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KNOWLEDGE, ATTITUDES, AND PREFERENCES REGARDING DELIVERY METHODS AMONG PREGNANT WOMEN AT ISRA UNIVERSITY HOSPITAL, HYDERABAD.

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ABSTRACT

Background: *The choice between vaginal delivery (VD) and cesarean section (CS) plays a crucial role in determining maternal and neonatal health outcomes. The World Health Organization (WHO) recommends that CS rates ideally be 10-15% to optimize health outcomes. However, global trends indicate a rising incidence of CS, with projections suggesting that the rate could reach 29% by 2030. This growing trend raises concerns about the potential health risks associated with unnecessary CS, highlighting the need for informed decision-making regarding delivery methods.*

Objective: *The objective of this study was to assess the knowledge, attitudes, and preferences of pregnant women at Isra University Hospital, Hyderabad, regarding delivery methods.*

Methodology: *A cross-sectional study was conducted from July to September 2024, involving 50 women admitted to the gynecological ward at Isra University Hospital, Hyderabad. Non-probability convenience sampling was used for participant selection. Data were analyzed using IBM SPSS version 23, with descriptive statistics applied to demographic and study variables.*

Results: *The study found that 48% of participants were aged 20-29 years, 82% were unemployed and 44% were illiterate. The majority (80%) learned about delivery methods from family. While 66% of participants recognized the maternal risks associated with CS, 64% believed CS was less painful. A strong preference for VD was observed, with 78% viewing it as natural and 82% preferring it for its emotional benefits.*

Conclusion: *The study found that pregnant women had moderate knowledge and mixed attitudes toward delivery methods. Vaginal delivery was preferred for its emotional and natural benefits, while many favored cesarean section for its perceived pain reduction and convenience. Misconceptions about cesarean delivery highlighted the need for targeted educational interventions to provide accurate, evidence-based information to help women make informed choices.*

Keywords: *Delivery Methods, Vaginal Delivery, Cesarean Section, Pregnancy, Knowledge, Risk Perceptions*

Introduction

Childbirth significantly impacts a woman's life and health, with the choice of delivery method vaginal delivery (VD) or cesarean section (CS) having profound implications for both maternal and neonatal outcomes [1]. Currently, CS rates are increasing across the world; according to the WHO, CS rates should fall between 10%- 15% for the best outcomes [2]. Still, the present rates for such women are roughly around 21% in the world and it is predicted that by the year 2030, the rates will be around 29% [3]. This increase is seen in both developed as well as developing countries with much diversified socio-cultural, economic, and medical characteristics [4]. On an international level, it is estimated that one in five babies is born by way of Cesarean section with Latin America and the Caribbean regions standing at 44.3%, followed by North America at 32.3% [5]. In South Asian countries, including Pakistan, the CS rates have also increased ranging from 15% to 28% with high differences due to socio-economic and regional differences [6]. This increase raises concerns as there are disadvantages of performing cesarean delivery when it is not required; this includes; post-partum hemorrhage, venous thromboembolism, infections, and long recovery. In particular, cesarean delivery is associated with the increased risks of developing respiratory distress in neonates, as well as the reduced number of strains in their gastrointestinal microbiota, which is critical to their immunity [7, 8].

On the other hand, vaginal delivery incurs fewer healthcare costs, shorter time to recovery, early initiation of breastfeeding, and improved maternal-infant bond [9]. Infants delivered through the vagina get the advantage of exposure to the maternal vaginal microbiota which helps promote early gastrointestinal colonization and also strengthens the immune system [10]. Unfortunately, Pakistan remains one of the countries in the South Asian Association for Regional Cooperation (SAARC) with a high maternal mortality ratio (MMR) of 186 deaths per 100,000 live births. The rates of Cesarean deliveries have continually increased over time, especially in urban areas, where the current estimate reveals Cesarean delivery rates of over 20% as compared to rural areas where the Cesarean delivery rates stand at about 7% [11, 12]. The observed differences can be attributed to variations in treatment, social, and economic status, and cultural beliefs across the chosen populations. Research conducted in urban Pakistan highlights the fact that a significant number of C-section deliveries are performed on demand, without rigid medical necessity, due to convenience of performance, motivation of monetary gains of health care providers, and lack of adequate knowledge among the expectant women [13, 14].

CS has become common in Pakistani healthcare settings in the last decade with testimonial evidence from health care facilities revealing that the increase in CS occurred as a result of patient demand as well as the authorization of healthcare practitioners [15]. While cesarean delivery has increased in prevalence, awareness of the option and its strengths and weaknesses when compared to other forms of delivery remains low in mothers-to-be, especially those in low socio-economic communities. Although CS and VD hazards and advantages have been explored internationally, there is a lack of knowledge about how sociocultural, educational, and economic factors affect pregnant women's choices and attitudes in Pakistan with a focus on Hyderabad. Furthermore, most women make their decisions based on misconceptions about a cesarean delivery like the fact that women undergoing cesarean delivery have less pain or better neonatal outcomes. Therefore, it is crucial to comprehend these factors to inform policies that enable well-informed decision-making and effective implementation of strategies aimed at improving maternal health outcomes.

RESEARCH OBJECTIVE:

- To assess the knowledge, attitudes, and preferences regarding delivery methods among pregnant women at Isra University Hospital, Hyderabad.

RESEARCH METHODOLOGY

Research Approach: A quantitative approach.

Research Design and Duration: A descriptive cross-sectional study was conducted from

July to October 2024.

Research Setting: The study was conducted at Isra University Hospital, Hyderabad, a major healthcare facility serving diverse communities across Sindh.

Study Population: The target population consisted of women admitted to the gynecological ward at Isra Hospital, Hyderabad.

Sample Size: The sample size was calculated using Rao soft software based on the total population (N = 57). With a 5% margin of error and a 95% confidence level, the final sample size was determined to be 50 women.

Inclusion Criteria:

- All women were admitted to the gynecological ward at Isra Hospital, Hyderabad.
- Women who agreed to take part in the research.
- Women were present when the data was being collected.

Exclusion Criteria:

- Women who were unwilling to participate.
- Women were unavailable as the data was being collected.

Sampling Method: Non-Probability Convenience Sampling.

Research Tool: A validated questionnaire adapted from previous studies [16] was used for data collection. The questionnaire consisted of four sections:

- **Section A:** Socio-demographic information, including age, education level, and occupation.
- **Section B:** Two questions assessing the source of knowledge about delivery methods.
- **Section C:** 10 questions evaluating knowledge about vaginal delivery versus cesarean section.
- **Section D:** 11 questions focusing on attitudes toward different delivery methods measured using a 5-point Likert scale (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree)

Data Analysis: IBM SPSS version 23 was used to analyze the data. Data was summarized using descriptive statistics, such as means, standard deviations, percentages, and frequencies.

Ethical Considerations: Participants' autonomy and confidentiality were strictly respected throughout the study. Ethical approval was obtained from the hospital's administrative authority. Participation was voluntary, and participants could withdraw at any time without providing a reason. Informed consent was obtained from all participants after explaining the study's purpose, methods, potential risks, and benefits.

RESULTS

TABLE 1: DEMOGRAPHIC ANALYSIS

(n=50)

Characteristics	Frequency	Percentage (%)
AGE (YEARS)		
≤ 19 Years	5	10%
20-29 Years	24	48%
30-39 Years	15	30%
≥ 40 Years	6	12%
LEVEL OF EDUCATION		
No Formal Education	15	30%
Primary Education	22	44%
Secondary Education	7	14%
Higher Education	6	12%
OCCUPATION		
Employed	9	18%
Unemployed	41	82%

The participants were aged between 20-29 years (48%), followed by 30% in the 30-39 age group. A significant portion of the participants (44%) had completed primary education, while 30% had no formal education. Only 12% of the participants had higher education, and the majority (82%) were unemployed, with only 18% being employed.

TABLE NO 2: RESOURCES FOR INFORMATION ABOUT DELIVERY MODES

(n=50)

STATEMENT	I Know (Freq/%)	Not Sure (Freq/%)	I Don't Know (Freq/%)	Mean ± SD
Cesarean delivery is less painful.	32 (64%)	13 (26%)	5 (10%)	1.46 ± 0.676
There are more maternal complications after birth by cesarean section.	33 (66%)	12 (24%)	5 (10%)	1.44 ± 0.674
Compared to vaginal delivery, cesarean delivery carries a higher infection risk.	28 (56%)	16 (32%)	6 (12%)	1.56 ± 0.704
When the baby is presented breech, CS becomes appropriate.	35 (70%)	11 (22%)	4 (8%)	1.38 ± 0.635
Following a vaginal delivery, the mother and child have a better emotional bond.	41 (82%)	8 (16%)	1 (2%)	1.20 ± 0.451
Babies delivered by cesarean section are more intelligent than those delivered vaginally?	17 (34%)	25 (50%)	8 (16%)	1.82 ± 0.690
After the initial CS, it is fair to request CS once more for the next delivery.	31 (62%)	10 (20%)	9 (18%)	1.56 ± 0.786
In CS, infants cannot have bone fractures.	27 (54%)	19 (38%)	4 (8%)	1.54 ± 0.645
CS babies have less respiratory issues than babies delivered vaginally.	25 (50%)	18 (36%)	7 (14%)	1.64 ± 0.721
There is less hemorrhage following cesarean delivery than post-vaginal delivery.	35 (70%)	12 (24%)	3 (6%)	1.36 ± 0.597

TABLE NO 3: KNOWLEDGE OF VAGINAL DELIVERY VS. CESAREAN SECTION

(n=50)

Variables	Responses	Sample (n=50) (Freq/%)
Are you familiar with delivery methods?	**Yes**	44 (88%)
	No	1(2%)
	Don't know	5(10%)
Source of knowledge		
Family		40(80%)
Health Care Providers		10(20%)
Social Media		0(0%)
Other:		0(0%)

The survey results indicate that a majority of the participants (88%) reported knowing modes of delivery, while 2% did not have this knowledge and 10% were unsure. Regarding the sources of this knowledge, 80% of the participants cited family as their primary source of information, while 20% mentioned healthcare providers. No participants reported obtaining information from social media or other sources.

The majority of participants (64%) knew that cesarean delivery is less painful (Mean ± SD: 1.46 ± 0.676), and 66% recognized greater maternal complications with cesarean sections (Mean ± SD: 1.44 ± 0.674). 56% were aware that infection risk is higher in cesarean deliveries (Mean ± SD: 1.56 ± 0.704). Most (82%) agreed that vaginal delivery promotes a better emotional relationship between mother and baby (Mean ± SD: 1.20 ± 0.451). 62% believed requesting a cesarean for subsequent deliveries is reasonable (Mean ± SD: 1.56 ± 0.786), while 34% thought cesarean-born infants are smarter (Mean ± SD: 1.82 ± 0.690). Many (70%) thought hemorrhage is less common after cesarean (Mean ± SD: 1.36 ± 0.597), and 70% found cesarean reasonable for breech presentation (Mean ± SD: 1.38 ± 0.635).

TABLE NO 4: WOMEN'S ATTITUDES TOWARD DELIVERY METHODS

(n=50)

STATEMENT	SA (Freq/%)	A (Freq/%)	N (Freq/%)	D (Freq/%)	SD (Freq/%)	Mean ± SD
A natural and appropriate delivery method is vaginal.	39 (78%)	5 (10%)	6 12%)	0 0.0%)	0 (0%)	1.34 ± 0.688
The first time a mother sees her newborn is a happy experience.	31 (62%)	17 (34%)	2 (4%)	0 (0%)	0 (0%)	1.42 ± 0.574
After a vaginal delivery, the mother and child have a stronger emotional bond.	30 (60%)	11 (22%)	6 12.0%)	3 (6%)	0 (0%)	1.64 ± 0.920
Long-term, vaginal birth is significantly better.	25 (50%)	16 (32%)	9 (18%)	0 (0%)	0 (0%)	1.68 ± 0.767
Anesthesia makes vaginal delivery much more effective.	27 (54%)	15 (30%)	3 (6%)	4 (8%)	1 (2%)	1.74 ± 1.02
CS is considerably better if there are no financial concerns.	12 (24%)	10 (20%)	13 (26%)	14 (28%)	1 (2%)	2.64 ± 1.19
CS is my preference.	14 (28%)	8 (16%)	8 (16%)	14(28%)	6 (12%)	2.80 ± 1.42
CS is less painful than vaginal delivery, which is why I prefer it.	16 (32%)	21 (42%)	6 (12%)	6 (12%)	1 (2%)	2.10 ± 1.05
Compared to vaginal deliveries, CS babies are healthier.	10 (20%)	15 (30%)	22 (44%)	2 (4%)	1 (2%)	2.38 ± 0.923
Prolapse of the bladder and uterus is prevented by CS.	21 (42%)	14 (28%)	11 (22%)	2 (4%)	2 (4%)	2.00 ± 1.08
I think CS should be performed in cases where vaginal delivery presents a risk.	17 (34%)	10 (20%)	9 (18%)	7 (14%)	7 (14%)	2.54 ± 1.44

The majority of participants (78%) considered vaginal delivery to be a natural and acceptable method (Mean ± SD: 1.34 ± 0.688). Most (62%) found it pleasant for mothers to see their baby immediately after birth (Mean ± SD: 1.42 ± 0.574), and 60% believed emotional relationships between mother and infant are better after vaginal delivery (Mean ± SD: 1.64 ± 0.920). Half (50%) of participants thought vaginal delivery is better in the long term (Mean ± SD: 1.68 ± 0.767). A smaller proportion (24%) thought cesarean section (CS) is better if there is no financial issue (Mean ± SD: 2.64 ± 1.19), and 28% preferred CS (Mean ± SD: 2.80 ± 1.42), citing less pain as a reason (Mean ± SD: 2.10 ± 1.05). Only 20% believed infants born by CS are healthier (Mean ± SD: 2.38 ± 0.923), and 42% thought CS prevents uterine and bladder prolapse (Mean ± SD: 2.00 ± 1.08). A majority (34%) agreed CS should be performed when vaginal delivery is risky (Mean ± SD: 2.54 ± 1.44).

DISCUSSION

The study results revealed that participants of this study were mostly from the age of 20-29 years, and they greatly preferred vaginal delivery since they deemed it as natural and acceptable. This finding aligns with [17] where a majority of participants also favored vaginal delivery for its natural aspect and emotional benefits, such as immediate bonding with the infant. Similarly, in our study, 78% of participants viewed vaginal delivery as a natural method, with 62% acknowledging the pleasure of seeing their baby immediately post-birth. These views emphasize the emotional and psychological advantages of vaginal delivery, as supported by [18, 19] who found that immediate post-birth bonding was highly valued by women choosing vaginal delivery.

However, the study also revealed mixed opinions about cesarean delivery. While 62% of participants considered it reasonable to opt for a CS after a previous cesarean, 42% agreed that CS is less painful than vaginal delivery, echoing findings from [11, 20] where pain relief was a significant factor influencing women's preferences for CS. This preference is often based on the belief that CS might reduce pain during labor, despite the higher risks associated with the procedure. The perception that CS prevents complications such as uterine prolapse was also prevalent, with 42% of participants supporting this view, which mirrors [13] findings on the belief that CS may prevent long-term issues, although these misconceptions overlook the higher risks of infection and prolonged recovery associated with CS. Despite these preferences, many participants (44%) still had concerns regarding CS, particularly related to infant health. Only 20% of participants believed that infants born by CS were healthier than those born by vaginal delivery, challenging the misconception that CS delivers healthier infants, as seen in [21, 22]. This highlights the importance of correcting misconceptions about CS, especially in settings where misinformation may influence decision-making. Financial considerations also played a role, with 24% of participants believing that CS would be preferable if there were no financial constraints. This finding is consistent with [23, 24] which noted that in resource-limited settings, financial security often impacts decisions regarding delivery methods. In these contexts, the perceived convenience and perceived safety of CS may be seen as a more desirable option, even though it comes with its own set of risks. This study underscores the need for enhanced educational initiatives, particularly regarding the risks and benefits of CS versus vaginal delivery. Improving awareness through healthcare providers, who were cited by only 20% of participants as a source of information, could significantly influence informed decision-making. These findings also point to the importance of addressing myths about cesarean delivery and promoting accurate knowledge about both delivery methods.

CONCLUSION

The study concluded that pregnant women had moderate knowledge and mixed attitudes toward delivery methods. While vaginal delivery was preferred for its emotional benefits and natural process, many women favored cesarean section for its perceived reduced pain and convenience.

Misconceptions about the risks and benefits of cesarean delivery were common. The findings suggest a need for targeted educational interventions to provide clear, evidence-based information and help women make informed choices about their delivery options.

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Authors Contributions:

1. **Shabana Liaquat Ali Mugheri**: Study Planning & Conceptualization
2. **Nasreen Rebecca Wilson**: Supervision & Final Approval
3. **Sikandar Ali Mugheri**: Methodology
4. **Zafarullah Junejo**: Manuscript Drafting
5. **Humaira Sikandar Ali Mugheri**: Data Acquisition
6. **Yasmeen Sikandar Ali Mugheri**: Statistical Analysis/Data Interpretation
7. **Jana Naz Solangi**: Review and Editing

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