OBSTETRICS

Mode of delivery preferences in a diverse population of pregnant women

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OBJECTIVE: The objective of the study was to assess women's preferences for vaginal vs cesarean delivery in 4 contexts: prior cesarean delivery, twins, breech presentation, and absent indication for cesarean.

STUDY DESIGN: This was a cross-sectional study of pregnant women at 24-40 weeks' gestation. After assessing stated preferences for vaginal or cesarean delivery, we used the standard gamble metric to measure the strength of these preferences and the time tradeoff metric to determine how women value the potential processes and outcomes associated with these 2 delivery approaches.

RESULTS: Among the 240 participants, 90.8% had a stated preference for vaginal delivery. Across the 4 contexts, these women indicated that, on average, they would accept a 59-75% chance of an attempted vaginal birth ending in a cesarean delivery before choosing a planned cesarean delivery, indicating strong preferences for spontaneous, uncomplicated vaginal delivery. Variations in preferences for labor processes emerged. Although uncomplicated labor ending in vaginal birth was assigned mean utilities of 0.993 or higher (on a 0-1 scale, with higher scores indicating more preferred outcomes), the need for oxytocin, antibiotics, or operative vaginal delivery resulted in lower mean scores, comparable with those assigned to uncomplicated cesarean delivery. Substantially lower scores (ranging from 0.432 to 0.598) were obtained for scenarios ending in severe maternal or neonatal morbidity.

CONCLUSION: Although most women expressed strong preferences for vaginal delivery, their preferences regarding interventions frequently used to achieve that goal varied. These data underscore the importance of educating patients about the process of labor and delivery to facilitate incorporation of informed patient preferences in shared decision making regarding delivery approach.

Key words: mode of delivery, patient preferences, shared decision making, standard gamble, time tradeoff

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Determining the optimal delivery approach for each pregnant woman is critical to providing high-quality, patient-centered care in obstetrics. Although vaginal delivery remains the most common delivery mode, the overall cesarean rate reached 32.8% in 2010, including 26.4% of low-risk nulliparous women and 89.9% of low-risk women with a prior cesarean delivery.[1,2]

The morbidity associated with this cesarean epidemic is profound, and as a result, reducing cesarean deliveries is a goal of numerous professional organizations and the US Department of Health and Human Services.[1,3,4] Yet although studies among pregnant or postpartum women demonstrate that a majority prefer vaginal delivery,[5-10] and the strength of this preference has been associated with increased likelihood of achieving this goal,[11] recent clinical guidelines aimed at reducing the cesarean rate fail to mention inclusion of patient preferences in delivery mode counseling or planning.[4]

The model of shared decision making, in which decisions are informed by the best evidence available, weighted according to the specific characteristics

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and values of the patients and made in collaboration between patients and health care providers,[12,13] has been advocated for some clinical scenarios in obstetrics; however, defining the optimal way to incorporate patient preferences in delivery decisions remains challenging.[14,15] Although women often state a desire to be included in the process of mode-of-delivery decision making,[16] the extent to which patient preferences should be incorporated remains a matter of debate.

Because shared decision making and a reduction of the cesarean delivery rate are both important goals, and the strength of a woman's preference for vaginal delivery has an impact on the likelihood of a vaginal birth,[11] perhaps more explicit incorporation of patient preferences would be beneficial. However, to do so requires a better understanding of how women view planned vaginal vs planned cesarean delivery, including how strongly they prefer one delivery mode over the other, how they perceive potential labor interventions facilitating vaginal birth, and how they value potential outcomes of the 2 delivery approaches.

To date, most mode-of-delivery preference studies have simply asked women whether they would prefer vaginal or cesarean delivery, without exploring the strength of these preferences and how women feel about potential outcomes of decisions to undergo planned vaginal vs planned cesarean delivery.

Our objective was to conduct a comprehensive study of mode-of-delivery preferences among a diverse population of women. To do so, we assessed stated preferences for vaginal vs cesarean delivery, the strength of these delivery mode preferences, and preferences (known as utilities) for potential interventions associated with and outcomes of planned vaginal vs planned cesarean deliveries in 4 clinical contexts: prior cesarean delivery, twins, breech presentation, and absent medical indication for cesarean.[15]

Materials and Methods

The Mode of Delivery Preferences Among Diverse Populations of Women study was conducted at the University of California, San Francisco (UCSF), between 2008 and 2014. This report describes the primary outcomes of this study. Methods have been described elsewhere.[11,17] In brief, women receiving prenatal care at UCSF were sent letters describing the study. Women who opted in or who did not return the postage-paid response card were contacted to assess eligibility and interest.

Inclusion criteria included being 24-40 weeks' pregnant with a singleton or twin gestation and having the ability to complete an English-language interview. Exclusion criteria included the inability to complete a face-to-face interview, having triplets or higher-order multiple gestation, or an inability to speak English. Women were not excluded on the basis of medical comorbidities or the number of prior cesarean deliveries. Participation consisted of 1 face-to-face interview that included a sociodemographic and attitudinal questionnaire and a series of preference elicitation exercises specific to the participant's clinical context. All participants received a $40 gift card.

This study was approved by the UCSF Committee on Human Research. All participants provided written consent.

We assessed 3 types of mode-of-delivery preferences using ELICIT, a computerized preference elicitation tool previously developed by our group.[18] The first type was a stated preference, for which we simply asked the participant, "If you could choose, which type of delivery would you want to have?" with response options of definitely a vaginal birth, probably a vaginal birth, probably a cesarean delivery, and definitely a cesarean delivery.

The second type focused on the strength of the stated preference (focusing on those preferring vaginal delivery), which we assessed using the standard gamble metric (see explanation in the following text).[19]

Finally, because planned vaginal and planned cesarean delivery can involve various interventions and outcomes, such as induction of labor, use of antibiotics for chorioamnionitis, operative vaginal delivery, and surgical complications, the third type of preference we measured focused on the value women attach to experiencing these interventions and outcomes. These utilities were measured using the time tradeoff metric (see explanation in the following text).[19,20]

To measure the strength of preference for vaginal delivery among women who preferred this delivery mode, we opted to use a standard gamble exercise that reflected a simplified choice a woman might realistically face in thinking through whether to opt for a planned vaginal vs a planned cesarean delivery. To gain an understanding of how all the participants felt about many of other the potential outcomes of these 2 delivery approaches, regardless of their preferred delivery mode, we used the time tradeoff. This is a metric that was developed specifically for use in health care evaluations,[21] and we and others have found to be more easily comprehended by study participants, particularly when a large number of scenarios, without a clear worst case, must be assessed.

Participants were assigned to 1 of 4 preference elicitation protocols, depending on their clinical context. After identifying their preferred delivery mode, women preferring vaginal delivery were presented with a choice between certainty of an uncomplicated planned cesarean delivery (the intermediately ranked outcome) or a gamble between a specified probability of an uneventful, spontaneous vaginal birth with no adverse outcomes (the ideal outcome) and the complementary probability of having the attempted vaginal birth end in a cesarean delivery (the undesired outcome for women preferring vaginal delivery).[19] For this assessment, the ideal, intermediate, and undesired outcomes were assigned and standardized for all women identifying vaginal delivery as their preferred delivery mode. The probability of the gamble was varied until the woman was indifferent between the 2 choices (ie, until the participant found the gamble between the ideal and undesired outcomes to be equivalent to certainty of the intermediate outcome). The strength-of-preference score was calculated at this indifference point.