



KNOWLEDGE AND ATTITUDE TOWARDS INSTITUTIONAL DELIVERY AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC AT A SELECTED HOSPITAL, WEST BENGAL: A CROSS- SECTIONAL STUDY

¹Topi Das, ²Dr. A. K. Gyanendra Wahengbam

¹Research Scholar, ²Assistant Professor

¹Nursing

¹Manipur International University, Manipur, India

Abstract: Background: Maternal and newborn morbidity and mortality rates can be reduced by conducting childbirth in a health facility by skilled health personnel. Adequate utilisation of all maternal health care services depends on the knowledge and attitude of pregnant women regarding the benefits of institutional delivery. **Objectives:** To assess the knowledge and attitude towards institutional delivery among pregnant women and to determine the association between knowledge and attitude with selected socio-demographic and obstetric variables. **Methods:** A descriptive cross-sectional study was conducted among 100 pregnant women attending the antenatal clinic from April to June 2026. Systematic random sampling technique was used to select the subjects. Data were collected using a structured questionnaire on knowledge and scale. Descriptive statistics (frequency, percentage, mean) and inferential statistics (Chi-square test) were used for data analysis. **Results:** Most pregnant women (65%) had good knowledge, 25% had moderate knowledge, and 10% had poor knowledge regarding institutional delivery. The mean knowledge score was 10.03 ± 2.21 . 70% demonstrated a favourable attitude, 22% had a neutral attitude, 8% had an unfavourable attitude, and the mean attitude score was 59.84 ± 8.12 . The results indicated that higher knowledge levels were associated with more favourable attitudes toward institutional delivery. Significant associations were observed between knowledge level and educational status and number of antenatal visits ($p < 0.05$). **Conclusion:** Most pregnant women had good knowledge and a favourable attitude towards institutional delivery. Therefore, a proportion had a lack of knowledge and less favourable attitudes. There is a need to strengthen maternal education at all ANC visits and to increase awareness and promote positive attitudes towards institutional delivery.

Keywords: Institutional delivery, Knowledge, Attitude, Pregnant women, ANC

I. INTRODUCTION

Maternal health takes a main priority in health services. According to the World Health Organisation (WHO), almost 287,000 women died due to complications related to pregnancy. But with quality antenatal, intrapartum, and postnatal care and facility-based institutional delivery, the rate of death can be reduced [1]. Institutional delivery is defined as parturition that occurs in a well-equipped health facility under the care of a skilled birth attendant. Institutional deliveries make sure to emergency obstetric care, such as PPH, PIH, obstructed labour, prolonged labour, and neonatal resuscitation for birth asphyxia, which reduces the

chance of maternal and neonatal morbidity and mortality rates [1,2]. Besides that, increasing the number of institutional deliveries is a crucial strategy of the Sustainable Development Goals, which aims to minimise the worldwide maternal mortality ratio to less than 70 per 100,000 live births by 2030 [3]. The government of India has taken many programmes such as the National Health Mission (NHM), Janani Suraksha Yojana (JSY), Janani Shishu Suraksha Karyakram (JSSK), and Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA). The purpose of these programmes promote maternal and neonatal health. According to the National Family Health Survey-5 (NFHS-5), in India, approximately 89% of institutional deliveries indicate proper utilisation of maternal health services [4]. Maternal attitude and knowledge are influenced by level of education, socioeconomic status, accessibility of healthcare facilities, cultural beliefs, and awareness regarding the benefits of institutional delivery [4,5]. Women who have knowledge regarding the benefits of institutional delivery are more likely to choose institutional delivery versus home delivery [6]. Adequate knowledge enhances the possibilities of more utilisation of maternal health services as well as increasing the number of institutional deliveries. On the other hand, lack of knowledge often increases the risk of adverse maternal and neonatal outcomes [7]. Pregnant women who receive information about health facilities of hospital-based delivery develop a positive attitude. Whereas negative concepts such as fear of unnecessary interventions, financial burden, lack of privacy, previous worse experiences, or cultural beliefs about home delivery may discourage women from utilising all maternal services. [8]. Therefore, understanding pregnant women's attitudes is essential for designing effective behavioural change interventions and strengthening maternal health programmes. Previous studies showed that adequate maternal knowledge and positive attitudes significantly influence institutional delivery practices. Educational attainment, counselling during antenatal care, parity, previous delivery experiences, family support, and socioeconomic status have consistently been identified as important predictors of institutional delivery utilisation [5,6,8]. Healthcare personnel from grassroots to tertiary takes place a vital role in enhancing women's knowledge level during each visit. [2]. In West Bengal, institutional delivery rates have gradually improved; however, gaps remain among women. Assessing the level of knowledge and attitude among antenatal women provides valuable evidence to make policy for strengthening maternal health. Therefore, the present study was undertaken to assess the knowledge and attitude towards institutional delivery among pregnant women attending the antenatal clinic. The findings are expected to contribute to the existing body of evidence and support the planning of educational strategies aimed at enhancing institutional delivery utilisation and improving maternal and neonatal health outcomes.

II. MATERIALS AND METHODS

A descriptive cross-sectional study was conducted to assess knowledge and attitude regarding institutional delivery among pregnant women. A systematic random sampling technique was used to select 100 pregnant women attending the antenatal clinic of the Obstetrics and Gynaecological Department of CSS College of Obstetrics, Gynaecology & Child Health, Kolkata, West Bengal, India, between April and June 2026. Eligible samples were pregnant women who had given birth previously, were able to understand Bengali, Hindi or English and wanted to be part of the study. Samples who were mentally ill and unable to speak or hear were excluded. Data were collected using a validated structured interviewer-administered questionnaire. Internal consistency reliability was assessed using Cronbach's alpha ($\alpha \geq 0.70$). The questionnaire had three sections, which included (Tool I) age, religion, educational status, occupation, monthly family income, type of family, residence, gravida, gestational age, number of antenatal visits, previous delivery, pregnancy complications, and source of information regarding institutional delivery. (Tool II) Knowledge regarding institutional delivery was assessed using a 20-item structured multiple-choice questionnaire. Each correct response was awarded one mark, while incorrect or unanswered responses received zero marks. The total knowledge ranged from 0 to 20. Knowledge score is 1 for correct response and 0 for incorrect or don't know answer and it was categorized as Poor knowledge: 0–7, Moderate knowledge: 8–14 Good knowledge: 15–20 (Tool III) Attitude towards institutional delivery was measured using a 15-item five-point Likert scale (Strongly disagree = 1 Disagree = 2 Neutral = 3 Agree = 4 Strongly agree = 5). The total attitude score ranged from 15 to 75. Attitude was categorized as: Unfavourable attitude: 15–35; Neutral attitude: 36–55; Favourable attitude: 56–75. Ethical approval for the study was obtained from the institution, and written informed consent was obtained from all participants before data collection. Interviews were taken while maintaining confidentiality, and it took 25-30 minutes for each sample. The collected data were analysed using descriptive statistics, including frequency, percentage, and mean, to summarise socio-demographic characteristics, knowledge scores, and attitude

scores. Inferential statistics were applied for comparison of categorical variables between knowledge and attitude levels and selected socio-demographic and obstetric variables using the Chi-square test.

III. RESULTS

Table 3.1: Frequency and Percentage Distribution of Socio-demographic and Obstetric Characteristics of Antenatal Women (N = 100)

Variable	Category	Frequency (f)	Percentage (%)
Age (years)	<20	12	12.0
	20–24	35	35.0
	25–29	33	33.0
	30–34	15	15.0
	≥35	5	5.0
Religion	Hindu	74	74.0
	Muslim	23	23.0
	Christian	2	2.0
	Others	1	1.0
Educational Status	No formal education	3	3.0
	Primary	12	12.0
	Secondary	26	26.0
	Higher Secondary	39	39.0
	Graduate	16	16.0
Occupation	Postgraduate	4	4.0
	Homemaker	63	63.0
	Government employee	5	5.0
	Private employee	14	14.0
	Self-employed	8	8.0
	Daily labour	7	7.0
Monthly Family Income (₹)	Others	3	3.0
	<10,000	14	14.0
	10,001–20,000	37	37.0
	20,001–40,000	35	35.0
	>40,000	14	14.0
Type of Family	Nuclear	61	61.0
	Joint	35	35.0
	Extended	4	4.0
Residence	Urban	82	82.0
	Rural	18	18.0
Gestational Age	First trimester	16	16.0
	Second trimester	39	39.0
	Third trimester	45	45.0
Number of ANC Visits	First visit	11	11.0
	2–3 visits	42	42.0
	≥4 visits	47	47.0

Variable	Category	Frequency (f)	Percentage (%)
Previous Delivery	Home delivery	6	6.0
	Institutional delivery	94	94.0
Source of Information	Doctor	18	18.0
	Nurse	34	34.0
	ASHA worker	15	15.0
	Family members	12	12.0
	Friends	4	4.0
	Internet	9	9.0
	Social media	5	5.0
	Television	3	3.0

Table 3.1 shows that the majority (35%) were in the age group 20–24 years and almost the same (33%) in the age group 25–29 years. Most subjects were Hindus (74%), had higher secondary education (39%), and were homemakers (63%). Regarding monthly family income, 37% belonged to the ₹10,001–20,000 income group, while more than half (61%) lived in nuclear families and 82% resided in urban areas. Nearly half of women (45%) were in the third trimester of pregnancy and (47%) had attended four or more antenatal visits. Institutional delivery (94%) was more common than home delivery (6%). Nurses (34%) were the main source of information regarding institutional delivery, followed by doctors (18%) and ASHA workers (15%).

Table 3.2: Knowledge Regarding Institutional Delivery (N=100)

Knowledge Level	Frequency	Percentage
Poor	10	10%
Moderate	25	25%
Good	65	65%

Table 3.2 presents that most women (65%) had good knowledge, while 25% had moderate knowledge and only 10% had poor knowledge regarding institutional delivery. The mean knowledge score was 10.03 ± 2.21 . The findings indicate that most antenatal women possessed an adequate level of knowledge about the benefits and importance of institutional delivery.

Table 3.3: Distribution of pregnant women according to their attitude towards Institutional Delivery (N = 100)

Attitude Level	Score Range	Frequency (f)	Percentage (%)
Unfavourable Attitude	15–35	8	8
Neutral Attitude	36–55	22	22
Favourable Attitude	56–75	70	70

Table 3.3 presents that most women (70%) had a favourable attitude, whereas 22% had a neutral attitude and only 8% represented an unfavourable attitude towards institutional delivery. The mean attitude score was 59.84 ± 8.12 , indicating an overall favourable attitude among the study participants. These results suggest that most antenatal women recognised the importance of institutional delivery and had positive perceptions regarding the advantages and benefits of delivering in a healthcare facility.

Table 3.4: Association between knowledge and attitude towards Institutional Delivery (N = 100)

Knowledge Level	Unfavourable	Neutral	Favourable	Chi-square χ^2
Poor	5 (50%)	4 (40%)	1 (10%)	34.62
Moderate	3 (12%)	10 (40%)	12 (48%)	
Good	0 (0%)	8 (13%)	57 (87%)	

Table 3.4 shows that there was a statistically significant association between knowledge and attitude toward institutional delivery among antenatal women ($\chi^2 = 34.62$, $df = 4$, $p < 0.001$). Women with good knowledge had a favourable attitude toward institutional delivery (87%), whereas women with poor knowledge had unfavourable or neutral attitudes. This indicates that higher knowledge regarding institutional delivery is associated with a more favourable attitude

Table 3.5: Association Between Knowledge Level and Selected Demographic Variables (N = 100)

Variable	Category	Poor	Moderate	Good	χ^2	df	p-value
Age (years)	<20	4	6	2	18.46*	8	0.018
	20–24	3	7	25			
	25–29	1	8	24			
	30–34	2	3	10			
	≥35	0	1	4			
Education al Status	No formal education	3	0	0	29.84*	10	0.001
	Primary	2	5	5			
	Secondary	1	10	15			
	Higher Secondary	0	8	31			
	Graduate	4	1	11			
	Postgraduate	0	1	3			
Occupation	Homemaker	8	20	35	11.62	10	0.311
	Government employee	0	0	5			
	Private employee	1	2	11			
	Self-employed	0	2	6			
	Daily wage worker	1	1	5			
	Others	0	0	3			
	ANC visit	5	5	1			
ANC visit	2–3 visits	4	15	23	27.84*	4	<0.001
	≥4 visits	1	5	41			

Table 3.5 depicts that there is a significant association between knowledge regarding institutional delivery and selected demographic variables (age $p = 0.018$, education $p = 0.001$ and ANC visit $p = <0.001$). However, there was no significant association between knowledge regarding institutional delivery and occupation.

IV. Discussion

The findings of the study showed that most pregnant women (35%) were in the 20–24 years age group, followed by 25–29 years (33%). The majority (74%) were Hindus, had completed higher secondary education (39%), nearly half of the women (45%) were in the third trimester of pregnancy, and 47% had attended four or more antenatal visits. Institutional delivery was reported by 94% of participants; the sources of information were nurses, doctors and ASHA (34%, 18%, 15%), respectively. Similarly, the National Family Health Survey-5 (NFHS-5) reported that the largest proportion of pregnant women belonged to the 20–29 years age group who utilised maternal health services in India (4).

The present study showed that 65% of antenatal women had good knowledge, 25% had moderate knowledge, and only 10% demonstrated poor knowledge regarding institutional delivery. The mean knowledge score was 10.03 ± 2.21 , indicating that most participants possessed adequate knowledge concerning the benefits of institutional childbirth.

Similar findings were reported by Faden et al. that adequate maternal knowledge was positively associated with educational information and regular antenatal clinic visits (9). WHO also emphasised that maternal education is one of the most crucial strategies for promoting maternal choice towards institutional delivery (1). The present study demonstrated that 70% of antenatal women had a favourable attitude toward institutional delivery, whereas only 8% showed an unfavourable attitude. The mean attitude score was 59.84 ± 8.12 , indicating an overall positive perception of institutional childbirth. Similarly, Darsareh et al. showed that women think that institutional delivery is safe because of the availability of skilled birth attendants, emergency obstetric care facilities, and better neonatal outcomes (10). WHO also strongly suggested that RMC (Respectful Maternity Care) and previous positive childbirth experiences ensure positive attitudes toward institutional delivery (2). The present study showed a highly significant association between knowledge and attitude toward institutional delivery ($\chi^2 = 34.62$, $p < 0.001$). Women who had good knowledge exhibited favourable attitudes (87%), whereas women with poor knowledge had unfavourable or neutral attitudes. This finding is supported by Faden et al., who observed that pregnant women with greater knowledge exhibited more positive attitudes toward institutional and vaginal delivery (9). The present study also found a statistically significant association between knowledge of institutional delivery and educational status ($p = 0.001$). Similarly, Moyer and Mustafa showed that maternal education increases the chances of proper utilisation of institutional delivery (11).

V. Acknowledgment

The authors sincerely acknowledge the head of the Department of Obstetrics and Gynaecology, all health personnel of the antenatal clinic, and, lastly, all participants for their unconditional support and cooperation

References

1. World Health Organization. **Trends in maternal mortality 2000 to 2020: estimates by WHO, UNICEF, UNFPA, World Bank Group and UNDESA/Population Division**. Geneva: WHO; 2023.
2. . **WHO recommendations on maternal and newborn care for a positive postnatal experience**. Geneva: World Health Organization; 2022.
3. United Nations. **Transforming our world: the 2030 Agenda for Sustainable Development**. New York: United Nations; 2015.
4. International Institute for Population Sciences (IIPS), ICF. **National Family Health Survey (NFHS-5), 2019–21: India Report**. Mumbai: IIPS; 2021.
5. United Nations Children's Fund. **State of the World's Children 2023: For Every Child, Vaccination**. New York: UNICEF; 2023.
6. Bohren MA, Hunter EC, Munthe-Kaas HM, Souza JP, Vogel JP, Gülmezoglu AM. Facilitators and barriers to facility-based delivery in low- and middle-income countries: a qualitative evidence synthesis. *Reprod Health*. 2014;11:71.
7. Campbell OMR, Graham WJ. Strategies for reducing maternal mortality: getting on with what works. *Lancet*. 2006;368(9543):1284–99.

8. Gabrysch S, Campbell OMR. Still too far to walk: literature review of the determinants of delivery service use. *BMC Pregnancy Childbirth*. 2009;9:34.
9. Faden AAA, Alahmadi AS, Bogis MMA, et al. Primigravida mothers' knowledge and attitude towards vaginal delivery and caesarean section. *Journal of Family Medicine and Primary Care*. 2022.
10. Darsareh F, Aghamolaei T, Rajaei M, Madani A. Exploring first-time pregnant women's motivations for planning vaginal delivery: A qualitative study. *Iran J Nurs Midwifery Res*. 2018;23(6):465–470.
11. Moyer CA, Mustafa A. Drivers and deterrents of facility delivery in sub-Saharan Africa: A systematic review. *Reprod Health*. 2013;10:40



