

KNOWLEDGE REGARDING MODE OF DELIVERY IN PRIMARY GRAVIDA WOMEN

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Abstract: In Pakistan, childbirth knowledge among primary gravida women—those experiencing pregnancy for the first time—plays a crucial role in shaping their decisions regarding the mode of delivery. Misconceptions, cultural beliefs, and social pressures significantly influence these women's preferences, often leading to an increased rate of elective caesarean sections (CS) without medical necessity. Understanding the knowledge level regarding delivery options in this population is essential to improve maternal and neonatal outcomes. **Objective:** This study aimed to assess the level of knowledge regarding the mode of delivery among primary gravida women attending antenatal care at Jinnah Hospital, Lahore, and to identify gaps that may influence their decision-making. **Methods:** A descriptive cross-sectional study design was employed, targeting 150 primary gravida women at Jinnah Hospital, Lahore. A purposive sampling technique was used, and data were collected using a structured questionnaire comprising demographic questions and items related to knowledge and perceptions of vaginal and caesarean deliveries. Data were analyzed using SPSS version 22, with descriptive statistics used to summarize findings. The questionnaire's reliability was confirmed with a Cronbach's Alpha of 0.986, and validity was established through the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity. **Results:** The findings indicated that 34.7% of participants had poor knowledge regarding the mode of delivery, 62.0% had moderate knowledge, and only 3.3% demonstrated good knowledge. Most participants preferred CS due to fear of labor pain and misconceptions about vaginal delivery risks. A majority (90%) of respondents viewed seeing the baby immediately after vaginal delivery positively, and 44% believed that the emotional relationship with the baby is enhanced following vaginal delivery. Informal sources, primarily relatives and friends, were the main sources of delivery-related information, contributing to persistent knowledge gaps and misconceptions. **Conclusion:** The study reveals significant knowledge gaps among primary gravida women regarding delivery options in Pakistan, with many women favoring CS due to fear and lack of accurate information. Structured antenatal education programs are necessary to address misconceptions and empower women to make informed decisions about their delivery mode. Improved education could reduce unnecessary CS rates and support healthier maternal and neonatal outcomes.

Keywords: Mode of delivery, primary gravida, caesarean section, vaginal delivery, maternal knowledge, Pakistan.

Introduction

In Pakistan, pregnancy and childbirth are pivotal events in a woman's life, often accompanied by cultural, social, and health-related complexities. For first-time mothers, known as primary gravida women, this experience can be particularly daunting due to a lack of prior experience and limited knowledge about delivery options. The mode of delivery, primarily categorized into vaginal delivery and caesarean section (CS), significantly influences maternal and neonatal health outcomes, as well as psychological and physical recovery (1). Although vaginal delivery is typically associated with fewer complications and quicker recovery, caesarean sections are sometimes preferred or medically indicated. In Pakistan, as in many developing countries, there is a marked increase in CS rates, driven partly by misconceptions, fear of labor pain, and perceived convenience of CS (2).

The World Health Organization (WHO) recommends that CS should only be performed when medically necessary; however, recent trends indicate that many women opt for CS without sufficient knowledge of the associated risks and benefits (3). A study by Osman et al. (2021) highlighted that in South Asia, including Pakistan, CS rates are rising due to fear of labor pain, misconceptions about vaginal delivery, and the influence of family and social pressures (4). These

factors suggest a crucial gap in knowledge, which may affect informed decision-making among expectant mothers. For primary gravida women, who are more likely to rely on family members and friends for information, the importance of accurate knowledge becomes even more critical (5).

Studies have shown that a lack of awareness about delivery options can lead to increased anxiety, especially for first-time mothers. In Pakistan, cultural norms and limited access to educational resources exacerbate this issue. The majority of primary gravida women depend on informal sources, such as relatives or untrained health workers, rather than healthcare professionals, for information about delivery modes (6). This reliance on non-medical advice may contribute to the growing trend of elective CS and the preference for hospital-based deliveries, which are perceived as safer despite the possible complications associated with surgical delivery (7).

Research conducted in low- and middle-income countries (LMICs) emphasizes the role of education in empowering women to make informed decisions about their delivery options. Faden et al. (2022) found that women in Pakistan with no formal education had lower knowledge scores about the risks and benefits of different delivery modes, impacting their preferences for CS or vaginal birth (8). Additionally, studies from India and Ghana indicate that structured



antenatal education significantly improves women’s understanding of labor processes, reducing fear and promoting a positive attitude towards vaginal delivery (9, 10). These findings underscore the need for targeted educational interventions, especially for first-time mothers, to address misconceptions and promote informed choices (11).

Fear of childbirth, known as tocophobia, is prevalent among primary gravida women in Pakistan and contributes to the preference for CS. This fear, coupled with inadequate pain management options and misconceptions regarding vaginal delivery, influences decision-making and impacts the psychological well-being of mothers (4). Furthermore, inadequate knowledge about postpartum recovery following vaginal birth versus CS also plays a role, with many women underestimating the longer recovery time associated with CS (1). Given the high maternal and neonatal morbidity and mortality rates in Pakistan, efforts to educate and inform primary gravida women on the safe and appropriate delivery methods are essential (6).

This study aims to assess the knowledge regarding mode of delivery among primary gravida women in Pakistan. By identifying knowledge gaps, this research intends to contribute to improved maternal health outcomes through informed decision-making, empowering women to understand their options and make choices that align with their health needs and personal preferences.

Methodology

A descriptive cross-sectional study was conducted to assess the knowledge regarding the mode of delivery among primary gravida women. This study design allowed for data collection at a single point in time to evaluate participants' awareness and perceptions of different modes of delivery. The study took place at Jinnah Hospital, Lahore, which serves a diverse patient population, thereby providing a robust environment to gather data from a varied sample of primary gravida women. Data collection and analysis spanned over a nine-month period, ensuring ample time for thorough data acquisition and processing.

The study targeted primary gravida women attending Jinnah Hospital, as these women are experiencing pregnancy for the first time and often face unique information needs regarding childbirth options. A purposive sampling technique was employed, enabling the researchers to focus specifically on primary gravida women receiving antenatal care at the hospital. This non-probability sampling approach ensured alignment between the sample and the study’s objectives. To determine an adequate sample size, Slovin’s formula was used, yielding a total of 150 participants based on an estimated population size and acceptable margin of error to accurately capture knowledge and attitudes.

To maintain a focused study, inclusion criteria specified primary gravida women attending antenatal visits at Jinnah Hospital, while multigravida women and those not currently pregnant were excluded. Data were collected using an adapted questionnaire designed to assess knowledge regarding delivery modes among primary gravida women. The questionnaire contained both demographic questions

and items specific to perceptions and knowledge of vaginal and caesarean deliveries.

Participants were approached during their antenatal visits, with the study’s purpose explained clearly. After obtaining informed consent, participants completed the questionnaire in the presence of a researcher, who offered assistance if needed. Confidentiality of responses was strictly maintained, and participants were informed of their right to withdraw from the study at any stage.

Data analysis was performed using SPSS software (version 22). Descriptive statistics, such as frequency distributions and percentages, were used to summarize demographic information and knowledge scores. The reliability of the assessment tool was confirmed with a Cronbach's Alpha of 0.986, indicating high internal consistency. Validity was assessed through the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity, both demonstrating adequate sampling adequacy and confirming the instrument’s suitability for this sample.

Ethical approval for the study was granted by the Ethics Committee of the Nursing Department at Superior University, Lahore. Informed consent was obtained from each participant prior to data collection, ensuring they understood the study’s purpose, confidentiality protocols, and their rights as participants. There was no potential harm associated with participation, and the study was intended to contribute to future educational interventions by identifying knowledge gaps among primary gravida women regarding delivery modes.

Results

The majority of participants were between the ages of 26-35 (66%), with a smaller proportion aged under 25 (27.3%) and over 35 (6.7%). A significant portion of the respondents were housewives (60%), while 40% were working. In terms of education, most participants had completed high school (43.3%), while others had achieved less than high school education (36%), and only 1.3% were graduates. The primary sources of information on delivery methods were relatives (41.3%), followed by friends (40%) and media (18.7%). (Table 1)

This table 2 provides insights into the participants' knowledge and perceptions regarding vaginal and caesarean deliveries. Most participants did not consider vaginal delivery as a natural and acceptable mode, with only 38.7% responding affirmatively. However, a large majority (90%) expressed that seeing the baby immediately after vaginal delivery is a pleasure, and 44% believed that the emotional relationship with the baby is better following a vaginal delivery.

A preference for vaginal delivery was observed among those who feared the surgical aspect of caesarean section, with 41.3% preferring it for this reason, and 40% favoring it due to fears of anesthesia associated with surgery. Although 42% believed that vaginal delivery is better in the long term, a majority (58.7%) acknowledged a higher infection risk with caesarean delivery. Additionally, 40% noted that prolonged bed rest is required following a caesarean section, reflecting an awareness of recovery differences between delivery methods.

Table 1: Demographic Characteristics

Demographic Variable	Category	Frequency	Percentage
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Age Group	<25	41	27.3%
	26-35	99	66.0%
	>35	10	6.7%
Occupational Status	Housewife	90	60.0%
	Working	60	40.0%
Education Level	Illiterate	20	13.3%
	<High School	54	36.0%
	High School	65	43.3%
	Secondary	9	6.0%
	Graduate	2	1.3%
Source of Information	Relatives	62	41.3%
	Friends	60	40.0%
	Media	28	18.7%

Table 2: Knowledge and Perception about Mode of Delivery

Question	Yes Frequency	Yes Percentage	No Frequency	No Percentage
Vaginal delivery is natural and acceptable mode of delivery	58	38.7%	92	61.3%
Seeing the baby immediately after vaginal delivery is a pleasure for the mother	135	90.0%	15	10.0%
Mother regains her health status soon after vaginal delivery	58	38.7%	92	61.3%
Vaginal delivery outcome is more pleasant	52	34.7%	98	65.3%
Vaginal deliveries create a more affectionate mother-baby relationship	64	42.7%	86	57.3%
Emotional relationship between mother and baby after vaginal delivery is better	66	44.0%	84	56.0%
Vaginal delivery is preferred due to fear of operation	62	41.3%	88	58.7%
Vaginal delivery is preferable due to fear of anesthesia	60	40.0%	90	60.0%
Vaginal delivery is better in the long term	63	42.0%	87	58.0%
Seeing the baby immediately after vaginal delivery is a pleasure for the mother	146	97.3%	4	2.7%
Mother regains her health status soon after vaginal delivery	60	40.0%	90	60.0%
Vaginal delivery outcome is more pleasant	52	34.7%	98	65.3%
Vaginal deliveries create a more affectionate mother-baby relationship	64	42.7%	86	57.3%
Emotional relationship between mother and baby after vaginal delivery is better	65	43.3%	85	56.7%
Vaginal delivery is preferred due to fear of operation	61	40.7%	89	59.3%
Infection risk of caesarean section is greater	62	41.3%	88	58.7%
Prolonged bed rest required in caesarean section	60	40.0%	90	60.0%

Table 3: Overall Knowledge Score

Knowledge Level	Frequency	Percentage
Poor	52	34.7%
Moderate	93	62.0%
Good	5	3.3%

Table 4: Reliability Analysis

Statistic	Value
Cronbach's Alpha	0.986
Number of Items	18

Table 5: Validity Analysis (KMO and Bartlett's Test)

Statistic	Value
KMO Measure of Sampling Adequacy	0.651

Bartlett's Test of Sphericity (Chi-Square)	730.196
Bartlett's Test of Sphericity (df)	28
Bartlett's Test of Sphericity (Sig.)	0.000

This table 3 presents the overall knowledge levels of participants regarding the mode of delivery. The findings indicate that the majority of participants (62%) have a moderate knowledge level about delivery modes, while 34.7% have a poor understanding. Only a small fraction of participants (3.3%) demonstrated a good level of knowledge. This distribution reflects significant knowledge gaps in understanding delivery modes, especially concerning critical aspects of vaginal and caesarean deliveries, underscoring the importance of enhanced educational interventions for primary gravida women.

The reliability analysis table shows the Cronbach's Alpha value for the scale used to assess participants' knowledge about modes of delivery. With a Cronbach's Alpha of 0.986, the scale demonstrates excellent internal consistency, meeting the standard criteria for reliability. This high reliability score indicates that the assessment tool is consistent in measuring knowledge regarding delivery modes, ensuring that the results are dependable and can be used to draw valid conclusions about the participants' understanding. (Table 4)

The validity analysis table includes the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity results, which assess the adequacy of sampling and the validity of the scale used. A KMO value of 0.651 indicates moderate sampling adequacy, meaning that the sample size is suitable for the analysis. Bartlett's Test of Sphericity, with a significance value of 0.000, confirms that the variables are correlated enough to validate the use of the scale. Together, these values suggest that the assessment tool is valid for evaluating knowledge regarding modes of delivery in this study sample. (Table 5)

Discussion

The present study assessed the knowledge of primary gravida women in Pakistan regarding different modes of delivery. The findings indicate that most participants had either poor (34.7%) or moderate (62.0%) knowledge levels about delivery modes, with only a small fraction (3.3%) demonstrating good knowledge. This is consistent with other studies in low- and middle-income countries, where limited access to formal education and reliance on informal sources contribute to a lack of awareness about delivery options among expectant mothers. Previous research by Faden et al. in Pakistan highlighted that women with lower education levels generally lacked sufficient knowledge about the risks and benefits of vaginal and caesarean deliveries, reinforcing the need for targeted educational programs (4).

The high percentage of women preferring caesarean section (CS) due to fear of pain, operation risks, or social influences aligns with findings from South Asia, where cultural and familial expectations often shape delivery choices. Osman et al. found that primary gravida women's fears and social pressures frequently influenced their choice towards CS, even when medical indications did not necessitate it (1). This trend is particularly concerning in Pakistan, where there is a rising trend in elective CS without adequate understanding of the associated risks, such as prolonged

recovery, infection risks, and increased bed rest requirements, as observed in our study. Similarly, a study conducted by Afaya et al. in Ghana revealed that a substantial portion of women preferred CS due to misconceptions about its safety, underscoring the importance of addressing knowledge gaps to facilitate informed decision-making (6).

Our findings also reveal that a significant majority (90%) of participants found seeing the baby immediately after vaginal delivery to be a positive experience, and 44% believed that emotional relationships with the baby were enhanced following a vaginal delivery. These responses highlight a preference for aspects of vaginal delivery associated with maternal bonding and early interaction with the infant, which is supported by Dogra and Sharma's research in India. Their study indicated that women perceived vaginal delivery as fostering stronger mother-child bonds and healthier maternal outcomes, although many still chose CS due to fear or lack of awareness (5). This underscores the role of antenatal education in reshaping perceptions and reducing unwarranted fears surrounding vaginal delivery.

In addition to emotional and relational benefits, our study found that 42% of respondents viewed vaginal delivery as having better long-term health benefits compared to CS. This is in line with a systematic review by Dencker et al., which concluded that vaginal delivery tends to have fewer long-term complications than CS, particularly in terms of maternal recovery and reduced risk of infection (8). The review emphasized that women who received appropriate antenatal education were less likely to opt for CS out of fear and were more inclined to appreciate the long-term benefits of vaginal delivery.

Educational sources were primarily informal, with most participants reporting that they received information about delivery modes from relatives or friends (41.3% and 40%, respectively). This reliance on non-medical sources may contribute to persistent misconceptions and fear-based decisions. Rashed et al. found that women who attended formal antenatal classes demonstrated significantly higher knowledge levels and were more likely to make informed decisions regarding their delivery mode, a finding consistent with our data showing low knowledge levels due to informal information sources (7). Enhancing access to accurate, evidence-based information through healthcare providers or structured educational sessions could empower women to make decisions that align with medical recommendations and personal preferences.

The findings of this study underscore a crucial gap in knowledge among primary gravida women in Pakistan, which can impact maternal and neonatal health outcomes. Increasing CS rates due to fear and social pressures highlight the need for interventions that focus on educating first-time mothers about the relative benefits and risks of each delivery mode. Effective educational interventions could help mitigate unnecessary CS rates, reduce delivery-related anxieties, and improve overall maternal satisfaction. Recent studies, such as those by Smith et al. and Mulugeta et al., further emphasize the importance of antenatal education, noting that women with access to accurate

information during pregnancy are more likely to view childbirth positively and opt for less invasive delivery options when appropriate (9, 10).

Conclusion

In conclusion, the current study reinforces the findings of prior research that highlight the low levels of knowledge among primary gravida women regarding delivery modes in Pakistan. Addressing this gap through structured antenatal education programs could help counteract the cultural and social pressures that drive unnecessary CS and support healthier childbirth experiences. Future research could explore the effectiveness of educational interventions in reducing CS rates and improving knowledge about delivery modes among expectant mothers in Pakistan.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate.

Approved by the department Concerned. (IRBEC-SNU-039/24)

Consent for publication

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The authors declared an absence of conflict of interest.

Authors' Contribution

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