

Elective Cesarean births: are women making emancipated decisions? ☆

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Abstract

This mixed method study investigated the extent to which women used emancipated decision making when selecting a birth method, whether they perceived they had a choice, and if they were satisfied with their decision. Findings suggest that vaginal birth is still the preferred method of delivery for these study participants.

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This article reports the results of the third study conducted to test the Wittmann-Price Theory of Emancipated Decision Making (EDM) in women's health care. This study correlated the type of delivery (Cesarean or vaginal) and the three theoretical subconcepts of the theory: (a) flexible environment, (b) personal knowledge, and (c) awareness of social norms with women's satisfaction with the decision (SWD). Based on the publicized popularity of elective Cesarean births, this study investigated (a) if, and to what extent, women were selecting elective Cesarean birth; (b) if so, to what extent were women using an EDM process regarding their choice of delivery method; (c) were women satisfied with the decision; and (d) was one type of delivery method evoking a stronger EDM process and was one method more satisfying than the other?

EDM is a decisional theory that considers the shared patient–provider decision-making process specific to women. The best applications of this theory are time-sensitive issues in women's health care that require a contemplated decision among viable options that need to be analyzed through a feminist lens to reduce the decisional hazards produced by prevailing social norms (Arslanian-

Engoren, 2002; Callister, 2005; Carlton, Callister, & Stonerman, 2005; Clark, 2007; Wittmann-Price, 2004). An EDM process has been shown to produce SWD based on strong and positive correlations in two previous studies using the SWD scale (Holmes-Rovner et al., 1996). The two previous EDM studies used different clinical exemplars: infant feeding method and pain management for labor (Wittmann-Price, 2006; Wittmann-Price & Bhattacharya, 2008). The original EDM scale tested five subconcepts, which included empowerment and reflection, in addition to the three subconcepts currently being tested: awareness of social norms, flexible environment, and personal knowledge. These three subconcepts that were retained had trended acceptable reliability.

When new health care options are identified, such as elective Cesarean births, it is essential to understand the influence of the evolving social norms on women's decisional freedom by testing and retesting the option with a gender-sensitive theory over time. The purpose of this third study was to investigate if women were making active decisions about their delivery choices and if these choices used an EDM process. The results of this study compared the type of delivery and the level of EDM in women's decisional processes to their SWD. Satisfaction with a health care decision is an important component of making a quality health care decision. Better health care decisions may lead to a decrease in use of health care options and better use of decision-making time (O'Connor et al., 2007).

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1. Background

This study used the revised EDM scale (EDM-r) to investigate a new phenomenon in women's health care, elective Cesarean births. Elective Cesarean births are an emerging social phenomenon in women's health care and a controversial issue in the professional and lay literature (American College of Obstetricians and Gynecologists [ACOG], 2004; Song, 2004). Furthermore, it is implicated as a possible causative factor in rising maternal mortality rates (Center for Disease Control [CDC], n.d.; Huiras, 2008). The maternal mortality rate in the United States has risen in previous years from 12.1:100,000 in 2005 to 13.1:100,000 in 2006 (CDC, 2007). Although factors such as change in reporting system may be a variable, increasing rates of elective primary, and therefore repeat, Cesarean births are indicated as a contributing factor. Transitional tachypnea of the newborn (TTN) has also increased in incidence and is related to timing of Cesarean delivery. TTN results in longer hospitalization and neonatal intensive care admissions (Riskin, Abend-Weinger, Riskin-Mashiah, Kugelman, & Bader, 2005; Wang, Dorer, Fleming, & Catlin, 2004). There is lack of evidence to support the claim that elective Cesarean births are beneficial in reducing pelvic floor injuries and sexual dysfunction (ACOG, 2004). Furthermore, although elective Cesarean births may or may not become a widespread social norm, an awareness of how it affects women's options at the beginning of a trend is important. Understanding a social norm as it evolves over time in women's health care is important in analyzing its effects on women's decision-making process.

1.1. Research questions

This study addressed the following research questions:

1. Were women selecting Cesarean birth?
2. Were women using an EDM process in choosing their method of delivery?
3. Were women satisfied with the decision?
4. Did women who experienced or chose a Cesarean birth experience a stronger EDM process or greater satisfaction with their decision than those women who experienced or chose a vaginal birth?

2. Design and methods

2.1. Method

This study used a mixed methods approach conducted over a 3-month period. Quantitative data were analyzed by using a correlational design. The study participants were from a Level III northeastern Pennsylvania hospital. The unit was an in-patient postpartum, low-risk unit with a 20-bed capacity.

2.2. Sampling

The study used convenience sampling ($N = 50$). Women from this in-patient setting were included in the study if (a) they could understand the consent form, (b) they were at least 18 years of age, and (c) had a healthy infant in the newborn nursery.

The sample size required for this study was guided by a power analysis using the software program G*Power (Version 3.0.10, Dusseldorf, Germany). The analysis was based on the stepwise multiple regression model that tested whether the three independent variables significantly predict the dependent/criterion variable: satisfaction. An effect size (Cohen's f^2) for this model was postulated at 0.25, which is a medium to large effect (Cohen, 1960). An effect size is considered to be the smallest immediate effect that is clinically meaningful in the target population for the outcome measure: preventative practices. Power was set to .80, meaning there would be an 80% probability of reaching statistical significance if the predictors have an effect on the population. In this study, for a significance level of $\alpha = .05$ with an effect size of 0.25 and to achieve a power of .80 with three predictor variables, a total sample size of 50 subjects was required.

2.3. Procedures

The hospital and the university institutional review boards both approved this study. Age was determined by checking the daily census, and language was determined by the principal investigator (PI) asking the subjects their preferred language. Only three participants declined because English was a second language. The study was done on the same in-patient unit as the prior two studies, which serves a predominately White, upper-middle-class population.

2.4. Instrumentation

The demographic data were limited to type of delivery and parity. This study used the EDM-r scale, which contained three of the five subscales tested on the prior two studies. The six-item SWD scale was also used again with permission from the author, Dr. Margaret Holmes-Rovner. The 27-item EDM-r scale had a Flesh–Kincaid grade level of an 8.7 grade reading level. The qualitative data were conducted using content analysis to identify emerging themes.

The SWD scale, developed by Holmes-Rovner et al. (1996), was used to test decisional satisfaction as an outcome variable. Holmes-Rovner et al. reported a Cronbach's alpha internal consistency reliability of .86. SWD determines the satisfaction with the decision-making process as opposed to satisfaction with the outcome. Table 1 summarizes the reliability statistics for the SWD, total EDM and EDM-r, and subscales of EDM and EDM-r scales for all three studies.

Table 1
Reliability of EDM and its subscales and SWD in all three studies

Subscale	No. of items	Study 1, initial study (infant feeding method)	Study 2, pain management study	Study 3, method of delivery study
Total	35	.88	.87	.91
Empowerment	3	.56	.48	N/A
Flexible environment	4	.59	.68	.79
Personal knowledge	12	.88	.81	.91
Reflection	5	.48	.55	N/A
Social norms	11	.72	.77	.50
SWD	6	.89	.92	.91

2.5. Data collection

The PI checked the daily census report to identify study participants who met the age criteria and then approached them in their hospital room. The PI explained the study, obtained consent, and left the combined instrument survey with the participants along with a self-sealing envelope. Participants were provided instructions to return the completed survey to a secured box in the unit's family room.

The PI collected data from the study participants over a 3-month period and entered the data into a spreadsheet on an ongoing basis. A qualitative researcher coded and examined the responses to the write-in questions.

3. Results

Frequency statistics were computed on the first research question “Were women selecting Cesarean birth?” and compared to national and institutional rates of Cesarean births. Fifty completed surveys were collected, with 15 (30%) being from women who had Cesarean births. This is consistent with the national rate for Cesarean births of 30.2% (CDC, 2005). This percent of Cesarean births was also representative of the hospital's average yearly percent of Cesarean births. Therefore, this population was not choosing Cesarean birth at a higher rate.

For the second question “Were women using an EDM process in choosing their method of delivery?” scores on EDM-r and all three subscales were analyzed by descriptive statistics using mean comparison. Each of the 27 items on the EDM-r is rated on a 5-point Likert scale. The mean (standard deviation) scores for the total EDM-r and its subscales in this study are summarized in Table 2.

The mean scores of the total EDM-r scale were 4.06 ($SD = .54$), suggesting that, in general, women were using an EDM process overall. In addition, they perceived that their decision was done in a flexible environment, using personal knowledge, and that they were aware of the social norms influencing their decision. Pearson's correlations of the three EDM-r subscales and total EDM-r score were computed for part to whole correlations. The subscales were significantly

Table 2
Mean scores of EDM-r and subscales on the EDM-r

Variable	<i>M</i>	<i>SD</i>
Total EDM-r	4.06	0.54
Flexible environment	4.2	0.67
Personal knowledge	4.0	0.74
Social norms	4.1	0.54

correlated with the total EDM-r score. In addition, all subscale intercorrelations were significant (Table 3).

The third question “Were women satisfied with the decision?” was analyzed by comparison of individuals scores to the mean SWD score. A stepwise multiple regression analysis revealed that the combination of the three EDM-r subscales was able to significantly predict SWD, $F(3, 42) = 19.02$, $p = .001$, and explain 58% ($r = .76$) of the variance in the SWD scores (Table 4). The results also revealed that only the personal knowledge subscale contributed significantly to the prediction ($p = .03$). Social norms trended toward being a significant predictor ($p = .06$), whereas flexible environment did not contribute significantly toward the prediction ($p = .14$). These results are consistent with the first two studies in which personal knowledge was the strongest predictor of SWD (Wittmann-Price, 2006; Wittmann-Price & Bhattacharya, 2008).

The fourth question “Did women who experienced or chose a Cesarean birth experience a stronger EDM process and greater satisfaction with their decision than those women who experienced or chose a vaginal birth?” was analyzed by the use of the Student's *t* test. Mean scores for EDM and SWD for the two groups (vaginal and Cesarean births) were analyzed by *t* tests and are summarized in Table 5. Although the level of EDM was reported significantly higher ($p < .001$) in the vaginal delivery group ($M = 4.24$) compared to the Cesarean birth group ($M = 3.67$), their level of SWD was not significantly different ($p = .36$).

All 50 of the women who completed the quantitative survey also provided qualitative data. These data were analyzed using content analysis for further descriptive information. Thirty-seven women indicated they had a choice in the delivery method, whereas 13 reported that they had no choice. All of the respondents said they would deliver vaginally unless it was medically necessary for either the mother or the baby to have a Cesarean delivery.

Table 3
Pearson's correlation of three subscales and total EDM-r scores ($N = 50$)

		Personal knowledge	Social norms	EDM-r
Flexible environment	Pearson's correlation $p < .001$	$r = .57$.000	$r = .62$.000	$r = .74$.000
Personal knowledge	Pearson's correlation $p < .001$		$r = .60$.000	$r = .91$.000
Social norms	Pearson's correlation $p < .001$			$r = .86$.000

Table 4
Stepwise multiple regression of EDM-r subscales on SWD

	<i>R</i>	<i>R</i> ² change	<i>F</i> change	Significant <i>F</i> change
Personal knowledge	.70	.49	45.12	0.03
Flexible environment	.74	.06	27.77	0.14
Social norms	.76	.09	19.01	0.06

However, one mother stated that she would have considered Cesarean if she had been given the option.

I was never asked how I wanted to deliver. I feel that most women are not given the choice how to deliver. It's assumed she will try vaginal delivery and move to C-section if issues present. Only women with medical issues or known issues with the baby are given the choice of C-section versus vaginal delivery.

Overall, the women who delivered vaginally used terms to suggest that most felt that a vaginal delivery was a "natural" process and that "babies were meant to come out through the vagina." One mother described it as "the most beautiful experience" to deliver vaginally. Another mother stated she preferred vaginal delivery for two reasons: "recovery and the healing process are longer than preferred from a Cesarean, and normal birthing via vaginal birth is better for the baby." Several women reported that they preferred vaginal delivery based on the increased healing time and higher risk of infections with a Cesarean birth. The reasons provided by the study participants in the Cesarean birth group for their delivery method included the following: baby was breech, have fibroids, baby's heart rate dropped, baby in distress, previous pregnancies and had C-section, placenta previa, preexisting medical conditions made vaginal delivery "treacherous" for both mother and baby, and mother has both high blood pressure and diabetes.

All of the mothers felt they received information regarding the birthing process from several sources: doctor, nurses, prenatal classes, books, and the Internet. One woman who delivered using planned Cesarean said she "received adequate information about different ways of having a C-section." Another woman who had a Cesarean birth due to the baby's low heart rate stated that, "in the present situation, I received enough information about delivery options." One

Table 5
Means for vaginal delivery (*n* = 34) and Cesarean birth (*n* = 14) groups for EDM-r and SWD scores

Variable	<i>M</i> (<i>SD</i>)	95% CI of mean difference	<i>T</i> value	<i>df</i>	Significance (<i>p</i>)	Effect size (<i>d</i>)
EDM						
Vaginal	4.24 (0.55)	0.33 to 0.81	3.66	44	<.001	1.54
Cesarean	3.67 (0.26)					
SWD						
Vaginal	4.26 (0.60)	-0.65 to 0.17	1.19	47	.21	0.36
Cesarean	4.50 (0.68)					

CI = confidence interval.

mother who had a vaginal delivery stated she had received enough information about options but was not allowed to exercise the option she preferred. She stated, "I was told the baby had a velamentous cord and for peace of mind I would have preferred a Cesarean section. This was my third baby. I had the other two vaginally. I feel doctors should listen to mommy's instinct."

As previously described, 13 mothers indicated they did not have a choice in the type of delivery method. However, all but one felt they had received enough information from various sources regarding delivery of the baby.

3.1. Limitations

The women who participated in this nonrandom sample were a limitation of this study; however, this study provided good comparison data with the first two studies because the study site was the same in-patient unit. Women who delivered vaginally had higher EDM-r scores indicating that the publicized elective Cesarean birth issue may not have had an overwhelming influence on these women to date or these participants had a personal bias to deliver vaginally.

Other limitations include the environmental factors and milieu when women were completing their surveys. Open visiting hours permitted other people in the room while surveys were completed; in addition, these women were busy during this postpartum period with childcare, discharge classes, and personal care.

4. Discussion

Since the rate of Cesarean births was consistent with previous rates, there appeared no increased elective Cesarean births by choice; therefore, it is assumed they were done by indication. The decision-making process for method of delivery is still of interest because in this study, EDM and SWD were high, thereby indicating that women perceived some control of options in at least most cases (74%). The mean for SWD may have been higher than the mean for EDM due to the survey being retrospective, and the outcomes of all the deliveries were good. Although participants were instructed to base answers on the decision, it may have been difficult for them retrospectively. Better understanding is still needed with prospective studies to differentiate between satisfaction with the decision-making process and satisfaction with the decisional outcome.

For the third time, the relationship between EDM and SWD was strongly correlated, and women who made a more emancipated decision were also more satisfied with their health care decision. The revised EDM-r shows promise in prediction with fewer items than the original scale.

Although the publicized social norm of elective Cesarean births did not appear to affect most participants in this study, one mother stated that, if asked, she may have chosen a Cesarean birth. A repeat study in the near future may reveal different results should the social norm of elective

Cesarean birth produce a more widespread social norm. It may be advantageous for women's health professionals to assess how social norms affect women's health care decisions at different time intervals to ensure that they are truly able to exercise personal knowledge in their decision-making process if a social norm increases in acceptability in the population.

4.1. Implications for nursing

Flexible environment was the subscale with the highest mean in this study and may be reflective of the health care the participants received. Nurses are influential in the patient care environment, and this flexibility may reflect the education nurses received in therapeutic communication skills. Although personal knowledge did not have the highest mean score in this particular study, it added significantly to the total EDM score and should be considered as a real and reliable knowledge for many patients. Although personal knowledge is congruent with evidence-based practice and should be strongly considered during the decision-making process (Melnyk & Fineout-Overholt, 2005), it is, in effect, sometimes the last considered condition. When discussions with women ensue about choosing options for a health care issue, it is imperative for nurses to open up communications about what the patient feels is best for themselves and why.

The mothers indicated that they received information regarding methods of delivery prenatally. However, it was not clear how this information was given to them; that is, was the information provided in a structured (e.g., formal class) or unstructured (e.g., given a brochure to read) situation. Because one of the roles of nurses is teaching their clients, the authors recommend that education on the various methods of birthing options and their pros and cons be initiated at the first office visit to the doctor. The office or clinic nurse should conduct an initial assessment of the knowledge of the client regarding vaginal and Cesarean birth methods. A pretest/posttest could be administered, which addresses specific questions related to the types of birth options. After reviewing the responses, an individualized teaching plan can be prepared and presented to each mother during a prenatal visit. This is especially important in this age of technology in which the mother may have obtained information from the internet or other such sources. Education about the two methods of birth delivery could also be provided during prenatal classes.

Decision making about delivery mode is a national health dilemma. The process of delivery is intertwined with culture, the patriarchal medical system, and legal considerations. Women's personal preferences to have Cesarean births in some sectors of society have come under massive criticism from both the health care and popular arenas. The concerns of mortality and morbidity are real, yet accurate reporting is in question and many institutions are now avoiding infant consequences by ensuring the Cesarean birth is post 39 weeks gestation. The cost factors for Cesarean births

have been based on the procedure itself, not the possible decrease in antepartum admissions for induction and hours in labor. Postpartum difference in costs related to a multitude of health differences, such as comfort in breast-feeding, rate of postpartum depression, and marital satisfaction, has not been thoroughly examined.

In summary, this study considered women's preferences to a single-event decision that affect an important time in a women's life. Many more studies are indicated for other single-event decisions, as well as studies about continuous decisions. Clinicians may still be underestimating women's use of personal knowledge in all decision-making processes. Better methods of determining women's personal knowledge in the decision-making process may lead to better adherence and fewer option changes. Fewer option changes may decrease health care costs. Ongoing investigation of gender-specific decisional patterns will assist nurses with identification of social norms that may prove oppressive to women making health care decisions. Nurses are in a prime position to implement a shared decision-making paradigm that can benefit women by including not only health care information but also a discussion about social norms and personal preferences.

Call outs

1. EDM in women's health care is significantly and positively related to SWD.
2. Personal knowledge was again the best predictor of SWD.
3. Most women in this study felt they had enough information about different delivery methods, and 37 of 50 reported they had made an emancipated choice and were satisfied with the decision.

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