

Fear of Childbirth among Primigravida Women: A Cross-sectional Analytical Study

Umaz Nazir¹, Ulfat Amin²

Abstract

Pregnancy is a joyful period, but some women, especially first-timers, experience anxiety and fear of childbirth, known as tokophobia. This fear can cause significant distress and increase obstetric complications. The study aimed to assess the fear of childbirth among first-time mothers in a Kashmir hospital. A quantitative approach was employed to assess primigravida mother's fear levels. The study adopted a cross-sectional analytical design with a sample of 110 primigravida women who met inclusion criteria using a non-probability purposive sampling technique, at SKIMS MCH Bemina by using the standardised tool Tokophobia Severity Scale questionnaire. The results revealed that half of subjects (50%) belong to age group 24-29 years; majority of primigravida women (53%) had a gestational age above 36 weeks. Regarding the educational status, about a third (32%) had completed higher secondary education and majority (74%) of the subjects were unemployed. The majority of subjects (64%) belonged to joint families with about four fifth of subjects (79%) residing in rural areas. Monthly income of the 37 percent of subjects was between Rs. 18497-30830. To conclude, 22.7 percent of primigravida women had high fear of childbirth, 39.1 percent moderate fear, and 38.2 percent low fear. Age, gestational age, and education significantly influenced fear levels, unlike other demographics.

Key words: Fear of childbirth, Primigravida, Pregnancy-related fear

Pregnancy and motherhood are cherished moments and hold immense significance as one of the most important events in every woman's life (Sharma et al, 2023). It is an experience with many dimensions, multifaceted and unique for each woman, strongly influenced by her social and economic context (Larkin et al, 2009). Among first-time pregnant women, also known as primigravida, it is an entirely novel experience, so it brings forth a multitude of physical and emotional changes, which can evoke fear and anxiety concerning the childbirth process (Sharma et al, 2023). Thus, despite pregnancy and childbirth being wonderful and joyful events for most women, they can also be accompanied by fear and anxiety. In statistical terms, fear can be seen as a continuous variable, ranging from an awareness and regard for risk to life-limiting phobias (Sonawane & Chinchpure, 2018). Fear of childbirth (FOC) is marked by feelings of uncertainty and anxiousness before, during, and after delivery, stemming from thoughts of future labour or experiences of others' childbirth and labour pain (Nilsson et al, 2018; Wijma et al, 2023). The fear of childbirth is often used interchangeably with 'tokophobia'. Tokophobia is included under the International Classification of Disease-11 (World

Health Organisation, 2009) as a phobic anxiety disorder (Hofberg & Ward, 2003). FOC stands as a prevalent issue affecting women's health and well-being during their perinatal journey. It has become a modern-day epidemic among pregnant women (Menezes & Almeida, 2014). Studies have revealed that numerous women (20% to 78%) experience fear in connection with pregnancy and childbirth, with an astonishing 13 percent of non-gravid women reporting sufficient fear to avoid or postpone pregnancy (Docslib, 2023).

Many reasons have been attributed to fear of childbirth - biological, psychological, personality, social, and cultural. Each thread weaves a compelling tapestry of emotions, shaping this prevailing fear (Otley, 2011). Certain levels of fear and anxiety are expected, especially among primigravida mothers, and this fear can be perceived as a normal protective psychological aspect of pregnancy and childbirth. However, when these emotions negatively influence decisions and perceptions about the process, they become problematic (Pazzagli et al, 2015). Childbirth-related fear (CBRF) encompasses a negative cognitive assessment of the anticipated birthing experience, fear, and anxiety when confronting the act of birth and an unreasonable pathological dread, leading to avoidance of the experience. CBRF also leads to complications during pregnancy, experiencing more severe pain during labour, prolonged labour

The authors are: B Sc Nursing Intern 2. Faculty, both at SMMCNMT, Islamic University of Science and Technology Awantipora, Pulwama, Kashmir (J&K).

duration, and an increasing likelihood of requesting anaesthesia during childbirth (Gelaw et al, 2020). Also, an increasing number of women express a desire for caesarean delivery, even in the absence of medical necessity (maternal demand for caesarean section), and this inclination has been linked to fear of childbirth. A study conducted amongst south-eastern Nigerian women seeking MDCS between 2003 and 2006 revealed that 4.4 percent of caesarean deliveries were attributed to maternal requests (Okonkwo et al, 2012). National Family Health Survey (NFHS) reports show that the trend of C-section deliveries in India has increased. From 8.5 percent in 2005-06, in 2015-16 and 17.2 percent it increased to 21.5 percent in 2019-21 percent.

Need of the study: There remains a dearth of information on services dedicated to the prevention and management of childbirth-related fear among expectant mothers, both in developed and developing nations (O'Connell et al, 2017). Evidence from Western nations like Sweden and England highlights that a significant number of obstetric clinics don't provide specialised services for addressing childbirth fear (Richens et al, 2023; Larsson et al, 2016). Dr P Shah, President of the Federation of Obstetrics and Gynaecology Societies of India notes that over the past two decades, caesarean deliveries have risen by approximately 25 percent in teaching hospitals and at least 50 percent in private hospitals and this increase can be attributed to several factors, especially among first-time mothers (TOI, 2023). Around 6 percent to 10 percent of women face an intense fear of labour and birth that is debilitating and disrupts the labour process (Pirdadesh et al, 2017) and has the potential to overshadow the entire pregnancy, complicating the labour process, impeding the bond between mother and child, and possibly contributing to postpartum depression (PPD) (Hofberg & Brockington, 2000). Therefore, collecting the data on fear of childbirth among primigravida mothers during the antenatal period would help healthcare professionals to provide tailored psychological support to those who require it and create opportunities to address and alleviate fears during pregnancy itself, thereby enhancing both maternal and foetal outcomes. Also, the scarcity of this specific data in the Kashmir valley underscores the importance of efforts to gather and enhance its availability. It will also offer an opportunity to contribute to the existing body of knowledge.

Objectives

1. To assess the fear of childbirth among primigravida women availing antenatal services in selected hospitals of Kashmir, and

2. To find the association of childbirth fear with selected demographic variables like age, gestational age (in weeks), education, occupation, type of family, income, and residence.

Literature Review

Sharma et al (2023) conducted a descriptive exploratory study to assess fear of childbirth and its contributing factors at a selected tertiary care hospital. The sample consisted of 269 primigravida women using non-probability consecutive sampling. Data was collected using the standardised Wijma Delivery Expectancy Questionnaire (WDEQ-A). Results showed that 24.4 percent had a severe level of fear, 44.8 percent a high level, 24.1 percent a moderate level, and 6.7 percent a low level of fear of childbirth.

Johnson et al (2019) conducted a cross-sectional study to assess the fear of childbirth and associated factors among pregnant women availing antenatal services in a maternity hospital in rural Karnataka, using a face-validated 30-item questionnaire. A consecutive sampling method was used. Of 388 women, 176 (45.4%) had a fear of childbirth. Common fears included lack of confidence about childbirth, fear of the process, labour pains, and caesarean section. Factors such as teenage pregnancy, nulliparity, primigravida status, and having no living child were significantly associated with fear of childbirth.

Sonawane et al (2018) carried out a non-experimental descriptive study to assess the association of fear of childbirth among primigravida women with labour outcome in a selected Municipal Corporation Hospital. A total of 200 primigravida women were selected using non-probability sampling. Data was collected using the Modified Wijma Delivery of Childbirth Scale. Results revealed significant association between foetal outcome and FOC at $p < 0.0001$, maternal outcome and FOC at $p < 0.05$, and complicated labour and FOC at $p < 0.000$.

Stella et al (2018) conducted a descriptive study to assess the fear related to pregnancy among primigravida mothers attending a maternity clinic at Index Medical College Hospital and Research Centre, Indore (MP). The sample of 60 primigravida women was selected using stratified random sampling. The study showed that 53.3 percent of primigravida mothers had a severe form of fear related to pregnancy. The third-trimester mothers had a higher mean and standard deviation of fear compared to second-trimester mothers.

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conducted a quasi-experimental study among 165 primiparous women at a prenatal clinic in Tehran to compare the impact of childbirth preparation courses delivered through in-person and social media methods. Data were collected through demographic questions, the Pregnancy Experience Scale (PES), and WDEQ-A. Post-intervention results showed no significant differences in pregnancy experience and FOC among the three groups, but significant differences in birth preferences, with more participants in the intervention groups preferring vaginal birth ($p = 0.001$).

Zhou et al (2021) carried out a cross-sectional study to assess fear of childbirth and associated risk factors in healthy pregnant women at Northwest Women's and Children's Hospital, China. The study used non-probability convenience sampling with 922 participants. Tools included CAQ, MSPSS, EPDS, and PPS; 72 percent of participants reported low to mild FOC, with 6 percent having severe and 22 percent moderate FOC.

Nguyen et al (2021) conducted a cross-sectional study among 900 women using a self-structured questionnaire to assess fear of childbirth and preference for prevention services in urban Vietnam. The study revealed moderately high FOC with a mean score of 18.1. No difference was found between nulliparous and multiparous women, though multiparous women had higher confidence in pregnancy-related knowledge.

Benyian & Ali et al (2021) conducted a descriptive study to evaluate childbirth fear among primigravida women at Al-Elwea Maternity Hospital, Baghdad. Using non-probability purposive sampling, data from 100 women (pilot study) showed severe childbirth fear with significant differences related to demographic and reproductive variables.

Gelaw et al (2020) undertook a cross-sectional study to assess the fear of childbirth among pregnant women attending antenatal care at public health facilities in Arba Minch, Ethiopia. Using systematic random sampling, data from 387 women revealed that 10.3 percent had a low degree, 39.8 percent moderate, 25.3 percent high, and 24.5 percent severe fear of childbirth.

Nasr et al (2020) conducted a descriptive study to assess fear of childbirth among pregnant women at 5 antenatal Primary Health Centers in Port Said City. Using purposive sampling, data from 200 women showed that 55.33 percent had a high level of fear. Significant relationships were found between FOC and sociodemographic characteristics.

Richens et al (2019) conducted a prospective cohort study with an explanatory mixed-method

approach. Using purposive sampling, data from 148 women in the first trimester and 80 in the third showed that 20 percent had a FOC in the first trimester, and 26 percent in the third trimester, with 19 percent maintaining FOC from the first trimester.

Khwepeya et al (2018) undertook a cross-sectional study among 152 pregnant and 153 postpartum women at a district hospital in Malawi using non-probability sampling. The study used WDEQ and found that during pregnancy, 39 percent reported low fear, 41 percent moderate, and 20 percent high fear; postpartum, 49 percent reported low, 41 percent moderate, and 10 percent high fear. Illiterate or unemployed pregnant women were more likely to report moderate and high fear.

Methodology

This study utilised a quantitative approach to systematically measure and analyse variables related to the fear of childbirth among primigravida mothers. A cross-sectional analytical design was employed to assess the fear of childbirth at a single point in time among the target population. The study focused on primigravida mothers, who were experiencing their first pregnancy.

Participants were selected using a non-probability purposive sampling technique to ensure a focus and relevant sample.

The study included a sample of 110 primigravida mothers. Data was collected using a standardised questionnaire, specifically the TSS Scale, to measure the level of fear of childbirth. Information was gathered through a standardised questionnaire to ensure consistency and reliability in the data collected.

The target population for the present study was all primigravida mothers availing of antenatal services in SKIMS MCH Bemina.

Sampling Criteria

Primigravida women who were willing to participate in the study at SKIMS MCH Bemina, and those accessible during the time of study, were included.

Description of tool: The tool used in the present study consisted of two sections.

Section 1: Socio-demographic data having 7 variables: Age, gestational age (in weeks), educational status, occupation, type of family, income, residence.

Section 2: Tokophobia severity scale which is a questionnaire that attempts to measure the fear of childbirth among pregnant women. This is a standardised tool in which items are given in a statement form and consists of 13 items.

Content validity and reliability of tool: The scale demonstrated a unidimensional structure and items demonstrated excellent internal consistency ($\alpha = 0.93$). Permission was obtained from developer of tool through mail.

Ethical clearance: The study obtained approval from the Institutional Ethical Committee of IUST. Mothers provided informed consent. The study assured anonymity and confidentiality for all participants. Permission was granted by the Medical Superintendent of SKIMS MCH Bemina. No ethical issues were encountered during the study.

Results

Section A: The demographic variables were coded to assess the background of the subjects.

Section B: The study subjects' level of childbirth fear was evaluated using the Tokophobia Severity Scale, where each question in the questionnaire was assigned a score ranging from 0 to 3. The score of each question was initially examined, and then the scores of all questions were summed to calculate the total score. The total score could range from a minimum of 0 to a maximum of 39. To interpret the level of fear, the score was categorised as in Table 1.

Table 1: Interpretation of the

Score	Interpretation
0-13	Mild
14-26	Moderate
27-39	Severe

The analysed data was organised according to the objectives and presented under the following sections: Section A, Socio-demographic variables. Section B, the level of fear among primigravida women.

Section A: Distribution of subjects according to demographic variables

Table 2 shows that in terms of age distribution, 50 percent of the subjects fell within the 24-29 age bracket, while 25 percent were aged 30-35, 22 percent were aged 18-23, and the remaining 3 percent were over 35 years old. Concerning gestational age, the majority (53%) had a gestational age exceeding 36 weeks, 36 percent were between 28-36 weeks, and 18 percent were below 28 weeks of gestation. Regarding educational attainment, 32 percent had completed higher secondary education, 25 percent were graduates, postgraduates, or held directorate degrees, 24 percent had received middle education, and the remaining 19 percent had no formal education. In terms of occupation, 74 percent of the subjects were unemployed, 20 percent were self-employed,

and the remaining 6 percent were employed. Among the subjects, 64 percent belonged to joint families, while 34 percent belonged to nuclear families. As for monthly income, 37 percent fell within the range of Rs.18497-30830, 26 percent earned between Rs. 6175-18496, 14 percent earned between Rs. 3083-46128, 10 percent earned between Rs. 61663-123321, 8 percent earned between Rs. 46129-61662, 5 percent had incomes above Rs.123322, and none had incomes below Rs. 6174. In terms of residence, 79 percent of the subjects lived in rural areas, while 21 percent resided in urban areas.

Table 2: Percentage and frequency distribution of demographic variables (n=110)

Variables	Opts	Percentage (%)	Frequency (f)
Age in years	18-23 years	22	24
	24-29 years	50	55
	30-35 years	25	28
	Above 35 years	3	3
Gestational age (in weeks)	Less than 28 weeks	18	20
	28-36 weeks	29	32
	Above 36 weeks	53	58
Educational status	No formal education	19	21
	Middle	24	26
	Higher secondary	32	35
	Others (graduate, postgraduate, PhD)	25	28
Occupation	Unemployed	74	81
	Self-employed	20	22
	Employed	6	7
Type of family	Nuclear family	36	40
	Joint family	64	70
Income	≥ Rs 123,322	5	5
	Rs 61,663-123,321	10	11
	Rs 46,129-61,662	8	9
	Rs 30,831-46,128	14	15
	Rs 18,497-30830	37	41
	Rs 6,175-18,496	26	29
	≤ Rs 6174	0	0
Residence	Rural	79	87
	Urban	21	23

Table 3: Percentage and frequency distribution level of Fear (n=110)

Criteria measure of fear score		
Level of scores	Percentage	Frequency
High fear (27-39)	22.7%	25
Moderate fear (14-26)	39.1%	43
Low fear (0-13)	38.2%	42

Maximum=39, Minimum=0

The data presented in Table 3 indicates the extent of fear among the subjects (primigravida women). A significant portion (39.1%) exhibit moderate levels of fear, followed closely by 38.2 percent experiencing low levels of fear. The remaining 22.7 percent of subjects demonstrate high levels of fear. Table 4 outlines the descriptive statistics pertaining to fear. The analysis revealed a mean value of 17.35, with a median score of 15 and standard deviation of 7.81. The maximum score observed was 35, while the minimum score recorded was 4, resulting in a score range of 31. Furthermore, the mean percentage calculated was 44.49 percent.

Table 4: Descriptive statistics of fear (N=110)

Descriptive statistics	Mean	Median	SD	Maximum	Minimum	Range	Mean %
Fear score	17.35	15	7.81	35	4	31	44.49
Maximum=39, Minimum=0							

The chi-square test was used to determine the association between the score levels and selected demographic variables.

Age: There's a significant relationship between age and fear levels. Younger individuals (18-23 years) have a varied distribution of fear levels, but as age increases, the distribution tends to level out, especially in the "Above 35 years" category where fear levels are evenly distributed (Table 5). This suggests that age may influence how individuals experience fear, with younger individuals potentially having higher susceptibility to varying levels of fear.

Gestational age: The study also finds a significant association between gestational age and fear levels. It's observed that as gestational age increases, there's a shift towards lower levels of fear, suggesting that later stages of pregnancy might be associated with reduced fear levels.

Educational status: The data shows a significant association between educational status and fear levels. Participants with no formal education to higher secondary education have a balanced

distribution of fear levels, but notably, those with higher education (graduate, postgraduate, PhD) predominantly fall into the low fear category. This indicates that higher educational attainment may be associated with lower levels of fear.

Occupation: Occupation does not show a significant association with fear levels indicating that employment status or type does not significantly affect fear levels among the participants.

Family type: The type of family (nuclear or joint) also does not significantly impact fear levels. This suggests that family structure, whether nuclear or joint, does not have a significant influence on how individuals experience fear.

Income levels: There's no significant association between income levels and fear, indicating that financial status within the ranges studied does not play a crucial role in the levels of fear experienced by the participants.

Residence: The place of residence, whether rural or urban, does not significantly affect fear levels. This suggests that environmental factors associated with rural or urban living do not have a significant impact on fear levels among the participants.

Discussion

Our investigation into the overall levels of fear uncovered several critical findings. The participants' average fear score was 17.35, with a median score of 15, and a standard deviation of 7.81. The highest fear score recorded was 35, the lowest was 4, resulting in a total range of 31 points, and the average percentage of fear experienced was 44.49 percent.

The demographic breakdown of study participants provided interesting revelations. Half of the participants (50%) were aged between 24 and 29 years, 25 percent were in the 30-35 age bracket, 22 percent were aged 18-23, and a smaller fraction (3%) was above 35 years of age. In terms of gestational age, the majority (53%) were more than 36 weeks along in their pregnancy, 36 percent were between 28-36 weeks, and 18 percent were less than 28 weeks. Educational attainment varied among participants: 32 percent had completed higher secondary education, 25 percent had advanced degrees (graduate, postgraduate, or doctorate), 24 percent had middle-level education, and 19 percent had no formal education. Employment status revealed that a vast majority (74%) were unemployed, 20 percent were self-employed, and a small portion (6%) was employed. Most participants (64%) came

Table 5: Association of scores and demographic variables

Demographic data		Levels of fear (n=110)			Association with fear score				
Variables	Opts	High Fear	Average Fear	Low Fear	Chi test	p value	df	Table value	Result
Age in years	18-23 years	13	6	5	19.177	0.004	6	12.592	Significant
	24-29 years	9	24	22					
	30-35 years	2	12	14					
	Above 35 years	1	1	1					
Gestational age (in weeks)	Less than 28 weeks	10	3	7	16.813	0.002	4	9.488	Significant
	28-36 weeks	9	10	13					
	Above 36 weeks	6	30	22					
Educational status	No formal education	8	7	6	17.604	0.007	6	12.592	Significant
	Middle	9	10	7					
	Higher Secondary	8	16	11					
	Others (graduate, postgraduate, PhD)	0	10	18					
Occupation	Unemployed	18	34	29	8.212	0.084	4	9.488	Not significant
	Self-employed	7	8	7					
	Employed	0	1	6					
Type of family	Nuclear family	12	14	14	1.899	0.387	2	5.991	Not significant
	Joint family	13	29	28					
Income	≥ Rs 123,322	0	2	3	16.841	0.078	10	18.307	Not significant
	Rs 61,663-123,321	0	2	9					
	Rs 46,129-61,662	1	4	4					
	Rs 30,831-46,128	6	6	3					
	Rs 18,497-30830	11	15	15					
	Rs 6,175-18,496	7	14	8					
	≤ Rs 6174	0	0	0					
Residence	Rural	19	37	31	2.111	0.348	2	5.991	Not significant
	Urban	6	6	11					

from joint families, while 34 percent were from nuclear families. Income analysis showed that 37 percent of the participants earned between Rs 18,497 and Rs 30,830 monthly, followed by 26 percent earning between Rs 6,175 and Rs 18,496, and smaller percentages across other income brackets, with none below Rs 6,174. Regarding residence, 79 percent lived in rural areas, while 21 percent were urban dwellers.

This study mirrors the research conducted by Sharma et al (2023), which explored fear of childbirth among 269 primigravida mothers at a selected tertiary care hospital. Their study found a similar demographic distribution in age, gestational age, and family structure. Our study found that 39.1 percent of participants experienced a moderate level of fear, 38.2 percent had a low level, and 22.7 percent reported severe fear. These results align closely with those of Khwepeya et al (2018), which also found a predominant moderate fear level among participants.

When assessing the association of fear of childbirth with various demographic factors, we found significant associations with age ($p=0.004$), gestational age ($p=0.002$), and educational status ($p=0.007$). However, there were no significant associations found with occupation, type of family, income, or residence. A parallel finding from a study also highlighted significant relationships between fear levels and age, as well as education, but not with occupation or family type.

In the current study, we employed a cross-sectional analytical research methodology to explore the objectives related to the fear of childbirth, utilising a standardised questionnaire for data collection. The study was conducted using a non-probability purposive sampling technique, targeting a group of 110 primigravida women at a specific hospital in Kashmir. The comprehensive findings revealed that the fear of childbirth varied among participants; 39.1 percent experienced a moderate level of fear, 38.2 percent reported a

low level of fear, and the remaining 22.7 percent faced a severe level of fear. The analysis showed an average fear score of 17.35, with a standard deviation of 7.81, indicating a mean percentage of fear at 44.49 percent.

Limitations: The study faced certain limitations, including a small sample size and the inclusion of only 110 primigravida mothers from SKIMS MCH Bemina. Future research should aim to overcome these constraints for a more extensive examination of the factors influencing childbirth fear among first-time mothers.

Nursing Implications

Nursing education: A good healthcare system emphasises prevention over curative approaches. Nurses should be knowledgeable about stress control methods beyond medications. Curricula should include treatment modalities for psychological issues, reinforced through clinical and community service.

Nursing practice: Nurses play a central role in healthcare delivery. Addressing psychological issues like fear and stress requires health education and awareness programmes. Nurses should have the skills to care for pregnant mothers, especially primigravida, ensuring timely identification and intervention to prevent complications.

Nursing administration: High-quality healthcare demands that nurse administrators understand specific patient needs. Organising specialised antenatal classes and educating staff on antenatal and intrapartum care are crucial. Administrators should support educational workshops, counselling services, and evaluations to manage childbirth fear.

Nursing research: Research should focus on the psychological well-being of primigravida mothers. More studies are needed to explore emotional challenges and coping strategies during pregnancy. This study encourages further research into pregnancy-related fear, its causes, impact, and labour outcomes.

Recommendations

- A similar study can be done over a larger sample in different settings to generalise the findings.
- A study can be done to explore the effectiveness of antenatal education and birth preparedness on childbirth fear.
- A control group can be used to carry out a similar study.
- A comparative study can be conducted to evaluate childbirth fear among primigravida and multigravida women.

- Encourage providing support through the participation of peers (primigravida's husbands or partners) to alleviate their fear and anxiety, as well as to provide a more positive experience about pregnancy and childbirth experience.
- Other research could be done to identify nurses' knowledge and attitude about the management of fear and anxiety of childbirth.

Conclusion

In our study age, gestational age, and educational level were significant predictors of childbirth fear. In contrast, variables such as occupation, family type, economic status, and locality did not show significant association with the fear of childbirth. These findings highlight the importance of early identification of primigravida women who are at a higher risk of experiencing significant fear of childbirth. Recognising these women early in their pregnancy allows for the opportunity to provide targetted support and interventions aimed at addressing and mitigating their fears. This approach also emphasises the need for integrating comprehensive assessments and mental health care into routine prenatal care practices. The practical implications of this study suggest a shift towards a more holistic approach in prenatal care, where psychological well-being is considered as integral to maternal health as physical health.

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