Choice? Factors That Influence Women's Decision Making for Childbirth

Mary Regan, RN, PhD Katie G. McElroy, RN, MS Kristin Moore, BA

ABSTRACT

This article reports the findings from a mixed-methods study on factors that influence women's decisions about birth, with the view that women's decision making about birth can affect the use of cesarean surgery. Data was collected from focus groups and structured postpartum interviews and was analyzed using the Consensual Qualitative Research method. The findings relate specifically to the factors reported as influential in making decisions about birth including how the women categorized, prioritized, and/or favored certain types of knowledge about modes of birth. Four major information categories were identified but only stories about birth and/or attending a birth appeared to have a lasting effect on birth choices. These findings have implications for prenatal and perinatal education and nursing practice.

The Journal of Perinatal Education, 22(3), 171–180, http://dx.doi.org/10.1891/1058-1243.22.3.171 *Keywords*: cesarean delivery, intrapartum care, childbirth

BACKGROUND

Births by cesarean (CS) currently account for more than 32.8% of all births in the United States (Martin et al., 2012) and primary use of CS has doubled over the last two decades (Declercq et al., 2007). Overuse of CS is widely recognized as problematic because it increases neonatal and maternal morbidity and mortality (Gregory, Jackson, Korst, & Fridman, 2012; National Institutes of Health [NIH], 2006). Specifically, neonates birthed by CS are twice as likely to suffer serious pulmonary complications requiring admission to neonatal intensive care than those born vaginally (Bailit et al., 2010; NIH, 2006) and have an increased risk of developing childhood asthma (Metsälä et al., 2008). For women, CS is

associated with significantly higher rehospitalization rates among low-risk women (Declercq et al., 2007), increased risk of adverse outcomes in subsequent births (Kennare, Tucker, Heard, & Chan, 2007), and maternal dissatisfaction with the experience of childbirth (Wiklund, Edman, Ryding, & Andolf, 2008). In addition, CS costs 76% more than vaginal birth (Declercq et al., 2007), representing billions of dollars per year in avoidable health expenditures.

Births by cesarean surgery (CS) currently account for over 32.8% of all births in the United States and primary use of CS has doubled over the last two decades.

To date, very little research has been done to determine women's expectations for their birthing experiences, particularly why women prefer certain modes of childbirth and labor management strategies.

1 For more

1. For more information on Healthy People 2020 Goals see http://healthypeople. gov/2020/default.aspx No single strategy for lowering CS rates has proven successful over time. Similarly, the only variable that has consistently been shown to increase the likelihood of CS is a history of CS, which is the primary indicator for CS in more than 14% of all cases (Green & Baston, 2007). This has particular significance for usage rates because it implies that avoiding primary CS is the best way to reduce overuse of the procedure (Green & Baston, 2007; NIH, 2006). In fact, Healthy People 2020 calls for reducing CS births by 10% for low-risk primigravid women (Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, 2010).

Recently, maternal demand has been identified as a significant factor driving CS usage rates (Bettes et al., 2007). This finding is problematic because it assumes that women's birthing choices are a matter of unrestricted preferences. However, that assumption denies the profound cultural and symbolic significance of birth and fails to account for how social discourse influences women's knowledge about birth and the subsequent choices they make. To date, very little research has been done to determine women's expectations for their birthing experiences, particularly why women prefer certain modes of childbirth and labor management strategies.

This article reports findings from a mixed-methods study aimed at filling that gap in knowledge by investigating the factors that influence women's decisions about birth. This report describes these factors by relating how the women in the study categorized, prioritized, and/or favored different types of information or sources, as well as the strategies they reported using to manage conflicting information. These findings have significant implications for prenatal and perinatal education and informed decision making as it relates to childbirth. The quantitative findings are presented in a different report.

METHODS

Three data collection methods were used for each participant: a projective test, a prenatal focus group, and a semistructured postpartum interview.

Projective methods have been used with good effect to access subliminal beliefs about birth among intrapartum nurses (Regan & Liaschenko, 2008). In this study, the projective method provided insights about the women's attitudes and beliefs regarding childbirth. This method involved showing participants pictures of women in labor and asking them to create a story around the pictures, including preceding events, thoughts and feelings, supporting characters, and outcomes. Analysis of the stories provides information on how women perceive childbirth. The findings from the projective method are the subject of a separate paper. The focus group elicited rich descriptions of women's experiences with and perceptions of birth. Finally, an interview was conducted with each participant in the first 6 weeks postpartum to gather actual birth data. The descriptive findings reported here were obtained from the focus groups and postpartum interviews.

There were 13 focus groups consisting of three to six pregnant women in each that were conducted over the course of 12 months. Each woman participated in only one focus group. The sessions were conducted in a private setting in an academic facility in the Mid-Atlantic United States. The focus group sessions lasted approximately 1.5 hr and were facilitated by the principal investigator and a research assistant. The sessions were digitally recorded and transcribed verbatim by an experienced transcriptionist. Names and identifiers were redacted during the transcription process.

The focus group discussions were loosely structured by a set of predefined questions that focused on eliciting information about birth choices. Participants were guided to address (a) their perceptions of childbirth including hopes, desires, and fears; (b) the factors that influenced their birthing desires; (c) the information sources that influenced their decisions about childbirth; (d) how they prioritized these sources; and (e) how they established legitimacy of the source and reconciled conflicting information. The facilitator worked to include all participants in the discussion. The findings presented here primarily report findings related to the information sources and how they were prioritized and legitimized.

The postpartum interview was conducted by telephone within the first 4 weeks after the women had given birth. Participants were asked to contact the principal investigator after they had given birth. A member of the research team initiated contact if a participant had not called within 2 weeks of the reported due date. Postpartum interview data were collected on 51 women, but only 49 complete sets were usable because of technical difficulty. The interview consisted of questions relating to the events of birth, including admission data; use of oxytocin, epidural, and intravenous fluids; the type of birth; and infant feeding status. Women were also asked the length of labor and the timing of any interventions that were used.

Sample

The sample was comprised of low-risk primigravid women. Low-risk was defined as the absence of any chronic or acute maternal or fetal condition that would limit birthing options or could increase the risk of CS. Primigravid women were selected to avoid any influences based on previous personal pregnancy or birth outcomes, which were assumed to influence birthing choices in subsequent births. Women were recruited into the study using convenience sampling. Recruitment strategies included advertising in public health agencies and physician offices, online birthing listservs, childbirth classes, and direct approach. Recruitment from childbirth classes and online listservs accounted for 23.0% of the participants, followed by 19.2% from word of mouth referral.

The inclusion criteria required that participants be between 21–36 years of age and in their 28th to 36th week of pregnancy. Besides being low-risk, they also must not have used assistive technologies (such as in vitro fertilization) to get pregnant. There were 72 women screened for inclusion and 52 were recruited into the study. Of the 52 participants, 1 was lost to follow-up and technical difficulties rendered the recordings unusable, leaving 49 complete data sets that were included in the analysis.

The study received human subjects approval from the institutional review board of the university at which the study was conducted. All participants completed the informed consent procedure before engaging in the first phase of data collection—the projective test. Consent was also reviewed prior to the focus group and postpartum interview. The participants were paid a stipend of \$50 per session to compensate them for their time and expenses. Women who completed all three phases (the projective test, focus group session, and postpartum interview) received \$150.

Data Analysis

The data were analyzed using the Consensual Qualitative Research method, which comprises three steps (Hill, Thompson, & Williams, 1997). First, the research team independently analyzed the focus group discussion and the postpartum interview for each participant. Domains and core ideas were developed based on the factors identified by participants as influential on birth decisions. Next, the research team compared their individual analyses to reach consensus on the domains and core ideas. Differences were resolved through alternative interpretations and exploration of evidence until consensus was reached. Disagreement among researchers was expected. In fact, "the whole process of reaching consensual agreement hinges on the fact that there will be initial differences" (Hill et al., 1997, p. 524). Lack of disagreement would raise questions about the openness and quality of the research process. Finally, the team reviewed the cases and constructed categories for each domain. The remaining cases were then rated by one of the investigators, using the list of domains and categories (Hill et al., 1997). The outcomes from each step in the process were reviewed by an auditor.

Consistent with inductive analysis, the domains and category designations continued to be revised

TABLE 1 Demographic Characteristics of the Sample, N = 52

	Mean (<i>SD</i>)		Range	
Age	28.77 (3.924)		21–36 years	
	Median			
Income ^a	\$95,000		\$5,000—\$300,000	
	n	(%)		
Education		-	_	
High school diploma	8	(15.4)		
Bachelor's degree	14	(26.9)		
Master's degree	20	(38.5)		
Clinical doctorate	4	(7.7)		
PhD	6	(11.5)		
Marital status				
Single	13	(28.8)		
Married	37	(71.2)		
Ethnicity				
Caucasian	34	(65.4)		
African American	10	(19.2)		
Asian	4	(7.7)		
Hispanic	3	(5.8)		
Other	1	(1.9)		

^aBecause of missing data, n = 48

TABLE 2
Preferred Type of Birth and Management Strategies, by Percentage, N = 49

Type of Birth and Strategies	Percentage	
Want natural childbirth ^a	65.4	
Open to natural childbirth	3.8	
Want vaginal birth with epidural	17.3	
Open to vaginal birth with epidural	2.7	
Undecided	10.8	

[®]Natural childbirth defined as labor and vaginal birth without analgesia or anesthesia

as the remaining cases revealed new information. Throughout the process of developing domains, constructing core ideas, and doing the cross analysis, the team recorded memos that included their impressions and emerging ideas about the meaning of the data, their group process, and how the group reached consensus (Hill et al., 1997). The memos served as an audit trail by allowing the members of the research team to follow the logic of the analysis, even after analysis was complete.

RESULTS

The demographics of the participants are presented in Table 1. Overall, the women were highly educated, married, and had high incomes. Table 2 shows data on preferred type of birth and labor management strategies, which varied widely across the sample. Most participants desired a natural childbirth (the term "natural childbirth" is used here to describe labor and vaginal birth without the use of analgesia or anesthesia). Many of the women who elected to birth in the hospital setting

TABLE 3 Actual Birth Data for the Sample, N = 49

Birth Characteristic	п	(%)
Place of birth		
Home births	6	(12.2)
Hospital births	43	(87.8)
Type of birth		
Vaginal births	39	(79.6)
Assisted vaginal births	3	(6.1)
Cesarean surgeries	7	(14.3)
Type of provider		
Obstetrician	29	(59.2)
Midwife	20	(40.8)
Use of a doula ^a	10	(20.8)

 $^{^{}a}n = 48.$

stated that although their primary preference was for natural birth, they were "open" to alternatives if necessary and expressed value in being "flexible." Table 3 shows an overview of the quantitative birth data obtained from the women during the postpartum interview. Those finding are presented in a separate report.

Nearly 45% of the women stated that they knew what type of birth they wanted before they became pregnant. Typically, those choices not only reflected a desire to avoid more invasive options, such as use of epidural and oxytocin, but also included things such as place of birth and type of care provider, both of which affect the likelihood of medical management of labor. Women who knew what they wanted for birth before pregnancy tended to select information sources during pregnancy that supported their birthing desires. Some of these women continued to refine their choices during pregnancy in response to additional information they encountered; however, they did not change their original selection. For example, several women who had already selected natural childbirth chose a Bradley method prenatal childbirth course. One woman explained that she selected the Bradley class because she "... wanted a natural childbirth. The Bradley method [course] shaped some of the smaller decisions that we made [that] I never had really given much thought to. [For example] An episiotomy ... or even delaying cord cutting and stuff ..." (Participant 15).

The analysis revealed four major categories of information that were used to inform birthing choices. These included stories about birth and/or attending a birth, childbirth classes, health-care providers, and written sources such as childbirth books, medical journals, and online resources. Perceptions, hopes, and fears were woven throughout the women's narratives.

Stories of and/or Attendance at a Birth

The most commonly cited category was birth stories from other women, including mothers, friends, relatives, or coworkers. Nearly three-quarters (71.2%) of the sample stated that this source was particularly helpful when they were deciding what type of birth they wanted. Their desired births were closely modeled on the birth stories and experiences that they valued the most. For example, women who chose home birth cited home-birth stories and women who wanted natural childbirth recounted stories

of natural births. For those women, the stories they described were very positive, upbeat experiences with good outcomes.

Alternately, women who wanted an epidural, CS, or who were open to other medical interventions frequently recounted stories that involved intense pain and even injury to the mother or child. For example, one woman who chose to have a scheduled CS was informed by her mother-in-law's experience of birth: "... my husband was eleven pounds ... he broke a bone coming out of his mother. [He] was delivered naturally and that caused a whole lot of pain. . . . That really influenced my perception" (Participant 28).

Birth stories and experiences sometimes presented information that conflicted with the women's choices. Participants recounted situations where they had to disassociate themselves from individuals whose opinions were discordant with their own. One woman had to "... cease relationships with people that were important to [her] because [she] just can't hear what they have to say anymore" (Participant 46). Another commonly reported mechanism to resolve a difference of opinion about birth choices was to discount the value of the information by discrediting the information source. An additional approach that was used to reconcile conflicting information was to avoid speaking about birth plans with people who had dissenting views. For example, one woman commented: ". . . I tend to cut people off if they force their views on me. I have relatives who do that, [so] I just don't bring up what we're planning with them" (Participant 6). This approach was very common among the home birthers and women who were strongly committed to natural childbirth.

Attending a birth prior to or during pregnancy was a powerful experience that evoked various responses from the women. Nearly 20% (10) of the sample cited attending a birth as a pivotal event that informed their decision-making process. Of those who stated that this activity influenced their birthing choices, 30% were already committed to a particular type of birth and had also attended other births prior to their pregnancies. Most of the 10 women described the birth(s) they attended as being substantively similar to what they wanted for their own birth—most commonly a natural birth, either at home or in a hospital. Their descriptions of the witnessed birth(s) were both positive and empow-

One woman attended her sister's natural birth and described that seeing her sister in pain made her conclude that she would be unable to birth without an epidural

ering, like that of this woman, who was planning a home birth:

I had a powerful experience when I was early on [in my pregnancy]. It was home birth of my friend's . . . I think for me, deciding to go with home birth had somewhat to do with being there at a home birth. . . . That seems worthwhile: I want to be a part of that. I want that. And so early on, we made that decision. (Participant 40)

In contrast, women who wanted epidurals described the births they attended as painful and frightening. One woman attended her sister's natural birth and described that seeing her sister in pain made her conclude that she would be unable to birth without an epidural:

Because I saw the pain! . . . I was like, I'm about to go through this, and I can't do it. If I hadn't seen her go into birth, I probably would be like, I can do it. It's nothing. But I saw it, and I can't. (Participant 26)

Childbirth Classes

Childbirth classes were cited by 61.5% of the sample as an important source of information about birth. The length and type of course varied widely across the cohort, ranging from immersive multi-week

TABLE 4

Type of Childbirth and Childcare Classes Attended, by Number and Percentage, N = 52

Type of Childbirth Class ^a	n	(%)
General childbirth class in the hospital setting	19	(36.5)
Specialty childbirth classes		
Bradley	9	(17.3)
Lamaze	1	(1.9)
Hypnobirthing	2	(3.8)
Cesarean surgery class	1	(1.9)
No prenatal classes	20	(38.5)
Childcare classes		
Breastfeeding class	1	(1.9)
Infant care class	1	(1.9)

^aWomen may have attended more than one type of class.

sessions focused on specialty birthing techniques to single session hospital-based classes. The timing of the classes during pregnancy also varied and occurred anytime from the 28th week to term. The frequency of participation in childbirth classes is summarized in Table 4 by type of class.

Women who reported knowing what they wanted for birth before pregnancy mainly attended childbirth classes that supported their desired type of birth. For example, women who opted for a home birth more commonly attended specialty childbirth method classes that supported their choices, such as Bradley or hypnobirthing. This was reflected in statements such as "I had ideas of what I wanted, but after seeing it [in class], it reaffirmed my beliefs of what I was going to do" (Participant 26). The women found prenatal classes helpful because they provided particular details needed to make choices about birthing onto the chest, cutting the cord, or using erythromycin eye ointment. For all of the women, including those who were unsure about the type of birth they wanted, the information from childbirth classes gave them an idea of how labor and birth would transpire. Even women who had already decided what they wanted for birth said that:

Childbirth classes really helped out because we got a whole arsenal of things we [could] do during labor. The instructor knew that we weren't trying to do any medical interventions or medicines, so she was really good about providing us with different relaxation techniques... like the birthing ball, the tub, and different massage techniques. (Participant 29)

Four women reported that the information provided in classes was inaccurate and even biased. One woman who was planning a vaginal birth with an epidural, but who was also open to having a CS, was incensed when the childbirth instructor presented information about the risks associated with CS. The woman reported arguing with the instructor by saying:

[The prenatal instructor of the course] was very, very focused on natural birth and I didn't like it. . . .

Women who were cared for by physicians reported that the providers were not forthcoming with information about birth choices.

One woman couldn't even introduce herself without crying, and then she heard the instructor say that c-section increases your chances of dying by four! I corrected [the instructor], and I said, no, you absolutely cannot say that. . . . She tried to convince me that the more medical interventions [a women has during labor] the higher the risk, and I tried to convince her that the medical professional would not take more risk than necessary. (Participant 4)

When the focus group facilitator asked the participant if she had researched the childbirth class instructor's claims about maternal mortality and CS, the woman said that she had and that she found that CS was not associated with higher mortality rates than vaginal birth.

Care Providers

Care providers were cited by 19.2% of the women as influential with regards to making decisions about birth. Women reported getting information either directly from the provider or indirectly via printed materials obtained during prenatal visits. Most of the women were satisfied with the information they received and indicated that they had incorporated it into their birth choices. However, there were differences in the depth of information given, depending on the type of care provider. Women who were seeing midwives were presented with multiple options for birth and reported that the discussion about the type of birth was ongoing throughout their prenatal visits.

Alternately, women who were cared for by physicians reported that the providers were not forthcoming with information about birth choices. Some women reported having to stop their care provider from leaving at the end of the appointment to get answers to questions they had about care. One woman reported that the physician would "... just come in, do the exam, and if I don't ask questions, they're out the door" (Participant 34). This was surprising for many of the women, as evidenced by one participant's statement:

... it does surprise me, I actually have to say, that the process of the OB/G visits haven't been as personal as I thought that they would be. I thought my birth plan was something that you sit down with your OB/G and discuss but I'm figuring out this is something that I [have to do] on my own. (Participant 47)

Despite this, most women in this study privileged information they received from their physicians, although a few of them reported switching physicians when they realized that the provider would not support their birth choices.

Written Sources

Books were cited by 55.8% of women as a valuable source of information. Many of the women who cited childbirth books as an important source of knowledge about birth reported knowing what they wanted for birth prior to pregnancy. Books were generally described as being influential in making decisions about childbirth, but no one could provide a specific example of how material in a book had changed or informed her decision. Books about childbirth were also found to be biased toward a specific type of birth. For example, "a lot of pregnancy books are geared towards one ideal or another, and it's hard to get information that's just factual" (Participant 25).

Women selected books to read based on recommendations from friends and family. They also purposively chose books supportive of choices they were considering or had decided on. Choosing books based on recommendations and personal leanings toward particular options explained the bias and one-dimensionality attributed to books:

I mean, there's a ton, there's so much information out there when you're pregnant and there's so many different books to read. I've had several friends who have recommended many of these books to me that have had natural childbirth or been with midwives, so maybe that's why I'm getting these particular kinds of books. (Participant 32)

Only 10.5% of the women reported medical journals as an information source, but 36.5% of participants reported using Internet-based sources when considering options for birth. Generally, online resources were considered a good place to look for information, although the type of information and what decisions they influenced were not discussed. The most common use that this group cited for using the Internet was to find a care provider.

DISCUSSION

The intent of this study was to describe the factors that influence decisions made by pregnant women We concluded that because the women in our sample were older than the average first-time mother, they were more likely to have been exposed to pregnancy and birth and had more opportunities to formulate opinions for their own births.

about birth. Our starting assumption was that these factors are fundamental in developing effective preconception and prenatal educational programs designed to counter misperceptions about birth. This is crucial because many of the misperceptions promote the use of childbirth technologies that may increase the need for CS.

Almost half of the women in this study claimed that they had decided on what type of birth they wanted before they were pregnant. We concluded that because the women in our sample were older than the average first-time mother, they were more likely to have been exposed to pregnancy and birth and had more opportunities to formulate opinions for their own births. This is especially true among this sample because it comprises unusually well-educated women.

A concerning finding was that the women who decided before pregnancy what they wanted for birth did not seem to actively pursue information about the risks and benefits of their choices. They also used multiple strategies to discount information that they encountered that was not congruent with their choices, as exemplified by the woman who argued with her childbirth class instructor about the risks of CS. These women were clearly not making fully informed choices about childbirth. This was especially true of the women who elected to birth in the hospital environment and wanted more physiologically invasive management strategies such as epidurals, oxytocin, or CS. These women could rarely articulate the risks associated with their choices. Subsequently, when they were admitted in labor and were required to consent to interventions to manage their birth, they did so without fully understanding the repercussions of their decisions. This has significant implications for prenatal and perinatal educators. It also is an important finding for intrapartum nurses who may be administering the informed consent to laboring women. In comparison, women who chose to birth at home were very conversant with the risks and benefits of medicalized childbirth management strategies and in many

cases had chosen to birth at home to avoid those interventions. We found that regardless of place of birth, the environment selected for birth was purposively chosen to control the perceptions of risk about childbirth. For example, the home birthers chose to birth at home to avoid the likelihood of routinized interventions such as epidural, episiotomy, and fetal monitoring. The hospital birth group chose to birth in the hospital environment because they believed that those same childbirth interventions were necessary to ensure the safety of their unborn child.

Attending a birth clearly had the most lasting impact on maternal choices for birth in this cohort. We hypothesized that women who attended a birth had a better understanding of what birth entailed, and used the experience to develop a plan to manage their own birthing process. The birth plans invariably reflected the management strategies that were used during the witnessed birth. This has relevance for prenatal education because if the witnessed birth was not well managed, then the women were motivated toward interventions that may not have been clinically ideal for their birth. Interestingly, women who witnessed birth on television did not have the same motivation, suggesting that in order for women to apply the experience of seeing a birth to their own birth planning, they needed to have an emotional connection to the person who was giving birth.

This study had some limitations. First, the sample was small and was not indicative of the general birthing population in terms of age and income. Second, 11.50% of the sample elected to have a home birth; that is significantly higher than the national average of 0.72% (Macdorman, Declercq, Mathews, & Stotland, 2012). In addition, midwives were the primary care provider for 40.80% of the women in the sample, and 20.80% of the participants had a doula for labor support, which is also not congruent with the general population. There was no apparent reason why this study attracted so many women wanting natural childbirth; however, it provided an unanticipated diversity that allowed us to compare the two dominant birth choice groups—namely home and hospital birthers. Finally, despite targeted recruitment, we only managed to recruit a small cohort of African American women into the study.

Educators should be aware that attendance at a birth can be a powerful influence on primigravid women.

These limitations affect the ability to generalize our findings, particularly to women with lower income and less education. However, it is important to note that the misconceptions about birth demonstrated by this highly educated and economically privileged group may be amplified among women from lower socioeconomic classes. Therefore, despite the homogeneity of the sample, these findings have significant implications for prenatal preparation of women from all backgrounds.

As shown in previous research, this study found that the central factors driving decisions about childbirth were safety concerns, which heightened the women's perceptions of the risks related to childbirth (McCourt et al., 2007; Weaver, 2004). Women's perceptions of risk are widely recognized to influence decision making in general and are known to involve both conscious and unconscious biases that shape desires, hopes, and decisions (Nisbett, 1992; Nisbett & Ross, 1980; Slovic, 1987). Our findings are also similar to research showing that nurses' perceptions of risk about childbirth influenced the use of childbirth technologies that are known to increase the need for birth by CS (Regan & Liaschenko, 2007).

CONCLUSIONS AND IMPLICATIONS FOR PRACTICE

The results of this study identify areas for future research and provide valuable insight for those who educate and care for pregnant women. We found that women held polarized views on the use of physiologically invasive management strategies to routinely manage childbirth. However, the use of those interventions was generally assumed to reduce the risks of childbirth among women who wanted hospital births. This finding warrants additional study. In addition, significant gaps in how and when informed consents were administered were identified. For example, the timing of when women were consented for CS and epidural ranged from the first prenatal visit to hospital admission in labor. Similarly, many reported that their providers never discussed the risks or benefits of commonly used interventions like fetal monitoring. Research is needed to determine effective timing and location for informed consent related to birthing options. Research is also needed to determine the optimal use of childbirth technologies used to manage labor in the hospital environment. High quality, consistent evidence on how and when childbirth interventions

should be used is lacking. The lack of clarity on this issue allows women and providers alike to subjectively choose the recommendation that suit their particular viewpoints. Current research on specific childbirth interventions has not examined the cumulative effect of various technologies, although they are seldom used in isolation.

Considering the high proportion of the sample that made birth decisions before pregnancy, education regarding pregnancy, labor, and birth may need to begin in the preconception period. Educators should present all viable options for birth and should encourage women to carefully consider risks and benefits of each option with the goal of having a safe, healthy, and natural experience. Although all women may not desire a natural childbirth, the goal is to adequately prepare them so that if they choose to use medical interventions during labor, they do so from a fully informed standpoint.

Educators should be aware that attendance at a birth can be a powerful influence on primigravid women. Discussing their personal experiences of witnessing a birth may help women articulate the fears and perceptions that often result in more medicalized births. Once these fears are recognized, they can be addressed with objective information provided by a knowledgeable, professional educator or care provider. In this way, more women can have safe and healthy birth experiences that fit their emotional wants and physical needs.

ACKNOWLEDGMENT

This grant was funded by the National Institute of Child Health and Human Development (R21HD059074).

REFERENCES

- Bailit, J. L., Gregory, K. D., Reddy, U. M., Gonzalez-Quintero, V. H., Hibbard, J. U., Ramirez, M. M., . . . Zhang, J. (2010). Maternal and neonatal outcomes by labor onset type and gestational age. *American Journal of Obstetrics & Gynecology*, 202, 245.e1–245.e12. http://dx.doi.org/10.1016/j.aiog.2010.01.051
- Bettes, B. A., Coleman, V. H., Zinberg, S., Spong, C., Portnoy, B., DeVoto, E., & Schulkin, J. (2007). Cesarean delivery on maternal request: Obstetrician-gynecologists' knowledge, perception, and practice patterns. *Obstetrics & Gynecology*, 109(1), 57–66. http://dx.doi.org/10.1097/01.AOG.0000249608.11864.b6
- Declercq, E. M., Barger, M., Cabral, H. J., Evans, S. R., Kotelchuck, M., Simon, C., . . . Heffner, L. J. (2007). Maternal outcomes associated with planned primary cesarean births compared with planned vaginal births.

- Obstetrics & Gynecology, 109(3), 669–677. http://dx.doi.org/10.1097/01.AOG.0000255668.20639.40
- Green, J. M., & Baston, H. A. (2007). Have women become more willing to accept obstetric interventions and does this relate to mode of birth? Data from a prospective study. *Birth*, *34*(1), 6–13. http://dx.doi.org/10.1111/j.1523-536X.2006.00140.x
- Gregory, K. D., Jackson, S., Korst, L., & Fridman, M. (2012). Cesarean versus vaginal delivery: Whose risks? Whose benefits? *American Journal of Perinatology*, 29(1), 7–18. http://dx.doi.org/10.1055/s-0031-1285829
- Hill, C. E., Thompson, B. J., & Williams, E. N. (1997). A guide to conducting consensual qualitative research. The Counseling Psychologist, 25(4), 517–572. http:// dx.doi.org/10.1177/0011000097254001
- Kennare, R., Tucker, G., Heard, A., & Chan, A. (2007). Risks of adverse outcomes in the next birth after a first cesarean delivery. *Obstetrics & Gynecology*, 109 (2, Pt. 1), 270–276. http://dx.doi.org/10.1097/01.AOG. 0000250469.23047.73
- Macdorman, M. F., Declercq, E., Mathews, T. J., & Stotland, N. (2012). Trends and characteristics of home vaginal birth after cesarean delivery in the United States and selected States. *Obstetrics & Gynecology*, 119(4), 737–744. http://dx.doi.org/10.1097/AOG. 0b013e31824bb050
- Martin, J. A., Hamilton, B. E., Ventura, S. J., Osterman, M. J., Wilson, E. C., Mathews, T. J., & Division of Vital Statistics. (2012). Births: Final Data for 2010. *National Vital Statistics Reports*, 61(1). Retrieved from http://www.cdc .gov/nchs/data/nvsr/nvsr61/nvsr61_01.pdf
- 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(1), 65–79. Retrieved from http://onlinelibrary .wiley.com/journal/10.1111/(ISSN)1523-536X
- Metsälä, J., Kilkkinen, A., Kaila, M., Tapanainen, H., Klaukka, T., Gissler, M., & Virtanen, S. M. (2008). Perinatal factors and the risk of asthma in childhood—A population-based register study in Finland. *American Journal of Epidemiology*, 168(2), 170–178. http://dx.doi.org/10.1093/aje/kwn105
- National Institutes of Health. (2006). NIH State-of-the-Science Conference Statement on cesarean delivery on maternal request. *NIH Consensus and State-of-the-Science Statements*, 23(1), 1–29. Retrieved from http:// consensus.nih.gov/2006/cesareanstatement.htm
- Nisbett, R. (1992). Rules for reasoning. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Nisbett, R., & Ross, L. (1980). Human inference: Strategies and shortcomings of social judgment. Englewood Cliffs, NH: Prentice Hall.
- Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services. (2010). *Healthy People 2020, 2020 Topics and Objectives: Maternal, Infant, and Child Health*. Retrieved from http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26
- Regan, M., & Liaschenko, J. (2007). In the mind of the beholder: Hypothesized effect of intrapartum nurses'

- cognitive frames of childbirth cesarean section rates. *Qualitative Health Research*, *17*(5), 612–624. http://dx.doi.org/10.1177/1049732307301610
- Regan, M., & Liaschenko, J. (2008). In the margins of the mind: Development of a projective research methodology for the study of nursing practice. *Research & Theory in Nursing Practice*, 22(1), 10–23. http://dx.doi.org/10.1891/0889-7182.22.1.10
- Slovic, P. (1987). Perception of risk. Science, 236(4799), 280–285. Retrieved from http://www.jstor.org/stable/ 1698637
- Weaver, J. (2004). Caesarean section and maternal choices. *Fetal and Maternal Medicine Review*, 15(1), 1–25. http://dx.doi.org/10.1017/S0965539503001165
- Wiklund, I., Edman, G., Ryding, E. L., & Andolf, E. (2008). Expection and experiences of childbirth in primiparae with caesarean section. *British Journal of Obstetrics & Gynecology*, 115(3), 324–331. http://dx.doi.org/10.1111/j.1471-0528.2007.01564.x

MARY REGAN works at the University of Maryland's School of Nursing. She is a UK-certified nurse-midwife and worked as perinatal nurse in the United Kingdom and Canada before moving into research. As a perinatal Advance Practice Clinician (Clinical Nurse Specialist) in labor and delivery, she had oversight for developing unit wide policies and implementing evidence-based perinatal practices related to fetal monitoring and intrapartum management. She was certified as an instructor trainer by AWHONN. She has taught clinical Obstetrics in the undergraduate nursing program and has been the Principal Investigator on several state- and federally-funded grants. KATIE MCELROY has 13 years of clinical nursing experience in obstetrics and is currently working on her PhD in nursing. She is interested in the public health implications of improving prenatal and perinatal care. KRISTIN MOORE is a research assistant at the University of Maryland's School of Nursing in Baltimore, Maryland.