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Expert Opinion Article

A Study Assessing Anxiety Levels Among Pregnant Women Using Pregnancy – Specific Anxiety Tool (PSAT)

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ABSTRACT

Context/Background: Anxiety during pregnancy is a significant concern as it impacts both maternal well-being and fetal development. Pregnancy-specific anxiety (PSA) addresses unique stressors like concerns about fetal health, labor, postpartum adjustments, and financial stability, which are often not adequately measured by traditional tools.

Aims/Objectives: The study aims to evaluate PSA levels among pregnant women using the Pregnancy-Specific Anxiety Tool (PSAT) and analyze variations across different demographic and obstetric factors.

Methodology: This observational cross-sectional study, conducted over three months at Sree Balaji Medical College, Chennai, included 170 pregnant women selected through random sampling. Data on demographic, obstetric, and lifestyle variables were collected, and PSA levels were assessed using PSAT. Statistical methods were employed to identify significant patterns and correlations.

Results: The analysis revealed that primigravida women experienced significantly higher PSA levels compared to multigravida women, particularly in areas like fetal health, labor, postpartum concerns, financial stability, and support systems.

Conclusions: Primigravida women show elevated PSA levels, emphasizing the need for tailored prenatal care interventions. The PSAT is an effective tool for assessing and addressing PSA in expectant mothers.

Keywords: Pregnancy-specific anxiety, PSAT, primigravida, multigravida, maternal health, prenatal care.

Main Article

Introduction

Anxiety during pregnancy is of prime concern as it can affect the development of the fetus. Anxiety throughout the prenatal period is connected with preterm, intrauterine embryo growth restriction, poor neurobehavioural development (1). Also maternal anxiety has impact on birth weight (2, 3, 4). One study in mothers with anxiety disorders showed impaired auditory sensory gating in untreated mothers (5). The anxiety accompanies the augmented feeling of sickness and vomiting.

The occurrence of pregnancy-specific anxiety has been proposed as a distinct syndrome and a number of studies have investigated about this(6,7). This emerging construct refers to a particular anxiety response related to current pregnancy, which can include fears and worries around labour and delivery, the health of the baby and expected changes in a woman's role. Studies indicate that pregnancy-specific anxiety may be a stronger predictor of negative child outcomes than general antenatal anxiety.

Pregnancy-specific anxiety (8) is defined as mental state of a pregnant woman whose concerns are specific to pregnancy, such as fears regarding the pregnancy, delivery, and health of the child(9).

Traditional anxiety assessment tools, designed for the general population, may not fully capture the unique stressors experienced by pregnant women. These conventional tools often overlook pregnancy-specific concerns such as fears about labor, fetal health, and significant lifestyle changes (10). To address this gap, pregnancy-specific anxiety tools have been developed to provide a more nuanced understanding of the anxiety experienced by expectant mothers. Tools like the Pregnancy Anxiety Scale (PAS) and the State-Trait Anxiety Inventory for Pregnancy (STAI-P) are tailored to assess the specific fears and anxieties related to pregnancy, offering a more accurate measurement of anxiety levels during this critical period (11).

PSAT is a patient reported outcomes measure to assess pregnancy-specific anxiety (PSA), a common mental health issue during pregnancy.

With 33 items and six factors including “health and well-being of the baby”, “labor and the pregnant person's well-being”, “postpartum”, “support”, “career and finance”, and “severity”, PSAT is a useful tool for assessment of multi-dimensional construct of pregnancy-specific anxiety. The evidence shows that PSA is an independent risk factor for various adverse maternal and child outcomes. PSAT has been validated against adjustment/anxiety disorders. The clinical cut-off score of PSAT is 10 and a score above 10 signifies that further evaluation should be considered. PSAT can be used anytime during pregnancy.

The current study was conducted to assess anxiety in pregnant mothers. In addition, we investigated the possible associated factors with anxiety, for instance, socioeconomic data, demographical data, obstetric history, and daily habits, and finally, compare the anxiety levels among prenatal women

OBJECTIVES

To measure the levels of anxiety among pregnant women using Pregnancy Specific Anxiety Tool (PSAT) To investigate how anxiety levels vary across different demographic groups and to assess the impact of these variables on anxiety levels.

Review of literature

In study of Hou et al (13) 1491 pregnant women were included. The Pregnancy Stress Rating Scale (PSRS) and Self-Rating Anxiety Scale (SAS) were being used to assess prenatal stress and anxiety, respectively. Hours of phone use per day was positively correlated to prenatal stress and anxiety and increased with stress and anxiety levels (all P trend < 0.05). Not having baby at home was positively correlated to prenatal stress. Self-reported sleep quality was negative in term with prenatal stress and anxiety and it decreased with stress and anxiety levels (all P trend < 0.01). Not frequent cooking was in negative correlation to prenatal stress and having pets was in negative correlation to prenatal anxiety (P < 0.05). Pets were not correlated to prenatal stress (P > 0.05). Results show adverse lifestyles increase the risk of antenatal stress and anxiety a regular routine and a variety of enjoyable activities decreases the risk of prenatal stress and anxiety.

Maria Gilles et al (14) study showed that maternal prenatal distress during late gestation was associated with a significant reduction in birth weight (p = .005), birth length (p = .005) and head circumference (p = .001). Prenatal stress was associated with altered diurnal cortisol pattern and was significantly related to reduced length of gestation. There was no evidence for a profound interaction between maternal cortisol level in late pregnancy and infant's anthropometric measures at birth.

In study of N. Dole et al (15) which was a prospective cohort study of 1,962 pregnant women with 12% delivered preterm. There was an increased risk of preterm birth among women with high counts of pregnancy-related anxiety (risk ratio (RR) = 2.1, 95% confidence interval (CI): 1.5, 3.0), with life events to which the respondent assigned a negative impact weight (RR = 1.8, 95% CI: 1.2, 2.7), and with a perception of racial discrimination (RR = 1.4, 95% CI: 1.0, 2.0). the different levels of social support or depression was not associated with preterm birth. Preterm birth initiated by labor or ruptured membranes were associated with pregnancy-related anxiety among women assigning a high level of negative impact weights (RR = 3.0, 95% CI: 1.7, 5.3).The association between high levels of pregnancy-related anxiety and preterm birth was reduced when restricted to women without medical comorbidities but the association was not eliminated.

Ae-Ngibise et al (16) high prenatal maternal stress was associated with reduced birth length (β = − 0.91, p = 0.04; p-value for trend = 0.04). Among girls, moderate and high prenatal maternal stress were associated with reduced birth weight (β = − 0.16, p = 0.02; β = − 0.18, p = 0.04 respectively; p-value for trend = 0.04) and head circumference (β = − 0.66, p = 0.05; β = − 1.02, p = 0.01 respectively; p-value for trend = 0.01). In girls high prenatal stress increased odds of any adverse birth outcome (OR 2.41, 95% CI 1.01-5.75; p for interaction = 0.04). Sex-specific analyses did not demonstrate significant effects in boys.

Eva M et al (17) study of 5 clusters of women with distinct patterns of psychosocial stress was objectively identified. Babies born from women in cluster characterized as 'high depression and high anxiety, moderate job strain (12%) had a lower birth weight, and in the 'high depression and high anxiety, not employed cluster (15%) had an increased risk of pre-term birth

METHODOLOGY

INCLUSION CRITERIA

Participants must be currently pregnant, regardless of gestational age

Age ≥ 18 years

EXCLUSION CRITERIA

Participants not currently pregnant Severe pre-existing anxiety or psychiatry disorders

STUDY DESIGN

observational cross sectional study.

STUDY PLACE

The study will be carried out in the Department of Obstetrics and Gynaecology of Sree Balaji Medical College and Hospital, Chennai, India

DURATION OF STUDY

3 months - October 2024 to December 2024

Budget & Details of Funding Agency If Any: Self-funding8

SAMPLE SIZE CALCULATION

Prevalence (P): 26.3%

Desired Precision (d): To be adjusted to meet the sample size constraint 7% **Confidence Level (Z-value)**: 1.96 (for 95% confidence level)

Substituting Dobson's formula we get

Sample size : Dobson's formula for sample size calculation is: $N= Z^2 P \times (1-P)/D^2$

Where: N = required sample size; Z = Z-score corresponding to the desired confidence level (e.g., for 95% confidence level, Z≈1.96Z \ approx. 1.96Z≈1.96); P= estimated proportion or prevalence of the outcome in the population (if unknown, typically set at 0.5 for maximum variability) • D = desired margin of error (precision) 7% n= 1.96*1.96*(26.3*73.7)/7*7 = 152 n = 152 +10% non responsive rate we get n = 167 rounding to 170 n = 170 patients fulling the inclusion and exclusion criteria (12).

Material and methods

The cross sectional study will be conducted at Department of Obstetrics and Gynaecology, Sree Balaji Medical College between October 2024 and December 2024. Simple random sampling method will be employed. Pregnant women visiting the Department of Obstetrics and Gynaecology OPD including healthcare facilities, community centers, and prenatal clinics fulfilling the inclusion and exclusion criteria will be selected as participants of study. Upon meeting the criteria, participants will be provided with detailed information about the study and its objectives. Those who agree to participate will be asked to provide written informed consent, acknowledging their understanding of the study procedures and their right to withdraw at any time.

Once consent is obtained, participants will complete a set of pregnancy-specific anxiety tools . This will be conducted either in-person during routine prenatal visits or online via a secure survey platform, depending on the participants' preferences and accessibility.

Data Collection : Data will be collected through standardized questionnaires and surveys, which will be administered at multiple time points if the study design includes longitudinal assessments. Each participant's responses will be recorded and stored securely to ensure confidentiality. Data collection will involve measuring anxiety levels using validated tools, demographic information. All data will be entered into a secure database for subsequent analysis.

Analysis and Follow-Up: After data collection, the anxiety scores and demographic information will be statistically analyzed the effectiveness of the pregnancy-specific tools in identifying the anxiety levels, the patterns, correlations, and variations in anxiety across different groups. Participants who show elevated anxiety levels will be referred for appropriate support services or interventions.

RESULTS

The study revealed that primigravida women reported significantly higher levels of pregnancy-specific anxiety (PSA) compared to multigravida women across all evaluated domains, including concerns related to the baby's health, labor, postpartum recovery, financial stability, and available support. Analysis indicated that being a first-time mother, younger age, and limited pregnancy experience were key factors contributing to elevated anxiety levels. Primigravida participants showed particularly high scores in areas such as severity of concerns, the baby's well-being, and postpartum challenges. These results highlight the need to address specific anxiety triggers in prenatal care to enhance both maternal and neonatal health outcomes.

Table 1:Distribution of Age

Age	Frequency	Percent	Valid Percent	Cumulative Percent
18-25	70	41.2	41.2	41.2
26-35	60	35.3	35.3	76.5
>35	40	23.5	23.5	100
Total	170	100	100	

The table.1, reveals that the majority of the population is under 35 years of age, with **41.2%** in the 18-25 age group and **35.3%** in the 26-35 age group. Combined, these two groups account for **76.5%** of the total population. The over-35 age group constitutes the smallest segment, representing **23.5%**.

Table 2:_Distribution of Religion

Religion	Frequency	Percent	Valid Percent	Cumulative Percent
Hindu	78	45.9	45.9	45.9
Islam	25	14.7	14.7	60.6
Christian	60	35.3	35.3	95.9
Others	7	4.1	4.1	100
Total	170	100	100	

The table.2, shows that the majority of the population is Hindu, comprising **45.9%**, followed by Christians at **35.3%** and Muslims at **14.7%**. A small proportion, **4.1%**, belongs to other religions. Together, Hindus, Christians, and Muslims account for **95.9%** of the total population.

Table 3:Distribution of Education

Education	Frequency	Percent	Valid Percent	Cumulative Percent
Primary	32	18.8	18.8	18.8
High School	32	18.8	18.8	37.6
Higher Secondary	43	25.3	25.3	62.9
Graduate	50	29.4	29.4	92.4
Others	13	7.6	7.6	100
Total	170	100	100	

The table.3, highlights the educational levels of the population. The majority are graduates, making up **29.4%**, followed by those with higher secondary education at **25.3%**. High school and primary education each account for **18.8%**, while **7.6%** fall under the "Others" category. Together, graduates and those with higher secondary education represent the largest segment, comprising **54.7%** of the population.

Table 4: Distribution of Occupation

Occupation	Frequency	Percent	Valid Percent	Cumulative Percent
Business	33	19.4	19.4	19.4
Governement	47	27.6	27.6	47.1
Private	56	32.9	32.9	80
Others	34	20	20	100
Total	170	100	100	

The table.4, illustrates the distribution of occupations among the population. The largest group works in the private sector, accounting for **32.9%**, followed by government employees at **27.6%**. Business professionals make up **19.4%**, while **20%** fall into the "Others" category.

Table 5: Distribution of Residence

Residence	Frequency	Percent	Valid Percent	Cumulative Percent
Urban	117	68.8	68.8	68.8
Rural	53	31.2	31.2	100
Total	170	100	100	

The table.5, shows the distribution of the population by residence. The majority, **68.8%**, reside in urban areas, while **31.2%** live in rural areas. This indicates that the population is predominantly urban, with nearly two-thirds residing in urban regions.

Table 6: Distribution of Income

Income	Frequency	Percent	Valid Percent	Cumulative Percent
<25000	72	42.4	42.4	42.4
25000-50000	46	27.1	27.1	69.4
>=50000	52	30.6	30.6	100
Total	170	100	100	

The table.6, presents the income distribution of the population. The largest group, **42.4%**, earns less than ₹25,000, followed by **30.6%** earning ₹50,000 or more, and **27.1%** in the ₹25,000–₹50,000 range. This indicates that the majority, **69.4%**, have incomes below ₹50,000, with a smaller proportion earning higher incomes.

Table 7: Distribution of Type of Family

Type of family	Frequency	Percent	Valid Percent	Cumulative Percent
Nuclear	80	47.1	47.1	47.1
Joint	62	36.5	36.5	83.5
Extended	28	16.5	16.5	100
Total	170	100	100	

The table.7, shows the distribution of family types within the population. The majority, **47.1%**, belong to nuclear families, followed by **36.5%** in joint families, and **16.5%** in extended families. This indicates that nuclear families make up the largest segment, with nearly half of the population living in this family structure.

Table 8: Distribution of Pregnancy

Pregnancy	Frequency	Percent	Valid Percent	Cumulative Percent
Unplanned	73	42.9	42.9	42.9
Planned	97	57.1	57.1	100
Total	170	100	100	

The table.8, shows the distribution of pregnancy types among the population. **57.1%** of pregnancies were planned, while **42.9%** were unplanned. This indicates that the majority of pregnancies were planned, with planned pregnancies comprising more than half of the total.

Table 9: Distribution of Mode of Delivery

Mode of Delivery	Frequency	Percent	Valid Percent	Cumulative Percent
Vaginal	85	50	50	50
C Section	62	36.5	36.5	86.5
Instrumental	23	13.5	13.5	100
Total	170	100	100	

The table.9, presents the distribution of modes of delivery among the population. **50%** of deliveries were vaginal, followed by **36.5%** through C-section, and **13.5%** were instrumental deliveries. This indicates that vaginal delivery is the most common, with more than half of the deliveries occurring this way.

Table 10: Distribution of Support

Support	Frequency	Percent	Valid Percent	Cumulative Percent
Health	40	23.5	23.5	23.5
Family	60	35.3	35.3	58.8
Relatives	40	23.5	23.5	82.4
Others	30	17.6	17.6	100
Total	170	100	100	

The table.10, shows the distribution of support sources among the population. The largest group, **35.3%**, receives support from family, followed by **23.5%** each from health professionals and relatives. **17.6%** receive support from other sources. This indicates that family support is the most common, while health and relatives provide equal support to a similar proportion of individuals.

Table 11: Distribution of Previous information

Previous Information	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	60	35.3	35.3	35.3
No	110	64.7	64.7	100
Total	170	100	100	

The table.11, shows the distribution of individuals based on whether they had previous information. **64.7%** of the population reported having no previous information, while **35.3%** had prior knowledge. This indicates that the majority of individuals did not have previous information.

Table 12: Distribution of conception

Conception	Frequency	Percent	Valid Percent	Cumulative Percent
Spontaneous	120	70.6	70.6	70.6
Infertility	50	29.4	29.4	100
Total	170	100	100	

The table.12, shows the distribution of conception types among the population. The majority, **70.6%**, conceived spontaneously, while **29.4%** experienced infertility. This indicates that spontaneous conception is far more common in this population compared to infertility cases.

Table 13: Distribution of duration

Duration	Frequency	Percent	Valid Percent	Cumulative Percent
<=5	80	47.1	47.1	47.1
6-10	72	42.4	42.4	89.4
>=11	18	10.6	10.6	100
Total	170	100	100	

The table.13, shows the distribution of duration categories. **47.1%** of individuals fall into the **<=5** category, followed by **42.4%** in the **6-10** range, and **10.6%** in the **>=11** category. This indicates that the majority of individuals have a duration of **5 years or less** and **6-10 years**, with only a small proportion having a duration of 11 years or more.

Table 14: Distribution of Trimester

Trimester	Frequency	Percent	Valid Percent	Cumulative Percent
<=3	54	31.8	31.8	31.8
4-5	59	34.7	34.7	66.5
>=7	57	33.5	33.5	100
Total	170	100	100	

The table.14, shows the distribution of individuals across different trimesters. The majority, **34.7%**, are in the **4-5** trimester, followed by **33.5%** in the **>=7** trimester, and **31.8%** in the **<=3** trimester. This indicates a fairly even distribution, with the highest proportion of individuals in the **4-5** trimester.

Table 15: Distribution of Chronic Disorder

Chronic Disorder	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	39	22.9	22.9	22.9
No	131	77.1	77.1	100
Total	170	100	100	

The table.15, shows the distribution of individuals with chronic disorders. **22.9%** of the population reported having a chronic disorder, while **77.1%** do not. This indicates that the majority of individuals in the population do not have chronic disorders.

Table 16: Distribution of Complication

Complication	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	44	25.9	25.9	25.9
No	126	74.1	74.1	100
Total	170	100	100	

The table.16, shows the distribution of individuals with complications. **25.9%** of the population experienced complications, while **74.1%** did not. This indicates that the majority of individuals did not face complications.

Table 17: Distribution of Source

Source	Frequency	Percent	Valid Percent	Cumulative Percent
Mass Media	23	13.5	13.5	13.5
Health	43	25.3	25.3	38.8
Elders	29	17.1	17.1	55.9
Friend	32	18.8	18.8	74.7
Newspaper	6	3.5	3.5	78.2
Others	14	8.2	8.2	86.5
No	23	13.5	13.5	100
Total	170	100	100	

The table.17, shows the distribution of sources from which individuals obtain information. The most common source is health professionals, accounting for **25.3%**, followed by friends at **18.8%** and elders at **17.1%**. Mass media and individuals with no source each account for **13.5%**, while newspapers contribute the least at **3.5%**. This highlights health professionals as the primary source of information.

Table 18: Distribution of Prenatal

Prenatal	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	83	48.8	48.8	48.8
No	87	51.2	51.2	100
Total	170	100	100	

The table,18. shows the distribution of individuals receiving prenatal care. **48.8%** reported receiving prenatal care, while **51.2%** did not. This indicates that slightly more than half of the population did not receive prenatal care.

Table 19: Distribution of Pre-counselling

Pre-counselling	Frequency	Percent	Valid Percent	Cumulative Percent
General Care	42	24.7	24.7	24.7
Dietary	16	9.4	9.4	34.1
Exhaust	18	10.6	10.6	44.7
Family	18	10.6	10.6	55.3
Genetic	14	8.2	8.2	63.5
Childbirth	25	14.7	14.7	78.2
HIV	17	10	10	88.2
Mental	13	7.6	7.6	95.9
Others	7	4.1	4.1	100
Total	170	100	100	

The table.19, outlines the distribution of pre-counselling topics. **24.7%** of individuals received counselling on general care, making it the most common topic, followed by **14.7%** on childbirth and **10.6%** each on exhaustion and family support. The least addressed topics include **mental health (7.6%)** and other areas (4.1%).

Table 20: Distribution of Gravida

Gravida	Frequency	Percent	Valid Percent	Cumulative Percent
Primigravida	85	50	50	50
Multigravida	85	50	50	100
Total	170	100	100	

The table.20, shows an equal distribution between primigravida and multigravida individuals, with both categories accounting for **50%** of the population.

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Table 21:

	Primigravida		Multigravida		p value
Factors	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**	
Factor 1: Severity	3.24	0.11	2.08	0.24	<0.001
Factor 2: Health and Well-being of the Baby	2.81	0.68	2.1	0.59	<0.001
Factor 3: Labor and Pregnant Person's Well-being	2.81	0.53	1.93	0.54	<0.001
Factor 4: Postpartum	3.49	0.31	2.02	0.33	<0.001
Factor 5: Career and Finance	2.86	0.25	2.56	0.6	<0.001
Factor 6: Support	3.04	0.39	2.19	0.43	<0.001

The table.21, presents the analysis of various factors contributing to the PSAT score, comparing primigravida and multigravida individuals. Across all factors, primigravida individuals consistently have higher mean scores than multigravida individuals, indicating greater severity of concerns or experiences. The differences between the groups are statistically significant, as reflected by **$p < 0.001$** for all factors.

Factor 1 (Severity) shows the highest disparity, with primigravida scoring **3.24 ± 0.11** compared to **2.08 ± 0.24** for multigravida.**Factor 4 (Postpartum)** has the highest mean score for primigravida (**3.49 ± 0.31**), indicating heightened concerns in this area.Multigravida individuals show slightly closer scores in **Factor 5 (Career and Finance)** (**2.56 ± 0.6**) compared to primigravida (**2.86 ± 0.25**).

These findings suggest that primigravida individuals experience more pronounced concerns across all factors compared to multigravida individuals.

Table 22:

Variable	Primigravida		Multigravida		p value
	Mean	Standard Deviation	Mean	Standard Deviation	
PSAT Score	18.25	0.89	12.87	1.24	<0.001

The table.22, compares the PSAT scores between primigravida and multigravida individuals. Primigravida individuals have a significantly higher mean score (**18.25 ± 0.89**) compared to multigravida individuals (**12.87 ± 1.24**). The difference is statistically significant, as indicated by **p < 0.001**. This suggests that primigravida individuals experience higher overall concerns or stress levels as measured by the PSAT score compared to multigravida individuals.

Discussion

In study of Ae-Ngibise et al (16) pregnant women were having median age 28 years. In study of eva m et al the mean age was 30.8 years. In this study the majority were in age group of under 35 years (41.2%). This study showed a similar age group in comparison to other 2 studies.

In study of Eva M et al(17) the mean years of education after primary school was 8.7 years. In this study the majority are graduates with 29.4%.

In study of Hou et al (13) of 1491 pregnant women were included. Not having baby at home was positively correlated to prenatal stress and gravidity history had significant statistical difference in sub-stress level groups. Self-reported sleep quality was negative in term with prenatal stress and anxiety and it decreased with stress and anxiety levels (all *P* trend < 0.01).In our study primigravida show higher score than multigravida in all factors assessed namely severity, health well being of baby, labour and pregnant people well being, post partum, career and finanace, support. These maybe due to regional variations in the study population.

In study of N.Dole (15) , a prospective cohort study of 1,962 pregnant women. Different levels of social support or depression were not associated with preterm birth. In our study primigravida have higher score compared to multigravida for factor support. The differences maybe due to regional variations. Also this study was used PSAT tool for assessing various factors whereas the other study was assessing social support or depression with preterm birth.In study of Ae-Ngibise et all Pregnant women most commonly reported stress in financial [*N* = 286 (81%)], relationship [*N* = 236 (67%)], and home issue [*N* = 247 (70%)] domains.

In study of Eva M et al the Women in cluster 5 seem more anxious about their pregnancy as they frequently reported concerns about their appearance and about giving birth. They scored low on depressive symptoms and on state anxiety. Most women in cluster 1 (low depression and low anxiety, moderate job strain) are of Dutch origin, highly educated, live with their partner, do not smoke and do not drink alcohol. Furthermore, for most of them, it was their first pregnancy. The ethnic background of women in cluster 2 (high depression and high anxiety, not employed) is more diverse, almost 10% of them are obese and the rate of unemployment is high. All women in cluster 3 (high depression and high anxiety, moderate job strain) reported to have a job and 24% of them reported high levels of job strain. Women in cluster 4 (low depression and anxiety, not employed) are relatively young and for 59% of them this is not their first pregnancy. Comparable with cluster 2 (high depression and high anxiety, not employed), cluster 4 (low depression and low anxiety, not working) includes women from various ethnic backgrounds; however, only 1% of these women reported to have a job. Women in cluster 5 (low depression and low anxiety, high pregnancy anxieties) are relatively old and highly educated.In our study primigravida had higher score compared to multigravida for the following factors assessed namely severity, health and well being of baby, post partum, career and finance.

In study of Nath A et al (18)with 380 pregnant women showed no significant association between anxiety and obstetric variables namely gravid, parity, abortion, pregnancy unplanned and history of medical complications.In our study primigravida had higher score compared to multigravida for the following factors assessed namely severity, health and well being of baby, post partum, career and finance.

In study of Alqahtani AH et al(19) of 575 pregnant women Antenatal depression and anxiety was not associated with gestational age, maternal age, number of pregnancies, living arrangement, family income, housing type, nationality, or presence of

medical problems. Previous miscarriages increased the odds ratio of depression (*p*-value 0.00001). Non-employed women were more likely to have depression (*p*-value 0.03) and unplanned pregnancy (*p*-value 0.00001) and thought that the pregnancy would negatively impact their life and work (*p*-value 0.0002). In our study primigravida show higher score than multigravida in all factors assessed namely severity, health well being of baby, labour and pregnant people well being, post partum, career and finanace, support. These maybe due to regional variations in the study population.

In study of Silva MMJ et al (20)of 209 pregnant women Occupation (p=0.04), complications in previous pregnancies (p=0.00), history of miscarriage risk of preterm birth (p=0.05), maternal desire regarding the pregnancy (p=0.01), number of abortions (p=0.02), number of cigarettes smoked daily (p=0.00) and drug use (p=0.01) were statistically associated with the occurrence of anxiety during pregnancy. In our study career and finance factor scored higher among primigravida than multigravida.

In study of Madhavanprabhakaran GK et al (21) of 500 low risk pregnant women Nulliparous pregnant women reported higher levels of PSA than parous pregnant women (M = 134.40, M = 116.8). This was similar to our study.

Strengths and limitations

The study's primary strength lies in its use of the Pregnancy-Specific Anxiety Tool (PSAT), a validated instrument uniquely designed to assess anxiety specific to pregnancy, ensuring targeted and relevant findings. By exploring multiple dimensions of anxiety, including concerns about fetal health, labor, postpartum challenges, financial security, and support systems, the study offers a comprehensive understanding of pregnancy-related stressors. With a diverse sample of 170 pregnant women from different demographic and obstetric backgrounds, the study effectively identifies variations in anxiety levels between primigravida and multigravida women. The application of rigorous statistical methods strengthens the reliability of the results, while its practical insights provide valuable guidance for prenatal care improvements.

Nonetheless, the study has certain limitations. Conducted within a single hospital in Chennai, its findings may not be representative of other geographic regions or broader populations. The cross-sectional design captures a single time point, preventing the analysis of anxiety trends or causative relationships. Additionally, the reliance on self-reported data may introduce inaccuracies due to underreporting or overreporting of anxiety symptoms. By excluding participants with severe pre-existing psychiatric conditions, the study may have underestimated the prevalence of anxiety. Lastly, while the sample size was adequate for initial conclusions, a larger, multi-location study would enhance the generalizability and robustness of the results.

Conclusion

This study demonstrates that pregnancy-specific anxiety (PSA) is significantly higher among primigravida women compared to multigravida women, with notable differences across all domains, including concerns related to fetal health, labor, postpartum challenges, financial security, and support networks. These findings emphasize the importance of implementing targeted strategies to manage anxiety during pregnancy, especially for first-time mothers, as elevated anxiety can negatively affect both maternal and neonatal well-being. The Pregnancy-Specific Anxiety Tool (PSAT) was shown to be a valuable and effective instrument for assessing PSA, providing critical insights into the unique stressors faced during pregnancy. While the study offers meaningful contributions, future research involving larger and more diverse populations is necessary to confirm these results and broaden their applicability. Integrating routine PSA assessments into prenatal care practices could play a vital role in enhancing maternal mental health and improving pregnancy outcomes

Conflict of interest

The authors confirm that there are no conflicts of interest associated with this study. The research was conducted independently, without any financial, personal, or professional influences that could compromise the integrity of the results. The study was entirely self-funded, and the findings reflect an unbiased analysis and interpretation of the data.

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Authors' Contributions -

Sunitha V was primarily responsible for leading the research, including study conceptualization, designing the methodology, data collection, analysis, and drafting the manuscript. Minthami Sharon P, Jasmine Kavitha Washington, and Sindhu R.S.S supported the research by assisting with data collection, providing input throughout the process, and reviewing the manuscript for improvements. All authors have reviewed and approved the final version of the manuscript and accept accountability for the integrity of the research.

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