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Labor Induction: A Grounded Theory Study

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Labor Induction: A Grounded Theory Study

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Signature Page

This thesis for honors recognition has been approved for the Department of Nursing by:

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Dedication

“Childbirth is more admirable than conquest, more amazing than self-defense, and as courageous as either one.” Gloria Steinem beautifully illustrates my deep respect for all laboring women with this quote. Though this thesis was written with the intent of improving standards of patient care for all women undergoing elective labor induction, the idea was inspired by two courageous women whose birthing experiences were affected by unforeseen and unknown induction complications. I am deeply honored to have shared their labor experiences with them.
Abstract

**Background:** Since 1990, the rates of labor induction in the United States have doubled. In 2006, 22.5% of births (1 in every 5) were induced. The rates of cesarean deliveries have simultaneously risen, reaching an all-time high of 32.3% of births in 2008, nearly a 50% increase since 1996. Numerous studies have indicated a strong correlation between labor induction and a heightened risk for cesarean section.

**Purpose:** This qualitative research study aims to explore the basic social processes of elective labor induction for women who have had an elective induction.

**Sample and Setting:** Three women ages 29 to 34 who underwent elective labor induction within the past five years participated in this study.

**Method and Analysis:** Data was collected through semi-structured, audio-recorded interviews. Tapes were transcribed and analyzed. Classic grounded theory analysis was utilized for analysis of the data. Coding was done for similarities and differences using constant comparative analysis.

**Results:** Analysis yielded six major categories (a) getting ready for birth, (b) deciding to induce birth, (c) undergoing the induction process, (d) trusting the physicians, (e) enduring struggles, (f) valuing nurses. The core category of this study was "Being Induced."

**Implications:** These research findings provide an insight into the basic social processes of elective labor induction. By understanding such processes, health care professionals could improve standards of patient care as it pertains to prenatal education, informed consent, and the decision to induce birth.

*Keywords:* Labor induction, elective induction, cesarean section, basic social processes, prenatal education, late preterm birth
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*Figure 1:* This figure illustrates the chronological events of each participant’s induction experience. From left to right, the columns refer to the inductions of Sarah (first), Sarah (second), Sarah (third), Mary, and Allison.
CHAPTER I

Background

In 2006, 22.5% of births in the United States were pharmacologically induced, a 50% increase since 1990. The National Vital Statistics Report stated these rates have substantially increased for singleton births of all gestational ages (Hamilton et al., 2009). Evidence suggests this recent escalation stems from an increase in the identification of prenatal risks and post-term pregnancy (Grobman, 2007). However, 25% of the induced labors in 2004 were elective inductions, a startling 9.5% increase since 1990; research attributes convenience on behalf of the patient and the doctor as a major source of this inflation (Zwelling, 2008). The rates of cesarean sections and late preterm births have increased as well (Wilson, 2007; Battista, Chung, Lagrew & Wing, 2007; Hamilton et al., 2009; Amy, Cammu, Martens, & Ruyssinck, 2002). These concomitant inflations necessitate an evaluation and comparison of whether the risks of inducing labor outweigh those of spontaneous deliveries. Furthermore, an evaluation of current levels of prenatal education as it relates to the increasing prevalence of elective induction is deemed necessary to determine whether an increase in the level of patient education before delivery would influence a woman’s choice for an elective induction. The purpose of this thesis is to explore the basic social processes of elective labor induction with regards to prenatal education; according to Glaser (1978), “…a BSP (basic social process) processes a social or social psychological problem from the point of view of continuing social organization. Irrespective of whether or not it solves the problem to some degree, it processes it” (p. 97).
Description of Induction

The National Center for Health Statistics (NCHS) defines labor induction as the “initiation of uterine contractions by medical or surgical means for the purpose of delivery before the spontaneous onset of labor (i.e., before labor has begun)” (Kirmeyer, Martin, Osterman, & Shepherd, 2009, p. 6). Pitocin is an exogenous, artificial form of the body’s natural hormone, oxytocin, which is routinely given intravenously to stimulate uterine contractions similar to those of spontaneous labor at term (Deglin & Vallerand, 2008; American Congress of Obstetricians and Gynecologists, 2009). For clarifying purposes, “term” is defined by Taber's Cyclopedic Medical Dictionary as 38 to 42 weeks gestation (Venes, 2009). In addition to Pitocin, there are other forms of labor-inducing drugs, such as prostaglandins, and physical procedures, such as rupturing the amniotic sac, inserting an extra amniotic foley, and stripping the membranes, that mimic the body’s normal smooth muscle contractions (American Congress of Obstetricians and Gynecologists, 2009).

**Physiology.** Contractions play a fundamental role in labor, childbirth, and placental delivery as they open the cervix to allow the fetus to descend into the birthing canal and prevent postpartum hemorrhage following delivery (American Congress of Obstetricians and Gynecologists, 2009; Deglin and & Vallerand, 2008). Similar to Pitocin, prostaglandins are produced naturally in the body. However, synthetic forms of these hormones are administered orally or vaginally to cause cervical thinning and ripening (American Congress of Obstetricians and Gynecologists, 2009). In order for childbirth to occur, the cervix must be ripened and thinned using a bishop score; this process is commonly known as effacement (American Congress of Obstetricians and
Gynecologists, 2009). Each drug encourages active labor which can be used in conjecture with physical means of induction.

**Stripping membranes.** Rupturing the amniotic sac, commonly known as “breaking the water” and stripping the membranes are two physical methods of stimulating labor. When inducing labor, the physician may perform an amniotomy, otherwise known as breaking the water, if contractions have not done so naturally (American Congress of Obstetricians and Gynecologists, 2009). Through the use of a crochet hook-like instrument, called an amniohook, the amniotic sac is punctured, triggering more frequent and forceful contractions (American Congress of Obstetricians and Gynecologists, 2009). The method of stripping the membranes is used to stimulate prostaglandin release and activity. Upon assessment of the cervix, the physician “strips the membranes” by disconnecting the thin membranes that connect the amniotic sac with the uterine wall. Unlike an amniotomy which is usually painless and almost unnoticeable, this procedure tends to trigger abdominal cramping and spotting (American Congress of Obstetricians and Gynecologists, 2009). These procedures are methods that physicians use to induce labor contractions. However, as the use of obstetrical intervention and instrumentation becomes more of a commonality, the implications behind these practices may be losing their significance.

**Pitocin.** The routine use of administering intravenous Pitocin to induce labor may be contributing to the heightened levels of drug administration errors amongst health care providers. Knox and Simpson (2009) reported medication errors are the single most prevalent cause of adverse outcomes among hospitalized patients, and approximately $3.5 billion are spent annually in the United States as a result of these adverse drug
events (Knox & Simpson, 2009). Pitocin has been labeled a high-alert medication as it has the potential to cause life-threatening effects if used in error. As a result, this drug has been classified as a pregnancy category “x” medication (Deglin & Vallerand, 2008). According to the FDA, a pregnancy category “x” drug label implies, “Proven fetal risks outweigh any possible benefit” (Brown, 2007, table 1). The most common causes of adverse drug events involving Pitocin are dosage miscalculations and failure to recognize tachysystole, both of which are preventable and may lead to uterine hyperstimulation and other adverse outcomes for mothers and neonates (Knox & Simpson, 2009). Potential maternal complications resulting from tachysystole include pain, infection, umbilical cord prolapse, hemorrhaging, placental abruption, emergency cesarean sections, uterine rupture, and decreased fetal oxygenation (Beery et al., 2007; Deglin and Vallerand, 2008; Knox & Simpson, 2009; Venes, 2009; Zwelling, 2008). Simpson & James (2008) stated the negative outcomes for the neonate result from consistent uterine contractions without sufficient time to rest and oxygenate. These adverse effects may include but are not limited to hypoxemia and acidemia resulting from oxygen desaturation (as cited in Knox & Simpson, 2009, p. 11). Though Pitocin is routinely used during labor and delivery, this high-alert medication has the potential to cause numerous adverse maternal and neonatal outcomes when administered inappropriately. (For the purposes of this study, Pitocin was evaluated as the primary drug administered for the use of inducing labor.)

**Risk for Cesarean Delivery**

In 2008, the cesarean birth rate rose to an all-time high of 32.3%, a 50% increase since 1996 (Hamilton, Martin, & Ventura, 2010a). Following a series of observational studies at the Department of Obstetrics and Gynecology of Northwestern University
Medical School, Grobman (2007) stated there is no medical benefit of labor induction in the absence of medical significance. In fact, the risks for cesarean delivery, especially among nulliparous women with an unripened cervix upon admission, or delivering a late preterm infant, significantly increase with labor or augmentation (Zwelling, 2008). As a result, once a woman has delivered by a primary cesarean section, her chances for future cesarean deliveries are greater than 90% (MacDorman, Declercq, Menacker, & Malloy, 2006). However, despite higher risks and contrasting research, physicians continue to orchestrate inductions (Zwelling, 2008). Thus, health care professionals need to re-evaluate convenience with the risks neonates and mothers face in association with induced deliveries.

**Preterm Birth**

In 2006, 900 infants were born every day between the gestational ages of 34 to 36 weeks, a period of time known as “late preterm” (Kirmeyer et al., 2009). With an average of 11,318 infants born every day in the United States (Hamilton, Martin, & Ventura, 2010b), preterm births account for approximately 7.9% of daily births. Recent studies have suggested a correlation between the increasing rates of late preterm birth with increased rates of induced labor in the United States. According to Intermountain Healthcare, an infant has two to three times’ greater chance for NICU admission following an elective induction (2010). Additional neonatal risks, including hypoglycemia, cerebral palsy, and transient tachypnea, increase significantly for mothers who elect to induce labor before 39 weeks of gestation (Knox & Simpson, 2009). The considerable escalation in late preterm labor and induced deliveries demands further study and evaluation with regards to higher prenatal risks, comorbitities, and patient
safety. While certain medical conditions necessitate a woman’s need for an induced labor, such as post-term pregnancy or macrosomia, the increasing prevalence of elective labor induction is cause for concern (Bravata et al., 2009).

**Education**

Though natural labor may seem substandard in a world of technological advancement and increased labor interventions, many women remain uninformed of the risks and potential consequences of labor induction. The Joint Commission on Accreditation of Healthcare Organization (JCAHO) and the American College of Obstetricians and Gynecologists (ACOG) advocate prenatal educational interventions by health care professionals to increase overall knowledge of the benefits and risks associated with labor induction (Zwelling, 2008). In addition to increasing awareness of the medical impacts of this practice, education on the psychological dimension is equally important. For instance, many are unaware of the increased risks that accompany cesarean deliveries, such as delayed breastfeeding, post-delivery separation from newborns, and as previously mentioned, numerous clinical complications. These potential complications place women who have an induced labor at higher risk for postpartum depression and low self-esteem (Engle & Kominiarek, 2008). Furthermore, the increasing correlation between labor induction and late preterm birth also places postpartum women of induced labor at greater risk of the psychological trauma associated with the risks of late preterm birth. Late preterm infants are at greater risk for admission to the NICU, respiratory distress, hypoglycemia, apnea, jaundice, and difficulty feeding (Engle & Kominiarek, 2008). In association with the psychological aspects accompanying cesarean and late preterm infant deliveries, it is easy to see how an impact on family relationships,
anxiety, depression, and finances has the potential to increase. Hence, the practices of anticipatory guidance and informative prenatal education may have a remarkable impact on elective labor induction.

**ACOG Standards**

The American College of Obstetricians and Gynecologists (ACOG) developed a detailed set of labor induction guidelines for physicians in 2004 (Brooks et al., 2009). This criterion allocates the initiation of labor induction for those instances that are deemed necessary when the risks of prolonging fetal gestation outweigh the risks associated with labor induction (American Congress of Obstetricians and Gynecologists, 2010). Such instances require at least 39 weeks gestation (with a precise gestational time estimate) and a Bishop score of at least eight for primiparous patients and six for multiparous women. Fetal lung maturity must also be determined as sufficient in order to induce labor electively (Brooks et al., 2009). In addition, the ACOG (2010) states the cervix must be ripened with cervical ripening agents prior to initiating contractions with Pitocin or by the use of stripping the membranes, inserteing an extra amniotic foley or rupturing the amniotic fluid sac. If these guidelines are followed, mothers and their neonates are at much lower risk for developing adverse outcomes associated with inappropriate labor induction (Brooks et al., 2009). The question then becomes, do the benefits of elective labor induction outweigh the risks of this procedure?
CHAPTER II

Review of Literature

This literature review explores elective labor induction with the intent of improving standards for patient care as it pertains to prenatal education. The increasing rates of labor induction stimulate the need for further investigation into the reasons, both medically-indicated and elective, behind the escalating preference to induce labor. The risks for mothers and neonates as well as the heightened chances for cesarean delivery and longer hospital stays associated with elective inductions were also studied. These findings stimulated further investigation into the current levels of patient education and lack thereof.

Predictors of Labor Induction

The rate of labor inductions increased nearly 200% in the United States from 1990 to 2006 (Kirmeyer et al., 2009). They take place in many countries across the world, yet the soaring commonality in America stimulates further examination of possible socio-demographic factors that may influence labor induction rates (Zwelling, 2008). Wilson’s (2007) retrospective, descriptive, correlational study statistically evaluated demographic characteristics of 1,325 scheduled inductions at a sizeable, southwestern U.S. hospital in 2005 in an effort to determine the causative factors that may have influenced the recent rise in both cesarean and labor induction rates. The study discovered non-Hispanic white women of increasing age who are insured tend to opt more frequently for an elective labor induction (Wilson, 2007). Likewise, late preterm singleton births increased significantly among non-Hispanic white and Hispanic infants of all ages across the United States (Kirmeyer et al., 2009). A comparative analysis
performed by Humphrey and Tucker (2009) also evaluated possible predictors of induction of labor. The results of this study which analyzed 17,736 cases from the Aberdeen Maternity and Neonatal Databank revealed a BMI>35, and those living a significant distance from the hospital were more likely to have an induced labor; however, around a quarter of the study’s induction of labor rates were unattributed to socio-demographic factors and are likely due to physician inclination and women’s partiality (Humphrey & Tucker, 2009). Though individual physicians’ rates of induction are unavailable for analysis, a study by Wilson (2008) found that women who attended more prenatal visits were more likely to undergo an elective induction ($p < .0001$). The significance of these studies indicates non-Hispanic white women are increasingly opting for elective inductions, and both a woman’s BMI and traveling distance from the hospital may be predictive factors for those who induce labor. This research indicates age and geographic location do not play an important role as it pertains to elective induction rates, however.

**Rationale of the Upsurge**

Inducing labor prevails as a universal, standard obstetrical procedure. However, a comparison of both clinically-indicated and elective inductions is vital to distinguish those that are deemed medically necessary and those which are purely optional. Clinically-indicated inductions are medically recommended when the risks of prolonged gestation outweigh the risks of labor induction (Wilson, 2007). Such instances include intrauterine growth restriction, eclampsia, pre-eclampsia, uterine infection, placental abruption, post-term pregnancy, high blood pressure, premature rupture of membranes, and fetal oxygenation compromise (American College of Obstetricians & Gynecologists,
Humphrey and Tucker (2009) discovered approximately 75% of their study’s inductions were clinically indicated for similar reasons, yet they also found polyhydramnios, oligohydramnios, and a history of previous induction to be predictive determinants of labor induction as well. Though there are significant medical reasons to induce labor, the increasing prevalence of elective labor induction lacks similar justification.

Elective labor inductions are becoming progressively more common. Wilson’s (2007) study discovered elective labor inductions, those performed in the absence of medical implication, account for nearly 66% of all labor inductions in the United States (Wilson, 2007). Furthermore, as stated earlier, Humphrey and Tucker’s (2009) study found the rationale behind 25% of their study’s induced labor deliveries was for unknown reasons and was attributed to patient and obstetrician convenience. In addition to the ease and availability of scheduling inductions, the increase in procedural income has the propensity to have a persuasive effect on physicians (Chaillet et al., 2007). Another factor contributing to the increasing preference of elective labor induction is the rising occurrence of fear among laboring women. A study performed by Chaillet et al. (2007) stated, “Fear of uterine rupture and newborn morbidity, fear of childbirth, fear of emergency cesarean section or pain during labour, and potential request for additional surgery were perceived as factors contributing to maternal rejection of a trial of labour” (p. 794). Whether it is convenience or fear that is leading to increasing rates of elective induction, a more in-depth look into the practice of elective labor induction and the risks associated with this common procedure are warranted.
Increased Risk for Cesarean Birth

Recent studies have extensively researched the increased risk for cesarean sections following a failed labor induction. As stated earlier, the rate of cesarean sections has reached an all-time high of 32.3% (Hamilton, Martin, & Ventura, 2010a). In congruency with this finding, research indicates primiparous women of advanced maternal age are especially at risk for cesarean delivery following an induced labor. Wilson’s (2007) natural experimental design categorically specified data comparing the births of primiparous and multiparous women by induction type into three groups (medically-indicated inductions, elective inductions and naturally delivered births). Through this study, significant predictors of cesarean birth were revealed (Wilson, 2007). While the supporting tables were difficult to interpret, the descriptive analyses of their experimental findings discovered primiparous women, especially those over the age of 35, who underwent an elective labor induction, were 50% more likely to undergo a cesarean delivery (Wilson, 2007). A similar study by Battista, Chung, Lagrew, and Wing (2007) researched the risks for cesarean delivery among elective labor inductions at five diverse hospitals in Southern California that comprise the MemorialCare System. Their findings indicated women who elected for an induction of labor versus those who delivered spontaneously were at almost three times the risk for cesarean delivery (Battista et al., 2007). These studies indicated those who undergo an elective labor induction are at increased risk for cesarean sections, and primiparous women of advanced maternal age may be at a dramatically increased risk for cesarean deliveries.
Late Preterm Birth and Cesarean Rates

Gestational age may be a significant indicator of cesarean sections. A descriptive statistics report by the U.S. Department of Health and Human Services proposed further inclination to address the rise in labor induction; however, this study in particular investigated the corresponding correlation between the increasing rates of labor induction and the progressing influx of late preterm birth. Between 1990 and 2006, rates of late preterm birth increased nearly 20% (Kirmeyer et al., 2009). Furthermore, late preterm births from which labor was induced nearly doubled while late preterm cesarean deliveries correspondingly increased (Hamilton et al., 2009). On an additional note, research revealed that deliveries of late preterm gestation may specifically increase the risk for cesarean sections among primiparous women (Wilson, 2007). In contrast, a study by Belfort, Clark, Dildy, Frye, Meyers and Miller (2008) found those induced between 37-39 weeks had comparable rates of cesarean delivery without significant distinguishing factors. Though research has yet to prove a causal relationship between labor inductions and an increase in the rates of late preterm birth and cesarean sections, studies have shown a strong correlation.

Maternal Risks

The significant parallel between the increased rates of cesarean births and labor induction necessitates an exploration into the risks associated with induction, ergo the risks associated with cesarean deliveries. A study performed by the World Health Organization 2005 Survey on Maternal and Perinatal Health Research Group discovered severe maternal morbidity was significantly more prevalent among women who had a cesarean delivery compared to those who delivered vaginally (Acosta et al., 2007). This
prospective cohort study evaluated the neonatal and maternal outcomes of cesarean deliveries with data from 97,095 participants in 120 Latin American health facilities (Acosta et al., 2007). Their results stated, “Compared with vaginal deliveries, the risk was three to five times higher for maternal death, four times higher for hysterectomy, and twice as high for being admitted to intensive care and hospital stay more than seven days…. Furthermore, the odds ratio for antibiotic treatment after delivery in women who underwent a caesarean was four to five times that for women with vaginal delivery” (Acosta et al., 2007, p. 5-6). In a study performed by Amy, Cammu, Martens, and Ruyssinck (2002) as cited by Brooks, English, Fisch, Pedaline, and Simhan (2009), the risk for early or emergent cesarean delivery, prolonged labor, neonatal ICU admission and infection significantly increased among first-time mothers who underwent an elective labor induction that did not meet ACOG standards for induction criteria. As evidenced by these studies, there is a significantly greater risk for adverse maternal outcomes when undergoing a cesarean section.

There are negative maternal outcomes related to induction of labor that are both independent and dependent on the mode of delivery. Cunningham, Declerq, Johnson, and Sakala (2008) analyzed 1,573 women’s responses from the Listening to Mothers II survey in 2006. The data revealed 79% of women who underwent a cesarean section reported pain lasting longer than 2 months, and 97% of women with a history of at least one vaginal birth reported pain at the surgical incision site (Cunningham, Declerq, Johnson, & Sakala, 2008). Additionally 52% of multiparous mothers who had an assisted vaginal delivery reported major pain compared to 28% of multiparous women who delivered by spontaneous vaginal birth. Additionally, there was a 12% difference
between women who delivered vaginally (10%) verses by cesarean section (22%) who reported experiencing pain affecting their activities of daily living (Cunningham, Declerq, Johnson, & Sakala, 2008). Given this data, cesarean and assisted vaginal deliveries, both of which are highly correlated with labor induction, place women at a greater risk for postpartum pain in comparison to spontaneous vaginal births. Another study, performed by Humphrey and Tucker (2009), discovered there were numerous possible adverse maternal outcomes associated with induction of labor that were prevalent for both vaginally and cesarean-induced births. Their research stated, “Maternal conditions of urinary tract infection (UTI), epilepsy, depression, thrombosis, anxiety and endocrine disorders, such as hypothyroidism and diabetes mellitus were all significantly associated with IOL [induction of labor]” (Humphrey & Tucker, 2009, p. 2). Though specific outcomes varied among each report, these studies’ results indicate a significantly higher risk for and association with adverse maternal outcomes among those who experience an induced labor.

**Neonatal and Fetal Risks**

The risks for adverse fetal and neonatal outcomes increase with an induction of labor. A systematic review of 76 articles performed by the Stanford-UCSF Evidence-Based Practice Center discovered that meconium-stained amniotic fluid, meconium aspiration syndrome, NICU admission, and transient tachypnea were more prevalent amongst those birthed by an induced labor delivery (Bravata et al., 2009). Additionally, a prospective observational study performed by Belfort, Clark, Dildy, Frye, Meyers, & Miller (2008) evaluated the risks for maternal and neonatal outcomes associated with elective deliveries at term. Their statistical analysis of 6,562 planned, term deliveries
revealed, “Of 2779 infants, 270 (9.7%) electively delivered at term required admission to a special care unit, compared with 252 of 3783 infants (6.6%) undergoing indicated planned term delivery” (Belfort, Clark, Dildy, Frye, Meyers & Miller, 2008, p. 2). Moreover, the World Health Organization 2005 Survey on Maternal and Perinatal Health Research Group discovered numerous unfavorable outcomes of newborns delivered by cesarean section versus those by vaginal delivery. Their research found, “For intended caesarean compared with intended vaginal delivery, after adjusting for possible confounding variables we observed a reduction in risk of fetal death but an increased risk for admission to neonatal intensive care for seven or more days and for neonatal mortality up to hospital discharge” (Acosta et al., 2007, p. 5-6). The research compiled from these three studies indicated that newborns are at higher risk for unfavorable outcomes when birthed by cesarean or planned deliveries.

**Lengthened Labor and Extended Hospital Stays**

As research delves deeper into the risks associated with labor induction, the frequency of prolonged length of labor has heightened. In a study performed by Luthy, Reisner, Wallin, and Zingheim (2009) at the well-known Swedish Hospital in Seattle, Washington, length of labor was evaluated in a prospective observational cohort aimed at increasing quality of care by reducing the number of elective labor inductions. Their results indicated labor duration was significantly increased in both primiparous and multiparous women who elected an induced delivery. On an additional note, this study found a significant reduction in emergent cesarean deliveries with spontaneous onset of labor compared to those that were induced (Luthy et al., 2009). Similarly, a study by Battista, Chung, Lagrew, and Wing (2007) evaluated the duration of labor while aiming
to explore the risks of elective labor induction. This retrospective cohort study found that women who opt for an elective labor induction experience labor nearly twice the duration as those who spontaneously birthed (Battista et al., 2007). As the research suggested, there is a significant association between increased time spent in labor with the process of induction.

In addition to longer labor, research has also found a relationship with extended length of hospital stay among those who undergo an induced delivery. Simpson (2010) stated the average length of hospital stay for patients who induced labor and underwent an emergent cesarean section was 4.2 days (Simpson, 2010). On the other hand, women who delivered spontaneously averaged 11.2 hours of labor with a 2.0 day hospital stay (Simpson, 2010). Furthermore, research has discovered that longer labors and extended hospital stays may affect the overall childbirth experience. A study performed by Srisuthisak (2009) reported significant but not pinpointing factors that were indicative of a positive childbirth experience included shorter duration of labor and decreased use of obstetric interventions. Therefore, there is an existing contradiction between indications for a positive childbirth experience with the length of labor and hospital duration.

**Current Levels of Patient Education**

The heightened risks associated with elective labor induction demand an evaluation of the current levels of patient education. A study performed by Lothian (2007) revealed, “Almost all mothers said it was necessary to know every or most side effects of labor induction (97%), cesarean (98%), and epidural (97%)” (p. 63). Though the rates of obstetric labor interventions are increasing, the prevalence of women who are uninformed of the risks of these procedures is substantial (Lothian, 2007). This study
used chi-square test statistics to analyze the questionnaire responses using \( p < .01 \) as a standard for significance (Lothian, 2007). Although almost every woman wanted to be informed about these interventions, this study discovered women have insufficient knowledge to make informed decisions, even among those who have taken childbirth classes (Lothian, 2007).

A lucid state of mind can decrease the risks of complicated deliveries. Research has shown that a greater sense of patient coherence and a decreased perception of stress can predict uncomplicated deliveries (Oz et al., 2009). A study performed at Soroka University Medical Center by Oz, Peleg, Sarid, and Sheiner (2009) evaluated the relationship between birthing experience and psychosomatic factors that may influence complications of childbirth. Women who experienced higher occurrences of childbirth complications had a lower sense of coherence score (Oz et al., 2009). Statistically, a negative correlation between the Sense of Coherence (SOC) and the Perceived Stress Scale (PSS) was revealed through data analysis. With a reported \( r \) value of \(-0.627\), an \( R^2 \) value of .393, and a \( p \)-value of \( < 0.01 \), the questionnaires were assessed using multivariable analysis to ensure reliability and validity of the study (Oz et al., 2009). This study iterates the relationship between women who have a greater sense of coherence and uncomplicated deliveries.

**Further Education**

Improved perinatal education could significantly increase standards of obstetric patient care. A study aiming to decrease the currently elevated rates of cesarean sections in Quebec reported that obstetricians believe “promoting women’s education about the risks and benefits of vaginal delivery compared to caesarean section, with informational
materials available in waiting rooms, was perceived as an efficient strategy for sensitizing women and enhancing communication between health professionals and women” (Chaillet et al., 2007, p. 795). In addition, Srisuthisak (2009) reported the greater the education and the support bestowed by the nursing staff, the lesser the stress and the greater the prevalence of a positive childbirth experience. Improved systems of patient education need to be formed to facilitate the most effective and safest methods of mother and neonatal care. Fortunately, there is significant potential for health care providers to address the current deficiency of labor intervention education provided to childbearing women by increasing education (Lothian, 2007).

With an increased need for childbirth education and an indefinite time frame of optimal opportunity to do so, research suggests there is a significant lack of initiation for education by childbirth educators consequently. A study performed by Morton (2009) evaluated the role of a childbirth educator by attending and observing both large-scale and independently organized childbirth classes as well as performing numerous in-depth personal interviews with both the educators and class attendees. Though this was only a small-scale study without a review of literature, there was a significant amount of in-depth and valuable data that were collected from 65 classes totaling 160 hours of cumulative observation. By comparing the current state of prenatal health care to a restaurant menu with salad used to represent normal birth and cheeseburgers used for existing maternity care, this study suggested there is a significantly higher prevalence of women who opt for cheeseburgers than salads, despite the healthier option (Morton, 2009). However, the proportion of women who notably lean toward either a more natural or a more contemporary approach to childbirth is actually 50/50 in the classroom. Morton
(2009) stated problems occur when childbirth educators try to deliver unbiased, neutral information without inducing stress or fear. As a result, childbirth education classes fail to connect the dots between care options and their effects; thus, education about the risks and benefits of such practices are not discussed. Without conclusion, Morton (2009) posed a question, food for thought, one could say, stating:

On what grounds do childbirth educators decide to protect women from disturbing information because they think it might create more fear and/or anxiety? If the period of 34 or 35 weeks in pregnancy is not the right time to highlight practices most associated with negative health outcomes for women and babies, then when is the appropriate time? Is it ethical to withhold information about the institutional organization of obstetrics and, thus, not prepare expectant couples for considering what types of nonmedical factors affect their decision making? (Morton, 2009, p. 29-30)

A Nurse’s Role

Nurses are invaluable when it comes to prenatal education and providing extensive care as they are predominant caregivers during labor. Therefore, they are qualified to make appropriate evaluations of the entirety of the labor and delivery team (Schultz et al., p. 203). Research suggests the soaring quantities of obstetric interventions are hindering a nurse’s role in patient care. A clinical research study performed by Schultz, Sleutel, and Wyble (2007) explored current levels of obstetric care from a nurse’s perspective by performing content analysis on 755 two-phase questionnaire submissions from nurses across America attending an Association of Women’s Health Obstetrics and Neonatal Nurses conference (AWHONN) in 2001 (Schultz et al., 2007).
Each phase of the questionnaire explored nurses’ personal experiences by asking their opinion on the following: “strategies nurses use to enhance labor, how nurses help patients avoid a cesarean birth, and limitations to aid labor” (Schultz et al., 2007, p. 204). In addition to these areas, the survey invited participants to expand on their own experiences, including their opinions about the role of a nurse to “enhance labor, prevent cesarean birth, improve birth outcomes … [and] what helps or hinders their efforts” (Schultz et al., 2007, p. 204). Though there were three particular themes that transpired from this study’s findings, the most common of these was barriers or obstacles that hinder nurses’ intrapartum care, such as hastening, controlling and mechanizing birth, the most prevalent hindrance. On an additional note, the survey questionnaire revealed a sizeable magnitude of nurses who particularly referred to elective labor inductions as “problems, citing lack of truly informed consent, unnecessary cesareans, and inductions done for provider convenience” with additional remarks that expressed “varying degrees of concern, dissatisfaction, disgust, and outrage that convenience often trumps safety in obstetric care” (Schultz et al., 2007, p. 211). This research study concluded that a large majority of nurses view their role as being compromised by the large quantity of obstetrical interventions performed. Furthermore, their views toward elective labor induction suggest this common procedure necessitates further evaluation with regards to patient safety as there is a large discrepancy between convenience and a patient’s wellbeing.

The Physician’s Role

Though nurses spend significantly greater amounts of time with patients, physicians are the primary practitioners. Therefore, their perspectives on current
standards of patient care are also essential. Chaillet, Dube’, Dube’, Dugas, Dumont, Francoeur, Gagnon and Poitras (2007) performed a qualitative study at tertiary, secondary and primary care hospitals in Montreal to explore physicians’ perspectives on labor management in an effort to identify barriers and ways to develop effective strategies to execute these practices. After collecting and analyzing the transcripts from both focus groups and semi-structured interviews, the prevalence of physicians performing labor inductions for reasons such as patient request and unavailability to perform such a procedure on the weekends was clearly identifiable (Chaillet et al., 2007). Specifically, the barriers to providing the best clinical practices included “induction of labour before 41 complete gestation weeks, maternal request for induction at term, possible complications insufficiently discussed with women when planning an induction, medico-legal concerns, adoption of a proactive approach to reduce potential risks of lawsuits, and unavailability of induction during the weekend” (Chaillet et al., 2007, p. 794). This research supported the idea that convenience as a motivation for obstetrical intervention needs to be assessed. Additionally, as primary caregivers, physicians’ opinions may also be significantly weighted from a patient’s perspective.

Research suggests practitioners’ influence may be contributing to the rise in labor inductions. In a study performed by Boscoe et al. (2009), 44.8% of the 6,421 respondents (representing 76,508 women with weighted distributions) who participated in a “Maternity Experiences Survey” reported their practitioner attempted to speed up and/or induce their labor. Additionally, 84.4% of the participants received an epidural, most of which were primiparous women (71.6%), highly educated women (58.7%), or affluent women (above low income status) (59.4%) (Boscoe et al., 2009). The study also found
the rates of obstetrical intervention and attempts by the physician to induce delivery may differ by geographical location and demography (Boscoe et al., 2009). Since the physician may have a significant influence upon a woman’s decision to induce labor and delivery, it is essential that physicians suggest labor induction conservatively as childbearing women are highly influenced by their judgment.

**Managing Induction of Labor**

Swedish Hospital in Seattle, Washington saw a lack of initiation to address the increasing rates of elective labor induction and a demand to further educate patients about the risks of the procedure (Luthy et al., 2009). In 2007, this hospital developed a labor induction management program in an attempt to enhance the quality of care for its obstetric patients. This prospective observational cohort study aimed to decrease the rates of elective labor induction by implementing a labor induction consent form. The rationale behind this study parallels the research shown that reducing the rates of obstetric interventions considerably influences positive childbirth experiences (Srisuthisak, 2009). The rates of elective labor induction following the implementation of the consent form were compared with those of 2 years previous. Luthy et al.’s (2009) study revealed 10,166 nulliparas (women who have never given birth) and 9,869 multiparas (women who have given birth two or more times) attempted vaginal deliveries between March 2004 and December 2007. The rate of labor induction decreased from 30 to 25% with a more specific, corresponding decrease in the rate of elective labor induction from 4.3% to 0.8% (Luthy et al., 2009). The findings from this study indicated a significant decrease in labor induction following the implementation of the program.
The increased risks and costs associated with elective labor induction contrast with an initiative to provide safe and cost-effective care. Simpson’s study (2010) aimed to address the escalating rates of elective labor induction whose title candidly summarized the contextual basis of the article in just a handful of words: “Reconsideration of the Costs of Convenience: Quality, Operational, and Fiscal Strategies to Minimize Elective Labor Induction.” Simpson (2010) suggested there is a paradoxical relationship between patient safety and convenience as grounds for elective labor induction before 41 weeks gestation. The potential and frequent cascade of medical interventions that are performed with labor induction juxtaposes against a culture focused on evidence-based practice and quality healthcare improvement (Simpson, 2010). This article proposed several strategies to improve the labor and delivery system to positively affect standards of patient care. By decreasing the rates of elective labor inductions, hospitals may significantly reduce the costs absorbed with induced birth while receiving similar reimbursements for those in spontaneous labor (Simpson, 2010). Additionally, Simpson (2010) addressed the 1:2 nurse-to-patient ratio that is currently recommended by the American Academy of Pediatrics and ACOG and stated a 1:1 ratio should be implemented into labor induction care as a woman and her fetus are not one but two patients. Lastly, this article proposed a reevaluation of the necessary demands presently placed upon gynecologists under the laborist model of care (Simpson, 2010). Currently, the 24-hour cycle of clinical care, surgeries, rounds and childbirths throughout the night is unhealthy and irrational. The hospitalist model of care, on the other hand, proposes shorter intervals of twelve-hour shifts rotated equally among obstetricians. The essential role of nurses and physicians in both maternal and neonatal health care with implications
to improve standards of patient care, accordingly, deemed the discussion of their timely demands as necessary (Simpson, 2010). As these areas do not play a significant role in the reduction of elective labor inductions, however, further information regarding insurance companies, nurse-to-patient ratios and obstetrical models of care will not be discussed. In conclusion, this article stated there is no one single or independent approach to decrease the rates of elective labor induction. However, the numerous strategies proposed by Simpson (2010) transcend the ultimate goal of perinatal care to decreasing rates of morbidity and improving safety and care.

In 2006 alone, $860 billion were spent on maternal and neonatal care, 49% paid by insurance companies and 43% by Medicaid (Simpson, 2010). Additionally, labor and delivery account for one in every four hospital discharges (Simpson, 2010). Clearly, this is an integral part of America’s health care. As the rates of elective labor induction soar and the rates of maternal and neonatal morbidity correspondingly increase, research proposes a myriad of solutions to address this unnecessary influx with education representing the most imperative, the most basic, and the most cost-effective of these interventions.
CHAPTER III

Methodology

The purpose of this thesis is to use grounded theory research to explore the basic social processes related to the clinical practice of elective labor induction. This research study will help health care professionals improve standards of patient care as it pertains to prenatal education.

Grounded Theory Research

Grounded theory research is an ongoing process of methodical construction of theories attained using careful, accurate and precise methods of research (Glaser, 1998). Grounded theory requires constant comparative analysis throughout the duration of data collection. As a result, new theories become obvious throughout the data collection process, providing a picture of related concepts and ideas (Glaser, 1998). Glaser and Strauss (1967) delve deeper into this idea when they state,

The constant comparative method is designed to aid the analyst, who possesses these abilities [skills and sensitivities required in generating theory], in generating a theory that is integrated, consistent, plausible, close to the data—and at the same time is in a form clear enough to be readily, if only partially, operationalized for testing in quantitative research (p. 103).

For researchers, such as nurses, whose profession revolves around evaluation and evolution to improve standards of patient care, this type of research identifies a specific problem with a solution in an unbiased manner (Glaser, 1998). Glaser (1998) expands this idea when he states,
The appeal of grounded theory is great. It is suitable for handling many problems that forcing or preconceiving methods do not handle. In other words, if the researcher wants hypotheses that can be used to help participants in a substantive area, grounded theory is well-suited to discovering the participants’ problem and then generating a theory accounting for the processing of the problem (p. 11).

With the application of grounded theory research, the researcher is able to identify the basic social processes of elective labor induction through the use of personal interviews.

**Qualitative Research**

Fain (2009) defines qualitative research specifically yet simply when he states, “Qualitative research is a way to gain insight through discovering meanings” (p. 202). This type of research extensively focuses on the lived experience and the interactions between people and their environment (Fain, 2009). Through a holistic approach, qualitative research aims to define a particular problem in relation to human insight and experience (Fain, 2009). Through qualitative research and the examination of women’s lived experiences with elective labor induction and subsequent rigor proposed by labor and delivery nurses, basic social issues involving the practice became evident and distinguishable.

**Procedure**

Three personal interviews were conducted on a voluntary basis in a private setting with postpartum women who have had an elective labor induction within the past five years. Data was collected in semi-structured interviews that were audio-recorded and
then transcribed and analyzed using classic grounded theory analysis. Coding was performed to produce similarities and differences using constant comparative analysis.

**Characteristics of Participants**

Participants of the personal interviews were English-speaking women, over the age of 18, who underwent elective labor induction within the past five years.

**Data Collection**

Data was collected through three audio-recorded interviews from three women who were recruited by word of mouth. In order to maintain patient confidentiality, each participant’s name and contact information were kept in a safe, secure and locked cabinet. The interviews were conducted in private settings of the participants’ preference, such as their homes or a neutral coffee shop, to guarantee privacy and confidentiality. Such settings were agreed upon by both parties to ensure safety and comfort on behalf of both the participant and the interviewer. The interviews consisted of audiotape-recorded interviews lasting about 30 to 60 minutes in duration. In these interviews, the participants were asked to discuss their experiences, feelings, and ideas related to their experiences with elective labor induction (see Appendix A for a copy of the interview script).

**Data Analysis**

Classic grounded theory analysis was applied for interpretation of the data, and coding was performed for similarities and differences using constant comparative analysis. This was a pilot study for an Honors Thesis research project, and the sample size was small. Three interviews provided sufficient data for this study as qualitative research necessitates fewer research participants in order to do the deep analysis required.
Through qualitative research and the examination of women’s testimonies of their lived experiences with elective labor induction, basic social processes involving the practice became evident and distinguishable.

**Confidentiality**

The names and contact information of those who volunteered to participate in personal interviews were kept in a safe, secure and locked cabinet to assure confidentiality. All electronic data was kept in a password-locked file on the principal investigator’s personal computer. Participants were referred to with pseudonym names for privacy (see Appendix B for a copy of the informed consent).

**Ethical Considerations**

Ethical considerations were taken into focus as the study aims to investigate basic social processes relating to the practice of elective labor induction. The researcher guaranteed interviewees that no judgments were passed with regards to the reasons for the choice of an elective labor induction, such as convenience, anxiety, etc. Additionally, the researcher successfully completed the training course, “Protecting Human Research Participants” (Office of Extramural Research National Institutes of Health, 2008), for research validity and sanctity of the study. This research was approved by the Institutional Review Board for Human Participants in Research (IRB) on October 11, 2010.

**Risks**

While there were no physical risks to those participating in this study, there was the possibility of experiencing emotions related to research participants’ labor and nursing experiences.
Benefits

This research study aimed to improve patient care by studying the basic social processes behind elective labor induction. This research study aspires to help health care professionals improve standards for patient care as it pertains to prenatal education. Though there were not any direct benefits to those who participated in this study, their contribution to this research may play a vital role in the future of social practices of elective labor induction.

Researcher’s Bias

The researcher was careful not to impose personal bias on or sway opinions of elective labor inductions to ensure autonomous data from the interviewees’ experiences. However, the researcher’s own personal experience with elective labor induction as a student nurse was motivation to explore this topic thus far. While providing care to two mothers undergoing elective induction in 2009, the researcher witnessed both deliver by emergency cesarean section after a failed induction. Both newborns were admitted into the NICU immediately after delivery, and both mothers sustained emotional trauma related to situational shock, lack of contact with their new infants, and the knowledge deficit related to their childbirth event. These educational and emotional experiences were the seeds that fostered curiosity and inspiration to explore the basic social processes of elective labor induction.

Limitations

There were several areas of this study that imposed limitations upon this research. First, the process of recruiting women in a rural community led to a small number of personal interviewees available for data collection. This was a limiting factor to this study
as it allowed only a limited number of individuals to voice their experiences of elective labor induction. Furthermore, the racial population of this study was predominately Caucasian which appropriately represented the rural location of this study but may incompletely represent the population of the nation.
CHAPTER IV

Findings

The results of this research study were derived from qualitative analysis of personal interviews of three women who underwent elective labor inductions using classic grounded theory analysis. The participants of this study varied in age and location with the purpose of generating well-balanced results. Each participant has been given a pseudonym to maintain their anonymity while sharing their lived experiences. Data analysis identified the labor experiences of those who underwent elective labor induction as a dynamic process. Though women had their own unique experiences, certain characteristics of labor induction were common among all participants. The six major categories identified in these women’s experiences included (a) Getting Ready for Birth, (b) Deciding to Induce Birth, (c) Undergoing the Induction Process, (d) Trusting the physicians, (e) Enduring Struggles and (f) Valuing Nurses. The core category of this study is “Being Induced.”

Being Induced

Being induced represented a life changing event for each of the participants in this research study. The experience of being induced resonated differently in each participant as unique events holistically defined the process. However, continual preparation, decision making, information seeking, emotional coping, and navigation through the induction procedure were collective themes for all in this study.

Getting Ready for Birth

Getting ready for birth was a multifaceted process in each of these women’s experiences. The process of generating an idea of birth was shared among each
participant and was engrained in an overall sense of preparation. In conjunction with the planning process, the sources of prenatal education played an important role in the experiences of these participants.

Thinking about birth. Over the duration of their pregnancies, each woman formulated their own idea of an ideal or dream birth. Mary, a first-time mother, stated “My joke was always, I wanted to cook her for as long as I could.” She also said, “I kind of went into this whole pregnancy thinking I was going to never have to get an induction, not even have to get a c-section.” Sarah, a participant who underwent three labor inductions, stated,

With my first child, I wanted to do everything naturally -- no epidural, no other drugs, no c-sections, no inductions, etc. I knew it would be hard and life changing, but I figured if millions of other women could do it that way, I should be able to handle it as well.

Prior to delivering her first baby, Allison described her dream of birth as, “The picture that you think of... going into labor on your own and rushing off to the hospital to deliver a happy healthy baby.”

In all three participants’ responses, there is significant evidence that suggests women formulate a predetermined, ideal set of events of how they imagine their birthing experience to ensue.

Seeking information. Prenatal education played a significant role in the participants’ experiences. However, the process of researching and seeking out information differed among each participant. While Allison’s free parenting class at a hospital served as her primary source of labor and delivery education, Mary did not
attend any actual birthing classes. Instead, she felt the discussions and group education she received from her centering group, a group care approach where a small group of women of similar gestational age meet regularly to discuss concerns and pregnancy-related topics (Centering Healthcare Institute Inc., 2009), was sufficient. Sarah, on the other hand, did not perform any research outside of her prenatal appointments. Both Allison and Mary utilized the internet as a supplemental source of prenatal education as well.

**Deciding to Induce Birth**

*Experiencing a variety of emotions.* Pain, insomnia, anxiety, exhaustion, and feeling uncomfortable were identified as the most common feelings experienced at the end of pregnancy with exhaustion and anxiety being the most frequently reported symptom. Sarah was initially against induction; however, the array of emotions she was experiencing towards the end of her pregnancy changed her decision. She said,

I was exhausted by the end of the pregnancy. I was in pain, couldn't sleep, and I was having anxiety about delivering. I asked my doctor about inducing. She gave me the facts about it and wanted to know what I thought. At first, I was against it, but I went in to see her the day before my son was due and asked if I could be induced.

Allison was tired of being pregnant as well and wanted to hurry up the process. “It was the middle of the summer, I was retaining a lot of water and I was just not comfortable,” she said. “Opting for the induction, I knew at the end of the day I would be holding my baby in my arms that I had so anxiously wanted to do for so long.” The
emotions experienced nearing the end of pregnancy may have significantly affected their decisions to induce birth.

_Lacking understanding about induction._ Though all of these women opted for the induction, the teaching and education behind the process varied among each participant. When asked about her education prior to having an elective labor induction, Allison said, “The doctors didn’t go into many details on why or why not have the inductions, and I really didn’t ask either… they did warn me the labor would be harder on my body having an elective induction.” Once in the hospital, the nurses updated her on the progress of events that were occurring. It wasn’t until after eight hours of hard labor and a failure to progress that she was informed of the risk of a cesarean section. When asked how she felt when she received the news, Allison said, “I was devastated, mad and worried. I was not informed of the risks of the cesareans at the time.”

Mary had a similar experience like Allison. It wasn’t until Mary was in the hospital with a failing labor induction that she was informed of the risks of cesarean section. “I did have an increased risk of actually having a c-section at that point,” recalled Mary. “And so we did kind of have that conversation, but not until I was actually in the hospital doing that.” As far as receiving an education about inductions, Mary said discussing the risks with her physician wasn’t necessary because she hadn’t even considered that option. “We talked a little bit about the risks when I was first admitted, because really truly like I said, up until that point we hadn’t really talked about inductions,” she said. “It really wasn’t on the table and I personally didn’t want to speed the process along.”
Sarah felt she was adequately educated about having an elective labor induction. She said, “My physician was very thorough with all of her information. I was told of the risks and still opted for an induction.” Though she was not given any written information regarding the practice, an interactive discussion took place with her physician and her questions were answered.

**Undergoing the Induction Process**

Each of the three participants underwent different methods of labor induction. In Allison’s induction process, Cervidil was used to induce labor which she perceived to be very painful. Dinoprostone, more commonly known as Cervidil, is a tampon-like vaginal insert containing endocervical gel that is used to induce cervical ripening (Deglin & Vallerand, 2008). She was sent home in between induction efforts in hopes that her body would progress naturally on her own. Once her body engaged in active labor, her physician broke her water and she received an epidural. In Sarah’s experience, the physician stripped her membranes in hopes that natural progression would follow. Her body did not respond, however, thus prompting an infusion of Pitocin. The physician broke her water, and she received an epidural to help with the contractions. In Mary’s induction experience, a catheter filled with sterile water was inserted into the cervix to induce cervical ripening. This method of cervical ripening was used in concurrence with infusions of Pitocin.

*Coping with obstacles.* After Allison received an epidural, an infusion of Pitocin was initiated. After eight hours of labor, however, her labor was deemed unsuccessful and a “failure to progress” prognosis was made. She stated, “I pushed for two hours only to find out that I was going to have a cesarean.” After the physician broke Sarah’s water,
her labor began to progress naturally. However, her baby’s fetal heart tones began to decrease causing the baby to become “stressed.” Her baby’s condition continued to worsen, which prompted discussion of the possibility of an emergency cesarean section. After Mary endured three failed days of induction, she opted for a cesarean section. She stated, “I’d get increasingly more contractions. But then you’d get about 40 minutes into the hour, and it would just basically stop.”

Identifying events. A diagram of each participant’s labor events has been constructed to illustrate the process. Common findings were highlighted (see Appendix C for an illustration of the chronological events of each participant’s induction experience).

In all three instances, the initial methods used to initiate labor contractions proved unsuccessful for cervical ripening. Whether it was the use of the Cervidil, the catheter, or stripping the membranes, each method initiated a causal sequence of unforeseen events leading toward a more mechanized birth. As a result, all three of these women’s experiences lead to the need for an epidural, Pitocin, and potentially an emergency cesarean section.

Trusting the Physicians

Though the series of events differed amongst the participants’ experiences, the significance of physician input transpired into one of the weightiest influences. Sarah recalled a discussion she had with her physician prior to inducing labor. As mentioned earlier, she was initially against induction. After discussing it with her physician, however, she changed her mind and opted for it. She said, “My decision was based on a few meetings with my doctor about my options… my decision was not based solely on convenience but was selected with the idea that this would help me heal quickly and
would alleviate some of the anxiety that I was experiencing.” Sarah’s physician also felt Pitocin could be used as a tool for labor regulation. She said, “She believed that with Pitocin, she and the nurses could control my labor more effectively.” The doctor asked to break her water, and then recommended she get an epidural and an intrathecal. The baby became stressed, but they didn’t talk about that until after the birth. The doctor gave her a time limit to get the baby out. After compiling these details, it is obvious to see how the input of Sarah’s physician played a significant role in her birthing experience.

Allison’s induction experience also consisted of pivotal moments with her physician that may have altered her pregnancy progression. When faced with the option of having a cesarean section, Allison said, “I don’t know if it was convince on my doctors half, but it may have been on mine… The c-section sounded like the safest method.” When asked about how her care provider presented the topic of elective labor induction, Allison stated, “They just asked ‘Do you want to have the baby by the end of the week’ and that sounded awesome. I jumped on the wagon as fast as I could!”

Mary’s physician preferred a more natural approach; however, his affect can still be observed in her narrative. She recalled her physician’s standpoint on pregnancy was, “We’ll do what you want to do, but really our philosophy is we want to keep this baby in as long as we can as long as the baby is doing good.” At 32 weeks gestation, Mary’s physician went into private practice; however, she believed both physicians were oriented towards natural progression of labor events. After two days of labor induction, Mary was presented with three options. The physician told her,

The first option is I can check you, and if you’re engaged enough, if you’re dilated enough, I’ll just break your water and we’ll just go for it… Second
option is we can stop everything and try this for a third day, try it tomorrow… the third option is really something I don’t want to do, is we can do a c-section right now for you.

Since Mary hadn’t progressed, option one was thrown out which narrowed her options down to major abdominal surgery or enduring another day’s worth of induction. Despite the physician’s effort to grant the patient autonomy, the options were both distressing.

**Enduring Struggles**

Though each participant underwent a different series of labor events, all the participants mentioned struggles they endured at some point during their experience. Sarah claimed the relentless contractions following her induction were the most difficult times. She stated, “I would have a contraction and then while it was beginning to decrease in pain another would begin. I didn’t get many breaks or rests and the pain exhausted me immensely.” Allison testified, “My first experience is the worst – I’m always afraid to tell any ‘soon to be mom’ about it. I was induced twice, and my body did not respond to the drugs. The third time and a week later it was a success!” Mary stated her lowest moment took place on her third day of induction. She said, “From 7 to 11:30 I had three contractions. So my body was just totally not, just not ready, and I was only 37 weeks… I was just so tired at that point.” At other points in the interview, Mary stated, “My body wasn’t ready… my body was not really ready to go.”

*Experiencing symptoms of PTSD after birth.* Each participant exemplified some form of postpartum blues and/or depression following their labor experiences. When asked to identify symptoms experienced within the first year of delivery, two out of the three participants identified symptoms of Post Traumatic Stress Disorder, more commonly
referred to as PTSD. Sarah identified three symptoms related to avoidance and emotional numbing which included feeling emotionally numb, avoiding activities once enjoyed, and difficulty maintaining close relationships. She further described the situation when she said,

I lost a lot of blood after my first delivery and it took my body a long time to recover from the experience. I believe that was a huge factor in why I seemed to pull myself out of social experiences and became "numb" from some emotions. As my body healed, so did my emotional well-being.

Allison also identified specific symptoms of PTSD when she identified specific feelings of avoidance and emotional numbing, including feeling emotionally numb, avoiding activities once enjoyed, and difficulty maintaining close relationships. She also experienced symptoms of anxiety and increased emotional arousal, including irritability or anger, overwhelming guilt or shame, and trouble sleeping.

Looking toward future births. As far as future pregnancies go, all three exemplified optimism in some form or another. Despite her traumatic birthing experience and the symptoms of PTSD she experienced after her first delivery, Sarah would choose to induce labor again. She said, “I had a positive experience with induction and would recommend it to anyone who had had the same kinds of labor/delivery experiences that I had faced.” She also stated, “Even with the trauma of my first labor and delivery, I still got pregnant twice more. I was a bit anxious when I went in for my second delivery, but with my plan in place and my doctor's reassurance, I overcame that as well.”

Allison, on the other hand, felt differently about induction after her induction experience. She said, “I know now if I had the option I would opt out – maybe it’s
because I’m a older or because it’s not my first pregnancy, so I know what to expect and I would enjoy those last few days of being pregnant.” Later she stated, “I sometimes think about what day their “real” birthdays would be if they came on the day they were supposed to, and not the day we had them. I also wonder what the labor would be like, if it would be easier, because it would be a more natural birth.” Mary is optimistic about future pregnancies, but she expressed a desire for a more natural experience. She said, “I kind of feel like I didn’t get that experience, because I never was really pushing, my contractions never really got that crazy, and so, for me I do want to have that experience.”

**Valuing Nurses**

Once in the hospital, the role of nurses as primary educators, supporters and sources for information was significantly evident in all three participants’ birthing experiences. Allison recounted her experience with the nursing staff and stated,

> The nurses were the primary educators… they were the primary care givers; the doctors came in only while I was towards the end of the labor… I had the same nurse each time I was induced. She actually stayed with me, hours after her shift ended so she could meet my ‘stubborn daughter’… The nurses got to know my husband, my family and myself; they held my hand, they helped me pushed. The energy they had was incredible, and she really helped me push along that day; she was very special. She genuinely cared, and you could really feel that.

Sarah stated,

> The nurses were my primary care givers (and they were amazing!). They catered to my every need and were there with me through the entire process. My nurse
massaged my cervix and pelvic area during delivery to help prevent tearing after I
told her my history. She also provided me with a peaceful environment and
helped me with all my wishes. She allowed my son to nurse immediately and
informed me of all of his progress after he was born and on oxygen. The nurses
also made sure I was taken care of; they delivered my pain medication promptly
and encouraged me to rest.

Mary stated,

They were just so supportive, very knowledgeable; they talked to me if I had
questions. Because of course you know the doctor isn’t there very often. I only
saw him maybe, you know, three times a day, usually it was only twice a day…
The nursing staff is kind of your advocate. They’re your educator; they’re the
ones telling you what’s going on, and for me, just keeping me informed. And they
were very good about that.

All three participants verbalized the significance of receiving support from their
nurses. Nurses were identified as “primary care givers” and “primary educators.” Two of
the three participants exemplified the significance of the nurses’ presence, noting the
physician’s lack thereof. Allison, Sarah and Mary also indicated the significance of the
nurse’s role as supporter, patient advocate, informer, encourager, educator and caregiver.
Nurses were noted to facilitate an empowering learning environment by answering
questions and keeping the patient informed.
CHAPTER 5
Discussion and Conclusions

In response to the findings of this qualitative research study, an investigation of the current research related to the categories identified through classic grounded theory analysis was warranted. These areas included the domino effect of induction interventions, the risk for cesarean section, the significance of physician influence, the lack of prenatal education, and the long-term struggles experienced in the postpartum period.

The Domino Effect

Labor induction in the absence of cervical ripeness may lead to a cascade of needed interventions. In all three instances, the initial methods used to initiate labor contractions proved unsuccessful. Whether it was the use of Cervidil, the catheter, or stripping the membranes, each method initiated a causal sequence of unforeseen events leading toward a more mechanized birth. Regardless of their initial thoughts, all three of these women’s inductions lead to the need for an epidural, Pitocin, and a potentially an emergency cesarean section. A study by Romano and Lothian (2008) discovered similar results when women were induced in the absence of cervical ripeness. In a more specific description, they reported:

Induction of labor sets the stage for medically managed labor and birth characterized by intravenous lines, electronic fetal monitoring, and very often epidural analgesia. This makes the overuse of induction of labor perhaps the greatest risk to normal physiological birth. It is therefore ironic that normal
physiology prevails as one of the most important modifiers of induction success (Romano & Lothian, 2008, p. 96-97).

Overall, the study by Romano and Lothian (2008) aims to challenge antenatal care in America to incorporate evidence-based care practices promoting normal physiological birth to improve standards of patient care. In congruence with this study’s findings, research indicates the need for further interventions and mechanization when births are induced.

Induction and Cesarean Section

Though only two out of the five inductions actually led to a cesarean section, the remaining three births by vaginal delivery encountered complications that may have progressed to cesarean sections. While the topic of cesarean risk remains one of the most controversial topics in recent research related to inductions, a new study by Wilson, Effken, and Butler (2010) found that multiple factors contributed to an increased risk of cesarean section. Primiparous women who underwent medically-indicated inductions were at highest risk for cesarean sections, compared to women who electively chose to induce labor. Age, race, and prenatal care were also found to be relatable factors (Wilson, Effken, & Butler, 2010). Though earlier research indicates substantial risks associated with elective labor inductions, this particular study did not. Delivery before a 39 weeks gestation, however, was found to be a significant contributor to increased risk for cesarean deliveries. A quantitative study by Denk, Aveni and Cohen (2010) determined, “Until 39 weeks of gestation, cesarean rates are at least double that for deliveries beginning with spontaneous labor.” This study suggests gestation alone can pose significant risk for emergency cesarean sections. In the array of various findings listed
above, the need for further research associated with these hypothesized correlations is obvious. When taking into consideration the amplified rates of women opting for an elective induction, the need for further research is even more desirable.

**Physician’s Influence**

Women sought the physician’s guidance for birthing guidance, possibly affecting their decisions for inducing labor; however, they described their experiences with autonomous confidence. Though the research that studied the motivating factors behind elective labor induction is varied and uncertain, the significance of the physician’s input has been recently studied by Simpson, Newman, and Chirino (2010a). Regardless of childbirth preparation classes, this study found the physician to be one of the most influential factors of elective labor induction. Out of the 442 women who underwent elective labor inductions, 71.7% of women’s responses in this study were attributed to “My physician said” answers, with “My physician said my baby was getting too big” or “My physician said I was due now or overdue” as the most common. Only 20% of the responses were listed for individual reasons, such as relief from discomfort, physician preference, and timing purposes (Simpson, Newman, & Chirino, 2010a). Additionally, this study found, “When the option for elective induction was offered by their physician, women were significantly more likely to choose elective induction than when the option was not offered,” (Simpson, Newman, & Chirino, 2010a, p. 193). The statistics of this study indicate the depth of trust given to obstetricians by their patients, thus stressing the importance of accountability and responsibility on behalf of the caregivers.
Educated to Make Decisions?

The sources of prenatal education about elective labor inductions varied with each participant’s experience. This suggests the prenatal education about elective labor induction lacks consistency between caregivers. As in the case of one participant in this study, women may choose not to elect for labor induction in the absence of medical indication when thoroughly educated. Simpson, Newman, and Chirino (2010b) found that 75% of women who knew their delivery would result in a cesarean section would not choose elective labor induction. On the other hand, Wilson, Effken, and Butler (2010) discovered that women who were highly educated about their births were more likely to undergo cesarean sections after induction. Overall, both studies found those who received a thorough prenatal education felt they were adequately prepared for their deliveries. As stated by Simpson, Newman, and Chirino (2010b), “Full disclosure of associated risks of elective induction honors and respects pregnant women's intelligence and their desire to do what’s best for themselves and their baby” (p. 30). Whether or not inductions lead to more cesarean sections or not, the need for thorough prenatal education is essential.

Lasting Effects on Emotional Well-being

In addition to the struggles endured during the delivery process, two out of the three participants, who underwent inductions more than one year ago, exemplified long term effects after their inductions. They identified symptoms of anxiety, avoidance, increased emotional arousal and emotional numbing, all of which fall under the diagnostic criteria of Post Traumatic Stress Disorder (PTSD). A recent study by Theroux (2009) found that interventions during childbirth may lead increased chances for experiencing symptoms of PTSD after birth. The factors likely contributing to these
statistics included number of previous deliveries, type of delivery, and previous history of sexual abuse. Moreover, Freeman (2007) reported, “PTSD will develop in one out of every four people who experience trauma. Women experience fewer traumatic events than men, but are twice as apt to develop PTSD after an exposure to trauma” (as stated in Theroux, 2009, p. 437). This research indicates that a traumatic childbirth experience may lead to symptoms of PTSD. Unfortunately women are discharged from the hospital by the time these symptoms come into effect. For healthcare professionals, discussing the symptoms and risk factors with patients and their families may promote patients to seek assistance in the future.

**Future Research**

There were numerous parts of this study requiring further research. The risk for cesarean sections, for example, is an area of research lacking statistical saturation. For every article of research highlighting the heightened risk for cesarean sections, another article is published in opposition. Another area of research necessitating further research relates to the long term emotional effects after birth. While it is normal for women to experience the “blues” during the first couple weeks of emotional and physical adaptation, long-term symptoms are not. Further research should investigate the prevalence of women who suffer from long-term mental illness, such as PTSD or postpartum depression, after labor induction; a particular focus should investigate unforeseen events taking place during labor with a lack of education about the risks of the procedure. Additionally, further research is essential to identify the frequency of women who are educated about inductions and those who are not. Currently, there is no clinical standard of prenatal education about elective inductions; however, it has been shown that
rates of elective labor induction decrease as standards of prenatal education about induction are implemented. A supplementary study should focus on the role of nurses in education during inductions. Furthermore, it would be beneficial to research the accuracy in calculating due dates relating to the significant prevalence of medical inductions. Pregnancies that are labeled “past due” make up a significant portion of women who are induced for medical purposes. Physicians must depend on their patients to recall the date of their last period in order to calculate the expected date of delivery. Therefore, the propensity for error is great, especially when accounting for those who do not know they are pregnant. Finally, an in-depth retrospective analysis of hospitals that have incorporated an informed consent into the clinical practice of elective labor induction would illustrate the significance of education behind this elective procedure. Overall, this process may lead to a greater number of unnecessary medically inductions. As stated previously, there are numerous areas in this study that call for further research. Though this study was not able to address these areas, they must be addressed to improve standards of patient care for labor induction patients.

Conclusions

The findings in this qualitative research study convey labor induction as a unique, individual experience that is both richened and afflicted by common themes. Though this study iterates the significance of the cascade of interventions and the risk for cesarean sections, further statistical research is necessary for statistical saturation. This study also highlighted the significance of physician influence on the decision making process with regards to elective labor induction. While this factor’s effect is negotiable, the importance of educating women about the process of induction with regards to the physical, mental
and emotional risks is not. Apart from of their decision to induce birth, women should be granted the ability to make educated decisions on their own. Health care professionals, including nurses, who are directly involved with maternal child care are encouraged to educate, advocate, inform and support their patients in order to establish a healthy, safe, and empowering environment. By understanding the problems associated with labor induction, standards of patient care as it pertains to prenatal education will progress.
References


reduce caesarean section rates in Quebec. *Bulletin of the world health organization*, 85(10), 791-797. doi:10.2471/BLT.06.039289


Hyattsville, MD. Retrieved from:


Appendix A

*Personal Interview Questions:* asked for those who volunteered to participate in this qualitative research study.

1. Can you tell me about your labor and delivery experience?
2. Can you tell me more about that?
3. What were the key factors that led you to opting for an elective labor induction?
4. Can you tell me about your education prior to having an elective induction?
5. Did you feel your prenatal education prior to delivery was sufficient?
   - If yes, what were the important educational topics that were discussed with you by health care providers?
   - If no, what information would have helped you to feel more prepared for your birthing experience?
6. Were you informed of the risks associated with labor inductions?
   - If yes, what were the risks that were discussed with you by your health care providers?
   - If no, would further patient teaching have changed your decision to have an elective labor induction?
7. After your experience, how do you think health care providers, more specifically nurses, could provide better patient care for those having elective labor inductions?
Appendix B

Informed Consent: a copy of this consent was signed, dated and given to each participant in this study.

I invite you to participate in this research study that aims to improve patient care by studying the basic social processes of elective labor induction. This research study will help health care professionals improve standards for patient care as it pertains to prenatal education.

This is a voluntary research study. If you choose to participate in this study, your participation will consist of an audiotape recorded interview with Lauren VanSickle, lasting about 30 to 60 minutes. In this interview, you will be asked to discuss your experiences, feelings, and ideas related to your elective labor induction experience. You may withdraw from this study at any time. While there are no physical risks to you by participating in this study, there is the possibility you may experience emotions related to your labor experience. Confidentiality will be maintained throughout the study, and at no time will your name or identifying characteristics be used.

Authorization: I am aware that this research will be used to advance the understanding of the basic social processes of elective labor induction and that there may be presentations and publications associated with this study. The investigator has thoroughly explained the nature and process of this research to me. I have read the above and understand the inconvenience and risk of this study. To the best of my knowledge I have no physical or mental condition that would be adversely affected by my participation. I have been offered a copy of this consent form that I may keep for my own reference. I am aware that if I have any questions I can call Lauren VanSickle at 406-281-0665 or email at lvansickle@carroll.edu. Additional questions about the rights of human subjects can be answered by the Chairman of the Institutional Review Board, Jamie Dolan at (406) 447-4969.

I understand this consent and agree to participate in this study:

___________________________  ________________________
Participant’s Name          Date

___________________________  ________________________
Researcher                  Date
Appendix C

Figure 1: This figure illustrates the chronological events of each participant’s induction experience. From left to right, the columns refer to the inductions of Sarah (first), Sarah (second), Sarah (third), Mary, and Allison.