



A Prospective Cross-Sectional Observational Study on Tokophobia in Pregnant Women in Tertiary Care Teaching Hospital

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KEYWORDS

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ABSTRACT:

Background - This study is about tokophobia among pregnant women during childbirth. Tokophobia is the fear of pregnancy and childbirth. This fear may cause women to avoid pregnancy even though they desire to have children or to get a c-section in order not to give birth naturally. It affects women who have never given birth or who have had a traumatic birth experience before. It contributes to spreading awareness of tokophobia. This study was performed as no such studies have been conducted on tokophobia in Jaipur.

Materials and Methods - This cross-sectional study was conducted at the Jaipur National University Institute for Medical Sciences and Research Centre Jagatpura, Jaipur, Rajasthan, India. A total of 109 pregnant women participated in the study for 6 months. Each participant provided consent for the study. FCQ questionnaires and the Tokophobia Severity Scale (TSS) were used to assess the phobia among pregnant women. The collected data was analyzed using SPSS V29.

Result- After analysis the findings reveal that 84% of women had moderate levels of tokophobia reportedly in the age group between 20-24 years. During the 1st trimester and 2nd trimester moderate level of tokophobia is seen. The P-value is less than 0.05 showing significance. A strong relation between anxiety and tokophobia is seen.

Conclusion- It is concluded that most of the women surveyed have mild to moderate levels of tokophobia. It is important to have a close bond between obstetricians and pregnant women so that they can share their feelings, their fears, and all their experiences and accordingly, counseling can be given by the obstetrician.

INTRODUCTION

The Greek words "tokos," which denotes childbirth, and "phobia," which indicates unreasonable fear, are the origin of the English word "tokophobia." The term "tokophobia" describes a strong dread of childbirth and/or pregnancy (CA). It is also sometimes referred to as "fear of childbirth" or "severe childbirth anxiety." German physician Dr. Osiander wrote in 1797 about how women's severe anxiety over being pregnant or giving birth was the root cause of their suicide intentions. [1] The fear of becoming pregnant and giving birth is known as tokophobia. Women often avoid becoming pregnant or giving birth as a result of this phobia since they have a pathological fear of doing so.

These worries may cause women to choose a Caesarean section over a vaginal birth, even though they still want children. Tokophobia can strike women who have never given birth as well as those who have experienced traumatic births in the past. The obsessive fear of childbirth, known as tokophobia, might keep a person from getting pregnant or giving birth. Every woman is impacted by pregnancy, which is a significant social, psychological, and physical experience. For a very small percentage of people, pregnancy is not a joyful experience; rather, it can be frightening and worrisome. [2] There's a chance that the dread could develop into a serious condition that requires diagnosis and treatment. Self-help techniques, social media, and medical assistance are helpful tools that most women can utilize



to manage their concerns and anxiety. But when it develops into a pathological fear, it's referred to as tokophobia. Other names for it include "parturiphobia" and "maieusiophobia." Knauer penned the first published description in 1897. For many women, being pregnant and giving birth are significant life experiences. It can be a joyful moment, but it can also be anxious and uneasy. In addition to the discomfort of labor, women often worry about potential problems. Nearly all expectant women worry to some extent about these common worries. [3]

PREVALENCE AND EPIDEMIOLOGY

Tokophobia is thought to affect 14% of people and seems to have become more common since 2000. The results should be interpreted cautiously due to the significant heterogeneity (99.25%) observed, which could be related to disagreements regarding the interpretation of tokophobia. Tokophobia, or an intense fear of giving birth, is a serious problem that impacts expectant mothers worldwide. Articles from India and other countries have looked at the epidemiology of tokophobia, or the fear of giving birth. 17.7% of primigravid women in Kerala, India, reported having fear associated with childbirth. [4] Another study found that 17.7% of Indian women reported having tokophobia. Participating in the study were 45.4% of pregnant women in rural Karnataka who said they were afraid of giving birth, with common concerns being cesarean sections and labor pains. A global bibliometric analysis indicates that the occurrence of severe fear of childbirth (FOC) has increased, with a recent increase of 14%. An Australian study found that 48% of women reported having a moderate and 26% of women had a high fear of giving birth. A thorough analysis found that the pooled prevalence of tokophobia affects 14% of pregnant women globally. [5]

If this anxiety is not addressed, mothers and infants may suffer detrimental short- and long-term impacts. Research has revealed a high correlation between the anxiety of giving birth and situations such as adolescent pregnancy, nulliparity, primigravida status, and not having a surviving child among Indian women. Tokophobia may be influenced by sociodemographic variables like education and socioeconomic status. Secondary tokophobia, which is more common than primary tokophobia, is brought on by bad obstetric care or traumatic birth experiences. By recognizing and treating tokophobia, the need for unnecessary cesarean

sections brought on by delivery anxiety can be decreased. Implementing well-structured treatment strategies is crucial for mitigating delivery anxiety, especially for multiparous women who may benefit from vaginal delivery with appropriate assistance. In conclusion, studies show that tokophobia is a global issue that impacts expecting moms everywhere. More knowledge, assistance, and specialized interventions are required to address this worry and improve the results for the mother and the fetus. [6]

TYPES OF TOKOPHOBIA

There are two different types of tokophobia

Primary tokophobia: Primary tokophobia, or the fear of having children, can start in childhood or early adulthood. To avoid giving birth, it is advised not to become pregnant. Unfortunately, there are situations where a woman decides to terminate the planned pregnancy rather than give birth because she is afraid of giving birth. Some women will actively look for an obstetrician to perform an elective caesarean section before becoming pregnant for the first time. Some choose to adopt, while others will never have children because they can't get over their fear of becoming parents. Shame is a common emotion among people who feel unworthy of expectations. [7]

Secondary tokophobia: In Secondary tokophobia, fearful mothers are more likely to experience psychological issues and require surgical intervention. Research on reducing anxiety related to childbirth dates back to the 1920s. Both psychoprophylaxis and the advantages of hypnosis were investigated in the 1950s. The psychological effects were not looked at. Sweden conducted important research as well. Pregnant women who insisted on an unplanned cesarean section received counseling or brief psychotherapy from obstetrician and psychotherapist Ryding. Roughly 50% of these women chose to give birth vaginally at the time. Sjogren examined patients who were extremely afraid around the time of delivery. They received additional obstetric care or psychotherapy. Several women chose vaginal delivery as a result. [8] These women's delivery experiences were the same as those of the comparison sample. Women with tokophobia who wanted a surgical delivery but compared to those who received their preferred delivery form, those who were denied had a higher rate of mental morbidity. Unknown is the number of women who seek out elective cesarean sections due to needle phobia. Public release of the National Sentinel



Caesarean Section Audit occurred in October 2001. In England and Wales, cesarean sections accounted for 21.5% of births, with 7% of those requests coming from the mother for non-medical reasons. [9]

CAUSES OF TOKOPHOBIA

Researchers have put forth numerous theories to explain how tokophobia came to be. Several factors contribute to this, such as prior mental health issues like anxiety and depression, fear of insufficient pain management, and hearing from other women about their traumatic childbirth experiences. The fear of childbirth might strike during adolescence or the early stages of adulthood. While having sex is acceptable, delaying pregnancy with various forms of contraception is often done very carefully. Fear of childbirth is the main reason people avoid getting pregnant. Some women in difficulty decide to have abortions, C-sections, or adoptions. [10]

FACTORS LEAD TO TOKOPHOBIA

Numerous factors have been connected to fear of childbirth, such as an anxious personality, poor quality partner relationships, smoking, a history of sexual abuse, a lengthy period of infertility, a history of miscarriages, a traumatic birth, or any traumatic experience receiving medical care, and a lack of social supports. A prominent indicator of severe FOC is the woman's request for or desire for a cesarean section (CD). [11] Research indicates that the following factors increase the risk of developing tokophobia: being young, undereducated, having financial difficulties, living alone, experiencing daily stress, not having social support, having gone through trauma in the past, being easily hurt, having a neurotic personality, having had a cesarean section in the past, having a disease that affects the mother or child, and not knowing enough about reproduction. [12]

TOKOPHOBIA IN ASSOCIATION WITH ANXIETY

Every woman experiences childbirth differently and uniquely, and it can be linked to both positive and negative emotions, including fear, anxiety, and physical side effects. Positive emotions include joy, happiness, and faith. In both clinical practice and research, accounts of traumatic and negative experiences are becoming more prevalent. The French psychiatrist Louis Victor Marcé first described birth anxiety in 1858. [13]

Tokophobia, often called ailurophobia, is the intense fear of becoming pregnant and giving birth that affects women from their early years to their elderly years and can have negative short- and long-term effects on the mother as well as the child. Women who have never given birth can be classified as having primary tokophobia, whereas those who have a history of childbearing can be classified as having secondary tokophobia. In the literature, "severe fear of childbirth" is a more prevalent definition of tokophobia than "an unfounded fear of childbirth." (Fear of Birth: FOB; Fear of Childbirth: FOC). It is imperative to bear in mind, therefore, that anxiety related to childbirth and generalized anxiety are distinct disorders that necessitate distinct strategies. [14]

Tokophobia Severity Scale (TSS)

It is employed to assess the degree of tokophobia in expectant mothers. Thirteen things make up its measurement. The items on the scale exhibit good internal consistency and convergent validity with the Wijma delivery questionnaire. The scale has a unidimensional structure. The total score ranges from 0 to 39, where a greater number indicates a higher sense of terror. [15]

Fear of Childbirth Questionnaire (FCQ)

This survey is intended for expectant mothers. It seeks to ascertain their feelings regarding labor and childbirth. It is an easy-to-use tool designed specifically for expectant mothers, covering both emotional and physical anxieties. (40) Greater scores (possible range 0-45) correspond to more intense sensations of terror. [16]

MATERIALS AND METHODS

It is a prospective cross-sectional observational study on "the tokophobia in pregnant women in a tertiary care teaching hospital" conducted at the Jaipur National University Institute for Medical Sciences and Research Centre Jagatpura, Jaipur, Rajasthan, India. The study was carried out for 6 months and the sample size was 109 patients. The Participant Information Sheet was provided to every participant. This information was provided to explain to the participants about the study and to inform them about the purpose and procedure of the study. The Participant Informed Consent Form was provided to every participant before conducting the study to protect their human rights as it comes under good clinical practice. The study was conducted only when the participant agreed to give their consent at the



beginning of the study. The Institutional Ethical Committee of Jaipur National University Institute of Medical Science and Research Centre, Jaipur has approved for conduction of this study. In this study, we selected a population to collect data for identifying or associating the relationship of level of tokophobia with anxiety, education level, and trimester. This study collected data from the pregnant women present in JNU hospital, of 1st and 2nd trimester. The inclusion criteria include patients who are aged 20-40 years, Pregnant women in 1st and 2nd trimesters, Participants willing to participate in the study, and who have given consent. The exclusion criteria are a participant who had their childbirth, a participant who refused to give their consent to participate, and Participants who were treated with psychiatric diseases earlier. The analysis of the collected data was performed with the help of SPSS v29. In this

study, the descriptive analysis (mean and standard deviation) was performed. A chi-square test was conducted to identify FCQ, TSS for analyzing the level of tokophobia, and GAD-7 to find the relation of anxiety level with tokophobia in pregnant women.

RESULTS

The findings of the present study reveal that the TSS has 13 questions, and a higher score indicates a higher level of fear. The possible range is 0-39. In this, range between 0-13 the no. of patients was seen to be 12 i.e 11%, and in a range between 14-26 no. of patients was seen to be 90 that makes it 82.5% and lastly in the range between 27-39 no. of patients were found to 7 that makes it 6.4% and patients in this range had a more severe level of fear as shown in Figure 1.

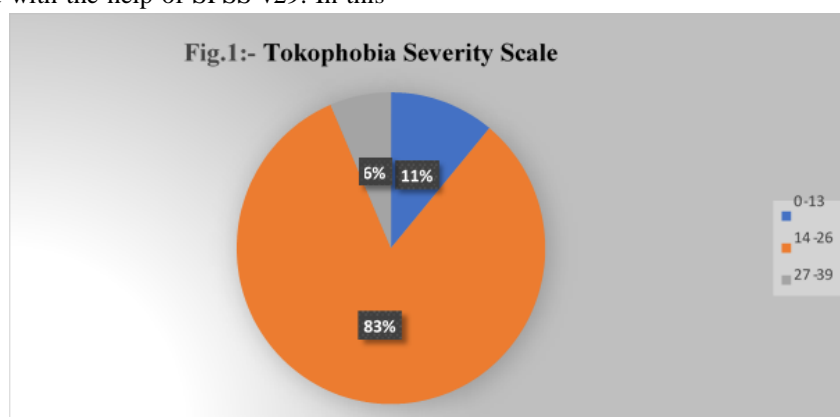


Figure 1. Level of Tokophobia with Tokophobia Severity Scale (TSS)

As per the scoring interpretation of FCQ, 15 questions were present with a possible range between 0-45 and a higher score indicates more severe fear. Here the result shows that in the range 0-15 no. of patients were seen to be 8 i.e. 7.3%. In the range between 16-30 no. of patients

showed up to 94 i.e. 86.2% and lastly, in the range between 31-45 no. of patients were seen to be 7 making 6.4% which means 7 patients had higher levels of fear as shown in Figure 2.

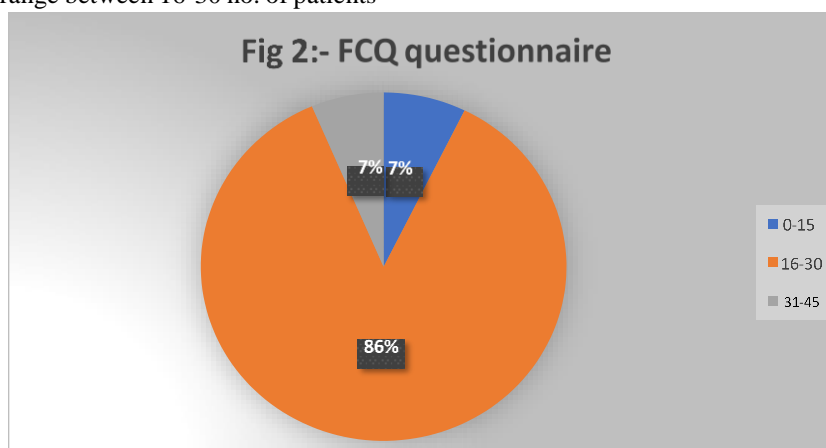


Figure 2. Level of Tokophobia with Fear of Childbirth Questionnaire (FCQ)



The findings of this study reveal that the level of tokophobia depicted here is low, moderate, and high. 10 patients had a low level of tokophobia followed by 92

patients moderate level and 7 patients had a high level as shown in Figure 3.

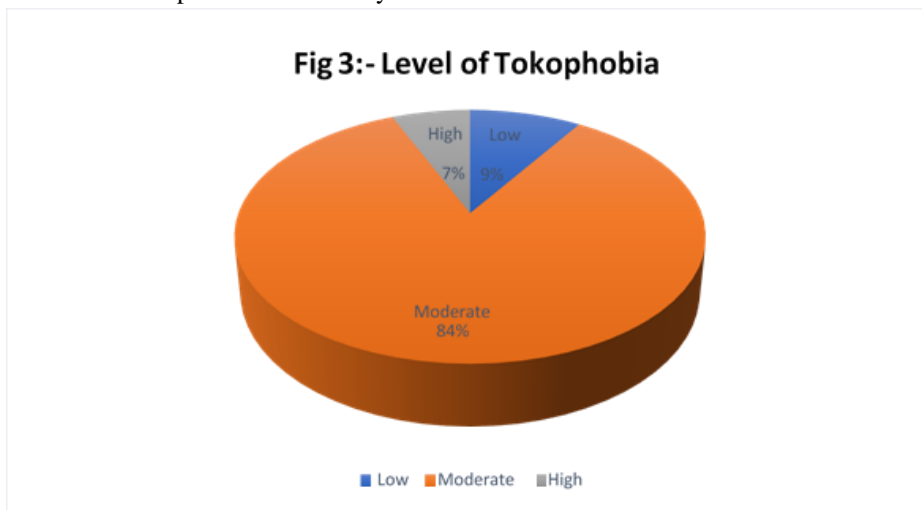


Figure 3. Level of Tokophobia Seen in Patients

The findings reveal that age by inclusion criteria was taken between 20-40 years. So here the age criteria ranged between 20-24 had 61 patients. Age criteria between 25-29,34 patients were seen. Similarly, in age

ranges between 30-34 had 10 patients, and in age ranges between 35-39, 4 patients were seen summing up to a total of 109 patients as shown in Figure 4.

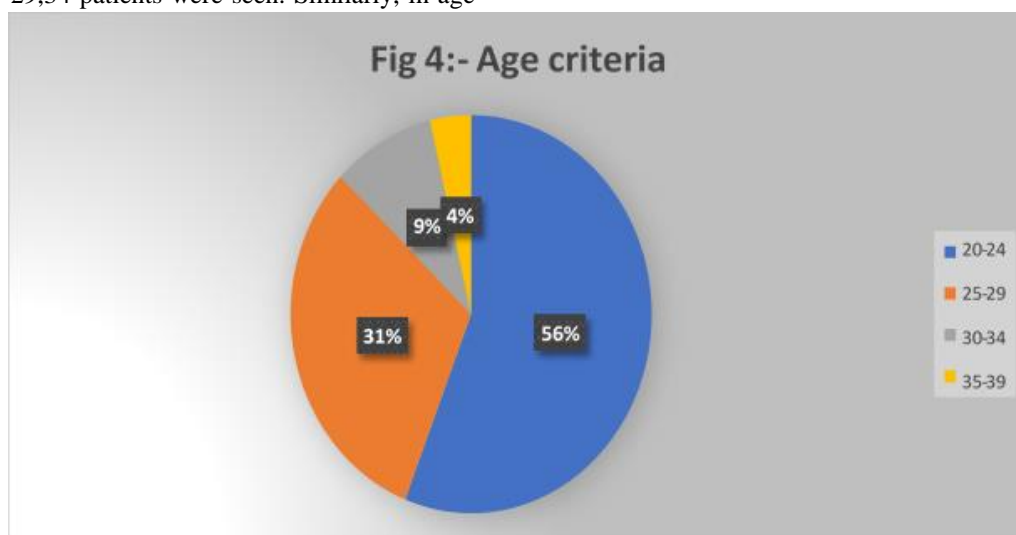


Figure 4. Age Criteria in Patients

In this, the findings reveal that ages ranging between 20-24 patients had low tokophobia levels, 52 of them had moderate levels and 5 had high levels. In groups between 25-29 years, 4 of them had low levels, 29 patients showed moderate levels and 1 patient had high levels. In

age criteria ranged between 30-34, 1 of them had a low tokophobia level,8 had a moderate level and 1 had a high tokophobia level. Lastly, in ages ranging between 35-39, 1 had a low tokophobia level, 3 showed a moderate level, and 0 patients showed a high level as shown in Figure 5.

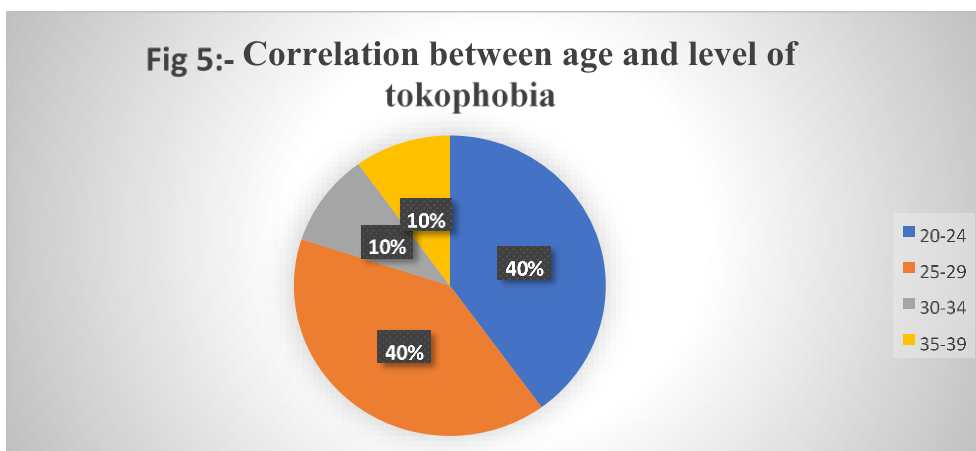


Figure 5. Correlation of age criteria with level of tokophobia

This study shows the correlation of anxiety level with the level of tokophobia, in a minimal level of anxiety 3 patients showed a low level of tokophobia, 11 had moderate and 0 patients showed a high level. Similarly, mild level 5 patients showed a low level, 26 moderate level, and a high level was revealed by 1 patient. In

moderate level of anxiety, 1 patient showed a low level, 41 showed a moderate level, and a high level was shown by no patients. In severe level of anxiety, 1 patient revealed a low level, 14 patients moderate level and 6 patients had a high level of tokophobia as shown in Figure 6.

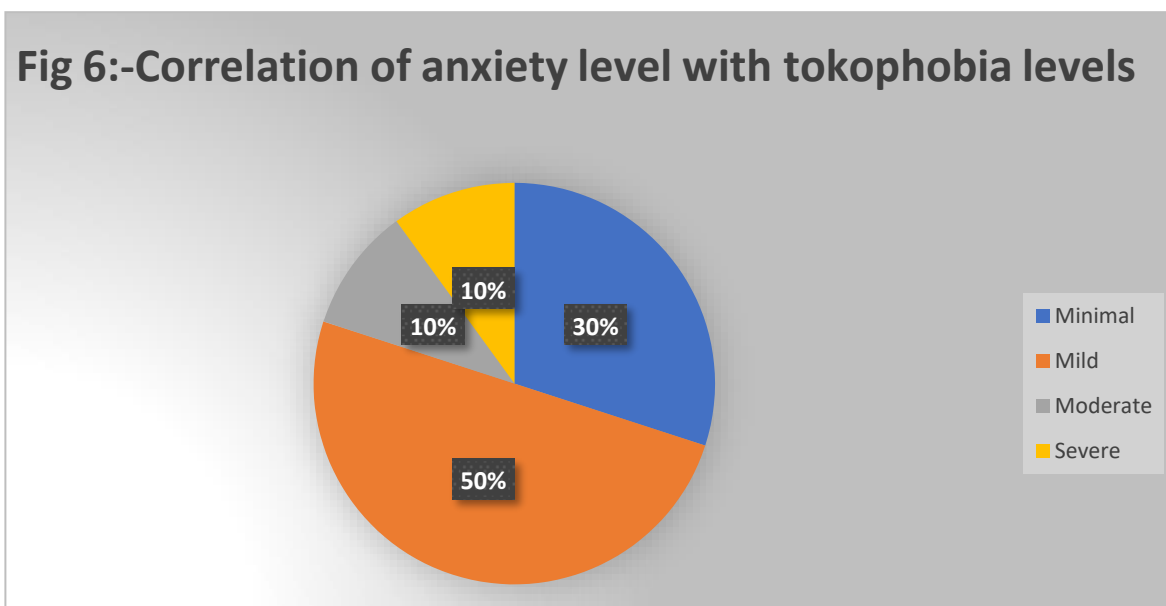


Figure 6. Correlation of Anxiety Level with Level of Tokophobia

This study shows that during the first trimester, 3 expectant women had low levels of tokophobia, 36 had moderate levels and 4 had high levels. Similarly, in the

second trimester, 7 pregnant women had a low level, moderate was seen in 56 women and 3 women had a high level as shown in Figure 7.

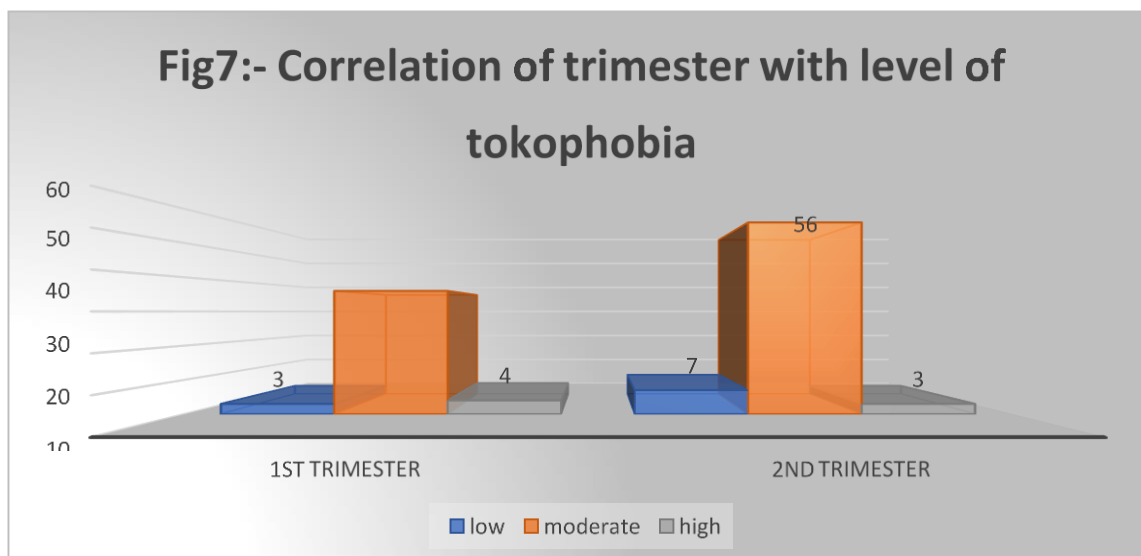


Figure 7. Correlation of Trimester with Level of Tokophobia

The findings of the present study reveal that of the educated patients, 5 of them showed a low level of tokophobia, 37 patients showed a moderate level, and a high level was shown by 2 patients. Similarly, in non-

educated patients, 5 patients revealed a low level of tokophobia, a moderate tokophobia level was shown by 55 patients and 7 patients showed a high level of tokophobia as shown in Figure 8.

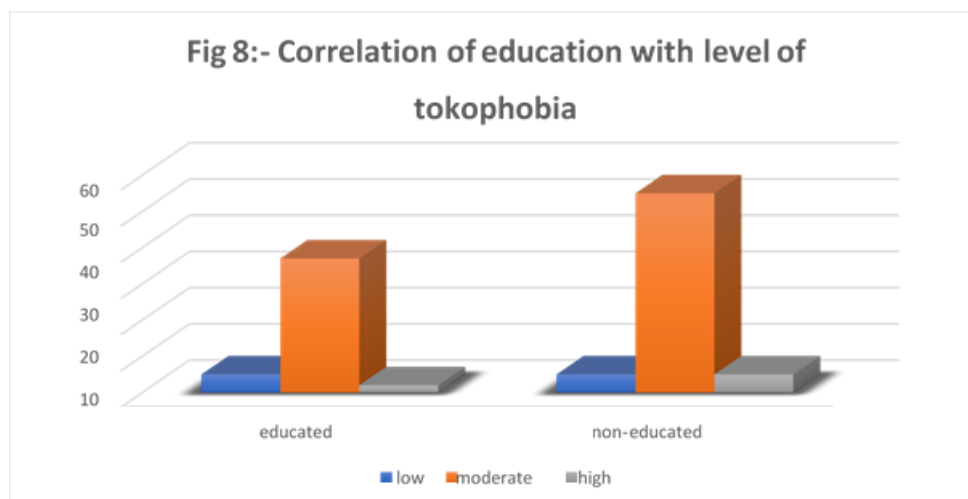


Figure 8. Correlation of Education with the level of tokophobia

The descriptive statistical analysis of the variables i.e., TSS score, anxiety score, and FCQ score was interpreted with the help of SPSS V29.

Table 1. Shows the measure of the dispersion of TSS

Range of TSS	Mean	Std.Deviation
TSS 1 (1-13)	12.58	0.669
TSS 2 (14-26)	16.92	2.584
TSS 3 (27-39)	28.14	1.069
TSS Score	17.21	3.918



Table 1 demonstrated that most expectant women had mild to moderate levels of tokophobia. In this, the mean and standard deviation of the TSS score, FCQ score, and

anxiety score along with each of its ranges were interpreted.

Table 2. Shows the measure of the dispersion of FCQ

Range of FCQ	Mean	Std. Deviation
FCQ 1(1-15)	14.75	0.463
FCQ 2 (16-30)	27.13	2.485
FCQ 3 (31-35)	32.86	1.733
FCQ Score	26.50	4.457

Table 3. Shows the measure of the dispersion of Anxiety Score (GAD-7)

Range of Anxiety score	Mean	Std. Deviation
Anxiety 1 (0-4)	3.71	0.469
Anxiety 2 (5-9)	7.31	1.615
Anxiety 3(10-14)	11.24	1.398
Anxiety 4 (15-21)	16.38	1.359
Anxiety Score	10.30	4.257

The chi-square test evaluation

Chi-square test- When the dependent variable is assessed at a nominal level, group differences can be analyzed using a non-parametric method called the Chi-square statistic. The Chi-square is reliable regarding the data distribution, just like all other statistics. In

particular, uniformity in the data or equality of variances among the research groups isn't required. It enables the examination of several group studies and binary independent variables.

In this study, the chi-square method is used to evaluate and obtain statistical analysis.

Table 4. Shows chi-square test of TSS with its ranges

Range	Pearson chi-square value	df
TSS*TSS1	21.250a	18
TSS*TSS2	320.502a	176
TSS*TSS3	21.000a	18

The chi-square findings for TSS show that the p-value is below 0.05, and the p-values obtained are 0.002, 0.001, and 0.0027 respectively as shown in Table 4. This shows

a significant relation of TSS in the analysis of tokophobia.

Table 5. Shows the chi-square test of FCQ with its ranges

Range	Pearson chi-square value	df
FCQ*FCQ1	8.000a	04



FCQ*FCQ2	134.286a	135
FCQ*FCQ3	19.250a	16

The chi-square findings for FCQ show that the p-value is below 0.05, and the values obtained are 0.003, 0.001,

and 0.002 respectively as shown in Table 5. This shows a significant relation of FCQ in analyzing tokophobia.

Table 6. Shows chi-square test of Anxiety score (GAD-7) with its ranges

Range	Pearson chi-square value	df
Anxiety *Anxiety1	11.550a	9
Anxiety *Anxiety2	62.614a	60
Anxiety *Anxiety3	59.449a	60
Anxiety *Anxiety4	56.583a	48

The chi-square findings for the anxiety score show that the p-value is below 0.05, and the p-values obtained are 0.004, 0.001, and 0.038, 0.002 respectively as shown in Table 6. This shows a significant relation of anxiety(score) in analyzing Tokophobia.

These findings confirm that TSS, FCQ, and Anxiety scores are positively associated with analyzing Tokophobia. This results confirms the Alternative Hypothesis (H1) of this Research.

DISCUSSION

This is the study that measures Tokophobia and it also describes the level of Tokophobia with educational factors, anxiety, and amongst first and second trimesters in the patients of JNU hospital.

Tokophobia levels in expectant women

In this research study, 109 females were enrolled.

The findings of the study revealed that 9% of the patients were suffering from a high level of tokophobia followed by 84% of patients suffering from a moderate level of tokophobia. Lastly, 9% of the patients were suffering from a low level of tokophobia as shown in Figure 3. This finding was supported by Karin Demsar et.al., who that stated 25% of the women had strong tokophobia and 75% had mild to moderate tokophobia which shows the necessity of early detection of tokophobia. [17]

Association between tokophobia in different age groups

According to the inclusion criteria of the study the age was included in between 20 to 40 years. The findings

revealed that the age criteria between 20 to 24 years showed that 3.6% had a low level of tokophobia, whereas 47% had a moderate level and 4.5% had a high level of tokophobia. Similarly, the age range between 25 to 29 years showed that 3.66% had a low tokophobia level, 26% had a moderate level and among 30 to 34 years revealed that 0.9% had a low level, 7.33% had a moderate level and 3.66% had a high level of tokophobia. Lastly, the age group of 35 to 39 years showed a 0.9% low level, 2.7% had a moderate level of tokophobia whereas 0% of patients showed a high level of tokophobia. This study is supported by Urszula Sioma-Maekowska. et.al, mild to moderate levels of tokophobia was seen in women aged between 20-25. [18]

Association of education with the level of tokophobia

The findings showed that among educated women, 4.5% had a low level, 34% had a moderate level and 1.8% had a high level of tokophobia. Similarly, amongst non-educated women 4.5% had a low level, 50% had a moderate level and 6.4% had a high level of tokophobia. The study showed relevance with Sjogren B et.al., which showed that 79.3% of women were uneducated some had intermediate education 17.3% of women were graduates and 3.3% were postgraduate Sociodemographic variables like education and socioeconomic status could reduce tokophobia level. [19]

Association of tokophobia with the level of anxiety



Out of 109 patients in this study, 30% of the population had a minimal level of tokophobia, 50% of the women suffered from a mild range of anxiety and 10% of the women suffered from moderate and severe levels of anxiety. The result was supported by Cerina Lee et.al., who took a sample of 37,303 patients 30.5% had no anxiety, 23.8% had a mild level of anxiety, 20% had moderate anxiety and 25% had a severe level. The findings interpreted that anxiety was seen in pregnant women with tokophobia. The chi-square findings revealed that the p-value was below 0.05 which determines a positive relationship between anxiety with tokophobia. [20]

Association of level of tokophobia with trimester

The findings stated that the women in the first trimester had 27% of low tokophobia 33% had a moderate level and 3.6% had a high level. Similarly, in the second trimester, 6.4% of the women had a low level 51.3% had a moderate level and 2.7% had a high level of tokophobia. The result was supported by Maeve A. O'Connell et al., who stated that 12% of the women were in their first trimester similarly 14% of the prevalence in the second trimester. [21]

The chi-square finding of the present study showed that TSS and FCQ had a p-value less than 0.05 and showed a significant relation in analyzing the level of tokophobia.

CONCLUSION

This study analyses that the majority of the population affected by Tokophobia was between mild to moderate levels. Previous studies had also shown that the majority of women had mild to moderate levels of tokophobia. It is a point of concern that young age women are getting more affected by tokophobia due to their lack of knowledge about it and they fear to share about it. In this study, it is confirmed that Tokophobia is associated with anxiety, education, and trimester of pregnancy.

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