scores (p=0.848) either based on their decision or inability to participate in SSC.

To further analyze and describe the relationship, individual questionnaire questions specific to SSC and satisfaction were chosen for analysis by Chi-Square to evaluate if there was a relationship between variables of the demographics and answers to specific survey questions. The analysis included comparing the questions with the demographic variables utilized in the overall questionnaire score analysis.

Questions from the Modified QMAALD survey chosen for this analysis were more specific to SSC and overall satisfaction. The questions included were questions 10, which pertained to their experience compared to their actual delivery experience, question 11 about well in control they were during their delivery and question 12 asking how they felt as a member of the obstetric team. Other questions chosen were question 26, pertaining to how pleased were they with their delivery, question 27 regarding holding their baby for the first time, question 28 how soon after delivery did they touch their baby and question 29 how soon after delivery did they hold their baby. The results suggested significant differences between maternal age and question 10 ($p=0.012$), as well as ethnicity and questions 11 ($p=0.046$) and 12 ($p=0.020$). For question 10, mothers who were under the age of 30 were more satisfied with their experience going along with their expectation than mothers over 30 (66.6% versus 23.5%). For question 11, mothers who were non-Caucasian were more satisfied with their level of control during delivery than Caucasian mothers (54.6% versus 41.7%). The most significant difference was found with question 12, as mothers who were non-Caucasian were more satisfied with their level of being a useful and cooperative member of the obstetrics team than Caucasian mothers (72.8% versus 16.6%). There were no significant differences with ethnicity, education, marital status or income with questions 10 and age, ethnicity, education, marital status or income with questions 26-28. A comparison of the SSC and non-SSC groups were then analyzed with the individual questions. The results showed there was no significant differences between the two groups and questions.

**CALLOUT:** Non-Caucasian women and women under 30 were more satisfied with their participation and control during delivery than Caucasian women.

**Patient Experience**

The Picker Patient Experience questionnaire was used to measure patient experience. All of the mothers were 12-72 hours post-cesarean delivery and admitted to the postpartum unit. The questionnaire consisted of 15 questions and because the survey was not meant to be used on its own, the data was analyzed in conjunction with the Modified QMAALD. The survey has been tested in previous studies with adequate reliability (Cronbach Alpha 0.80 -0.87) (Jenkinson, 2002).

The Picker Patient Experience questionnaire consists of 15 questions and the questions are scored as to whether the mother reported a problem or no problems. For this survey, the analysis was conducted using a code of 1 for a reported problem and 0 for no problems. All 30 mothers completed the survey and as with the Modified QMAALD survey, the SSC and non-SSC groups were analyzed separately. The overall mean score for the SSC group was 0.032 (SD=0.155) with scores ranging from 0-0.60. In the non-SSC group, the overall mean score was 0.136 (SD=0.361) with scores ranging from 0-0.93. Again, due to the small and unequal sample size, a Mann-Whitney U test was ran and found the scores were distributed the same with no significant differences between the SSC and non-SSC group ($p=0.598$). The overall survey scores were then compared to the demographic variables chosen in the Modified QMAALD survey analysis and found no significance between the variables of age ($p=0.919$), ethnicity ($p=0.169$), education ($p=0.166$), marital status ($p=0.413$) and income ($p=0.672$).

A logistic regression was run to determine if there was a relationship between independent variable of Picker patient experience scores and dependent variable of separation time from birth to SSC with mother. The results showed there was no relationship between separation time and the Picker patient experience scores ($p=0.931$, $R_2=0.000$). The results are shown in fig. 2. The

non-SSC group was analyzed separately by Mann Whitney U test due to small sample size and the results showed no significance between non-SSC and separation time (p=0.598) based on either their decision or inability to participate in SSC.

As with the Modified QMAALD, individual questions were chosen from the Picker patient experience questionnaire for analysis using Chi-square. The questions were chosen based on their level of involvement in decision making with their birth (choice) and for pain as this is a common occurrence with cesarean delivery. In question 6, the survey asked specifically about satisfaction with their involvement in decision making and question 10 asked about their experience with pain and relief measures. The questions were compared to the five variables of the demographics and found to have no significance for question 6 or 10. The two groups of SSC and non-SSC were then analyzed using the Mann-Whitney test with the questions and again there were no significant results with question 6 (p=0.393) or question 10 (p=0.565).

**Discussion**

The results of this study found overall there were no differences between the SSC and non-SSC groups and their answers to the survey questions. Based on previous studies, this was an unexpected finding as the previous studies showed mothers having cesarean births and participating in immediate SSC, had more satisfaction with their birth experience than mothers who did not participate (Moran-Peters, Zauderer, Goldman, Baierlein & Smith, 2014). In this study, that was not the case. There were no differences between the SSC and non-SSC groups.

As for patient experience, the Picker Patient survey found no differences in the mothers' patient experience scores based on their participation or non-participation in SSC. This is new information as there are no previous studies specific to patient experience and SSC in cesarean births.

**CALLOUT:** The study did not find any differences between SSC and non-SSC group which was an unexpected finding.

When further analyzed, there were some differences based on ethnicity and age in the modified QMAALD questionnaire scores. The study found in the SSC group, mothers under 30 and non-Caucasian had a higher maternal satisfaction than mothers over 30 and Caucasian.

**Strengths and Limitations**

The strength of this study is that it provides a description of the relationship of SSC immediately after cesarean birth on both maternal satisfaction and patient experience which had not been previously explored. The patient experience is an important element of healthcare and healthcare systems and has been recognized as one of the three pillars to quality healthcare along with clinical effectiveness and safety (Doyle et al., 2013). This particular relationship is important as evidence already shows mothers who receive SSC immediately after birth have higher satisfaction but what was not known is how maternal satisfaction impacted overall patient experience.

While the results of this study did not show a significant relationship between time from birth to first SSC with the mothers and their maternal satisfaction and patient experience scores, there are several variables that need to be considered. This study had a convenience sample of thirty mothers, 7 of which chose not to participate or could not participate in SSC and therefore, not generalizable to the population of post cesarean mothers. Secondly, while the sample was ethnically diverse, over half of the mothers had the same demographic make-up: over 30 years of age, college or post-college educated, married and of a higher income. Thirdly, the implementation site offers SSC to mothers having a cesarean delivery as a routine nursing

policy. The mothers in this study were already given a choice as to their desire to participate in SSC immediately after birth or not, or because of medical reasons, knew it was not feasible.

## Conclusion

While the study did not show a relationship between separation time and SSC with cesarean section, over 80% of the participants reported a positive maternal satisfaction and patient experience with immediate skin to skin contact after cesarean delivery. Further research should include urban and rural settings with a comparison of primipara and multipara mothers.

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Table 1: Demographics of Mothers by Study Group

| | SSC Group | Non-SSC group |
|---|---|---|
| | n (%) | n (%) |
| **Age** | | |
| 20-29 | 6 (25) | 2 (77.3) |
| 30-39 | 17 (75) | 5 (22.7) |
| **Ethnicity** | | |
| Arab | 0 | 0 |
| Asian | 3 (13.0) | 0 |
| Black | 5 (21.7) | 2 (28.6) |
| Caucasian | 12 (52.2) | 5 (71.4) |
| Hispanic | 0 | 0 |
| Latino | 0 | 0 |
| Multiracial | 2 (8.7) | 0 |
| Didn't say | 0 | 0 |
| Other | 1 (4.3%) | 0 |
| **Education** | | |
| Some high school | 0 | 1 (14.3) |
| High school | 1 (4.3) | 0 |
| Some college | 3 (13) | 3 (42.9) |
| Technical Training | 1 (4.3) | 0 |
| College graduate | 8 (34.8) | 1 (14.3) |
| Some post graduate | 3 (13) | 0 |
| Post graduate | 7 (30.4) | 2 (28.6) |
| **Marital Status** | | |
| Divorced | 1 (4.3) | 0 |
| Living with Mother | 1 (4.3) | 0 |
| Married | 16 (69.6) | 4 (57.1) |
| Separated | 0 | 0 |
| Single | 5 (21.7) | 3 (42.9) |
| Widowed | 0 | 0 |
| Did not say | 0 | 0 |
| **Income** | | |
| Less than 10,000 | 0 | 0 |
| 10,000-19,000 | 1 (5.0) | 1 (14.3) |
| 20,000-29,000 | 1 (5.0) | 1 (14.3) |
| 30,000-39,000 | 2 (10.0) | 0 |
| 40,000-49,000 | 1 (5.0) | 2 (28.6) |
| More than 50,000 | 15 (60.0) | 3 (42.9) |
| Didn't say | 3 (15.0) | |

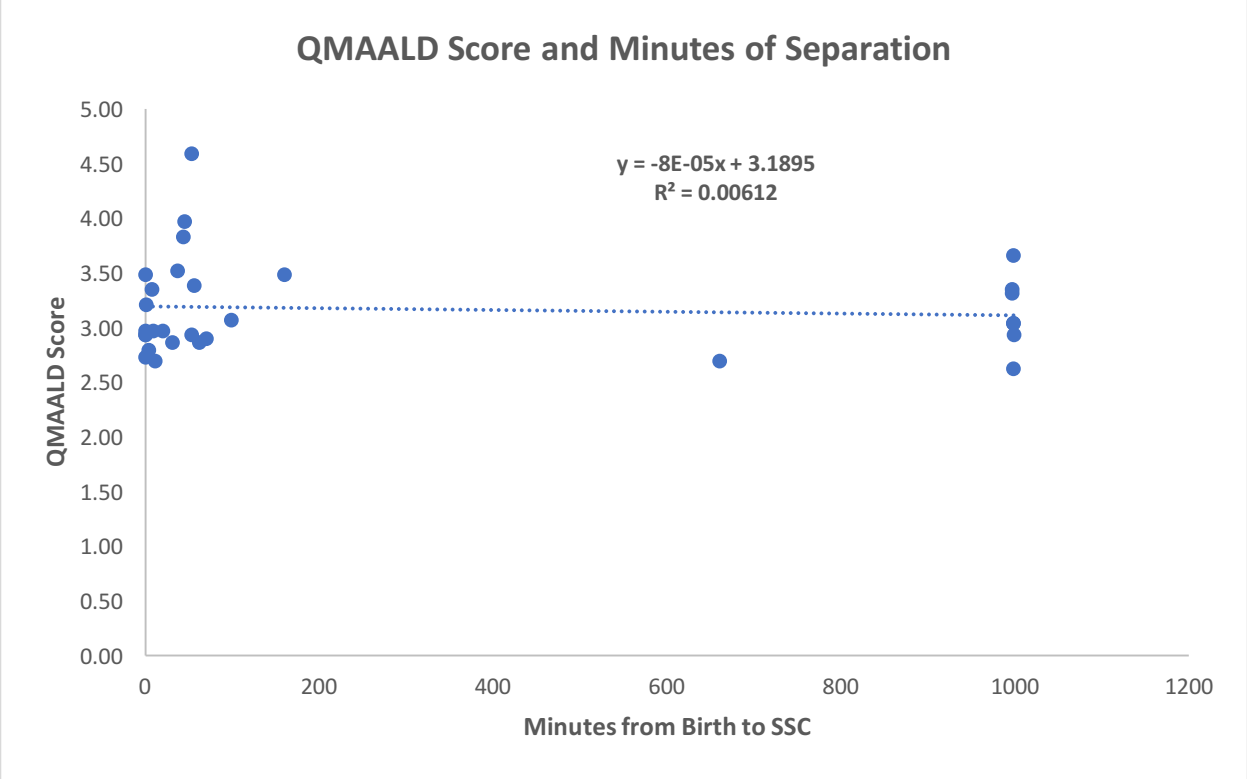


Fig. 1: Logistic Regression results of QMAALD scores and separation time

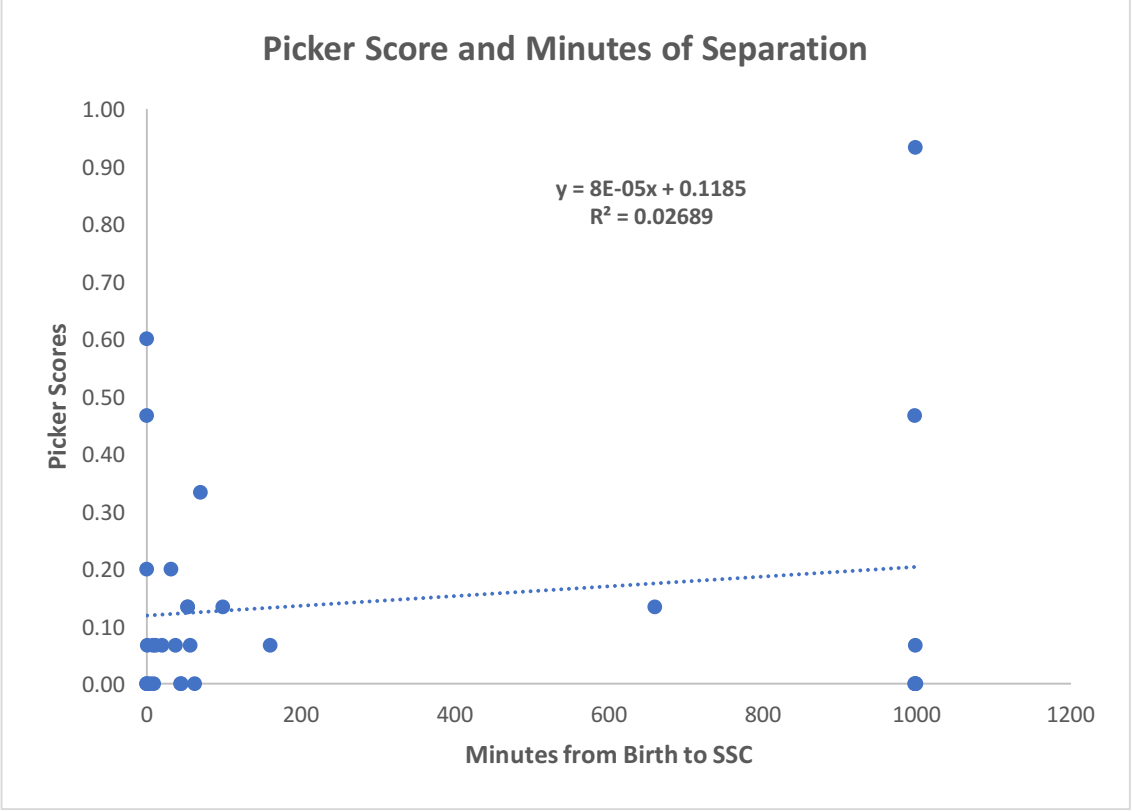


Fig. 2: Logistic Regression results of Picker survey scores and separation time.