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A Study to Assess the Prevalence of Tokophobia and the Effect of Nurse-led Intervention on Birth Experience Among Parturients Availing Services in a Tertiary Care Hospital, Kolkata

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Abstract

Introduction: *Tokophobia, the fear of childbirth, can significantly impact a woman's birth experience and overall well-being. This study aims to determine the prevalence of tokophobia among parturients and evaluate the effectiveness of a nurse-led intervention in improving birth experiences in a tertiary care hospital in Kolkata.* ***Methods:*** *A cross-sectional study design was employed to assess the prevalence of tokophobia among parturients receiving services at the selected tertiary care hospital in Kolkata. The study also included an experimental group that received a nurse-led intervention aimed at addressing tokophobia and enhancing birth experiences. The intervention involved personalized education, counselling, and support provided by trained nurses. Data collection included demographic information, tokophobia assessment, and birth experience evaluation using standardized tools.* ***Results:*** *The prevalence of tokophobia among parturients in the study population was determined, with findings indicating the extent of fear experienced by pregnant women in relation to childbirth. Additionally, the effectiveness of the nurse-led intervention in improving birth experiences was evaluated through comparison with a control group. Analysis of data revealed notable improvements in birth experiences among participants who received the nurse-led intervention, suggesting its beneficial impact in alleviating tokophobia and promoting positive childbirth experiences.* ***Conclusion:*** *This study sheds light on the prevalence of tokophobia among parturients in a tertiary care hospital setting in Kolkata and highlights the importance of addressing this fear to enhance birth experiences. The findings underscore the significance of nurse-led interventions in providing tailored support and guidance to pregnant women, ultimately contributing to improved childbirth outcomes and maternal well-being. Further research and implementation of similar interventions are warranted to advance maternal care practices and mitigate tokophobia-related concerns in childbirth settings.*

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INTRODUCTION

Child birth is a natural and universal phenomenon. Pregnant women often experience childbirth anxiety as they embark on what they perceive as a bold journey into motherhood.

A systematic analysis of 33 studies conducted by O'Connell from 18 countries done in 2017, estimated that the overall prevalence of tokophobia was 14% and appears to have increased in recent years from 2000 onwards.

The instinctive gift given to a woman enables her to give birth spontaneously and smoothly. A negative feeling during labour causes her body to fill up with fear. Researches done in 2012 have shown that a high level of love hormone 'oxytocin', hormones of happiness 'endorphins', 'norepinephrine', and 'prolactin', are essential for the smooth process of delivery which increases maternal sensitivity, during the labour pain and labour [1–7].

Previous research has demonstrated that approximately 80% of women experience some worries about childbirth [8, 9]. A woman experiencing the fearful situation becomes distracted; she focuses on the factor that caused the threat, and her anxiety increases leading to a negative mood during pregnancy and paves the way for thoughts of inability to finish the labour successfully. This results in a negative birth experience and delayed adaptation to motherhood and delay in breastfeeding and developing attachment to the infant [10–15]. Numerous researches have indicated that a profound fear of childbirth can elevate the likelihood of labour complications, including extended labour, the need for forceps or vacuum assistance, haemorrhage, foetal hypoxia, and emergency caesarean section. A study in India revealed that 18% of women expressed concerns regarding pregnancy and childbirth [16].

In the past, Vaginal Birth was commonly regarded as the default method of childbirth, while Caesarean Section Delivery, involving a surgical incision, was primarily reserved for cases with medical necessity. Requests for caesarean sections often stem from tokophobia, a fear of childbirth [17].

The World Health Organization recommends a caesarean section rate of 10–15% as ideal. Recent studies in Human Resource Planning have shown that maternal and neonatal mortality rates decline as caesarean section rates approach 10% in a given population. Over a decade, from the National Family Health Survey-3 (NFHS-3) to the National Family Health Survey-4 (NFHS-4), there was an increase in the rate of caesarean deliveries from 8.5 to 17.2% [18]. In 1998 it is reported that women who suffer the most from Fear of Childbirth during pregnancy are likely to have a deleterious effect on neonatal neural development and behaviour including impaired motor ability, impaired balance reactions; shorter attention spans impaired muscle coordination and tonicity, greater infant irritability and decreased coping ability [19–26].

The World Health Organization (WHO) guidelines advocate for providing every expectant mother with educational and psychological assistance to enhance her ability to give birth. There is not a commonly accepted definition for the fear of childbirth although it is a common clinical problem. It differs depending on the women who experience the fear during their pregnancy. The present study aims at assessing the prevalence of tokophobia and the effect of educational preparation on birth experience among women seeking health care services in tertiary care hospital at Kolkata [27].

OBJECTIVES OF THE STUDY

- Evaluate the frequency of tokophobia among pregnant women in their third trimester.
- Examine the impact of a nurse-led intervention on the birth experience of the experimental group.
- Investigate the correlation between tokophobia and specific demographic factors.

MATERIALS AND METHODS

- *Type of study:* The research design used for this study is quasi experimental post test only design.
- *Place of study:* The present study was conducted in the antenatal OPD and Maternity ward of selected tertiary care hospital in Kolkata.

Methodology

Ethical clearance for doing this study was obtained from the institutional ethical committee. Informed consent was obtained. The population for the study included all the antenatal mothers after 37 weeks of gestation, who attended the antenatal OPD and maternity ward of selected tertiary care hospital in Kolkata.

Inclusion Criteria

The study recruited all women with singleton pregnancy with gestational age of 37–42 weeks attending antenatal OPD of tertiary care hospital who can read and write English, Hindi or Bengali.

Exclusion Criteria

The study excluded all women with any maternal or foetal complications post-delivery as well as women with pre-pregnant history of mental or physical illness, those who attended prenatal classes previously and also having adverse postpartum complications.

Study Tools

The research instruments used for data collection in this study comprises three sections as described below:

- *Section I:* Demographic profile and obstetric details.
- *Section II: standardized questionnaire:* Wijma delivery expectancy experience questionnaire (version A) to assess tokophobia before childbirth [8].
- *Section III:* Standardized questionnaire labour agentry scale to assess birth experience.

All the pregnant women who satisfied inclusion criteria were included in the study. The Antenatal OPD in the tertiary care hospital opens from Monday to Friday except on Wednesday being OT day, from 8 am to noon. All the antenatal cases who met inclusion criteria were recruited and a private room at the OPD was used by the researcher for interviewing participants [28–34].

Samples were selected through non probability purposive sampling method. Sample size calculated was 64. However, considering the prevalence rate of emergency Lower Segment Cesarean Section (LSCS) at Kolkata as 18%, based on study conducted in 2014 and sample attrition was expected. Data were collected from the control group during first 2 weeks and routine care is given to them and second phase of data collection is done 24 h after they gave birth. Therefore, the researcher documented the participants' code numbers and phone numbers for follow-up in the subsequent 3 weeks. To avoid cross-contamination between the experimental and control groups, the control group was recruited prior to the experimental group. The recruitment process, obtaining informed consent, and data collection methods applied to the control group were also employed with the experimental group. Moreover, mothers in the experimental group received a Self-Instructional Module, which they were encouraged to go through and practice on a daily basis. The data collection was done in two phases [35].

1. First phase of data collection includes assessment of prevalence of tokophobia with Section II of Self-administered tool.
2. Birth experience after delivery was assessed with Section III of Self-administered tool within 24 h of delivery among both groups.

The researcher attended the tool administration session to address any inquiries. Researcher visited daily the labour unit of the hospital to keep a track of participants for post-delivery data collection. During the study attritions were 07 subjects due to emergency caesarean section. Attrition samples were added on in order to have minimum sample size of 64 on the course of data collection thus contributing to 71 eligible samples for the study [36, 37].

RESULTS

Analysis of sociodemographic data concluded that majority of the Control group (75%) and Experimental group (75%) fell under the age group of 20–29 years. 37.5% of Control group and 50% of Experimental group were graduates and 59.4% of Control group and 50% of Experimental group were educated up to intermediate. Majority of Control group (90.6%) and Experimental group (84.4%) were home makers. In Control group, the parturients are equally distributed in terms of Primi para (50%) and Multi para (50%). As about Experimental group also, the parturients are almost equally

distributed in terms of Primi para (46.9%) and Multi para (53.1%). Almost half of the subjects of Control group (46.9%) and Experimental group (53.1%) belonged to the gestation period of 37–38 weeks. Most of subjects of both Control group (71.9%) and Experimental group (93.8%) preferred normal vaginal delivery and the rest of the subjects of both the groups preferred Caesarean delivery. Most of the subjects of Control group (84.4%) and Experimental group (59.4) had no co-morbidities associated with pregnancy.

Figure 1 represents scores of tokophobia as per the Wijma delivery expectancy questionnaire-version A. From the results it can be gathered that out of the subjects of the Control group, 31.4% had mild tokophobia, 40% had moderate tokophobia and 28.6% had intense tokophobia. Among participants in Experimental group, 25% had mild tokophobia, 47.2% had moderate tokophobia and 27.8% had intense tokophobia. All the subjects had tokophobia though the intensity differed [13].

Table 1 proves that there is significant difference in mean birth experience score between Control group and Experimental group. Experimental group was found to have an increase in mean birth experience score (M±SD=38.43±3.49) where as in control group mean birth experience score was (M±SD=34.40±8.95). With a p value <0.05, results concluded that there is significant difference in birth experience among Experimental group after imparting the nurse-led intervention. Association of tokophobia with demographic variables (age, educational qualification, type of family, parity, preferred mode of delivery, co morbidities associated with pregnancy) was done using Pearson Chi Square test. In the present study, other than parity there was no significant difference in association between sociodemographic variables and tokophobia score of parturients (Table 2).

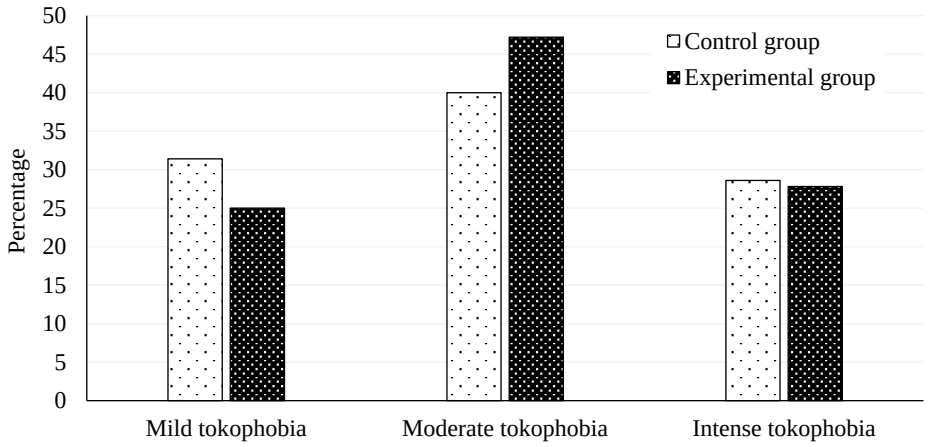

Figure 1. Description of prevalence of tokophobia among parturient.

Table 1. Comparison of birth experience in both study groups (n=64).

Parameter	Control group		Experimental group		t value	P value
	Mean	*SD*	*Mean*	*SD*		
Child birth experience	34.40	8.95	38.43	3.49	–2.37	0.021*

*df=62, Table value=–1.99*p<0.05 (Significant).*

Table 2. Association of tokophobia with Parity of parturients (n=64).

Sample characteristics	Category	Mild tokophobia	Moderate tokophobia	Intense tokophobia	*X2*	p value
		f (%)	*f (%)*	*f (%)*		
Parity	Primi para	10 (32.3)	9 (29)	12 (38.7)	8.17	0.01*
	Multi para	9 (27.3)	20 (60.6)	4 (12.1)		

*df=2, Table value=5.99 *p<0.05.*

DISCUSSION

The mean birth experience score of experimental group is higher than the control group and this difference was found to be statistically significant with a computed calculated value (–2.374) which is greater than the table value (–1.9989) at (p=0.02). Findings reported in a prospective, randomized controlled trial to assess the effects of antenatal education on birth fear concluded that antenatal education has important clinical benefits for women both during pregnancy ($p < 0.001$) and in the postpartum period [36]. The study's results align with those from a randomized control trial involving 196 first-time mothers. This study aimed to assess the number of vaginal deliveries and the satisfaction with the delivery process among women experiencing childbirth fear. It found that psycho educative group therapy for first-time mothers with significant childbirth fear led to a reduction in caesarean sections and more positive childbirth experiences (36.1% vs 22.8%, p=0.04) when compared to a control group of mothers with similar fears. The change in the mean score of birth experience is supported by a randomized controlled trial conducted and revealed that after a brief antenatal midwife-led-education intervention for childbirth fear women were less likely had negative birth experience as the average score increased significantly at ($p = 0.02$) level of significance which is relative to present study.

In the present study other than parity there was no significant difference in association between sociodemographic variables and tokophobia score of parturients. Regarding the relationship between parity and tokophobia, evidence from some studies suggests that first-time mothers (primiparous women) more frequently experience tokophobia or have a more severe fear of childbirth (FOB). Conversely, other studies indicate a higher prevalence of FOB among women who have given birth multiple times (multiparous women). Researcher carried out a survey to explore the fear of childbirth in relation to parity, gestational age, and obstetric history, revealing a strong correlation (p=0.0001) with parity. In this study also Chi square value computed was found significant at ($p<0.05$), thereby proving statistically significant association between parity and tokophobia score among both study groups [38–40].

Implications to Conceptual Framework

The theoretical framework employed in this study is grounded in Meleis's Transition Theory, which elucidates the role of support during periods of transition in enhancing resilience. This is achieved through a blend of internal comprehension of the challenge at hand, which in turn, positively affects the outcome.

IMPLICATIONS OF STUDY

Nursing and Midwifery Practice

The sensation of fear is a tangible encounter that proves challenging to articulate and frequently poses difficulties in both recognition and treatment. In India, midwives as the primary care-givers for women during pregnancy, have a vital role to play in providing effective and supportive care and almost all pregnant women attend antenatal care.

Nursing Education

Nursing education follows a pragmatic approach aiming at incorporating evidence based practice into existing body of knowledge thus enriching the curriculum. The finding of present study adds the empirical evidences to existing body of knowledge on the problems faced by the mothers which can affect the normal progress of labour. It emphasizes on the fact of role supplementation of nurses in providing the necessary guidance for parturients for their labour, thereby taking care of psychological aspect of maternity care.

Nursing Administration

The World Health Organization stipulates that screening should be conducted only if specific criteria are met. Evaluating tokophobia in expectant mothers can pinpoint the need for additional information, whether or not fear is present, and facilitate counselling and referrals, as needed.

Nursing Research

In the current age of evidence-based practice, the objective of nursing research is to drive professional advancement, while also enhancing and diversifying the field of midwifery nursing. If routine screening of tokophobia is commenced, research can be conducted to evaluate the changes in tokophobia over time during pregnancy.

Limitations of the Study

The study was restricted to parturients of selected tertiary care hospital, which limits its generalization. Presence of many confounding variables to control group in terms of previous birth experiences, teaching from family members, mass and print media, happiness of child birth and personality traits. The small sample size was proportionately lower which may not be adequate to strengthen the evidence generated from this study. The non-probability purposive sampling used in the study was a salient limitation.

CONCLUSION

In this study, the fears most frequently associated with childbirth include the pain of labour, concerns for the baby's health and survival, and the fear of uncertainty. The experience during childbirth has an everlasting effect on the woman and the family. The findings revealed that the administration of nurse-led intervention had a positive influence on birth. The study findings imply that standards of care of a parturient should comprise the education regarding the birth process which helps women to understand about child birth. Additionally, it is anticipated that this approach would personalize care, providing tailored support to each mother and easing their anxieties surrounding childbirth.

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