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"A HOSPITAL BASED CROSS-SECTIONAL OBSERVATIONAL STUDY TO ASSESS THE LEVEL OF STRESS DURING ANTENATAL PERIOD AMONG PRIMI-GRAVIDA PREGNANT WOMEN"

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Abstract

Introduction: Pregnancy is a special time for a woman and her family. It is a time of many changes in a pregnant woman's body and emotions. Pregnancy stress can have major negative effects on the mother, the fetus, and the newborn. Stress reacts physically, mentally and emotionally to the various conditions. The purpose of the present study was to investigate stress in antenatal primigravida women and its association with selected factors among antenatal women.

Method: A hospital based cross sectional descriptive study was conducted to assess the stress and among 60 antenatal women of all age groups using the perceived stress scale (PSS). Association of Selected sociodemographic and clinical variables with stress levels was analyzed using SPSS version 23.

Results: mild, moderate and severe level of stress on PSS were found in 3.3%, 61.67% and 35% of primigravida women, respectively. In present study, no significant association was observed between selected sociodemographic and clinical variable and stress levels at $p<0.005$.

Conclusions: Moderate to high level of stress during antenatal period was observed among almost all primigravida women. Utilizing stress measurement tools for initial assessment can empower healthcare providers to identify stress symptoms, enabling them to implement effective strategies and interventions for improved maternal and infant health.

Keywords: Antenatal, Perceived Stress, Pregnancy, Primigravida

INTRODUCTION

Stress is a sophisticated pattern of the body's physiology responding to a demanding situation. It is a process by which we recognize and respond to dangers and difficulties that surround us (1). The disequilibrium that a pregnant woman feels when she is unable to control her emotions is known as stress during pregnancy. Even while pregnancy is frequently perceived as a pleasant event, it is also a stressful time for women and requires significant emotional adjustment. When a pregnant woman can't handle demands and worries, she experiences stress, which is defined as an imbalance (2). Pregnancy stress can have major negative effects on the mother, the fetus, and the newborn. Low birth weight, premature births, and neuropsychological issues including anxiety and depression during pregnancy. Preeclampsia, spontaneous abortion, premature labor, low birth weight, preeclampsia, a depressed immune system, nausea and vomiting, increased episiotomy, neonatal infections, and adverse physical and mental results for both mother and child are all caused by maternal anxiety and perceived stress (3). Moreover, hyperactive school age children and other behavioral issues could be the result of maternal stress during pregnancy. Maternal stress has also been identified as one of the key risk factors that may help predict depression both during and after pregnancy (4). It has also caught the attention of experts who are examining the connection between maternal stress during pregnancy and schizophrenia in male offspring (5). Due to the aforementioned issues, pregnant stress may have both short- and long-term negative impacts on public health, families, and society (6). Worldwide, stress is a very common mental health problem among women during their time of pregnancy (7). Studies reported that the prevalence of stress during pregnancy range from 5.5 to 78% (8). To date, a wide range of 33–37% in England and 5-7% in Sweden has been reported as the prevalence of pregnant stress. While Salari, Firoozi, and Sahebi (2005) found that among Iranian women, the prevalence of severe and mild maternal stress was 16.7% and 13.6%, respectively (9). Perceived stress during pregnancy is influenced by a number of bio-psychosocial risk factors. They had a history of depression, domestic abuse, traumatic life experiences, and interpersonal difficulties, which were all significant predictors (10). Women in low socioeconomic status are more likely to experience high levels of stress (10). The role of quality of life in the perceived stress by pregnant women has been well documented (1). There is currently a gap in the literature about the changing or increasing effects of prenatal stress on quality of life, which is significant to the importance of the connection between maternal stress and its harmful effects. (11,12). According to a study from Costa D et al, women who were cohabiting, separated, or divorced were more likely to view their lives as stressful (13). According to other researchers, partner conflict during pregnancy causes worries about having a baby and emotional pain. For instance, it is known that poor marital adjustment predicts a higher level of pregnant discomfort (14). Increased maternal stress was linked to gravidity, gestational age at delivery, and monthly family income, according to a systematic review of pregnant women. A mild degree of felt stress during pregnancy is beneficial for the fetus's best growth, but if it exceeds that level, it could have long-term effects and affect the fetus's nervous system development (15). Additionally, stress during pregnancy increases the risk of gestational hypertension, preterm birth, low birth weight, and unfavorable health and behavioral outcomes that result in infant mortality, cerebral palsy, developmental delays, and vision and hearing impairments (16). Additionally, it influences the development of a secure attachment relationship with the newborn. Demanding life experiences prior to conception are also associated with mental health issues in childhood, adolescence, and

adulthood (17). An understanding of the stress level among in primigravida females during antenatal period is essential for the provision for effective heath care service for the antenatal primigravida women. The current study was conducted to identify levels of stress level among primigravida women during antenatal period presenting at tertiary care center.

OBJECTIVES:

• To study the socio-demographic and clinical variables.
• To assess the level of stress among primigravida using perceived stress scale
• To assess the association the level of stress with socio demographic variables.

METHODOLOGY

This study was a cross-sectional observational and descriptive survey which was carried out to determine the stress level among primigravida antenatal women in a selected tertiary care hospital of Vindhya region of Madhya Pradesh.

Inclusion Criteria: -

- Antenatal primi-gravida pregnant women who are willing to participate in the study.
- Written informed Consent

Exclusion Criteria: -

- multi-gravida women.
- Pregnant women, who are not willing to participate in the study.
- Pregnant women, who are suffered from severe medical conditions

Tools: -

Perceived stress scale (PSS)- The PSS is a classic stress assessment instrument. The tool, while originally developed in 1983, remains a popular choice for helping us understand how different situations affect our feelings and our perceived stress. The questions in this scale ask about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don't try to count up the number of times you felt a particular way; rather indicate the alternative that seems like a reasonable estimate. Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress. (Scores 0-13= low stress, 14-26 = moderate stress, 27-40 = high perceived stress) (18).

STATISTICAL ANALYSIS: The data obtained were analyzed and interpreted based on the study objectives using descriptive and inferential statistics by using SPSS (Ver. 23). A p-value < 0.05 was considered significant.

ETHICAL CONSIDERATIONS - During research confidentiality and anonymity of the participants were maintained. The participants were ensured that they will not have psychological stress or harm during the study. Study was conducted after obtaining institutional ethical committee clearance and written informed consent was obtained from the participants.

RESULTS

Table -1. Sociodemographic Profile of study population

Sociodemographic variable		Frequency	Percentage
Age	10-20	7	11.7
	21-30	42	70.0
	31-40	11	18.3
Religion	Hindu	53	88.3
	Muslim	6	10.0
	Christian	1	1.7
	Sikh	0	0
	Buddhism	0	0
	Jainism	0	0
	Other	0	0
Locality	Urban	19	31.7
	Semi Urban	12	20.0
	Rural	29	48.3
Marital Status	Unmarried	0	0
	Married	59	98.3
	Divorced/separated/widowed	0	0
	Remarried	1	1.7
Education of the patient	Profession or Honours	1	1.7
	Graduate	12	20.0
	Intermediate or diploma	16	26.7
	High school certificate	7	11.7
	Middle school certificate	12	20.0
	Primary school certificate	8	13.3
	Illiterate	4	6.7
Occupation	Legislators, Senior Officials & Managers	0	0
	Professionals	9	15.0
	Technicians -Associate Professionals	1	1.7
	Clerks	6	10.0
	Skilled Workers & Shop/Market Sales Workers	11	18.3
	Skilled Agricultural & Fishery Workers	4	6.7
	Craft & Related Trade Workers	8	13.3
	Plant &Machine Operators and Assemblers	1	1.7
	Elementary Occupation	4	6.7
	Unemployed	16	26.7
Socioeconomic Class	Upper class	01	1.67
	Upper middle class	10	16.67
	Lower middle class	24	40
	Upper Lower class	19	31.67
	Lower Lower class	06	10
Family Type	Nuclear	26	43.3
	Extended/ Joint Family	34	56.7

Table 2. Clinical profile of study population

Variable		Frequency	Percentage
Past History	Neurotic	7	11.7
	Anxiety	3	5.0
	Stress related disorder	50	83.3
	Absence	0	0
Family History	Yes	0	0
	No	60	100.0
Gestational age	Term	51	85.0
	Pre term	9	15.0

Table-3: Distribution according to levels of stress

Level of stress	Frequency	Percent
Low stress	2	3.3
Moderate stress	37	61.67
High stress	21	35.00
Total	60	100.0

Graph 1 -Distribution according to levels of stress

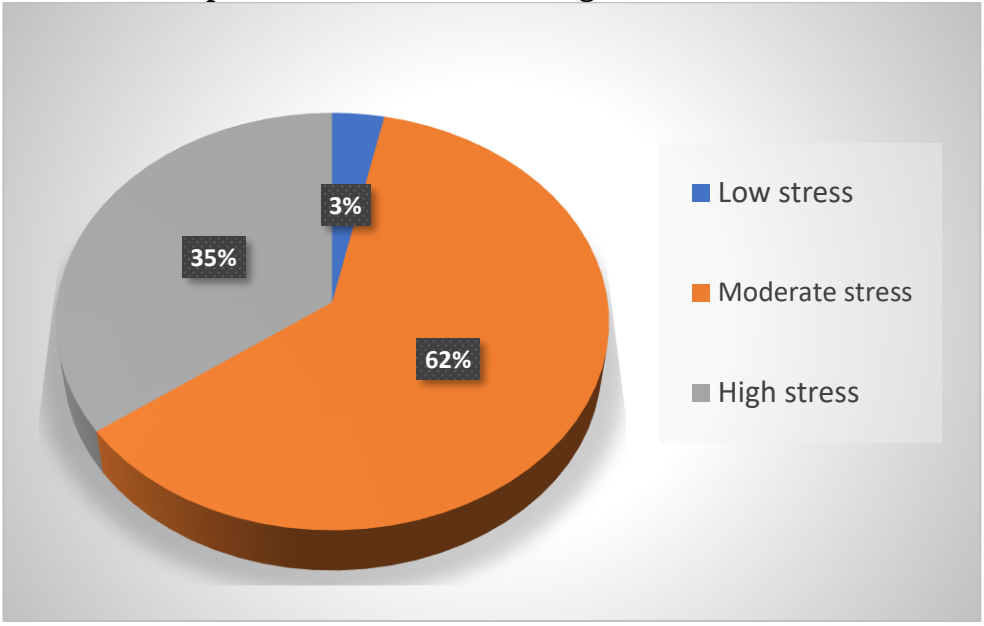

Table no. 4 - Association of selected socio-demographic and clinical profile with stress

VARIABLES	LOW STRESS	MODERATE STRESS	HIGH STRESS	TOTAL	CHI SQUARE VALUE	P VALUE	SIGNIFICANCE
Age in years							
≤20	1	5	1	7	5.716	0.221	Not Significant
21-30	1	27	14	42			
31-40	0	5	6	11			
Religion							
Hindu	2	33	18	53	1.390	0.846	Not Significant
Muslim	0	3	3	6			
Christian	0	1	0	1			
Others	0	0	0	0			
Locality							
Urban	1	13	5	19	1.452	0.835	Not Significant
Semi Urban	0	7	5	12			
Rural	1	17	11	29			

Marital Status							
Unmarried	0	0	0	0	1.889	0.389	Not Significant
Married	2	37	20	59			
Divorced/Separated/ Widowed	0	0	0	0			
Remarried	0	0	1	1			
Education of the patient							
Profession or Honor's	0	1	0	1	16.945	0.152	Not Significant
Graduate	0	6	6	12			
Intermediate or diploma	0	12	4	16			
High school certificate	0	6	1	7			
Middle school certificate	1	9	2	12			
Primary school certificate	1	1	6	8			
Illiterate	0	2	2	4			
Occupation							
Legislators, Senior Officials &Managers					13.137	0.663	Not Significant
Professionals	0	4	5	9			
Technicians & Associate Professionals	0	1	0	1			
Clerks	0	5	1	6			
Skilled Workers and Shop & Market Sales Workers	0	6	5	11			
Skilled Agricultural & Fishery Workers	0	4	0	4			
Craft & Related Trade Workers	1	5	2	8			
Plant &Machine Operators and Assemblers	0	1	0	1			
Elementary Occupation	0	1	3	4			
Unemployed	1	10	5	16			
Family Type							
Nuclear	0	19	7	26	3.353	0.187	Not Significant
Extended/ Joint Family	2	18	14	34			
Past History							
Neurotic					0.642	0.958	Not Significant
Anxiety	0	5	2	7			
Stress related disorder	0	2	1	3			
Absence	2	30	18	50			
Family History							
Present	0	0	0	0	0	1.000	Not Significant
Absent	2	37	21	60			
Gestational age							
Term	2	31	18	51	0.404	0.817	Not Significant
Pre term	0	6	3	9			

DISCUSSION

The present study was conducted to assess the effectiveness of perceived stress scale to "To study the assess the level of stress during antenatal period, among Primi-gravida pregnant women". Probable random sampling technique was used to select the sample. The data was collected from 60 Antenatal Primi-gravida pregnant women in Obstetrics & gynecology OPD.

In present study, 70% of subjects were in the age group of 21-30 years and 18.3% of subjects were in the age group of 31-40 years. Shishegar et al and Deo et al also point similar findings (19,20). In present study majority of subjects according to religion, were the Hindu, 10% of subjects were in Muslim, 1.7% of subjects were in Christian, this variation is basically due to demographic adjustment. Jitendra et al also concluded similar findings (20,21). majority of patients 29 (48.3%) hails in rural area, while 19 (31.7%) belongs to urban area, and 20% were living in semi urban

areas. This is primarily due to rural dominance in this subcontinent. Most of the of subjects (98.3%) were married and 26.7% of subjects had Intermediate or diploma. 6.7% of subject was Illiterate and 1.7% of subjects had Profession or Honor's. Talukdar P (2021) et al also has similar findings. 26.7% of subjects were Unemployed. In our study majority (56.7%) of subject belong to Extended/Joint family while (43.3%) lives in nuclear family. Similar findings also notify by Deo et al(20)

The present study reveals that 61.67% primigravida women had moderate stress and 35% had severe stress during antenatal period as measured with perceived stress scale. Only 3.3% women had mild level of stress. Similar findings were also reported by Talukdar P (2021) et al , and Deo et al.(20)

The study also revealed that there was no significant association between antenatal stress and sociodemographic variables, family history, past history or gestational age. However, other studies in past have concluded that educational status and monthly family income were associated with antenatal stress.(22,23) This difference may be due to variability in sample size, geographical location and study design.

The research on antenatal perceived stress in primigravida women brings to light significant implications for maternal and fetal well-being during a crucial period of transformation and development. The findings underscore the need for a comprehensive understanding of the factors influencing stress perception and the subsequent impact on pregnancy outcomes. This nuanced exploration of contributors to stress provides valuable insights for healthcare professionals aiming to tailor interventions to the unique needs of first-time mothers. The relationship between antenatal perceived stress and adverse maternal and fetal outcomes raises important considerations for prenatal care. The discussion emphasizes the importance of integrating mental health assessments into routine antenatal care protocols. Identifying and addressing stressors early in pregnancy may contribute to the prevention of complications such as preterm birth and low birth weight, thereby enhancing overall maternal and fetal health. The psychosocial support component of the discussion sheds light on potential interventions to alleviate antenatal stress. Counseling, peer support, and educational interventions emerge as promising strategies to mitigate stress and improve the well-being of primigravida women. Integrating these approaches into routine prenatal care represents a proactive step toward addressing the psychological aspects of pregnancy, promoting healthier outcomes for both mothers and infants. The implications for healthcare providers are significant. The research suggests a shift toward a more holistic approach to antenatal care, recognizing the interconnectedness of physical and psychological well-being. Healthcare professionals are encouraged to consider stress assessments as routine components of prenatal care, allowing for targeted interventions and support for primigravida women navigating the challenges of first-time motherhood.

LIMITATIONS:

Sample was limited to 60. This study was conducted in health facilities; and this study is only conducted for antenatal mother who has come in OPD of Obs & Gynae, GMH & SGMH Rewa. hence the finding might not adequately reflect the stresses of the entire pregnant women in the community.

CONCLUSION

This research sheds light on the stress levels experienced by expectant mothers during their antenatal period. The current state of antenatal care is not adequately equipped to identify pregnant women undergoing various degrees of stress during this period. A growing body of research

indicates relationship between antenatal stress and unfavorable pregnancy outcomes. Conducting an initial assessment of stress levels in expectant mothers using a stress measurement tool can offer insights into their stress levels. Healthcare professionals may then be able to recognize stress symptoms and comprehend the adverse effects on both maternal and infant health. They can deliver valuable educational resources and implement strategies for healthcare plans aimed at enhancing the antenatal well-being of mother. Initiating healthy therapeutic measures for all pregnant women can further contribute to improving maternal and infant health outcomes.

Conflict of interest – None

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Ethical approval - The study was approved by the Institutional Ethics Committee

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