The Cesarean Decision Survey

Denise M. Puia

ABSTRACT

A descriptive study design was used to describe the decision of women having a cesarean surgery. The Cesarean Birth Decision Survey was used to collect data from 101 postpartum women who underwent a cesarean. Most of the surgeries were to primipara women who reported doctor recommendation and increased safety for the baby as the main reasons for the cesarean. Those women who had repeat cesarean surgery all cited their previous cesarean as the main reason for the current surgery. Women's knowledge of cesarean surgery needs to be assessed early in pregnancy so that appropriate education may be provided. Accurate and ongoing information may decrease the number of women choosing a cesarean surgery.

The Journal of Perinatal Education, 22(4), 212–225, <http://dx.doi.org/10.1891/1058-1243.22.4.212>
Keywords: cesarean surgery, decision making

Over the past 20 years, there have been many trends in maternal childbirth choices. There has been a desire for natural childbirth, an increased use of epidural anesthesia for labor, the decision to have a vaginal birth after cesarean (VBAC), the decline of VBACs, and most recently, cesarean surgeries for nonmedically indicated reasons. Currently accepted medical reasons for performing a cesarean surgery are as follows: failure of labor to progress, pelvic abnormalities, problems with the placenta, multiple gestation pregnancy, active herpes simplex, nonreassuring fetal heart rate, malpresentation of the fetus, and any serious medical condition that requires emergency treatment (American College of Obstetricians and Gynecologists [ACOG], 2005).

Cesareans performed for any other reason would be nonmedically indicated and thus could potentially be avoided. A nonmedically indicated cesarean may also be referred to as a cesarean on demand when requested by a woman with a term, singleton pregnancy (National Institutes of Health [NIH], 2006) or as elective if a woman chooses to have a cesarean for reasons such as macrosomia, a previous cesarean, or perhaps a failed attempt to induce labor. The terms *cesarean on demand*, *nonmedically indicated*, and *elective* are often used interchangeably.

The lack of use of a standardized definition of a cesarean surgery for a nonmedical indication makes determining the actual incidence difficult (Gossman, Joesch, & Tanfer, 2006). A review of the literature shows that an estimated rate of cesarean surgeries on maternal request ranges from 0.3% to 14.0% of all births (McCourt et al., 2007; Robson, Tan, Adeyemi, & Dear, 2009; Thompson, 2010). The estimation of incidence is complicated by discrepancies between data

The lack of use of a standardized definition of a cesarean surgery for a nonmedical indication makes determining the actual incidence difficult.

on birth certificates versus hospital discharge records and hospital billing codes (Chescheir & Meints, 2009; Kahn, Berg, & Callaghan, 2009). As a result, there is inconclusive evidence to support maternal request cesareans as a contributing factor to a rising cesarean surgery rate.

Although the reason for a cesarean surgery may be ambiguous, the rising cesarean surgery rate has been well documented. Over the past decade, the cesarean surgery rate has increased more than 50% (Martin et al., 2010). According to the 2011 National Vital Statistics Report, that rate continues to be elevated at 32.8% (Hamilton, Martin, & Ventura, 2011). Nulliparous women account for 31.2% of cesarean surgeries (Zhang et al., 2010). A cesarean surgery is a major operation, not without risks to both mother and neonate. Although rare, possible complications associated with a cesarean surgery are embolism, hemorrhage, and infection. These complications are among the five main causes of maternal death (Amnesty International, 2010). Reducing maternal mortality rates is a global priority as outlined in the Millennium Development Goals (MDGs), in which MDG 5 calls for a 75% reduction in maternal mortality rates related to pregnancy and childbirth by 2015 (Amnesty International, 2010). On a national level, the NIH has recognized the need to improve maternal health by making one of the goals of the Healthy People 2020 Initiatives to decrease the cesarean surgery rate among low-risk women (U.S. Department of Health and Human Services, 2010). The reasons women have for selecting a cesarean surgery are unclear; therefore, a survey examining the decision-making process will increase awareness of the factors that contribute to a women's decision for a cesarean birth. The purpose of this investigation was to explore the women's perceived reasons for the cesarean surgery, the sources of information used to make the decision, the information that was provided to the women, what additional information the women would have liked to receive, and the women's satisfaction with the information and their decision.

REVIEW OF LITERATURE

Many studies have been done to examine the reasons a woman chooses a nonmedically indicated cesarean surgery. In a review of the literature, McCourt et al. (2007) established that women's requests for non-medically indicated cesarean surgeries were usually a result of cultural influences, perceived safety of the procedure, and psychological factors. Potter,

Over the past decade, the cesarean surgery rate has increased more than 50%.

Hopkins, Faúndes, and Perpétuo (2008) examined the cultural influences in Brazil, where the cesarean surgery rate was 72% among the private patients, many of which were for nonmedical reasons.

The notion that a vaginal birth is scary and dangerous and a cesarean surgery is safe and controllable were revealed as common themes for motivating factors (Arthur & Payne, 2005; Fenwick, Staff, Gamble, Creedy, & Bayes, 2010; Weaver & Statham, 2005; Wiklund, Edman, & Andolf, 2007). Arthur and Payne (2005) conducted an interpretive phenomenological study of five women who had requested a cesarean surgery. Several themes emerged from the data analysis about why the women chose to have a cesarean surgery: "vaginal birth as hazardous," "safety of the unborn child," and "the right to choose" (Arthur & Payne, 2005). Wiklund et al. (2007) conducted a survey of 357 women and found women were afraid of lack of labor support, loss of control, and fetal injury or death. Similar findings of fear were also confirmed by Weaver and Statham (2005) in a qualitative study. Forty-four postpartum women were interviewed about their views on cesarean surgery and the factors influencing their decision. Most women believed that cesareans were a safer birth option for themselves and their babies, and thus felt a cesarean was warranted (Weaver & Statham, 2005). Fenwick et al. (2010) also used a qualitative design to assess the factors motivating women to have a cesarean surgery. Thematic analysis of 210 interviews identified four themes: "vaginal birth: frightening, unpredictable, and dangerous"; "birth: only about 'getting' a baby"; "cesarean surgery: offering safety, control, and calm"; and "switching off": reassigning the risks associated with cesarean surgery" (Fenwick et al., 2010).

Several studies carried out interventions to address women's issues of fear and lack of knowledge (Nerum, Halvorsen, Sørli, & Oian, 2006; Milne et al. 2009). Nerum et al. (2006) conducted an interventional study with 86 pregnant women who planned a cesarean surgery because of their fear of labor. After counseling sessions, 86% of the women changed their preference to vaginal birth. Of those women who changed their preference, 69% gave birth vaginally (Nerum et al., 2006). Another interventional study pretested a decision-making tool

on 40 women to elicit information on preferred birthing method, the usefulness of information provided, and what additional information was needed (Milne et al., 2009). Most of the women felt the tool was useful and helped them make a decision, but the women would have liked more information about neonatal risks and other women's experiences (Milne et al., 2009).

The women's desire for more information was expressed in a metasynthesis conducted on 10 qualitative studies with a combined sample of 3,721 women (Puia, 2013). Six overarching themes emerged: scared to death, in your hands, out of control, broken body and soul, empty heart and arms, and shattered dreams. The themes revealed negative emotions such as fear, disappointment, and failure that were experienced by women with a cesarean surgery. The women's feelings were often intensified because of their lack of education and preparation about cesarean surgery. Results for "Listening to Mothers II: Report of the Second National U.S. Survey of Women's Childbirth Experience" indicated that 97% of mothers want to know all or most of the complications of cesarean surgery before consenting to the procedure (Declercq, Sakala, Corry, & Applebaum, 2007). Yet, most mothers were unaware of the complications associated with a cesarean surgery (Declercq et al., 2007). A lack of knowledge among women having a cesarean surgery was reiterated in the findings of a pilot phenomenological study (Puia, 2010). Three nurses were interviewed about their experiences caring for primipara women who had a nonmedically indicated cesarean surgery. Analysis of the interviews resulted in 112 significant statements and 9 emergent themes. The nurses unanimously felt the women did not have adequate information about the risks of cesarean surgery and the long-term complications (Puia, 2010). Similar findings were found by Kolip and Buchter (2009) who explored the decision-making process to have a cesarean surgery using a qualitative approach. A self-assessment questionnaire was administered to 2,685 first-time mothers who underwent a cesarean surgery to determine the level of satisfaction with the information provided as well as with the outcome. Most women were happy with their decision, but almost 40% felt they had not received enough information about the consequences of a cesarean (Kolip & Buchter, 2009).

Several researchers reviewed sources of information, other than prenatal classes, that were used

by women to guide decision making for a cesarean surgery (Lagan, Sinclair, & Kernohan, 2010; Morris & McInerney, 2010; Munro, Kornelson, & Hutton, 2009). Munro et al. (2009) conducted a qualitative study to explore the influence of birth stories and cultural knowledge on women's decisions to have cesarean surgeries. The sample consisted of 17 Canadian first-time mothers who requested to deliver by cesarean. Analysis of the participants' narratives revealed the influence of birth stories and media in women's decision making. Often, the vaginal birth stories made cesarean surgery sound like a better option because of the shortened process and controlled environment. The cultural knowledge retrieved through books, the Internet, and television often increased fears of vaginal birth. Morris and McInerney (2010) examined the portrayal of childbirth in 85 reality-based television shows in the United States. A qualitative content analysis indicated that reality-based childbirth programs do not accurately portray the birth experience or evidence-based practice. Most shows focused on complications, interventions, and the powerlessness of women (Morris & McInerney, 2010). Lagan et al. (2010) examined why and how pregnant women use the Internet as a source of information and how it affected their decision making. An Internet-based survey was conducted in which 613 women from 24 countries participated. Most (94.0%) women used the Internet to enhance the information provided by their health-care provider because many of the participants (48.6%) were not satisfied with the information provided by health-care professionals and (46.5%) felt there was not enough time to ask their providers questions. According to the results, 83.0% of the women reported having their birth decision influenced by the Internet (Lagan et al., 2010).

Although women use various sources to learn about cesarean surgery, further research is needed to explore the information women are provided, what information women use, and what information pregnant women want about cesarean surgery. Increasing women's level of knowledge about cesarean surgery will empower women to make informed choices. This pilot study was a first step to develop an increased understanding of the women's decision-making processes. The outcomes of the research may affect how we care for our patients, may increase patient satisfaction, and ultimately may decrease the number of women choosing

cesarean surgery. The specific research questions were as follows:

1. What are the reasons a woman would choose a nonmedically indicated cesarean surgery?
2. At what point in the pregnancy was the decision made to have a cesarean surgery?
3. What information or counseling was given to the woman about cesarean surgery prior to birth?
4. Was the woman satisfied with the information provided and with her childbirth decision?

METHODS

Design and Setting

A descriptive study design was used. Such a design was used for describing a phenomenon and its associated characteristics. Descriptive research cannot imply causal relationships, but it may help initiate the creation of hypotheses for future research (Polit & Beck, 2012). This research was conducted in a large urban teaching hospital in New England with more than 4,000 births a year and a cesarean surgery rate of more than 30%. Recruitment took place on the 38-bed postpartum unit.

Sample

A convenience sample of postpartum women who had a cesarean surgery during a 3-month period was studied. The inclusion criteria for the women were

- a. can read English at a sixth-grade level;
- b. had a cesarean birth of a live-term infant;
- c. consents to participate; and
- d. is ≥ 18 years of age.

Apart from the inclusion criteria, there were no explicit exclusion criteria.

Instrument

Data were collected using the Cesarean Birth Decision Survey (Appendix), a self-administered questionnaire developed by the investigator. The questionnaire consisted of demographic data and 72 questions: 57 yes or no questions that addressed problems with the pregnancy, reasons for the cesarean surgery, and what information was provided and by whom; 15 short-answer questions addressed additional comments as well as how the participant ranked the importance of reasons for the cesarean and information provided. The demographic data included age, race, marital

status, educational background, religion, private or clinic physician, and gestational age at time of birth. To protect the participant's identity, no names or medical identification numbers were recorded.

The instrument used in the study was tested for validity. Validity addresses the issue of whether or not the instrument measures what it is supposed to measure. The evidence for this survey was based on themes that emerged from an earlier unpublished pilot study (Puia, 2010) and the judgment of a panel of experts. The expert panel consisted of four nurses, all of whom were experienced in obstetrics. Two nurses were labor and delivery staff nurses, each with more than 20 years' clinical experience. The other two nurses were masters prepared; one was a perinatal clinical nurse specialist and the other was a manager of a postpartum unit. The panel members were asked to examine the clarity and content of each item. On the basis of feedback from the content experts, editorial changes were made. Secondly, the first 10 patients who completed the questionnaire were asked to comment on their ability to understand the survey questions and to point out any specific ambiguities. No further revisions to the survey were indicated after the participant evaluation.

Data Collection Procedure

Following approval by the institutional review board (IRB) of the participating institution and the University of Connecticut, the principle investigator (PI) began weekly rounds to identify possible participants. Eligible participants were invited to participate in the study. The researcher provided an explanation of the study including its purpose, use of results, and anonymity of the participants. Women were informed that completion of the survey was completely voluntary. All results were anonymous and the women would not be contacted in the future. Completion of the study implied the women's consent to participate. The survey was then distributed to the women and took about 15 min to complete. The surveys were either immediately returned to the PI or returned at the participants' convenience to a designated secure box on the unit prior to discharge. Data were collected from January through April 2012.

Data Analysis

After the data were collected, they were coded to allow for data entry. The survey response data were checked against the data file for any data entry errors.

TABLE 1
Demographic Characteristics of Survey Participants

	Primary Cesarean (<i>n</i> = 56)	Repeat Cesarean (<i>n</i> = 45)	Overall Cesarean (<i>n</i> = 101)
Gestation at delivery (weeks)	39.2	39.0	39.0
Age in years	31.4	32.5	31.8
Level of education			
High school	9 (16.4)	9 (20.0)	19 (18.8)
College	25 (45.5)	21 (46.7)	46 (45.5)
Graduate	21 (38.2)	15 (33.3)	36 (35.6)
Race			
Caucasian/White	38 (69.1)	28 (63.6)	66 (66.0)
African American/Black	6 (10.9)	7 (15.9)	14 (14.0)
Hispanic/Latino	4 (7.3)	6 (13.6)	10 (10.0)
Native American	2 (3.6)	0 (0.0)	2 (2.0)
Asian	2 (3.6)	3 (6.8)	5 (5.0)
Other	3 (5.5)	0 (0.0)	3 (3.0)
Marital status			
Single	11 (20.0)	7 (15.6)	19 (18.8)
Partnered	1 (1.8)	2 (4.4)	3 (3.0)
Married	41 (74.5)	36 (80.0)	77 (76.2)
Other	2 (3.6)	0 (0.0)	2 (2.0)
Prenatal care provider			
Private physician	41 (78.8)	41 (91.1)	82 (83.7)
Private midwife	3 (5.8)	1 (2.2)	5 (5.1)
WAHS physician	3 (5.8)	2 (4.4)	5 (5.1)
WAHS midwife	2 (3.8)	1 (2.2)	3 (3.1)
Other	3 (5.8)	0 (0.0)	3 (3.1)

Note. Data are *n* (%) for all participants. Some columns may not equal the overall column because of missing data. WAHS = women's ambulatory health services.

Analysis was performed using SPSS software for Windows version 18. Descriptive statistics were used to illustrate the participants' characteristics. The frequencies and percentages of the categorical variables were displayed. Comparisons of categorical variables were analyzed using Pearson chi-square test, except for when the assumptions of the test were not satisfied, and then the Fisher's exact test was conducted. Mean, standard deviation (*SD*), and ranges were calculated for continuous variables. Differences in means were compared using independent samples *t* tests. Those participant characteristics with ordinal scales were analyzed with the Mann-Whitney U test.

RESULTS

Sample

Out of the 211 women who were identified as having had a cesarean surgery, 37 were either preterm or had a baby in the NICU, 22 did not speak English, and 3 were younger than the age of 18, resulting

in 149 eligible women. Of these women, 134 consented to the study, a participation rate of 90%. The most common reasons for nonparticipation were being busy (7/15, 47%) or tired (5/15, 33%). The remaining 3 women did not give a specific reason for not participating. Out of the 134 women who consented to the study, only 101 returned the survey, a return rate of 75%. Most participants were White, well-educated, married women with a mean age of 32 years (a range of 18–44 years) and a mean gestational age at the time of birth of 39 weeks (a range of 37–42 weeks). The maternal demographics are presented in Tables 1 and 2.

Of the women surveyed, 45% had a repeat cesarean surgery. The most common prenatal problem was diabetes (25.0%), yet 43.2% (*n* = 19) of the women reported having three or more prenatal problems. The mean gestational age at the time of delivery was 39 weeks. The main reason (100%)

TABLE 2
Demographic Characteristics of Primary Cesarean Births According to Type

	Scheduled Cesarean (<i>n</i> = 23)	Unscheduled Cesarean (<i>n</i> = 32)
Gestation at delivery (weeks)	38.8	39.4
Age in years	33.6*	29.9
Level of education		
High school	2 (8.7)	7 (21.8)
College	9 (39.1)	16 (50.0)
Graduate	12 (52.2)	9 (28.2)
Race		
Caucasian/White	18 (78.3)	20 (62.5)
African American/Black	1 (4.3)	5 (15.6)
Hispanic/Latino	1 (4.3)	3 (9.4)
Native American	1 (4.3)	1 (3.1)
Asian	1 (4.3)	1 (3.1)
Other	1 (4.3)	2 (6.3)
Marital status		
Single	3 (13.0)	8 (25.0)
Partnered	0 (0.0)	1 (3.1)
Married	19 (82.6)	22 (68.8)
Other	1 (4.3)	1 (3.1)
Prenatal care provider		
Private physician	18 (81.8)	23 (76.7)
Private midwife	0 (0.0)	3 (10.0)
WAHS physician	2 (9.1)	1 (3.3)
WAHS midwife	1 (4.5)	1 (3.3)
Other	1 (4.5)	2 (6.7)

Note. Data are *n* (%) for all participants. Total number of births does not equal number of primary cesarean surgeries displayed in Table 1 because of missing data.

**p* < .05.

TABLE 3
Women's Perceived Reasons for Cesarean Surgery

Perceived Reason(s)	Primary Cesarean (<i>n</i> = 55)	Repeat Cesarean (<i>n</i> = 45)
Breech presentation	16 (29.1)	2 (4.4)
Preterm labor	0 (0.0)	1 (2.2)
Hypertension	5 (9.1)	2 (4.4)
Macrosomia	10 (18.2)	2 (4.4)
SGA	0 (0.0)	0 (0.0)
Fetal indication	8 (14.5)	0 (0.0)
Diabetes	2 (3.6)	7 (15.6)
Bleeding	3 (5.5)	2 (4.4)
Multiple gestation	4 (7.3)	1 (2.2)
Previous cesarean	0 (0.0)	45 (100.0)
Prior traumatic birth	4 (7.3)	7 (15.6)
Emergency	14 (25.5)	3 (6.7)
Urinary incontinence	3 (5.5)	1 (2.2)
Safer for the baby	31 (56.4)	18 (40.0)
Longer maternity leave	0 (0.0)	3 (6.7)
Convenience of scheduling birth	5 (9.1)	9 (20.0)
Fear of labor pain	2 (3.6)	5 (11.1)
Fear of loss of control in labor	2 (3.6)	0 (0.0)
Failed induction	10 (18.2)	1 (2.2)
Failure to progress	17 (30.9)	3 (6.7)
Failed VBAC	0 (0.0)	3 (6.7)
Doctor recommendation	39 (70.9)	27 (60.0)
Other	8 (14.5)	4 (8.9)

Note. Data are *n* (%) for all participants. Participants may have selected more than one reason. SGA = small for gestational age; VBAC = vaginal birth after cesarean.

cited for the repeat cesarean surgery was a previous cesarean (Table 3). Most of the women decided early in their pregnancy to have a repeat cesarean as the mean gestational age at the time of decision was 18 weeks (*SD* = 14.6).

Most women (55%) in the study had a primary cesarean surgery. Of the women having their first cesarean, 42% were scheduled in advance and 58% were unplanned. The mean gestational age at the time of delivery for scheduled and unscheduled cesareans were 38.8 and 39.4 weeks, respectively. The mean age in the scheduled group was 33.6 years (*SD* = 5.7) in comparison to the unscheduled group where the mean age was 29.9 years (*SD* = 5.5). This difference in mean age was statistically significant ($t = 2.407$, $df = 53$, $p = .020$). Although most women (52.2%) having a scheduled cesarean surgery held graduate degrees, there was statistically no difference in educational levels between primary scheduled and unscheduled cesarean surgeries. For women having a primary cesarean surgery, the mean gestational age at the time of decision was 33.3 weeks (*SD* = 9.2).

All of the women who had a primary cesarean surgery reported having at least one prenatal problem with the current pregnancy. Of the women who had a scheduled primary cesarean, 82.6% reported three or more prenatal problems whereas only 17.4% reported two or fewer prenatal problems. These results fell near the threshold for statistical significance ($Z = -1.933$, $p = .053$). This is in comparison with women who had a repeat cesarean surgery where the number of reported prenatal problems was relatively even ($\leq 2 = 48.4\%$ and $\geq 3 = 51.6\%$). The perceived reasons for a primary cesarean surgery varied according to whether the surgery was scheduled or unscheduled, although both groups reported doctor recommendation as the main reason. Aside from the doctor recommendation, the main perceived reasons for most unscheduled cesarean surgeries were related to the safety of the baby and the women's inability to give birth vaginally (Table 4). The most common perceived reasons for women having primary scheduled cesareans were related to size and positioning of the baby.

When making a decision to have a cesarean surgery, the women relied on various information

TABLE 4
Perceived Reason for Primary Cesarean Surgery According to Type

Perceived Reason(s)	Scheduled Cesarean (<i>n</i> = 23)	Unscheduled Cesarean (<i>n</i> = 32)
Breech presentation	12 (52.2)	4 (12.5)
Preterm labor	0 (0.0)	0 (0.0)
Hypertension	2 (8.7)	3 (9.4)
Macrosomia	5 (21.7)	5 (15.6)
SGA	0 (0.0)	0 (0.0)
Fetal indication	0 (0.0)	8 (25.0)
Diabetes	2 (8.7)	0 (0.0)
Bleeding	2 (8.7)	1 (3.1)
Multiple gestation	3 (13.0)	1 (3.1)
Prior traumatic birth	4 (17.4)	0 (0.0)
Emergency	2 (8.7)	12 (37.5)
Urinary incontinence	2 (8.7)	1 (3.1)
Safer for the baby	12 (52.2)	19 (59.3)
Longer maternity leave	0 (0.0)	0 (0.0)
Convenience of scheduling birth	3 (13.0)	2 (6.2)
Fear of labor pain	1 (4.3)	1 (3.1)
Fear of loss of control in labor	1 (4.3)	1 (3.1)
Failed induction	0 (0.0)	10 (31.2)
Failure to progress	0 (0.0)	17 (53.1)
Doctor recommendation	14 (60.1)	25 (78.1)
Other	4 (17.4)	4 (12.5)

Note. Data are *n* (%) for all participants. Participants may have selected more than one reason. SGA = small for gestational age.

sources. Whether the birth was a primary or a repeat cesarean, most women (94.9%) relied on their doctor as their main source of information, although friends and relatives were also important influences. Specific to those women having a repeat cesarean surgery was the influence of personal experience (66.7%). Among primary cesarean surgeries, women relied on the Internet (22.8%) as an important source of information.

Once the surgery was over, most participants remembered having been provided with information on all aspects of their surgery (Table 5). Women least remembered being provided with information about what to expect in the recovery room as well as the type of pain medication used during recovery. In most cases (42.9%), a private physician provided the information. Most (97.0%) of the women felt they understood the information that was provided and (94.0%) felt they had the opportunity to ask questions. Overall (95.9%), study participants felt the information provided was helpful. When asked what additional information the women would have liked to receive, several women commented on specifics about the surgery such as vomiting, tremors, feeling short of breath, and when they would see their baby. Postoperatively, women were unaware of the severe gas pains they may experience. Several women commented that the experience was overwhelming and a video

demonstrating the set-up of the operating room would have been helpful. One woman explained, “I was a little overwhelmed with the operating room and how many people attending to me with different things.” Another suggestion was for a list of women who would be willing to share their personal experience with the expectant mothers. Two women, one of whom had a primary cesarean surgery and the other who had a repeat cesarean, both expressed their lack of participation in the decision-making process: “It wasn’t really a decision” and “I didn’t feel like I made the decision.”

DISCUSSION

The findings of this study reveal the complex nature of women’s decision-making process. Multiple prenatal problems and perceived reasons for the cesarean surgeries were expressed by the participants. The main reason cited for the cesarean surgeries was the women’s perception of doctor recommendation; however, because the doctors were not questioned, it is unclear what the physicians may have considered to be the primary reason. Many of the reasons for the cesarean surgery that were reported by the women were not an accepted reason (ACOG, 2005); however, they were medical in nature and thus the cesarean was perceived by the women to be necessary. A perceived reason of safety for the baby was similar to previous reports (Arthur & Payne, 2005; Fenwick et al., 2010; Weaver & Statham, 2005; Wiklund et al., 2007). Another similarity to prior research was the use of friends/family and the Internet as sources of information (Lagan et al., 2010; Munro et al., 2009). Future studies could compare the women’s perceived reasons for the cesarean with the actual diagnosis listed by the health-care provider. Regardless of reasons for the cesarean or the information women used, the results of this study indicate the participants were satisfied with their decision and the information provided, which is contrary to other findings (Kolip & Buchter, 2009; Puia, 2013). Although the results indicated the women were satisfied with the information provided, the actual content of the discussions or the context of the conversations were not recorded; therefore, it is not clear how the interactions may have affected the women’s decisions and recollections. Future studies should explore the reasons for the variance in emotions among women having a cesarean surgery.

There are several limitations of this study. The sample was a convenience sample, limited to

TABLE 5
Information Women Remembered From Prenatal Discussions

Information About Cesarean	Primary Cesarean (<i>n</i> = 55)	Repeat Cesarean (<i>n</i> = 45)	Overall (<i>n</i> = 101)
Risks of surgery to you	53 (96.4)	41 (91.1)	95 (94.1)
Risks of surgery to your baby	47 (85.5)	37 (82.2)	85 (84.2)
Types of anesthesia used during surgery	51 (92.7)	40 (88.9)	92 (91.1)
Length of procedure	43 (78.2)	33 (73.3)	77 (76.2)
What to expect while in the OR	47 (85.5)	37 (82.2)	85 (84.2)
What to expect while in the recovery room	40 (72.7)	32 (71.1)	73 (72.3)
Types of pain medicine used during recovery	40 (72.7)	29 (64.4)	70 (69.3)
What to expect about your recovery	49 (89.1)	36 (80.0)	86 (85.1)
Other	2 (3.8)	1 (2.2)	3 (3.1)

Note. Data are *n*(%) for all participants. Participants may have selected more than one option. Some columns may not equal the overall column because of missing data. OR = operating room.

the patients at this institution who were primarily White and well-educated, and may not be representative of populations at other institutions, thus impacting generalizability of the results. Furthermore, the sample had a much higher percentage of primary cesarean surgeries than the national average. The retrospective nature of the study may result in potential recall bias, for example, women with “positive” experiences with cesarean surgery may recall events and information differently from women with more difficult experiences. In addition, the survey instrument was new and had yet to be used with, or refined for, the target clinical population. Despite the limitations, the results from this study can be used at this institution to improve the information and support provided to women prior to cesarean surgery, as well as the women’s satisfaction with the information. Future studies may investigate the educational needs of women having a cesarean surgery among a more culturally diverse population.

Most women in this study were either repeat cesarean or primary unscheduled cesarean surgeries. These data support prior studies (McCourt et al., 2007; Robson et al., 2009; Thompson, 2010) that indicate cesarean surgeries on maternal request account for a very small percentage of the overall cesarean surgery rate. The large percentage of women in this study that underwent a repeat cesarean surgery supports the need for additional research into the decision-making process of subsequent births for women who have had a prior cesarean surgery.

Clinical Implications

The results of this study indicate the need to focus interventions on examining methods to decrease the number of primary cesarean surgeries and increase the number of attempted VBACs. Increased assessments, education, and ongoing dialog may help to decrease the number of cesarean surgeries. Health-care providers should discuss delivery plans and provide appropriate education during every prenatal encounter because birth plans may change depending on the stage of pregnancy. Assessment of birth plans should begin early in the pregnancy because many women, as was seen in this study, decide on their method of birth well before the third trimester.

In addition to birth plans, the women’s knowledge level of different birth options should also be assessed. The results of this study indicate

women, especially primiparas, rely on family and friends for information, which may or may not be accurate. Women should also be provided with reliable websites because this was shown to be another important source of information. Ongoing assessments will allow for the correction of any wrong or misleading information and the opportunity to provide appropriate education.

Moreover, health-care providers should also be educated. Practitioners need to be provided information about the effects the provider–patient relationship and communication style has on patients’ decision making because these qualities have been associated with risk of cesarean surgery (Goodall, McVittie, & Magill, 2009; Hessol, Odouli, Escobar, Stewart, & Fuentes-Afflick, 2012). Furthermore, education should also be provided about appropriate indications and timing for cesarean surgery.

The current recommendation is that no elective births, either by induction of labor or cesarean surgery, should be conducted prior to 39 weeks’ gestation (ACOG, 2013). The results of this study indicate a discrepancy between current recommendations and actual clinical practice because the mean gestational age for the scheduled primary cesarean surgeries was 38.8 weeks. These practices are similar to those reported in other studies (Oshiro et al., 2009; Tita et al., 2009). Raising awareness among practitioners of potentially modifiable obstetric indications for a primary cesarean surgery may also help to lower the cesarean rate (Spong, Berghella, Wenstrom, Mercer, & Saade, 2012). Although providing education is important, creating and enforcing hospital policies that ban elective deliveries prior to 39 weeks’ gestation has been shown to be the most effective in producing positive outcomes (Clark et al., 2010).

Continuing dialog will help to create a trusting environment in which the woman feels comfortable asking questions and discussing her concerns and opinions. Providing education that is accurate, timely, and meaningful to childbearing women may affect the number of women deciding to have primary cesarean surgeries and VBACs. Providing education to health-care providers about obstetric indications and appropriate timing of delivery may further decrease the number of cesarean surgeries.

These data support prior studies that indicate cesarean surgeries on maternal request accounts for a very small percentage of the overall cesarean surgery rate.

REFERENCES

- American College of Obstetricians and Gynecologists. (2005). *ACOG patient education pamphlet AP006—Cesarean birth* [pamphlet].
- American College of Obstetricians and Gynecologists. (2013). *ACOG committee opinion no. 559: Cesarean delivery on maternal request*. Retrieved from http://www.acog.org/Resources_And_Publications/Committee_Opinions/Committee_on_Obstetric_Practice/Cesarean_Delivery_on_Maternal_Request
- Amnesty International. (2010). *Deadly delivery: The maternal health care crisis in the USA* (white paper AMR 51/007/2010). Retrieved from Amnesty International USA website: <http://www.amnestyusa.org/demand-dignity/maternal-health-is-a-human-right/the-united-states/page.do?id=1351091>
- Arthur, D., & Payne, D. (2005). Maternal request for an elective caesarean section. *New Zealand College of Midwives Journal*, 33, 17–20. Retrieved from <http://www.midwife.org.nz/index.cfm/1,114,0,0,html>
- Chescheir, N., & Meints, L. (2009). Prospective study of coding practices for cesarean deliveries. *Obstetrics and Gynecology*, 114, 217–223. <http://dx.doi.org/10.1097/AOG.0b013e3181ad9533>
- Clark, S. L., Frye, D. R., Meyers, J. A., Belfort, M. A., Dildy, G. A., Kofford, S., . . . Perlin, J. A. (2010). Reduction in elective delivery at <39 weeks of gestation: Comparative effectiveness of 3 approaches to change and the impact on neonatal intensive care admission and stillbirth. *American Journal of Obstetrics and Gynecology*, 203, 449.e1–449.e6. <http://dx.doi.org/10.1016/j.ajog.2010.05.036>
- Declercq, E. R., Sakala, C., Corry, M. P., & Applebaum, S. (2007). Listening to Mothers II: Report of the second national U.S. survey of women's childbearing experiences: Conducted January–February 2006 for Childbirth Connection by Harris Interactive(R) in partnership with Lamaze International. *Journal of Perinatal Education*, 16(4), 9–14. <http://dx.doi.org/10.1624/105812407X244769>
- Fenwick, J., Staff, L., Gamble, J., Creedy, D. K., & Bayes, S. (2010). Why do women request caesarean section in a normal, healthy first pregnancy? *Midwifery*, 26, 394–400. <http://dx.doi.org/10.1016/j.midw.2008.10.011>
- Goodall, K. E., McVittie, C., & Magill, M. (2009). Birth choice following primary caesarean section: Mothers' perceptions of the influence of health professionals on decision-making. *Journal of Reproductive & Infant Psychology*, 27, 4–14. <http://dx.doi.org/10.1080/02646830801918430>
- Gossman, G. L., Joesch, J. M., & Tanfer, K. (2006). Trends in maternal request cesarean delivery from 1991 to 2004. *Obstetrics and Gynecology*, 108, 1506–1516. <http://dx.doi.org/10.1097/01.AOG.0000242564.79349.b7>
- Hamilton, B. E., Martin, J. A., & Ventura, S. J. (2011). *Births: Preliminary data for 2010*. Retrieved from http://www.cdc.gov/nchs/data/nvsr/nvsr60/nvsr60_02.pdf
- Hessol, N. A., Odouli, R., Escobar, G. J., Stewart, A. L., & Fuentes-Afflick, E. (2012). Interpersonal processes of care and cesarean delivery in two health care settings. *American Journal of Public Health*, 102, 1722–1728. <http://dx.doi.org/10.2105/AJPH.2011.300549>
- Kahn, E. B., Berg, C. J., & Callaghan, W. M. (2009). Cesarean delivery among women with low-risk pregnancies: A comparison of birth certificates and hospital discharge data. *Obstetrics and Gynecology*, 113, 33–40. <http://dx.doi.org/10.1097/AOG.0b013e318190bb33>
- Kolip, P., & Buchter, R. (2009). Involvement of first-time mothers with different levels of education in the decision-making for their deliveries by a planned Caesarean section. Women's satisfaction with information given by gynaecologists and midwives. *Journal of Public Health*, 17, 273–280. <http://dx.doi.org/10.1007/s10389-008-0246-1>
- Lagan, B. M., Sinclair, M., & Kernohan, W. G. (2010). Internet use in pregnancy informs women's decision making: A web-based survey. *Birth*, 37, 106–115. <http://dx.doi.org/10.1111/j.1523-536X.2010.00390.x>
- Martin, J. A., Hamilton, B. E., Sutton, P. D., Ventura, S. J., Mathews, T. J., Kirmeyer, S., & Osterman, M. J. (2010). *Births: Final Data for 2008* (Fact sheet). Retrieved from Center for Disease Control and Prevention website: <http://www.cdc.gov/nchs/>
- McCourt, C., Weaver, J., Statham, H., Beake, S., Gamble, J., & Creedy, D. K. (2007). Elective cesarean section and decision making: A critical review of the literature. *Birth*, 34, 65–79. <http://dx.doi.org/10.1111/j.1523-536X.2006.00147.x>
- Milne, J., Gafni, A., Lu, D., Wood, S., Suave, R., & Ross, S. (2009). Developing and pre-testing a decision board to facilitate informed choice about delivery approach in uncomplicated pregnancy. *BMC Pregnancy and Childbirth*, 9, 50. <http://dx.doi.org/10.1186/1471-2393-9-50>
- Morris, T., & McInerney, K. (2010). Media representations of pregnancy and childbirth: An analysis of reality television programs in the United States. *Birth*, 37(2), 134–140. <http://dx.doi.org/10.1111/j.1523-536X.2010.00393.x>
- Munro, S., Kornelson, J., & Hutton, E. (2009). Decision making in patient-initiated elective cesarean delivery: The influence of birth stories. *Journal of Midwifery and Women's Health*, 54(5), 373–379. <http://dx.doi.org/10.1111/j.1523-536X.2010.00393.x>
- National Institutes of Health. (2006). *State-of-the-science conference on cesarean delivery on maternal request* (Issue Brief). Retrieved from NIH Consensus website: <http://consensus.nih.gov>
- Nerum, H., Halvorsen, L., Sørli, T., & Oian, P. (2006). Maternal request for cesarean section due to fear of birth: Can it be changed through crisis-oriented counseling. *Birth*, 33(3), 221–228. <http://dx.doi.org/10.1111/j.1523-536X.2006.00107.x>
- Oshiro, B. T., Henry, E., Wilson, J., Branch, D. W., Varner, M. W., & Women and Newborn Clinical Integration Program. (2009). Decreasing elective deliveries before 39 weeks of gestation in an integrated health-care system. *Obstetrics and Gynecology*, 113, 804–811. <http://dx.doi.org/10.1097/AOG.0b013e31819b5c8c>

- Polit, D. F., & Beck, C. T. (2012). *Nursing research: Generating and assessing evidence for nursing practice* (9th ed.). Philadelphia, PA: Lippincott Williams & Wilkins.
- Potter, J. E., Hopkins, K., Faúndes, A., & Perpétuo, I. (2008). Women's autonomy and scheduled cesarean sections in Brazil: A cautionary tale. *Birth*, 35, 33–40. <http://dx.doi.org/10.1111/j.1523-536X.2007.00209.x>
- Puia, D. (2010). *The intrapartum nurses' experience of caring for primipara women who are having nonmedically indicated cesarean births*. Unpublished manuscript.
- Puia, D. (2013). A meta-synthesis of women's experiences of cesarean birth. *American Journal of Maternal Child Nursing*, 38, 41–47. <http://dx.doi.org/10.1097/NMC.0b013e31826aa855>.
- Robson, S. J., Tan, W. S., Adeyemi, A., & Dear, K. B. (2009). Estimating the rate of cesarean section by maternal request: anonymous survey of obstetricians in Australia. *Birth: Issues in Perinatal Care*, 36, 208–212. <http://dx.doi.org/10.1111/j.1523-536X.2009.00331.x>
- Spong, C. Y., Berghella, V., Wenstrom, K. D., Mercer, B. M., & Saade, G. R. (2012). Preventing the first cesarean delivery: Summary of a joint Eunice Kennedy Shriver National Institute of Child Health and Human Development, Society for Maternal-Fetal Medicine, and American College of Obstetricians and Gynecologists Workshop. *Obstetrics & Gynecology*, 120, 1181–1193. <http://dx.doi.org/10.1097/AOG.0b013e3182704880>
- Thompson, H. (2010). Cesarean section at maternal request: A literature review. *British Journal of Midwifery*, 18(8), 484–491. Retrieved from <http://www.britishjournalofmidwifery.com/>
- Tita, A. T., Landon, M. B., Spong, C. Y., Lai, Y., Leveno, K. J., Varner, M. W., . . . Eunice Kennedy Shriver NICHD Maternal-Fetal Medicine Units Network. (2009). Timing of elective repeat cesarean delivery at term and neonatal outcomes. *New England Journal of Medicine*, 360, 111–120. <http://dx.doi.org/10.1056/NEJMoa0803267>
- U.S. Department of Health and Human Services. (2010). *Healthy People 2010 (White Paper)*. Retrieved from Healthy People 2010 website: <http://www.healthypeople.gov/Default.htm>
- Weaver, J. J., & Statham, H. (2005). Wanting a caesarean section: The decision process. *British Journal of Midwifery*, 13(6), 370–373. Retrieved from <http://www.britishjournalofmidwifery.com/>
- Wiklund, I., Edman, G., & Andolf, E. (2007). Cesarean section on maternal request: Reasons for the request, self-estimated health, expectations, experience of birth and signs of depression among first-time mothers. *Acta Obstetrica et Gynecologica Scandinavica*, 86, 451–456. <http://dx.doi.org/10.1080/00016340701217913>
- Zhang, J., Troendle, J., Reddy, U. M., Laughon, S. K., Branch, D. W., Burkman, R., . . . Van Veldhuisen, P. (2010). Contemporary cesarean delivery practice in the United States. *American Journal of Obstetrics & Gynecology*, 203, 326.e1–326.e10. <http://dx.doi.org/10.1016/j.ajog.2010.06.058>

DENISE M. PUIA is a doctoral candidate at the University of Connecticut.

APPENDIX, CESAREAN SECTION BIRTH DECISION SURVEY

Today's date: _____ Date of delivery: _____ Due date: _____

1. Demographics:

1.1 Age in years: _____

1.2 Level of education in years: ☐ Middle school (6–8) ☐ High school (9–12) ☐ College
☐ Graduate (17+) ☐ Other _____

1.3 Race: ☐ Caucasian/White ☐ African American/Black ☐ Hispanic/Latino
☐ Native American ☐ American Indian/Alaskan Native ☐ Hawaiian/Pacific Islander
☐ Asian ☐ Other _____

1.4 Religion: _____

1.5 Marital status: ☐ Single ☐ Partnered ☐ Married ☐ Separated ☐ Divorced
☐ Widowed ☐ Other _____

1.6 Prenatal care provider: ☐ Private physician ☐ Private midwife ☐ WAHS physician
☐ WAHS midwife ☐ Other (please describe) _____

2. Problems with this pregnancy (prenatal history): Check all that apply to this pregnancy

2.1 Breech presentation ☐ Yes ☐ No	2.2 Preterm labor ☐ Yes ☐ No	2.3 High blood pressure ☐ Yes ☐ No
2.4 Large baby (macrosomia) ☐ Yes ☐ No	2.5 Small baby (small for gestational age) ☐ Yes ☐ No	2.6 Twins/triplets ☐ Yes ☐ No
2.7 Diabetes ☐ Yes ☐ No	2.8 Bleeding ☐ Yes ☐ No	2.9 Other (please describe) ☐ Yes ☐ No _____

3. Delivery history:

3.1 Number of deliveries (including the current delivery): _____

3.2 Number of cesarean births (including the current delivery): _____

4. Could you please check the reason(s) for this cesarean birth: Check <u>all</u> that apply		
4.1 Breech presentation ☐ Yes ☐ No	4.2 Preterm labor ☐ Yes ☐ No	4.3 High blood pressure ☐ Yes ☐ No
4.4 Large baby (macrosomia) ☐ Yes ☐ No	4.5 Small baby (small for gestational age) ☐ Yes ☐ No	4.6 Problem with the baby (fetal indication) ☐ Yes ☐ No
4.7 Diabetes ☐ Yes ☐ No	4.8 Bleeding ☐ Yes ☐ No	4.9 Twins/triplets ☐ Yes ☐ No
4.10 Previous cesarean birth ☐ Yes ☐ No	4.11 Prior traumatic birth experience ☐ Yes ☐ No	4.12 Emergency (please describe) ☐ Yes ☐ No <hr/>
4.13 Concerns of potential damage to pelvic floor (urinary incontinence) ☐ Yes ☐ No	4.14 Safer for the baby ☐ Yes ☐ No	4.15 Longer maternity leave ☐ Yes ☐ No
4.16 Convenience of scheduling birth ☐ Yes ☐ No	4.17 Fear of labor pain ☐ Yes ☐ No	4.18 Fear of loss of control in labor ☐ Yes ☐ No
4.19 Induction of labor did not work ☐ Yes ☐ No	4.20 Labor did not progress ☐ Yes ☐ No	4.21 Attempt to have a vaginal birth after a cesarean (VBAC) birth did not work ☐ Yes ☐ No
4.22 Doctor recommendation ☐ Yes ☐ No	4.23 Other (please describe) ☐ Yes ☐ No <hr/>	

4.24 From the choices above (in Section 4) please list your top 3 reasons for your cesarean birth, starting with the most important reason.

A. Most important reason: _____

B. Second important reason: _____

C. Third important reason: _____

4.25 Was your cesarean birth scheduled in advance? ☐ Yes ☐ No

4.26 If yes, how many weeks pregnant were you at the time you decided to have a cesarean birth?

5. When considering whether or not to have a cesarean birth, what sources of information did you use to help make your decision? Check all that apply		
5.1 Doctor ☐ Yes ☐ No	5.2 Midwife ☐ Yes ☐ No	5.3 Nurse ☐ Yes ☐ No
5.4 Movies ☐ Yes ☐ No	5.5 Internet ☐ Yes ☐ No	5.6 Television ☐ Yes ☐ No
5.7 Friends ☐ Yes ☐ No	5.8 Relatives ☐ Yes ☐ No	5.9 Books ☐ Yes ☐ No
5.10 Personal experience ☐ Yes ☐ No	5.11 Other (please describe) ☐ Yes ☐ No _____	

5.12 From the choices above (in Section 5) please list the top 3 sources of information that were most helpful to you when making a decision to have a cesarean birth, starting with the most helpful source of information.

A. Most helpful source of information: _____

B. Second helpful source if information: _____

C. Third helpful source of information: _____

6. What information do you remember being provided to you prior to your cesarean? Check <u>all</u> that apply		
6.1 Risks of surgery to you ☐ Yes ☐ No	6.2 Risks of surgery to your baby ☐ Yes ☐ No	6.3 Types of anesthesia used during surgery ☐ Yes ☐ No
6.4 Length of procedure ☐ Yes ☐ No	6.5 What to expect while in the operating room ☐ Yes ☐ No	6.6 What to expect while in the recovery room ☐ Yes ☐ No
6.7 Types of pain medicine used during recovery ☐ Yes ☐ No	6.8 What to expect about your recovery ☐ Yes ☐ No	6.9 Other (please describe) ☐ Yes ☐ No _____

6.10 Now that you have had your cesarean birth, from the choices above please list the top 3 pieces of information that were most helpful to you.

A. Most helpful information: _____

B. Second helpful information: _____

C. Third helpful information: _____

6.11 Who provided you with the information? ☐ Nurse ☐ Midwife ☐ Private physician
☐ WAHS physician/resident physician ☐ Other _____

6.12 Did you understand the information provided? ☐ Yes ☐ No

6.13 Did you feel that you had the opportunity to ask questions? ☐ Yes ☐ No

6.14 Did you feel the information provided was helpful? ☐ Yes ☐ No

6.15 If no, what other information would you like to have received? _____

6.16 Were you satisfied with your decision to have a cesarean birth? ☐ Yes ☐ No

6.17 Any additional comments you would like to make? _____