ORIGINAL RESEARCH ARTICLE

Prevalence and Predictors of Fear of Childbirth Among the Pregnant Women Attending a Tertiary Care Hospital in Imphal-East District Manipur, North-East India: A Cross-Sectional Study

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ABSTRACT

Background: Fear of childbirth (FOC) is a feeling of uncertainty and anxiousness before, during or after delivery which may increase the risk of various physical problems and mental disorders thereby affecting maternal and infant morbidity and mortality. **Objectives:** To estimate the prevalence of fear of childbirth and to determine its associated factors among pregnant women.

Methodology: A hospital-based cross-sectional study was conducted among pregnant women attending antenatal clinic of a tertiary-care hospital in Imphal-East District of Manipur. A 30-item questionnaire was used for data collection. Descriptive statistics, univariate and multivariate logistic regression analysis were performed to test for association taking all variables with $p < 0.2$ for model building for the adjusted analysis. A p value <0.05 was taken as level of significance. Ethical approval was obtained from the Institutional Ethics Committee.

Results: Out of 431 participants, fear of childbirth was seen in 36%. Increasing age of the respondent (AOR: 0.877) and residing in urban area (AOR: 0.548) showed a protective effect but respondents having past history of abortion (AOR: 2.054) and being in the third trimester of pregnancy (AOR: 1.964) were found to have an increased risk of having 'Fear of childbirth' ($p<0.005$).

Conclusions: Overall, 155 (36%) of women had fear of childbirth. It is important that healthcare professionals to be aware of fear of childbirth and ensure that pregnant women receive adequate health education, counselling during regular ANC checkups.

Keywords: Fear of childbirth, Predictors, Pregnant women

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INTRODUCTION

Pregnancy and childbirth are special events in the life of a women and her family. Childbirth is a new experience to the women especially the primigravida who experienced physiological, emotional & hormonal changes. These changes trigger their anxiety and fear related to childbirth process.[1]

Fear of childbirth (FOC) also known as tokophobia is one of the problems women encounter during pregnancy. It is a feeling of unease and apprehension before, during or following childbirth stemming from thoughts about the labor and delivery process itself, as well as experiences of others experiencing frightened reactions to childbirth and labor pain.[2,3] there are two types of Tokophobia namely: primary and secondary. Primary tokophobia is a morbid fear of childbirth that arises in nulliparous women; secondary tokophobia develops when a woman has a past history of traumatic obstetrics events.[4]

Fear of childbirth (FOC) raises the risk of a number of physical issues including sleep disorders, stomach pain, restricted daily activities, and extended labor as well as risk of having an abortion, miscarriage, or stillbirth.[5-8] Women with fear of childbirth who have a negative birth experience suffers from mental disorders such as postpartum depression, symptoms of post-traumatic stress disorder, and delayed bonding with their infant leading to impaired growth and cognition in children.[9] Studies have reported that fear of childbirth is one of the most common reasons why women prefer caesarean section during delivery.[10,11] According to NFHS, caesarian deliveries in India increased from 17.2% in NFHS-4 (2015-16) to 21.5% in NFHS-5 (2019-21).

Although government focuses on improving the maternal and child health, there is still need to reduce maternal and infant morbidity and mortality due to complications of pregnancy and childbirth, reduce the number of caesarian sections and promote vaginal delivery.[12] Also, health system mainly focuses on physical health, less attention has been given on mental health. Moreover, only few studies about fear of childbirth were conducted and no study has been conducted in Northeast states of India including Manipur.

Objectives: This study aimed to estimate the prevalence of fear of childbirth and difference among different subgroups of pregnant women and to determine the relationship between fear of childbirth with obstetric history and socio-demographic variables.

METHODOLOGY

A Hospital-based Cross-sectional study was conducted in Imphal-East District of Manipur during the period between April-May 2024. Study population comprises of pregnant women 15-49 years of age attending ante-natal care-clinic of a tertiary care centre. Those individuals who refused to participate; women in labour and having serious mental issues were excluded from the study.

Sample size and sampling: Taking the prevalence of fear of childbirth (p) as 45.4% from a study done by Johnson AR et al[13] and using the formula single proportion, n = z2pq/e2 by taking margin of error of 5% and at 95% confidence interval, sample size was calculated as 380. Adding 10% for non-responders, the final sample size was calculated as 418. A tertiary care government hospital located in Imphal-East, was selected for the study as it caters to maximum number of antenatal cases in the district and eligible participants were selected consecutively from the individuals attending ante-natal clinic until the required sample size was reached. After extensive review of literature, a pre-tested, structured questionnaire adapted from the 'Fear of childbirth' questionnaire[13] which is a face validated 30 items questionnaire was prepared. The questionnaire had domains on Socio-demographic profile, Obstetric history, Fear before childbirth, Fear during childbirth and Fear after childbirth. The questionnaire was translated into local language and back translated to check for consistency. After pre-testing the final questionnaire was prepared in local language.

Operational definition: Fear of childbirth was measured by measuring the three domains: (i) Fear before childbirth- 11 questions, (ii) Fear during childbirth-13 questions and (iii) Fear after childbirth-03 questions. For each question there were three options: agree, neutral and disagree. Score of 1 was given to agree and score of 0 was given to both disagree and neutral. So, the total score ranges from 0 to 30. For this study respondents with scores > 15 were considered to have fear of childbirth.

Data collection and Ethical considerations: Before starting the data collection, due permission from the Medical Superintendent of the hospital and Head of the Department of Obstetrics and Gynaecology were obtained. Ethical approval was obtained from the Institutional Ethics Committee vide letter No. Ac/03/IEC/JNIMS/2018 (30/04/2024). Informed verbal consent was taken from each participant. All participants were informed of the purpose of the study and that they were free to participate by their own will and may withdraw anytime. Data collection was done using interview. The researchers ensured strict confidentiality of the information obtained.

Statistical analysis: Data entry was done using MS Excel where data cleansing was performed. The collected data were then transferred to IBM SPSS statistics version 22 for data analysis. Descriptive statistics like mean, standard deviation, frequencies and proportions were used to summarize the data. Univariate logistic regression analysis was conducted with 'Fear of childbirth' as dependant variable with selected independent variables. A multivariate logistic regression analysis was performed to test for association taking all variables with p-value < 0.2 at

any level for categorical well as for continuous variables for model building for the adjusted analysis. A p-value < 0.05 was taken as level of significance.

RESULTS

The total number of respondents was 431. The mean(SD) age was 28.9±5.08 years and ranges from 18 to 45 years. More than half of the respondents (270, 62.6%) were home-makers and 101 (37.4%) of them were found to have fear of childbirth. Out of total of (265, 61.5%) from rural areas, fear of childbirth was present in 107 (40.4%). Almost two third of them were from joint family (280, 65%) and 91 (32.5%) of them were found to have fear of childbirth. Around two-third of the them were multiparous (279, 65%) and 103 (36.9%) of them were found to have fear of childbirth. (**Table 1)**

Half of the participants were in the third trimester (214, 49.6%) and 87 (40.7%) of them were found to have fear of childbirth. Out of the total of (124, 29%) having history of previous abortion, fear of childbirth was present in 60 (48.3%). History of stillbirth was present in (23, 5.3%) and 10 (43.5%) of them were found to have fear of childbirth. Majority of participants were having at least one living child (252, 58.5%) and 92 (36.5%) of them were found to have fear of childbirth. **(Table 2)**

Table 1: Distribution of socio-demographic characteristics and presence of fear of pregnancy (N=431)

Characteristics	Fear of childbirth		Frequency (%)
	Present (%)	Absent (%)	
Participant's age (in completed years)			
Less than 28	83 (42.6)	112 (57.4)	195 (45.2)
More than or equal to 28	72 (30.5)	164 (69.5)	236 (54.8)
Participant's religion			
Hinduism	30 (32.6)	62 (67.4)	92 (21.3)
Christianity	20 (40.0)	30 (60.0)	50 (11.6)
Islam	29 (51.8)	27 (48.2)	56 (13.0)
Sanamahism	76 (32.6)	157 (67.4)	233 (54.1)
Residence			
Rural	107 (40.4)	158 (59.6)	265 (61.5)
Urban	48 (28.9)	118 (71.1)	166 (38.5)
Participant's education			
Illiterate	6 (42.9)	8 (57.1)	14 (3.2)
Primary school (class 1 - VII)	30 (50.0)	30 (50.0)	60 (13.9)
Secondary school (class IX – XII)	74 (32.3)	155 (67.7)	229 (53.1)
Graduate & above	45 (35.2)	83 (64.8)	128 (29.8)
Husband's education			
Illiterate	4 (28.6)	10 (71.4)	14 (3.2)
Primary school (class 1 - VII)	25 (55.6)	20 (44.4)	45 (10.4)
Secondary school (class IX – XII)	68 (34.0)	132 (66.0)	200 (46.4)
Graduate & above	58 (33.7)	114 (66.3)	172 (40)
Participant's occupation			
Homemaker	101 (37.4)	169 (62.6)	270 (62.6)
Govt/private employee	16 (32.0)	34 (68.0)	50 (11.6)
Self-employed	35 (33.3)	70 (66.7)	105 (24.4)
Student	3 (50.0)	3 (50.0)	6 (1.4)
Husband's occupation			
Govt/private employee	36 (27.5)	95 (72.5)	131 (30.4)
Self-employed	105 (38.2)	170 (61.8)	275 (63.8)
Student	1 (100.0)	0 (0.0)	1 (0.2)
Unemployed	13 (54.1)	11 (45.8)	24 (5.6)
Type of family			
Nuclear	64 (42.4)	87 (57.6)	151 (35)
Joint	91 (32.5)	189 (67.5)	280 (65)
Socioeconomic status			
Upper	21 (30.0)	49 (70.0)	70 (16.2)
Upper Middle	66 (34.7)	124 (65.3)	190 (44.2)
Middle	46 (38.7)	73 (61.3)	119 (27.6)
Lower Middle	12 (31.6)	26 (68.4)	38 (8.8)
Lower	10 (71.4)	4 (28.6)	14 (3.2)
Age at marriage (completed years)			
< 18 years	11 (47.8)	12 (52.2)	23 (5.3)
18 – 29 years	134 (35.2)	247 (64.8)	381 (88.4)
> 30 years	10 (37.0)	17 (63.0)	27 (6.3)
Parity			
Nulliparous	52 (34.2)	100 (65.8)	152 (35)
Multiparous	103 (36.9)	176 (63.1)	279 (65)

Table 2: Distribution of Obstetric details and presence of fear of pregnancy (N=431)

Obstetric details	Fear of childbirth		Frequency (%)
	Present (%)	Absent (%)	
Current gestational age			
1st trimester	31 (30.1)	72 (69.9)	103 (23.9)
2nd trimester	37 (32.5)	77 (67.5)	114 (26.5)
3rd trimester	87 (40.7)	127 (59.3)	214 (49.6)
Planned pregnancy			
Yes	80 (30.8)	180 (69.2)	260 (60.3)
No	75 (43.9)	96 (56.1)	171 (39.7)
History of abortion			
Previous abortion	60 (48.3)	64 (51.6)	124 (29)
No previous abortion	95 (30.9)	212 (69.1)	307 (71)
History of stillbirth			
No	145 (35.5)	263 (64.5)	408 (94.7)
Yes	10(43.5)	13 (56.5)	23 (5.3)
Number of living children			
No living child	63 (35.2)	116 (64.8)	179 (41.5)
At least one living children	92 (36.5)	160 (63.5)	252 (58.5)
Total ANC visits			
Less than 4	57 (33.9)	111 (66.1)	168 (39.0)
4 and above	98 (37.3)	165 (62.7)	263 (61.0)
First ANC visit at			
Less than 12 weeks	139 (35.5)	252 (64.5)	391 (90.7)
More than 12 weeks	15 (39.5)	23 (60.5)	38 (8.8)
Don't know	1 (50.0)	1 (50.0)	2 (0.5)
ANC check-up done by			
Doctor	151 (35.7)	272 (64.3)	423 (98.1)
Nurse	2 (33.3)	4 (66.7)	6 (1.4)
Others (ASHA)	2 (100)	0 (0.0)	2 (0.5)
Regular ANC check-up done at			
Govt. health facility	134 (35.4)	244 (64.6)	378 (87.7)
Private health facility	21 (39.6)	32 (60.4)	53 (12.3)

Out of the total of 431participants, the prevalence of 'Fear of childbirth' was found to be present in 155 (36%) while absent in 276 (64%).

Table 4 Shows the distribution of type of fear at different stage of childbirth. 'Fear of lobor pains' was reported by 274 (63.5%) and 'fear that labor may be too long' was stated by 245 (56.8%). 'Fear that baby may have some complications during childbirth' was indicated by 361 (60.8%). 'Not being able to breastfeed my child properly' expressed by 181 (42.0%) of the participants as one of the major fear at stage of after childbirth and 116 (26.9%) stated that 'they may become unattractive after childbirth'. **(Table 3)**

Increasing age of the respondent (AOR: 0.877, 95% CI 0.814 to 0.944) and residing in urban area (AOR: 0.548, 95% CI 0.347 to 0.867) shows a protective effect from having 'fear of childbirth' ($p<0.005$) but respondents having past history of abortion (AOR:2.054, 95% CI 1.257 to 3.356) and being in the third trimester of pregnancy (AOR:1.964, 95% CI 1.103 to 3.498) were found to have an increased risk of having 'Fear of childbirth' as shown in the adjusted logistic regression analysis **(Table 4)**

Table 3. Distribution of participants according to types of fear at different stage of childbirth (N=431)

Type of fear	Frequency (%)
Fear before childbirth	
"I fear labor pains"	274 (63.5)
"I fear that family may be tensed"	252 (58.5)
"I fear that my labor may be too long"	245 (56.8)
Fear during childbirth	
"I feel afraid/tense thinking about child birth"	277 (64.3)
"I fear that my baby may have some complications during childbirth"	262 (60.8)
"I am afraid that I may have a caesarean section"	261 (60.6)
Fear after childbirth	
"I fear I may not be able to breastfeed my child properly"	181 (42.0)
"I fear I will not be able to take care of my child by myself during postpartum period"	135 (31.3)
"I fear I may become unattractive/fat after childbirth"	116 (26.9)

Table 4: Univariate and Multivariate Logistic regression analysis of factors associated with fear of childbirth (N=431)

Variable	Crude OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Age	0.942(0.904 to 0.982)	0.004	0.877(0.814 to 0.944)	**0.001***
Age of the husband	0.979(0.947 to 1.011)	0.019	1.056(0.997 to 1.119)	0.065
Religion				
Hindu	1		1	
Christian	1.378(0.675 to 2.814)	0.375	1.295(0.579 to 2.892)	0.529
Islam	2.220(1.123 to 4.389)	0.022	1.604(0.744 to 3.460)	0.228
Sanamahism	1.00(0.598 to 1.674)	0.999	1.030(0.581 to 1.828)	0.919
Participants residence				
Rural	1		1	
Urban	0.601(0.396 to 0.910)	0.016	0.548(0.347 to 0.867)	**0.010***
Husband's Education				
Illiterate	1		1	
Primary school	3.125(0.852 to 11.46)	0.084	3.352(0.791 to 15.69)	0.098
Secondary school	1.288(0.390 to 4.258)	0.678	1.417(0.352 to 5.705)	0.623
Graduate & above	1.272(0.382 to 4.231)	0.695	1.723(0.409 to 7.264)	0.459
Husband's Occupation				
Govt/private employee	1		1	
Self employed	1.630(1.035 to 2.567)	0.035	1.480(0.834 to 2.625)	0.181
Unemployed	3.359(1.396 to 8,080)	0.007	2.127(0.763 to 5.931)	0.149
Type of family				
Nuclear	1		1	
Joint	0.655(0.435 to 0.985)	0.042	0.704	0.169
Socio-economic status				
Upper	1	0.473	1	0.584
Upper middle	1.242(0.687 to 2.245)	0.231	0.824(0.413 to 1.647)	0.775
Middle	1.470(0.783 to 2.762)	0.865	1.115(0.530 to 2.345)	0.517
Lower middle	1.077(0.458 to 2.530)	0.006	0.719(0.265 to 1.951)	0.065
Lower	5.833(1.643 to 20.17)		3.718(0.922 to 14.98)	
Trimester of pregnancy				
1st	1		1	
2nd	1.116(0.628 to 1.984)	0.708	1.173(0.618 to 2.223)	0.625
3rd	1.591(0.963 to 2.628)	0.07	1.964(1.103 to 3.498)	**0.022***
History of abortion				
Absent	1		1	
Present	2.092(1.365 to 3.208)	0.001	2.054(1.257 to 3.356)	**0.004***
Planned pregnancy				
Yes	1		1	
No	1.758(1.177 to 2.624)	0.006	1.342(0.852 to 2.114)	0.205

*Significant; COR – crude odds ratio; CI – Confidence interval; AOR – Adjusted odd ratio

DISCUSSION

The present study assessed the fear among pregnant women at different stages of pregnancy and childbirth i.e. before childbirth, during childbirth, after childbirth.

Our study data showed that the overall prevalence of fear of childbirth (FOC) as 36%. The prevalence of FOC in this study was slightly lower than the prevalence as reported by Johnson AR et al[13] in a study done in South Karnataka (45.4%). This may be due to the study being conducted in a rural area and people belonging to rural areas having lack of quality health services and poor knowledge about childbirth. In the contrary Jha P et al[14], in a study conducted in Chhattisgarh, reported a much lower prevalence of 13.1% and 17.7% as reported by Jaju S et al.[15] The prevalence of FOC as reported in some countries were 4.5% in Belgium, 3.7% in Finland, 24% in Australia, 27% in the United States.[16-19] The prevalence in these countries is lower than our findings which may be related to the differences in availability of facilities, awareness level, life contexts, ethnic religions, social structures and measurement methods. However, the prevalence of FOC in our study was significantly lower than that of studies conducted in China (56.64%)[20] and Iran (89%).[21] Another conducted in Southern Ethiopia to measure childbirth self-efficacy, found that 54.8% of women had low childbirth self-efficacy.[22] While a study in Iran, reported a significant difference between adolescent and adult pregnant women in fear of childbirth and total childbirth self-efficacy.[23] Also, some studies reported that women with lower childbirth self-efficacy levels had high fear of childbirth.[24-26]

In the assessment of fear among pregnant women between different stages i.e. before childbirth, during childbirth, after childbirth. Almost two-third of the

respondents (63.5%) stated that 'labour pain' was most feared of in the "before childbirth" phase. For the "During childbirth" phase, 64.3% responded that they 'felt afraid/tense thinking about child birth'. Fear of not able to breastfeed their child properly was highest in the "after childbirth" phase (42%). Similar study by Johnson AR et al[13] found that before childbirth, the common fears were fear of 'labor pain' (43%), Fears during childbirth were: not being confident about childbirth (50%), being afraid and tense about childbirth (47%), and after delivery were 'fear of not be able to take care of her child by herself', not being able to breastfeed her child properly and fear of becoming unattractive. Another study reported fear of labor pain as the major contributing factor (80.7%) and least common as disturbed self-image and feeling of insecurity (27.9%).[1]

The present study reported a significant association between younger age group and fear of childbirth which is consistent with previous studies.[13,14,20,22,23] This may be due to the fact that young mothers have a lack of experience and also inadequate information may be a contributing factor. Also, statistically significant difference between nulliparous and multiparous women regarding childbirth are also reported in some studies.[26-30] A statistically significant associations for fear of childbirth was found with increasing age of the pregnant women showing a protective effect. The reason may be that with increasing age the awareness and experience of the pregnant woman may increase. Also, pregnant women from urban areas showed a lower risk of having FOC as urban residents may have access to better health care or delivery facilities which may be accessed speedily when need arises. Pregnant women currently in third trimester of pregnancy and pregnant women with history of abortion showed higher risk of having FOC which may due to increasing apprehension of the pregnant woman as term approaches and women who had undergone previous abortions may have faced some pain and discomfort in the abortion process thus leading to increased risk of having FOC. Similar findings were reported by various authors.[13,20,29,31,32]

Respondents with 'unplanned pregnancies' had higher prevalence of fear of childbirth which was also reported in other studies.[13,32,33] Some studies also reported previous pregnancy complications, previous case of perineal tear, prolonged labour as significant factors for presence of fear of childbirth.[24,34,35] Support from family which is usually found in joint families and encouragement of family members during childbirth could increase a pregnant woman's confidence and help her get through the painful process.

Our study may be limited as the fears of childbirth were measured through subjective assessment, and lacked objective indicators, hence some bias may arise. As this study was conducted only in a public health care facility, it lacks generalizability to the whole population as the experiences of the pregnant women attending private health care facilities could not be represented. However, only few studies about fear of childbirth have been conducted in India and this study included all stages of childbirth i.e. before, during and after, which gave us an insight of the commonest reasons in the different stages. This study was conducted in one of the tertiary hospitals in the state, which has an overall good representation of patients of different communities from different backgrounds.

Conclusion

More than one-third of the respondents had Fear of childbirth with majority reporting fear about 'labour pain', 'feeling afraid/tense thinking about child birth' and fear 'that they may not be able to breastfeed their child properly' during the different phases of childbirth.

Support from family and encouragement from family members during childbirth could increase a pregnant woman's confidence and help her get through the painful process. Health caregivers should be aware about the feelings and apprehension felt by expectant mother of the birthing process related to pregnancy, childbirth and future motherhood. Health care providers should ensure that every pregnant woman receives adequate health education and counselling about the labour, childbirth and postnatal care process during regular ANC check-ups.

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