The International Journal of Indian Psychology
ISSN 2348-5396 (Online) | ISSN: 2349-3429 (Print)
Volume 9, Issue 4, October- December, 2021
DIP: 18.01.226.20210904, DOI: 10.25215/0904.226
http://www.ijip.in

The International Journal of INDIAN PSYCHOLOGY

Research Paper

A Study of Anxiety and Stress During Pregnancy and Postpartum Depression Among Rural Women in Delhi NCR

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ABSTRACT

Around the world, Pregnancy and the disarrays have been a concerning issue of general prosperity. The psychological and social changes in females during pregnancy lead to strain and stress among women. The pressing factor looked by the females before transport impacts the child's prosperity. Another overview suggested that pressure during antenatal period present for a long stretch inimically affects the mother and the youth. Keeping this in view an exact study was coordinated to perceive pressing factor and pressure and its disagreeable outcome on pregnant females. Therefore, the investigator finds it important to conduct research of anxiety and stress during pregnancy and postpartum depression among rural women in Delhi NCR. The objective of the study is to study the influence of stress and anxiety during pregnancy on postpartum depression among rural women in Delhi NCR. For this purpose, 80 women from the regions of rural Delhi and NCR. For the measurement of stress level of SS stress scale were used. It is constructed by Dr. M. Singh (2002). Edinburgh Postnatal Depression Scale (EPDS) developed in (1987) by Scottish health centers in Edinburgh and Livingston was used to measure the postnatal depression among women. State Trait Anxiety Inventory (STAI) was used to measure the anxiety level of the pregnant women. The result of the study concluded that 70% pregnant women were nulliparous and 30 % were parous women. Majority of pregnant women 60% belonged to the age group of 28-30 years. Only 6 % of them were below the age of 25-27 years. 80% pregnant women were housewives. The remaining were working as clerk (4%), technician (4%) and 4% of them were working as professionals. Only 18 % belonged to municipality area. Eighty percent of the pregnant women were having nuclear type of family and the remaining 20 % belonged to joint family system. Only 2% subjects were the only child group and 16% were the last one for their parents. 44 % were first born and 38 % were with a birth order of in between position. Only 10 percentages had history of abortion. It is observed that 50 % subjects were using only television as a source of information and the remaining 50 % sought information from different sources. Further details revealed that only 0 % got information from relatives and friends. Majority of pregnant women did not report any family members with fear of pregnancy (94%). All pregnant women were not having any family history of mental disease (100%). Prevalence of 48.4% severe general anxiety during first trimester among pregnant women was noted. Data further indicated that the mean general anxiety score during third

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Received: October 01, 2021; Revision Received: December 27, 2021; Accepted: December 28, 2021

trimester was high (106.89) compared to other trimesters, indicating that pregnant women were having high degree of general anxiety especially of state anxiety (56.25) during their third trimester. When compared to anxiety, prevalence of stress is less may be due to the prevailing social and family support system. Anxiety scores also revealed the same trend. This indicated that pregnant women were more relaxed during second trimester. Further, women who experienced high stress symptoms and anxiety during pregnancy also show significantly higher on postpartum depression.

Keywords: *Pregnancy, anxiety, Stress, Postnatal, trimester, postpartum and depression*

In women's lives pregnancy and childbirth are special events as well as for their families. It everlastingly shapes the females considerations and feelings just as has the likely consequences for the psychological and social strength of females and families individuals. The introduction of each infant is a one of a kind encounter. Despite the fact that labour is a typical life occasion, still females are presented to huge measure of pressure.

Dread and nervousness connected with labor fluctuates from female to female. It has been seen that extreme dread associated with labor confounds about 20% of healthy pregnancies in western nations and 6% to 10% of females are truly denied by their dread of labor.

Pregnancy prompts nervousness of various kinds at different levels. In pregnant females, the anxiety was higher than normal levels found by general population as said by Rico et al, in 2009. Exceptional labor misgiving while pregnancy causes females to anticipate more agony and pain during work, which is prompting increment the danger of crisis cesarean conveyance and furthermore an explanation because of which the females likes and mentioning cesarean birth.

The pregnancy period enfolds experiences that have huge and durable consequences for females, infants and families. In this manner, the healthcare experts have that instruction and arrangements of the female are the vital fixings to effective pregnancy and birth encounters. The cautious screening for the anxiety issues during pregnancy period is fundamental as the manifestations are a lot of like the standard inclination found in pregnancy. The current investigators are putting emphasis on Antenatal anxiety. In any case, during pregnancy and post-natal period anxiety which is frequently co-sullen with despondency is ignored in examination as said by Kessler et al, in the year of 2003.

The event pace of discouragement during pregnancy and after delivery were estimated by meet and perceived demonstrative rules and were discovered comparable changing from 3.5% to 16% as studied by Green and Murry in 1994. Depression can have cataclysmic impacts, not for depression during pregnancy after delivery can have wrecking results, for the females as well as for the female's kids and family (AHRQ, 2000). In a methodical survey via Bennett et al (2004) pervasiveness of depression during pregnancy was discovered to be 7.4%, 12.8% and 12% for the first, second and third trimesters individually. Grief that happens without precedent for pregnancy is typically gentle and presents as mellow tension that does not need medicinal treatment as shown in the research of Stocky and Lynch, 2000.

Examination has demonstrated that tension and downturn can build female's danger for preterm work and diminishing their capacity to really focus on themselves and their creating

infant. Depression and uneasiness may go undiscovered on the grounds that females regularly excuse these sentiments as impermanent crankiness that frequently goes with pregnancy.

The impact of psychological health status in pregnancy on clinical outcomes such as preterm labour, pre-eclampsia, epidural use, caesarean birth, instrumental deliveries and increased rates of admission to neonatal intensive care, alongside the cognitive and social development of the infant and child are well documented. A number of research studies have shown a significantly higher incidence of foetal asphyxia, congenital anomalies and still births among the foetus of women with high levels of anxiety and stress during pregnancy. Women with abnormal labour reported more anxiety about the forthcoming delivery and fears regarding their own life and that of the child yet to be born (Leta, 1985).

Childbirth practices are influenced by the socio-economic status, customs, cultural beliefs and traditions. This is particularly true in the case of women belonging to rural areas. Seventy percent of our population is in the rural area where the family members join in providing maternal care. In urban areas with small family the labour generally conducted in the hospital. The process of labour which has been so simple and natural has become more structured complex and eventful today. In most cases the success of a safe delivery depends to a greater extent the wholehearted involvement and co-operation of the mother in going through various stages of labour.

The primary focus of modern obstetrical nursing is on the preventive care of pregnant women. Effective patient education prepares expectant mothers for safe childbirth. Dick-Read (1944) has stated that if women approach pregnancy and childbirth with fear, it adds to tension. Due to tension, the cervix becomes rigid. The rigid cervix takes a long time for dilatation and causes more pain. Thus, a vicious fear-tension-pain cycle is formed. This cycle is to be broken by proper childbirth education and purposeful self-care practices during pregnancy and childbirth.

In a study of expectant primi mothers' learning needs, Bliss-Holt (1988) found that during the third trimester pregnant women were interested in learning to select the coping strategies for labour and delivery. Bobak and Jenson (1991) and Read (1944) suggested that education reduces fear of the unknown and thus eliminates or attenuates the fear- tension–pain cycle.

Charles (1978) stated that women with psycho prophylaxes training for childbirth prior to delivery had significantly lower levels of pain and higher levels of contsructive participation during the birthing process. A woman's ability to adapt to the changes and challenges of pregnancy affects to the outcome of pregnancy and the latter is also affected by her outlook and the level of the stress she experiences.

In the Reproductive and Child Health (RCH) programme, the emphasis has been laid on the participatory approach, giving great importance to the quality of care, rather than on being target-oriented. This participation in antenatal care and the improvement of the quality of care that a mother receives could be greatly influenced by her basic knowledge about the childbirth process.

Even though there are several isolated attempts to enlighten expectant mothers and to impart childbirth education, formal structured programmes have been systematically introduced and

implemented only in early 20th century. Childbirth education has been accepted by the healthcare committee as a part of healthcare system, especially in western countries. However, in India, childbirth education is still in its infancy. Studies (Lucy, 2010; Lekshmi, 2002) show that women with the right knowledge about pregnancy cope better with childbearing in general and labour process in particular with less anxiety. It was not really until the 1980's that the modern world really got to realize that the childbirth education for women and partners was beneficial to the birthing process. Presently many new couples attend childbirth education classes in order to prepare for childbirth.

These classes are important in today's world, as couples often do not have the luxury of an extended family to learn about caring for the babies. Modern prenatal classes teach all aspects of pregnancy, delivery and care of the newborn. Fear of pain in labour is a key issue for pregnant women and there is a need for attending childbirth education classes.

The National Institute for Clinical Excellence (NICE, 2003) suggests that there is no evidence to support routine screening in the antenatal period to identify women 'at risk' of developing postnatal stress. However, considering the impact of maternal anxiety and stress during pregnancy and childbirth period, healthcare personnel should give due importance to these aspects and give priority to reduce anxiety and psychological stress during pregnancy. The present study explores the prevalence of anxiety and stress during pregnancy and postpartum period with a view to develop a program to impart knowledge to pregnant women that will enhance their awareness and improve their preparation for childbirth, by reducing pregnancy-related anxiety.

Need Of the Study

Discomfort and changes due to pregnancy can cause anxiety to the woman and her family, which requires sensitive attention and a plausible plan for teaching self-care measures. Antenatal anxiety and stress are common complaints in women with a prevalence of 30% during pregnancy and puerperium; that is often not detected and therefore not treated appropriately.

Several studies suggested that stress and anxiety have a profound effect on pregnancy and labour. Maternal psychological stress and anxiety are found to be predictors of adverse pregnancy outcomes including low birth weight and prematurity. Stress during pregnancy is a significant public health problem because of its negative effects on the health of both mother and infant. The maternal mood across the transition from pregnancy to postnatal period should be the focus of research and clinical attention because the disturbance of maternal mood during this period may affect developmental outcome in the child. Most of the existing research has focused on stress; less is known about the profile and pattern of anxiety and the connection between stress and anxiety during this period.

A population study to find out point prevalence of psychiatric disorders during the second trimester of pregnancy among pregnant women attending maternity clinics in Northern Sweden revealed the prevalence of 10% depression and 6.6% anxiety. The study concluded that the prevalence of depression and anxiety disorders in pregnant women was high and a majority of women afflicted were found to be undiagnosed and untreated (Hodnett, et al., 2003).

Anxiety during pregnancy has been linked to negative expectations about motherhood (Hart and Mc Mahon, 2006), difficulties in adjusting to the demands of the maternal role, and the development of other difficulties, particularly postnatal depression (Heronet et al., 2004; Matthey, 2004). Antenatal anxiety may be an important early marker that could be used to identify women at risk for compromised mental health and offspring outcome. Significant fears during pregnancy increases the risk of severe emotional imbalance after the baby is born and the negative impact on mother's relationship with the child (Saisto et al., 2001).

Catherin (2005) highlighted the importance of considering anxiety when examining psychological adjustment to pregnancy and transition to parenthood. It may be possible to identify and treat a substantial portion of women who are at risk of developing anxiety and mood disorder during postnatal period. There is increasing evidence that co-morbid anxiety may be a significant feature in the occurrence of both antenatal depression and postnatal depression (Da Costa, et al., 2000 and Misri, et al., 2000).

According to a report on the data collected from 1,039 pregnant women in the Turkey Spinelli (2001) study, 27.9% (n=290) had prenatal depression that needed to be treated. Metthey et al. (2003) found that assessment of anxiety symptoms increased the rates of psychiatric case detection by up to 100% over rates of depression in women assessed both antenatally and postnatally. Metthey et.al., (2003) also reported that a history of anxiety disorder to be a more significant risk factor for a postnatal mood disorder than a history of depressive disorder, and therefore identifying both antenatal and postnatal anxiety and depression has an important clinical need and clinical advantage.

Perceived prenatal learning needs of multi-gravid women are explored among 18 Africans multigravida in their third trimester in an effort to develop effective prenatal education by Matilda (2007). Specific topics especially on how to care for themselves and their babies after birth were identified by Matilda. The subjects in the study reported that inconsistency with respect to information received from health professionals and other sources created tension and anxiety and that they wanted more detailed relevant information specific to their needs.

Drummond and Rickwood (2004) validated the childbirth self-efficacy inventory in an Australian sample and found that prior good birth experiences and knowledge of childbirth significantly increased women's confidence in their ability to cope with labour and increased confidence has been associated with lower levels of pain experienced during labour. Thomson (1984) reported that structured preparatory classes for childbirth decrease women's anxiety level during labour and help to develop more positive expectations of the event.

Beggar, Donna and Cook Loveland (1997) conducted a cross sectional study to compare mothers' and nurses' perception of postpartum learning needs and effectiveness of teaching modalities. The result showed that first-time pregnant mothers rated topics for childbirth education as most important.

Campagne (2004) emphasized that it is important to know how often pregnant women experience depression, what factors influence the development of depression and anxiety, and what is the connection between depression and anxiety during this period. Literature review concluded the importance of assessing psychological status during pregnancy,

childbirth and the postnatal period as a multidimensional construct. The screening and identification of maternal psychological distress from a multidimensional perspective enable healthcare professionals to recognize and acknowledge normal and abnormal adjustment and offer interventions, strategies and support to facilitate women's transition to motherhood (Jomeen, 2004).

Assessment of general anxiety during pregnancy may underestimate anxiety specifically related to pregnancy. Pregnancy-specific anxiety, rather than general anxiety, has been shown to predict birth outcomes and neuroendocrine changes during pregnancy. Pregnancy anxiety should be regarded as a relatively distinctive syndrome. Its measurement enables researchers and clinicians to address issues of prediction, identification and risk reduction more precisely and effectively (Huzink et al., 2004).

A few studies have systematically assessed the specific fears and worries related to pregnancy and the structure of pregnancy anxiety. In the early 1970s, the Pregnancy Anxiety Scale (PAS) was created by Burstein et al (1974). A later confirmatory factor analysis performed on the original items of the PAS that were collected retrospectively after childbirth suggested a three-dimensional model of pregnancy anxiety: 'anxiety about being pregnant', 'anxiety about childbirth', and 'anxiety about hospitalization' (Levin, 1991).

Standley et al. (1979) obtained data on the presence of one general anxiety and five specific pregnancy anxieties such as physical anxiety, anxiety about the integrity of the foetus, childbirth anxiety, child care anxiety and infant feeding anxiety during the last month of pregnancy in nulliparous pregnant women. They suggested that the specific pregnancy anxieties could be clustered in two dimensions: 'anxiety about pregnancy and childbirth' and 'anxiety about future parenting'. Non-pathological worry and fear in the pregnant population have also been discriminated by Stober and Muijs (2001) who suggested that worry has a certain content and is worthy of an independent assessment in pregnant women, with regard to clinical and psychological outcomes, regardless of anxiety. The present prospective study attempts to explores pregnancy-specific anxiety in addition to general anxiety and depression during pregnancy and postnatal period.

Ip, Wan-Yim, et al. (2009) have carried out an educational intervention to improve women's ability to cope with childbirth. A randomized controlled trial tested the effectiveness of an efficacy-enhancing educational intervention to promote women's self- efficacy for childbirth and their coping ability in reducing anxiety and pain during labour among 133 eligible Chinese first-time pregnant women. Results revealed that the experimental group had significantly higher levels of self-efficacy for handling childbirth and lower perceived anxiety and pain ($p < 0{\bullet}001$), and greater performance of coping behavior during labour ($p < 0{\bullet}01$). They recommended that relief of pain and anxiety is an important issue for women as well as health professionals. So, Efficacy-enhancing educational intervention should be integrated into childbirth educational intervention programmmes for promoting women's coping ability during childbirth.

Pınar and Hülya (2009) conducted a qualitative study among 19 nulliparous women with fear related to childbirth, to describe fears associated with childbirth and reasons for the fears in an outpatient maternity clinic of a university hospital in Turkey. They found out that women's fears were related to labour pain, birth-related problems and procedures, attitudes of health-care personnel and sexuality. The type and quality of childbirth information,

personal characteristics and experiences, maternity ward environment and lack of confidence in health-care personnel were presented as reasons for these fears. Seven of the women were considering an elective caesarean section. The authors concluded that nulliparous pregnant women experience considerable fear related to the impending childbirth and are likely to request caesarean section. They recommended that it is important for health professionals who provide antenatal care to explore fears related to childbirth and develop formal childbirth education programmes.

Barnett and Packel (1990) found a 19% reduction in anxiety during the first postnatal year in a group of highly anxious nulliparous women who received professional help, compared to a 12% reduction in women who received support from nonprofessionals. The potential for health promotion activities was highlighted and they recommended the need for childbirth education classes and training to expectant mothers.

Sorenson (1990) reported that although the lay literature addresses fears associated with pregnancy and childbirth, it is often done in a superficial way. Therefore, Sorenson recommended that fear should also be dealt with in childbirth education. Navick (2009) did a review of literature on women's experience on prenatal care and found that the receipt of information was a key theme. A positive relationship between prenatal care and the adequacy of information received by the women was noted.

The strategies to improve maternal health include the education of women across their lifespan, promising technologies, preconception healthcare and care across the child bearing year (WHO, 2002).

In developed countries antenatal education is given in a systematic manner for many years and many studies have proved its positive effect. A number of innovative interactions which are relatively simple and inexpensive can be used by healthcare professionals to improve maternal health (Heir, 2004). Effective childbirth education is not generally available in our healthcare system. We have to find an effective way to prepare our expectant couples for childbirth.

The purpose of antenatal education is to help prospective parents to prepare for childbirth and parenthood by providing information on issues such as evidence-based maternity care practices, pain relief, decision making during labor, infant and postnatal care, and breastfeeding, as well as increasing maternal confidence. However, there is a lack of high-quality evidence from controlled trials to establish the effectiveness of antenatal education or to determine the best approach {Gagnon, (2007); Bergstrom, (2009)}. Further research is required to ensure that antenatal education programmes meet the needs of parents and the care of newborn infants more effectively.

NFHS (2015) reported that 97% pregnant mothers of Delhi receive antenatal care, but education regarding maternal and childbirth imparted to the community by health professionals is inadequate. All pregnant women do not seek prenatal checkups and if they register at all, they do not come regularly for follow-up visits.

In earlier times pregnant women acquired the knowledge of childbearing through joint family system, but in the present time with small and nuclear family being the norm, this knowledge sharing within the family is vanishing, demanding the need for formal education

in childbirth. Mothers from all cultures traditionally passed their knowledge about labour and birth to their daughters. These cultural and family rituals guided women through pregnancy, labour, birth, and the early days of mothering. Women who gave birth in the hospital no longer had the unlimited support of women friends or family members. They were often alone and isolated from support persons and attended primarily by nursing and medical personnel. During this most vulnerable time, women were often ill-prepared for hospital routines and procedures, which led to increased fear and anxiety about the birth process.

During an informal interview with mothers, the Investigator came to know that pregnant women are very anxious about pregnancy, childbirth and newborn care. In government hospitals the measures to assess anxiety are buried under heavy patient loads. Often hospitals attempt to meet the problems of loneliness and increased anxiety with drugs.

Psychological needs of the pregnant women are often neglected in the modern world. This prompted the Investigator to explore the extent of anxiety and depression among pregnant women and how their ignorance contributed to anxiety and depression. The proposed study enriches to the existing research by examining depression and anxiety from pregnancy to the postnatal period prospectively in a sample of women in Delhi State.

It was observed that most mothers, especially nulliparous pregnant women, lack the appropriate knowledge about the changes during pregnancy and childbirth and the knowledge about how they should cope with stress during pregnancy and childbirth. Although there is a lot of information regarding these subjects, much of this is not professionally sound and thus a need for specific information by the health professionals is indicated.

Many nulliparous pregnant women in the antenatal ward expressed much eagerness to learn about childbirth. No evidence of the practice of breathing exercises or relaxation techniques was noted during the Investigator's clinical experience. In the Investigator's experience, expectant women demanded sedation, rapid delivery and even medically non-indicated operative delivery even at earlier stages of labour due to their severe fear of childbirth. Mothers were not well informed regarding the preparation for labour, procedures, the pain and how they had to relax and cope with pain and discomfort. The Investigator felt that it is high time that nulliparous pregnant women are adequately prepared for the childbirth through childbirth education classes for safe and natural childbirth. The study proposes to develop and administer a compact Childbirth Education Programme for nulliparous pregnant women and to evaluate its effectiveness in enhancing knowledge with regard to preparation for childbirth and combat against the levels of anxiety and psychological stress.

In Delhi in the recent past, no study has been undertaken to determine the prevalence of anxiety and psychological stress among pregnant women, especially that of pregnancy-specific fears and no effort of any formal structured childbirth education programme has been initiated or implemented. The present study addresses this issue.

Operational Definitions

- **Postpartum Depression:** Depression that occurs after childbirth, is the disturbance characterized by feeling of sadness, despair, gloom and hopelessness, thoughts of

self-harm. Disturbances occur in memory weight loss and loss of appetite, wakes up early in the morning and feels bad about self.

- **Anxiety:** Anxiety means mental state characterized by apprehension, uncertainty and fear. General anxiety as state and trait anxiety is measured. State anxiety as subjective feelings of tension, apprehension, nervousness and worry. Trait anxiety is described as a personality trait that indicates relatively stable individual differences in anxiety-proneness.
- **Stress:** Every human being has his own understanding of stress, because all demands of adaptability do evoke the stress phenomenon. Richard S. Lazarus has defined stress as - "A condition or feeling or experienced when a person perceives that demand exceeds the personal and social sources, the individual is able to mobilize.
- **Pregnancy:** The state of women who conceived and passed through the physiological state before childbirth; and the period is divided into first, second and third trimesters.

REVIEW OF LITERATURE

Studies related to Anxiety, stress and depression during Pregnancy

Anxiety is commonly associated with increased pain during labour. Mild anxiety is considered normal during labour but moderate to excessive anxiety and fear cause more catecholamine secretion, which increases the stimuli to the brain from pelvis because of decreased blood flow and increased muscle tension, this in turn magnifies pain (Lowe, 2002). Thus, as fear and anxiety heighten, muscle tension increases, the effectiveness of uterine contraction decreases, the experience of discomfort increases and a cycle of increased fear and anxiety begins. Ultimately, this cycle will slow the progress of labour.

Pregnant women express concerns predominantly about the baby's health, but also delivery, miscarriage in early pregnancy and their own physical appearance (Georgson- Ohman et al., 2003). An additional worry conceptualized by Georgsson- Ohman et al was 'maternity services' which was defined by women as 'shortage of beds' and 'medical safety', although this finding may have been context specific. Technological interventions such as ultrasound scanning have been linked with both a decrease and an increase in anxiety (Green, 2010). Evidence remains scanty regarding the causes of pregnant women's anxieties, the clinical significance of this being that in order to allay women's anxieties; health professionals make assumptions about causes (Green et al., 2013).

Women's worries seem to decrease in mid-pregnancy (Georgsson- Ohman et al., 2013 and Green et al., 2013), consistent with the characteristic U-shaped curve for mood during pregnancy first described by Lubin, et al. (2010). Symptoms of anxiety develop as a psychological response to stress (Cantwell and Cox 2010; Gennaro and Hennessy, 2008).

Heron et al. (2004) reported that antenatal anxiety occurs frequently, overlapping with depression, and increases the likelihood of postnatal depression. In addition, a correlation has been found between somatic complaints that are experienced in pregnancy, as anxiety and depression (Kelly et al., 2001).

Rico, (2009) in Spain did analysis of the relationship between maternal anxiety and pregnancy. An observational, analytical cross-sectional study of anxiety among 174 pregnant women was done. The objective was to evaluate levels of maternal anxiety in third trimester pregnancies according to pregnancy risk, classified as low, medium and high-

risk/very high-risk. Levels of both state anxiety and trait anxiety were evaluated in the three groups of pregnant women. Of the 174 participants in the study, 98 (56.3%) had low risk pregnancies, 40 showed medium risk (23%) and 36 (20.7%) had high risk or very high-risk pregnancies. A mean of 32.8 points for state anxiety and of 27.3 points for trait anxiety was rated. Mean anxiety levels scores were 44.1 points in the high/very high-risk group, 33 points in the medium risk group, and 28.5 points in the low-risk group, with statistically significant differences (P=0001 for the high-risk group and P = 038 for the medium risk pregnancies). The authors conclude that in pregnant women, anxiety levels were higher than average levels in the general population. Anxiety levels increased in accordance with greater risk in the pregnancy.

Significant correlations between self-report depression scores and self-report anxiety scores during both early pregnancy (Jomeen and Martin, 2005) and late pregnancy (Karjmova and Martin, 2003) have been demonstrated. Evidence suggests that although specific areas of pregnant women's concerns correlate with anxiety, they still have unique predictive value for psychological health (Glazer, 1980) and mood (Green et al., 2003). The Confidential Enquiry into Maternal and Child Health 2000–2002 (RCOG. 2004) recommends that coordinated multidisciplinary care should be available for all women with identified mental health problems and that a specialist prenatal mental health team should be available to women.

A prospective study of the course of anxiety and depression during pregnancy and postpartum in community sample (n=8323) of women in England assessed for anxiety and depression at 18 and 32 weeks of gestation and 8 weeks and 8 months postnataly. The result revealed that antenatal anxiety occurs frequently, overlaps with depression and increases the likelihood of postnatal depression (Jonatha, et al., 2003). In short across the 8 week and 8-month postnatal assessment 13% were depressed and 11% reported augmented depression in antenatal period.

A longitudinal pattern of anxiety from 18 weeks gestation to 8 months reveals that the stability of anxiety across the four assessments was moderate and consistent with sample pattern. At 8 weeks postpartum, 8.1 % reported anxiety of which 2.4% were new. Out of those women who reported anxiety in the postnatal period, two-third experienced anxiety in pregnancy. Analysis of mean changes in depression and anxiety from pregnancy to postpartum indicated a significant effect of the phase on depression. The time effect found in repeated measures of variance for anxiety was the same as depression.

Anxiety in antenatal period that predicts postnatal depression was verified by statistical means and the result revealed that anxiety at 32 weeks of gestation was associated with greater than three-fold increase in postnatal depression. Prediction of postnatal depression from depression at 32 weeks was particularly strong and strongest for the persistent definition of postnatal depression.

Thus, the current findings indicate that anxiety should be a focus of increased attention because it forecasts subsequent illness and may also have direct effect on foetus.

A cross-sectional descriptive survey conducted by Hall, et al.(2009) in a community sample of six hundred and fifty English-speaking nulliparous and multiparous women of 17 to 46 years of age and between 35 and 39 weeks gestation, with uncomplicated pregnancies .

They explored levels of childbirth fear, anxiety, fatigue, and sleep deprivation in pregnant women and their relationships during the third trimester of pregnancy. Wijma Delivery Expectancy/Experience Questionnaire, STAI, Mindell's Sleep Questionnaire, and the Multidimensional Assessment of Fatigue Questionnaire were used to collect data.

Reported 25% women with high levels of childbirth fear and 20.6% reported sleeping less than 6 hours per night. Childbirth fear, fatigue, sleep deprivation, and anxiety were positively correlated. Women with high childbirth fear were more likely to have more daily stressors, anxiety, and fatigue, as well as less help. Higher levels of anxiety predicted higher levels of childbirth fear among women. The study concluded that one fourth of women reported high childbirth fear. Fear of childbirth appears to be part of a complex picture of women's emotional experiences during pregnancy.

Faisal (2006) conducted a prospective study to estimate the prevalence and risk factors for antenatal anxiety and antenatal depression among 432 women attending antenatal clinic in the city of Osasco, São Paulo. Using State Trait Anxiety Inventory, Beck Depression Inventory reported the prevalence of antenatal state and trait anxiety as 59.5 and 45.3, respectively. The prevalence of antenatal depression was 19.6.

Zar, Wijma, K., Barbro, W., (2001) investigated fear of childbirth among 77 nulliparous and 85 parous women during week 32, at 2 hours and at 5 weeks after childbirth. Data were collected using STAI and the Wijma Delivery Expectancy/ Experience Questionnaire. The findings of the study highlighted nulliparous women who were inexperienced in the situation of labour reported higher level of fear of childbirth during pregnancy than parous women. Differences in fear of childbirth between nulliparous and parous women disappeared after delivery. The authors observed that women with high fear of childbirth have higher general trait anxiety than those with a moderate level of fear of childbirth.

Huizink et al., (2004) used a 34-item pregnancy -related anxiety questionnaire to test their structure, and to examine their associations with general anxiety and depression among nulliparous pregnant women with a normal risk status (N=230), other questionnaires covering general anxiety (STAI) and depression (BDI) were also filled along with it. These questionnaires were filled in at 15–17, 27–28, and 37–38 weeks of gestation. A three-factor model of pregnancy related anxiety was found by means of confirmatory factor analysis, reflecting ‘fear of giving birth’, ‘fear of bearing a handicapped child’ and ‘concern about appearance. General anxiety and depression measures explain only a small part of the variance of these fears. A marked increase in pregnancy related anxiety concluded that pregnancy related anxiety should be regarded as a relatively distinctive syndrome. The author recommended that pregnancy related anxiety enables researchers and clinicians to address issues of prediction, identification and risk reduction more precisely and perhaps more effectively in the future.

Prospective survey of MATQUID cohort conducted on pregnant women (n=497) attending state maternity hospital, assessed psychiatric status using diagnostic interview and EPDS during third trimester of pregnancy and 6 weeks postpartum and reported 24.1% pregnancy anxiety and 5.8 % with postnatal depression. The study concluded that promoting the recognition and management of antenatal anxiety in pregnant women may be of interest for the prevention of postnatal depression. Studies have demonstrated that risk of postnatal depression increases with higher levels of self - reported anxiety in pregnancy. (Heron et al., 2004).

Kerry and Marie (2007) conducted a prospective study to examine the course of maternal anxiety across the transition to parenthood among 100 Australian antenatal mothers from pregnancy through seven months following birth as assessed by diagnostic interview and self-report using STAI. They reported anxiety and depression during pregnancy. Twenty-one (21%) women with current anxiety disorder, while 7% met current depression were with co-morbid anxiety. Twenty were diagnosed with anxiety disorder during first 7 postnatal months. Twenty-four (24%) met criteria for depression since birth and of these 15 (63%) were co-morbid with diagnosis of anxiety. The study also examined the pattern of anxiety and depression across pregnancy and postnatal period. Among 21 mothers with pregnancy anxiety disorder, 10 (47.6%) continued to meet criteria during the postnatal period. Nineteen new cases of depression were diagnosed postnatally. The correlation between antenatal and postnatal measures of state -trait anxiety and depression were moderate to high and statistically significant ($p < 0.001$).

The prevalence of generally expressed fear of childbirth is slightly more than 20%, a figure which has not changed over the last decade (Areskog, Uddenberg, & Kjessler, 1981; Searle, 1996). Risa, Weisberg, Julie, (2002) reported that anxiety disorders are highly prevalent in pregnant women and may be associated with poor neonatal outcome or impairment in parenting. Therefore, detection and treatment of these disorders is essential. Cognitive-behavioral therapy for the anxiety disorders has proven to be extremely efficacious, and in most cases, it should be considered before psychopharmacologic treatment in pregnant and breastfeeding mothers.

Barbara Figueiredo and Ana Conde (2016) investigated high-anxiety and depression in women and men from early pregnancy to 3-months postpartum among 260 Portuguese couples by using the State-Anxiety Inventory (STAI-S) and the Edinburgh Post-Natal Depression Scale (EPDS) at the first, second, and third pregnancy trimesters, childbirth, and 3-months postpartum. Rates for highanxiety (STAI-S $\geq$ 45) in women (13.1%; 12.2%; 18.2%; 18.6%; 4.7%) and men (10.1%; 8.0%, 7.8%; 8.5%; 4.4%) and for depression (EPDS $\geq$ 10) in women (20.0%, 19.6%, 17.4%, 17.6%; 11.1%) and men (11.3%; 6.6%; 5.5%; 7.5%; 7.2%) were high. Rates for depression were higher than rates for high-anxiety only in women during early pregnancy and the postpartum, but not at the third pregnancy trimester and childbirth. Rates for high-anxiety and depression were higher in women than in men during pregnancy/childbirth, but not at 3-months postpartum. Rates for high-anxiety but not rates for depression were higher during pregnancy/childbirth compared to 3-months postpartum and only in women. Considering that 15.9% of the parents-to-be were highly anxious and/or depressed during pregnancy-comparing to 9.3% at 3-months postpartumparticular attention should be drawn to both women's and men's mental health early in pregnancy.

Nasreen, Kabir, Forsell and Edhborg (2017) estimated the prevalence of depressive (ADS) and anxiety symptoms (AAS) and explored the associated factors among 720 rural Bangladeshi pregnant women. The validated Bangla version of the Edinburgh Postnatal Depression Scale was used to measure ADS, and a trait anxiety inventory to assess general anxiety symptoms. Background information was collected using a structured questionnaire at the respondents' homes. Prevalence of ADS was 18% and AAS 29%. Women's literacy (OR 0.59, 95% CI 0.37-0.95), poor partner relationship (OR 2.23, 95% CI 3.37-3.62), forced sex (OR 1.95, 95% CI 1.01-3.75), physical violence by spouse (OR 1.69, 95% CI 1.02-2.80), and previous depression (OR 4.62 95% CI 2.72-7.85) were found to be associated

with ADS. The associated factors of AAS were illiteracy, poor household economy, lack of practical support, physical partner violence, violence during pregnancy, and interaction between poor household economy and poor partner relationship. Research concluded that antenatal need to screen for depression and anxiety during antenatal care. Policies aimed at encouraging practical support during pregnancy, reducing gender-based violence, supporting women with poor partner relationships, and identifying previous depression may ameliorate the potentially harmful consequences of antepartum depression and anxiety for the women and their family, particularly children.

Kramer, Bowen, Stewart and Muhajarine (2013) examined the prevalence, severity, and psychosocial determinants of nausea and vomiting during early and late pregnancy (NVP) among 648 Canadian women by using Nausea and Vomiting in Pregnancy Instrument (NVPI), the Cambridge Worry Scale (CWS), and the Edinburgh Postnatal Depression Scale (EPDS). Demographic, maternal, obstetrical, psychological, and behavioral variables related to NVP were also examined. Odds ratios and 95% confidence intervals were calculated for all risk factors investigated using multiple logistic regression, controlling for potential confounders. The result revealed that the prevalence of NVP was 63.3% (n = 551) at Time 1 (early pregnancy) and 45.4% (n = 575) at Time 2 (late pregnancy). Severity of symptoms was associated with earlier gestation, antiemetic medication use, employment status, and symptoms of major depression. Maternal smoking and having the support of three or more persons were protective for NVP.

Bindt Appiah-Poku , Te Bonle , Schoppen , Feldt , Barkmann and Koffi (2012) studied the influence of antepartum depression and anxiety on disability among 1030 Ghanaian and Ivorian from south African women in the third trimester of the pregnancy using the Patient Health Questionnaire depression module (PHQ-9), the 7-item Anxiety Scale (GAD-7), and the World Health Organisation Disability Assessment Schedule II (WHO-DAS 2.0, 12-item version), 26.6% and 32.9% of women showed depressed mood among Ghanaian and Ivorian women respectively. The generalized anxiety disorder were observed in 11.4% and 17.4% of pregnant women, respectively. Comorbidity of both conditions was common, affecting about 7.7% of Ghanaian and 12.6% of Ivorian participants. Pregnant women in both countries reported a high degree of disability regarding everyday activity limitations and participation restrictions. The study concluded that antepartum depression and anxiety were highly prevalent and contributed substantially to perceived disability.

Schytt Hildingsson (2015) examined the prevalence of physical and emotional self-rated health (SRH)in women and men during pregnancy and after childbirth and to identify associated risk factors among 1212 pregnant women and 1105 partners recruited in gestational week 18 and follow-ups in gestational week 33, 2 months and 1 year after childbirth. In women, the prevalence of poor physical SRH increased from 20% to 37% between mid and late pregnancy and from 19% and 34% between 2 months and 1 year after the birth. Men had a more stable level of physical SRH, 17-19% during pregnancy and 2 months postpartum, but reached 31% 1 year after birth. A similar pattern was found for poor emotional SRH, where women's and men's poor emotional health reached 24% and 22%, respectively, at 1 year. Factors associated with poor emotional or physical SRH were physical and emotional changes, fear of childbirth, parenthood stress, lack of partner support, bodily pain, low level of education, financial worries, tobacco use, and an emergency caesarean section.

A cross-sectional study was carried out, involving 331 pregnant women attending a public primary health service over one-year period in Rio de Janeiro city, Brazil. stress was assessed. The prevalence of depression during pregnancy was 14.2% (95%CI: 10.7-18.5) and associated factors included were previous history of depression and any psychiatric treatment, unplanned pregnancy, serious physical illness and casual jobs. (Pereira, Lovisi, Pilowsky 2009). This study recommended and emphasized screening of depression during pregnancy and its risk factors.

Symptoms of stress have been found in 30% of pregnant women in Finland (Kurki et al., 2000) 25% in Canada (Da Costa et al., 2000) and 21% in the USA (Kelly et al., 2001) In a US study, depressive symptoms were found in 26% of low-income African- American pregnant women (Chung et al, 2004). These findings showed that the prevalence of prenatal depression may vary in women with different cultural backgrounds.

One study, based on the ALSPAC cohort, found that symptoms of depression were higher in antenatal than postnatal period (Evans et al., 2001). The current estimates of the prevalence of depression during pregnancy vary widely. Systematic review by Bennett et al. (2004) to estimate the prevalence of depression during pregnancy by trimester, as detected by validated screening instruments BDI and structured interviews. The result of study shows that prevalence rates were 7.4%, 12.8% and 12 % for first, second, and third trimesters, respectively.

A study conducted among Maltese women reported that the prevalence of stress was 15.5% in the third trimester of pregnancy (Felice et al., 2004). Maltese women reported that stress in pregnancy was related to women who themselves have, or with a family history of a psychiatric problem (Felice et al., 2004).

Gausia, Fisher, Ali, Oosthuizen, (2005) estimated the prevalence of stress during pregnancy and identified potential contributory factors among rural Bangladeshi women. A community-based study was conducted during 2005 in Matlab sub-district, a rural area of eastern Bangladesh. Three hundred and sixty-one pregnant women were identified through an existing health and demographic surveillance system covering a population of 110,000 people. The women were interviewed at home at 34-35 weeks of pregnancy. Information on risk factors was collected through structured questionnaires, with the Bangla version of the Edinburgh Postnatal Depression Scale (EPDS-B) used to measure their psychological status. The prevalence of depression at 34-35 weeks pregnancy was 33% (95% CI, 27.6-37.5).

Verdoux et al. (2009) conducted a study on women with anxiety disorders during pregnancy are at increased risk of intense postnatal depressive symptoms. He conducted a study in France, reported that women who are diagnosed with an anxiety disorder in the prenatal period were more likely to have serious obstetric complications than those who do not. In a related study that investigated factors associated with depression in pregnant immigrant women in Montreal, Canada, Zelkowitz et al., (2004) reported that depressive symptoms were associated with more somatic symptoms. These findings showed that there is a correlation between physiological and psychological symptoms in pregnant women. For this reason, it is necessary to address physiological problems in addition to psychological problems while providing care.

Antenatal anxiety is an important early marker that could be used to identify women at risk for compromised mental health and offspring outcome. The presence of high trait anxiety in pregnancy also has implications for the offspring, with a number of studies indicating that high maternal trait anxiety is associated with difficult infant temperament.

The impact of psychological health status in pregnancy on clinical outcomes such as preterm labour, pre-eclampsia, epidural use, caesarean section, instrumental deliveries and increased rates of admission to neonatal intensive care, alongside the cognitive and social development of the infant and child are well documented.

Studies have reported that anxiety and depression in pregnancy can increase complications of pregnancy, such as spontaneous abortion (Lundy et al., 1999), pre- eclampsia (Kurki et al. 2000). Preterm birth and low-birth weight babies (Weiberg and Paquette, 2002). On the other hand, studies consistently found that depressed mood or anxiety during pregnancy were significant predictors of postpartum depression (Gennaro and Hennessy, 2003; Heronelal, 2004; Robertson et al., 2004).

A prospective population-based study of pregnant women in outpatient maternity clinic of Helsinki metropolitan area to examine whether anxiety and depression in early pregnancy is associated with preeclampsia among singleton nulliparous (n=6230), at ten to 17 weeks' gestation and at delivery. The result revealed 28 (4.5%) women developed preeclampsia. depression (mean Beck score 4.5, range 3–17) was observed in 185 (30%), women and anxiety was observed in 99 (16%) in early pregnancy. Further multivariate analysis showed that either depression or anxiety, or both, were associated with increased risk (OR 3.1; 95% CI 1.4, 6.9) for preeclampsia (Tapio et al., 2000).

A significant correlation was found between experience of physical discomfort during pregnancy and depression during pregnancy. A study conducted in Japan by Kitamura et al. (1996) reported that excessive nausea and vomiting was a risk factor for depression. We also found that the experience of physical discomfort during pregnancy had an effect on anxiety. Kelley et al. (2001), in the USA, reported that the number of somatic symptoms was significantly higher in women with depression, anxiety or both than in those without.

Verdoux et al. (2002), in France, reported that women who are diagnosed with an anxiety disorder in the prenatal period were more likely to have serious obstetric complications than those who do not. In a related study that investigated factors associated with depression in pregnant immigrant women in Montreal, Canada, Zelkowitz et al., (2004) reported that depressive symptoms were associated with more somatic symptoms. These findings showed that there is a correlation between physiological and psychological symptoms in pregnant women. For this reason, it is necessary to address physiological problems in addition to psychological problems while providing care.

Nieminen; Stephansson and Ryding (2009), investigated Swedish women's level of antenatal fear of childbirth at various gestational ages, and factors associated with intense fear and with preference for cesarean section.

A cross-sectional study was done in all antenatal clinics in four geographical areas. Sampled thousand six hundred and thirty-five pregnant women at various gestational ages recruited during September-October 2006 at the antenatal clinic. The women reported their appraisal

of the approaching delivery according to the Wijma Delivery Expectancy/ Experience Questionnaire (W-DEQ). The prevalence of intense fear of childbirth was 15.8% and very intense fear 5.7%. Nulliparous women had a higher mean score than parous women, but more parous women reported an intense fear.

Preference for cesarean section was associated with fear of childbirth (OR 11.79, 6.1-22.59 for nulliparous and OR 8.32, 4.36-15.85 for parous women) and for parous women also with a previous caesarean section (OR 18.54, 9.55-35.97), or an instrumental vaginal delivery (OR 2.34, 1.02-5.34). The study suggested that when a woman requests a cesarean section, both primary fear of birth and traumatic childbirth experiences need to be considered and dealt with.

Warren et al. (2003) observed that compared to controls, mothers with panic disorder displayed less sensitivity toward their infants during interaction and reported less effective parenting behaviors in disciplinary situation. There is evidence that maternal anxiety following birth may contribute to suboptimal child outcome, with several studies pointing to dysfunctional parenting as a possible mediating mechanism. Whaley and colleagues (1999) observed that mothers with anxiety disorders were less warm and positive in their interactions with children.

The impact of maternal depression during pregnancy can be substantial. Some women may develop poor nutritional intake and/or increased tobacco, alcohol and drug use, any of which can adversely affect the developing fetus. Still other women may end their pregnancy with elective abortions due to their depression (Suri et al., 2004). Thus, the screening for depression effectively during pregnancy is very important. Women with a prior history of a Major Depressive Disorder need to be monitored closely during pregnancy as these women on prophylactic antidepressants are at high risk for relapse during pregnancy if antidepressants are discontinued (Cohen et al., 2006).

Tapio et al. (2000) examined whether depression and anxiety in early pregnancy are associated with preeclampsia in an unselected nulliparous population of Helsinki, Finland. In this prospective population-based study during pregnancy at outpatient maternity clinics in the Helsinki metropolitan area, depression was assessed by a Finnish modification of the short form of the Beck Depression Inventory and anxiety by one established question.

Age, smoking, alcohol consumption, marital status, socioeconomic status, and bacterial vaginosis were analyzed as potentially confounding factors in a multiple logistic regression analysis. Six hundred twenty-three consecutive nulliparous women with singleton pregnancies were studied at ten to 17 (median 12) weeks' gestation and at delivery. Of them, 28 (4.5%) women developed preeclampsia. Depression (mean Beck score 4.5, range 3–17) was observed in 185 (30. Anxiety was observed in 99 (16%) in early pregnancy. In multivariate analysis, after adjustment for potentially confounding factors, depression was associated with increased risk (odds ratio [OR] 2.5; 95% confidence interval [CI] 1.1, 5.4) for preeclampsia, as was anxiety (OR 3.2; 95% CI 1.4, 7.4). Either depression or anxiety, or both, were associated with increased risk (OR 3.1; 95% CI 1.4, 6.9) for preeclampsia. They concluded that depression and anxiety in early pregnancy are associated with risk for subsequent preeclampsia.

Laura, Glynn, et.al. (2008) Assessed Pattern of Perceived Stress and Anxiety in Pregnancy Predicts Preterm Birth. Perceived stress and anxiety were measured in 415 pregnant women at 18–20 and 30–32 weeks' gestation. The data proved the patterns of anxiety and stress were associated with gestational length. The finding of the study revealed that those who delivered preterm exhibited increased stress and anxiety though majority of women who delivered at term exhibited decline in stress and anxiety. The author concluded that an increase in stress or anxiety among pregnant woman is an important predictor of preterm birth.

Dayan. (2002) in a cohort study conducted in France in 1997–1998 on Role of Anxiety and Depression in the Onset of Spontaneous Preterm Labor investigated the effects of antenatal anxiety and depression on spontaneous preterm labor. A consecutive series of anxiety and depression was assessed among 634 subjects of pregnant women with singleton pregnancies using self-administered questionnaires Spielberger's State-Trait Anxiety Inventory and the Edinburgh depression scale. The findings showed that anxiety and depression, when combined with specific biomedical factors, are associated with spontaneous preterm labor.

Saisto, (1999) identified factors associated with fear of childbirth during and after first labor among 100 primiparas who reported severe fear of vaginal childbirth during their second pregnancies and 200 age- and parity-matched controls who reported no later fear of delivery. The main outcome measures were previous miscarriages, participation in birth-education classes, and support during labor, length of first delivery, pain relief, obstetric complications, welfare of the newborn, and time between deliveries. Results showed the prevalence of emergency caesarean (adjusted odds ratio [OR] 26.9, confidence interval [CI] 11.9, 61.1) and vacuum extraction (adjusted OR 4.5, CI 2.2, 9.3) during first delivery was much higher in subjects than controls. Labour lasted longer in cases than in controls during the first (10.5 hours versus 7.8 hours, P = .016) and second stages (62 minutes versus 47 minutes, P = .002). They received epidural analgesia more often, but its timing and the amount used were not different between groups. The study concluded that emergency cesarean and vacuum extraction during first deliveries were associated with secondary fear of delivery. So, prevention of fear might require more education in childbirth classes and at postpartum visits.

Lowe, N. K. (2011) conducted a study on Self-efficacy for labor and childbirth fears in nulliparous pregnantwomen. In the secondary analysis done by Lowe (2011), the relationship between self- efficacy for labour and childbirth fears in healthy nulliparous women was investigated during the third trimester of pregnancy. The sample of 280 well-educated third trimester nulliparae was divided into two groups as low- fear and high-fear group. Significant differences were found between groups on a number of psychological variables. The women with high- fear were characterized by significantly higher learned helplessness and significantly lower self-esteem and generalized self –efficacy. The most common fears of high- fear group were of losing control during delivery, of the birth itself, of something being wrong with the baby and of painful contractions.

Tapio et al. (2012) examined whether depression and anxiety in early pregnancy are associated with preeclampsia in an unselected nulliparous population of Helsinki, Finland. In this prospective population-based study during pregnancy at outpatient maternity clinics in the Helsinki metropolitan area, depression was assessed by a Finnish modification of the short form of the Beck Depression Inventory and anxiety by one established question.

Age, smoking, alcohol consumption, marital status, socioeconomic status, and bacterial vaginosis were analyzed as potentially confounding factors in a multiple logistic regression analysis. Six hundred twenty-three consecutive nulliparous women with singleton pregnancies were studied at ten to 17 (median 12) weeks' gestation and at delivery. Of them, 28 (4.5%) women developed preeclampsia. Depression (mean Beck score 4.5, range 3–17) was observed in 185 (30. Anxiety was observed in 99 (16%) in early pregnancy. In multivariate analysis, after adjustment for potentially confounding factors, depression was associated with increased risk (odds ratio [OR] 2.5; 95% confidence interval [CI] 1.1, 5.4) for preeclampsia, as was anxiety (OR 3.2; 95% CI 1.4, 7.4). Either depression or anxiety, or both, were associated with increased risk (OR 3.1; 95% CI 1.4, 6.9) for preeclampsia. They concluded that depression and anxiety in early pregnancy are associated with risk for subsequent preeclampsia.

Significance of the Study

Around the world, Pregnancy and the disarrays have been a concerning issue of general prosperity. The psychological and social changes in females during pregnancy lead to strain and stress among women. The pressing factor looked by the females before transport impacts the child's prosperity. Another overview suggested that pressure during antenatal period present for a long stretch inimically affects the mother and the youth. Keeping this in view an exact study was coordinated to perceive pressing factor and pressure and its disagreeable outcome on pregnant females.

A stressful event prior to delivery affects the infant's health and is also associated with the mental health problems in childhood and adulthood. A recent review suggested that stress during antenatal period present for a long term has adverse effect on the mother and child. Keeping this in view a systematic review will be conducted to identify antenatal stress and anxiety and its adverse outcome on pregnant women.

An overview of` the survey of Literature reveals that, there are many researches done on, to study on anxiety and stress among women during pregnancy but this issue needs more attention. Therefore, the investigator finds it important to conduct research of anxiety and stress during pregnancy and postpartum depression among rural women in Delhi NCR.

RESEARCH METHODOLOGY

Research methodology is a way to systematically investigate the research problem. It gives various steps in conducting the research in a systematic and a logical way. It is essential to define the problem, state objectives and hypothesis clearly. The research design provides the details regarding what, where, when, how much and by what means enquiry is initiated.

Research Problem

"A Study of Anxiety and Stress During Pregnancy and Postpartum Depression Among Rural Women in Delhi NCR"

Objectives Of the Study

- To study the prevalence of anxiety and stress during pregnancy among rural women in Delhi NCR.
- To study influence of stress and anxiety during pregnancy on postpartum depression among rural women in Delhi NCR.

Hypotheses Of the Study

- H01. Women living in rural areas of Delhi NCR are more likely to experience stress symptoms during pregnancy.
- H02. Women living in rural areas of Delhi NCR are more likely to experience anxiety symptoms during pregnancy.
- H03. Women who experienced high stress symptoms during pregnancy also show significantly higher on postpartum depression.
- H04. Women who experienced high anxiety symptoms during pregnancy also show significantly higher on postpartum depression.

Population

In the present study, the population refers to all the rural women after childbirth.

Sample

The sample includes, 80 women from the regions of rural Delhi and NCR

Sampling Technique

Purposive sampling method will be used for the present study

Inclusion & Exclusion

Inclusion

- Only pregnant women of age group 20 to 35 years were included.
- Those who give consent and willing to participate was included.
- The data was collected only through google forms due to present scenario of corona pandemic.

Exclusion

- Those who above 35 years of age was excluded.
- Those who do not give consent was excluded.
- Those females who were at high risk was excluded.

Tool Used for Data Collection

The following tool was employed:

Stress Scale

For the measurement of stress level of SS stress scale were used. It is constructed by Dr. M. Singh (2002). It is verbal test. This test is available in both version Hindi and English. Stress scale Hindi version was used in present research. It is published by institute of research and test development, Mumbai. It can be used individually or in a group. This stress scale is self-reporting scale of measuring stress. Reliability coefficient of the scale was estimated by Split-half method and Test-retest method and correlation was found 0.82 and 0.79 respectively. Validity coefficient was computed with Bist Battery of Stress Scale (Abha Rani Bist) and correlation was found 0.61. Norms: Sample consists of stress-riden 80 male and 60 female patients reported in mental clinics. The age range was 16 to 60 years. It consists of 40 statements. Each statement has “always”, “sometime” and “never” alternatives from which a respondent has to choose any one response out of three alternatives.

Edinburgh Postnatal Depression Scale (EPDS)

The (EPDS) is a 10-item questionnaire was first developed in (1987) by Scottish health centers in Edinburgh and Livingston. The Edinburgh postnatal scale was designed by the authors as a sample of means of screening for postnatal depression in health care settings. It can also be used by researcher seeking information on factors that influence the emotional wellbeing of now mothers and their families. The (EPDS) is a widely used depression screening tool which has been adapted and validated in many languages.

State Trait Anxiety Inventory (STAI)

Maternal state and trait anxiety will be measured using Spielberger State-Trait Anxiety Inventory. State Trait Anxiety Inventory (STAI) Spielberger et al., (1970) is a reliable and valid tool that has been used with both clinical and non-clinical populations. The measure comprises separate self–report scales for assessing state and trait anxiety. The state anxiety scale consists of 20 items that evaluate how a person presently feels (or the current feelings of tension, anxiety, and nervousness), while trait anxiety scale evaluates how the subject generally feels with respect to 20 statements. State anxiety is conceptualized as transitory emotional state, whereas trait-anxiety refers to relatively stable individual differences in proneness to anxiety. Adaptation of Spielberger State-Trait Anxiety Inventory by Mohandas and Kumar (1994), Mahatma Gandhi University was used in this study. This inventory also contains 20 state and 20 trait questions and was filled on each occasion.

Reliability: This standardized tool was tested in the locality by many researchers. Split- half reliability was 0 .89 for State anxiety and 0.79 for Trait anxiety.

Validity: The correlation coefficient obtained for State inventory was 0.84 and for Trait inventory was 0.86. Face validity was also assured by item analysis. Cronbach's alpha, in the previous study was >0.88 for state anxiety and >0.83 for trait anxiety.

Scoring: The range of possible scores of STAI varies from minimum score of twenty to maximum score of 80 in both State and Trait subscales. Clients respond to each STAI item by rating themselves on a four-point scale as described below:

State Anxiety	**Trait Anxiety**
1. Not at all	1. Almost never
2. Somewhat	2. Sometimes
3. Moderately so	3. Often
4. Very much so	4. Almost always

The total score of 160 is considered as the maximum scores for STAI and in this study STAI score of < 50% will be considered as mild anxiety, 50-70% as moderate anxiety and above 70% scores as severe anxiety.

Pilot Study

A Pilot study was conducted before the main study, the purpose of pilot study was rectified the shortcomings in the survey and the data collection process. Also, to identify the feasibility of questionnaire towards the main study in future. This pilot study enables the main study to have maximum control over minimizing the possible biases and conflicts. It also helps to identify possible sources of non-sampling errors, which might occur in the process of communication, establishing good rapport with the subjects, purpose of investigation, clarification of statements etc. It can empirically determine, the time factor for responding to the questionnaire, and we can get acquainted with time factor because time is one of the important aspects for research work. Thus, the time schedule for main study could be drawn with precision and accuracy. Pilot study was done mainly to find out the reliability

of the research tools used in the study. This ensures that the data to be collected for investigation is free from errors, and worthy enough to use for testing the set of hypotheses with much confidence.

Procedure

To begin with the research, the researcher was contact the 80 pregnant women from the regions of rural Delhi and NCR. The nature of the study was explained to them, consent of the pregnant women regarding data collection was taken and they were assured of confidentiality. To choose a test researcher was pay attention to the type of question and the scale of measurement in present study. T-test was used to study the significance between the variables. SPSS software was used for data analyzing in this study.

Ethical Consideration

Ethical clearance was obtained from each study participant after they was introduced to the purpose of the study and informed about their right to interrupt the interview at any time.

Statistical Techniques

Keeping in view the goals of the investigation the information so gathered was genuinely examined by utilizing mean, S.D., and f-test and Pearson relationship. f test was utilized to contemplate the huge contrast between pregnant ladies as for stress, nervousness and misery. Whereas Pearson connection was utilized to examine the connection between stress, depression and anxiety among pregnant females.

DATA ANALYSIS AND INTERPRETATIONS

Section 1: Description of Sample Characteristics

This section describes the characteristics of 80 pregnant women included in the phase 1. The sample characteristics according to gravidity, age, religion, education and occupation of mother, income, place of living, type of family, nature of family, birth order, history of abortion, sources of information, husband's drinking and smoking habits and also any family history of mental disease, any members with fear of pregnancy, pregnant woman's level of satisfaction with marital relationship and also the type of family support system for the women are described in terms of frequency and percentage and are presented in Table 5.1.

Table 5.1 Socio personal Characteristics in terms of Frequencies and Percentage

Socio-personal variables (N=80)	Percentage (%)
Gravidity	
Nulliparous pregnant women	70
Parous pregnant women	30
Age	
25-28	6
28-30	60
30-32	28
32 -35	6
Occupation of mother	
House wife	80
Labourer	4
Clerk	4

Socio-personal variables (N=80)	Percentage (%)
Business	4
Professional	4
Technical	4
Place of living	
Panchayath	52
Municipality	18
Corporation	30
Type of family	
Nuclear	80
Joined	20
Birth order of mother	
First	44
In between	38
Last one	16
Only one	2
Source of information	
Newspaper	4
Radio	2
TV	50
Magazines	4
Friends and relatives	0
All of the above	40
History of abortion	
Yes	10
No	90
Husband's habit of smoking	
Yes	44
No	56
Husband's habit of drinking	
Yes	12
No	88
Husband's habit of drug addiction:	
No	100
Family members with fear of pregnancy	
Yes	6
No	94
Family members with history of mental illness	
Yes	0
No	100
Support System	
Husband only	6
Own family and husband only	22
Husband's family and husband only	28
Both families and husband	44

Data presented in the Table 5.1 showed that 70% pregnant women were nulliparous and 30 % were parous women. Majority of pregnant women 60% belonged to the age group of 28-30 years. Only 6 % of them were below the age of 25-27 years.

- Occupation of the wife: 80% pregnant women were housewives. The remaining were working as clerk (4%), technician (4%) and 4% of them were working as professionals.
- Place of living: Fifty two percent pregnant women were living in panchayat and (30%) were in corporation area. Only 18 % belonged to municipality area.
- Type of family: Eighty percent of the pregnant women were having nuclear type of family and the remaining 20 % belonged to joint family system.
- Birth order of pregnant women: Only 2% subjects were the only child group and 16% were the last one for their parents. 44 % were first born and 38 % were with a birth order of in between position.
- History of abortion: Only 10 percentages had history of abortion.
- Sources of information to pregnant women: It is observed that 50 % subjects were using only television as a source of information and the remaining 50 % sought information from different sources. Further details revealed that only 0 % got information from relatives and friends.
- Family history of members with fear of pregnancy: Majority of pregnant women did not report any family members with fear of pregnancy (94%)
- Family history of members with mental disease: All pregnant women were not having any family history of mental disease (100%)
- Support System: Majority of pregnant women (96%) reported having support system.

Section II: Prevalence of Anxiety during Pregnancy

The prevalence of general anxiety among pregnant women during first trimester, second trimester, and third trimester and during postnatal period was assessed using STAI. The data were analyzed by computing frequencies and percentage. The mean anxiety scores were also determined. The findings are given in the Table 5.2 and Table 5.3. In all tables each trimester is represented with numerical value 1, 2 and 3 respectively.

Table: 5.2 Prevalence of General Anxiety (STAI) During Trimesters of Pregnancy

STAI Scores along Trimesters	Mild	Moderate	Severe
STAI-1	3	48.6	48.4
STAI-2	28.2	60.6	11.2
STAI-3	--	71.0	29.0

Data presented in Table 5.2 revealed that almost half of the pregnant women (48.4%) during first trimester were having severe general anxiety. But, during third trimester 71% pregnant women were with moderate and the remaining 29% with severe general anxiety. This confirms that all subjects during third trimester were with moderate to severe anxiety. The mean anxiety score during third trimester was high compared to other trimesters.

Table 5.3 reveals that inter-trimester anxiety levels vary and these variations are statistically significant according to f- test. It means the hypothesis stated that Women living in rural areas of Delhi NCR are more likely to experience anxiety symptoms during pregnancy is accepted.

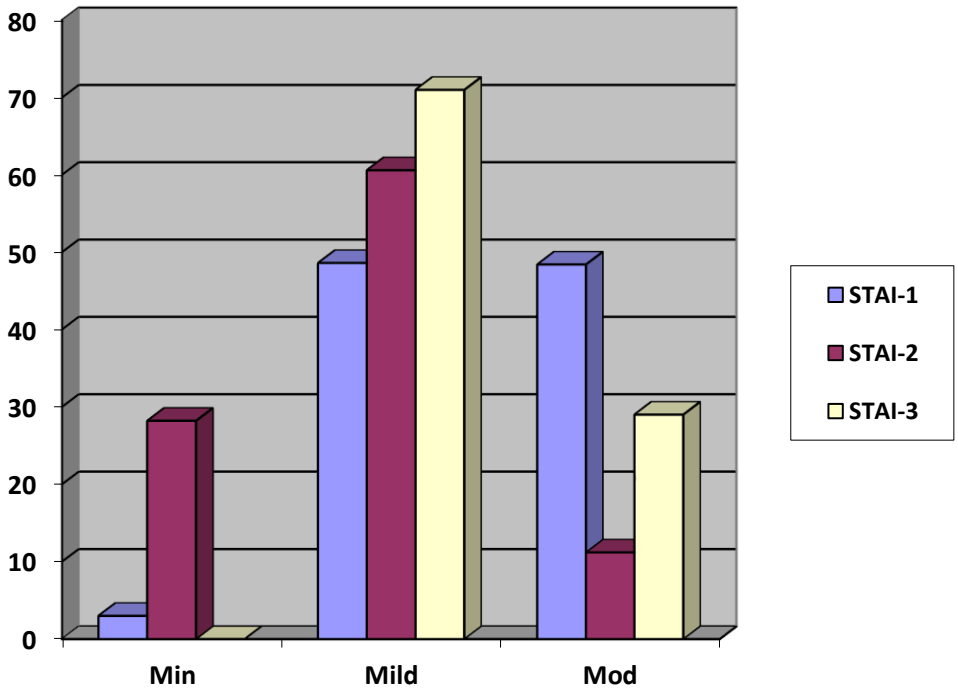
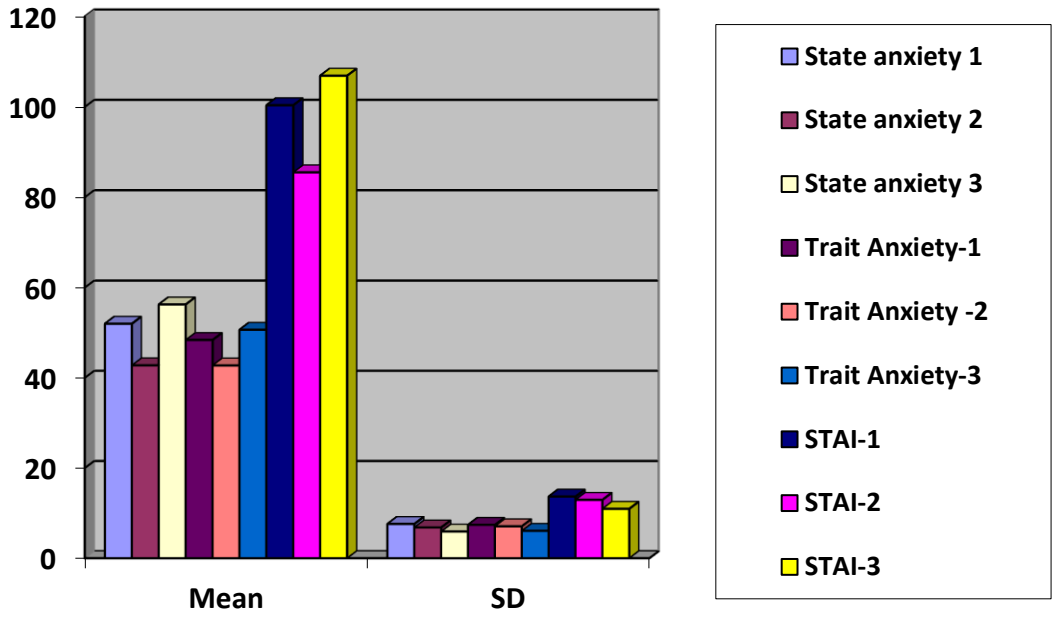


Table 5.3 Mean, SD and Level of Significance of General Anxiety (STAI), both State Anxiety (ST) and Trait Anxiety (TR) Across Trimesters of Pregnancy

General Anxiety (STAI)	Mean	SD	Level of Significance test F & P value
State Anxiety -1	51.98	7.595	
State Anxiety -2	42.76	6.813	F = 496.000
State Anxiety -3	56.25	5.916	P <0.001
Trait Anxiety-1	48.38	7.399	
Trait Anxiety-2	42.73	7.072	F = 154.032
Trait Anxiety-3	50.64	6.067	P <0.001
STAI - 1	100.36	13.637	
STAI- 2	85.50	12.933	F = 369.726
STAI - 3	106.89	10.952	P <0.1

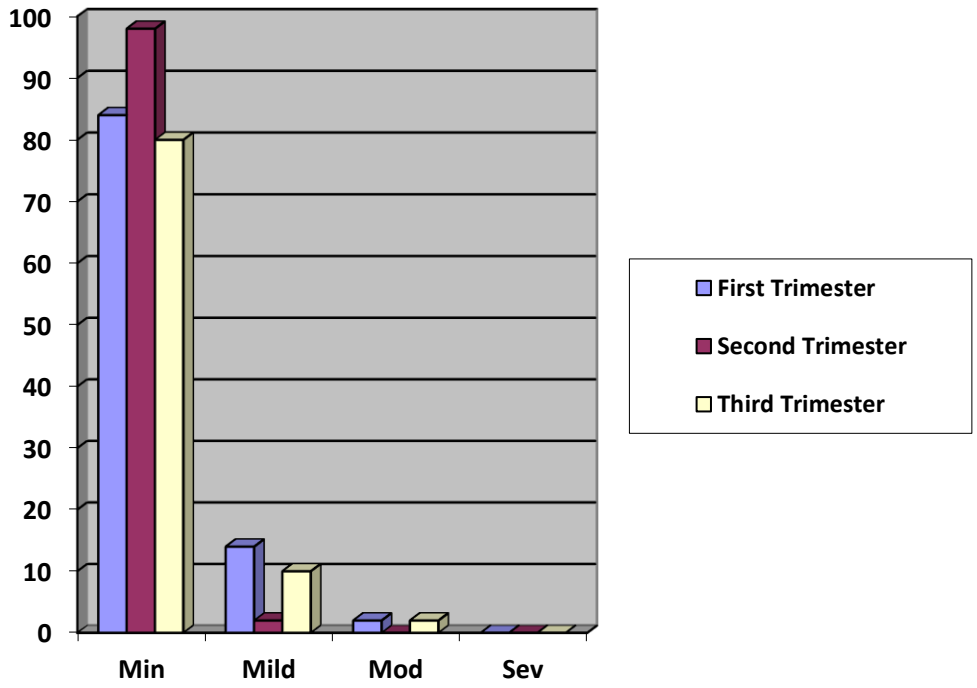
Maximum score of STAI is 160 and each section of State and Trait Anxiety has maximum 80 score



Section III: Prevalence of stress during Pregnancy

Table 5.4: Distribution of stress during Pregnancy

Stress	Minimal	Mild	Moderate	Severe
First Trimester	84	14	2	0
Second Trimester	98	2	0	0
Third Trimester	80	10	2	0



The table 5.4 entries shows that majority of the pregnant women had minimal stress during all trimesters of pregnancy. Only (2%) pregnant women reported moderate degree of stress symptoms during first trimester and 2% during third trimester. When compared to anxiety, prevalence of stress is less may be due to the prevailing social and family support system.

Table 5.5: The Mean SD and Level of Significance of stress across the Trimesters of Pregnancy

Stress Scores	Mean	SD	Level of Significance test F &P value
First Trimester	9.47	3.729	F = 46.946
Second Trimester	7.64	2.164	P < 0.001
Third Trimester	10.5	3.522	

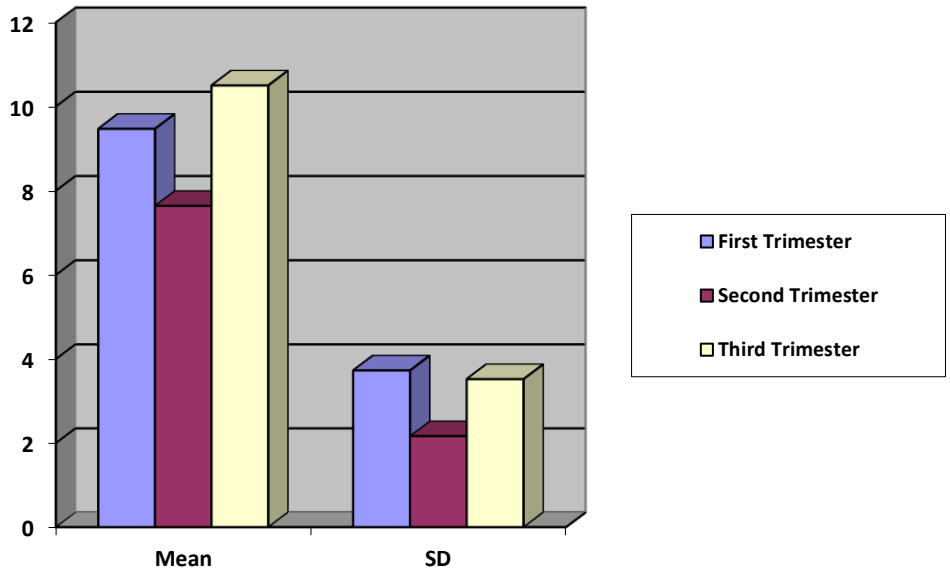


Table 5.5 shows that the mean value of stress during first trimester was 9.47 and SD 3.729, mean value of stress during second trimester was 7.64 and SD 2.164. Further, mean value of stress during third trimester was 10.5 and SD 3.522. Further, study shows that low mean score in second trimesters. Anxiety scores also revealed the same trend. This indicated that pregnant women were more relaxed during second trimester. It means hypothesis stated that Women living in rural areas of Delhi NCR are more likely to experience stress symptoms during pregnancy is accepted.

H3. Women who experienced high stress symptoms during pregnancy also show significantly higher on postpartum depression

Correlation analysis is used to find out the relationship between two variables. The correlation co efficient is valued in the field of education as the measure of relationship between test scores and other measures of performance. In the present study, the correlation analysis is used to find out the strength of relationship between stress and postpartum depression.

Table 5.6: Relationship between stress and postpartum depression

Variable	N	Df	Calculated value of 'r'	Level of significance
Stress	80	78	0.53	Significant
Postpartum Depression				

It is inferred from the above table that there is a positive significant statistical relationship at (0.05 level of significance) between depression and stress among pregnant women.

It indicates the existence of positive statistical linking relationship between depression and stress among pregnant women. The calculated r value for depression and stress is 0.53. It means, hypothesis stated that women who experienced high stress symptoms during pregnancy also show significantly higher on postpartum depression is accepted.

H4. Women who experienced high anxiety symptoms during pregnancy also show significantly higher on postpartum depression

Table 5.7: Relationship between anxiety and postpartum depression

Variable	N	Df	Calculated value of 'r'	Level of significance
Anxiety	80	78	0.50	Significant
Depression				

It is inferred from the above table that there is a positive significant statistical relationship at (0.05 level of significance) between anxiety and postpartum depression among pregnant women.

It indicates the existence of positive statistical linking relationship between anxiety and depression among pregnant women. The calculated r value for anxiety and depression is 0.50. Thus, hypothesis 4 indicated that women who experienced high anxiety symptoms during pregnancy also show significantly higher on postpartum depression is accepted.

DISCUSSION

Incidence and prevalence rate of stress, anxiety and post partum depression were reported to be associated with availability of social and family support which varies widely around the world. (Zekiye Karaçam and Gülsüm Ançel, 2005). The Systematic review by Bennett, et al., (2004) estimated the prevalence of stress during pregnancy by trimesters. The prevalence rates were found to be 8%, 12% and 12 % for first, second, and third trimesters, respectively. A varied prevalence rate was reported from different parts of the world- (Kerry, Catherine and Marie, 2007). The prevalence of stress during pregnancy was 14.2% (Pereira, P.K; Lovisi, G.M; Pilowsky, D.L; 2009). The prevalence of depression was 15.5% in the third trimester of pregnancy among Maltese women (Felice et al., 2004).

In the present study at first trimester moderate degree of stress symptoms were reported among (2%) pregnant women but during the third trimester (4%) reported moderate degree of depressive symptoms.

In contrast to the previous reported prevalence rate a much lower prevalence of stress and depressive symptom was found during pregnancy in the present study. Moreover, this is in variance with high level of anxiety both general and pregnancy-specific anxiety reported by the subjects. We have observed that pregnant women had good family support during pregnancy and childbirth. Most of the couples (88%) were satisfied in marital relationship and the relationship with their in-laws. Our society accords high esteem to a woman when she becomes pregnant and there is possibly an improvement in the quality of marital relationship, intrafamily and interfamily interactions and an overall psychosocial wellbeing of the woman. These factors would have contributed to the low prevalence of stress symptoms in our subjects.

The congenial family atmosphere on account of these factors would have created a less stressful environment for pregnant women and enabled them to adapt to pregnancy -related changes in a more smooth and effective manner and contributed to low incidence of stress symptoms.

Previous studies by Beck & Tatano, (2001), Mani Chandran, Prathap Tharyan, (2002), Terhi Saisto et al., (2001), Zekiye Karaçam and Gülsüm Ançel (2005); Robertson, (2004); Felice, et al. (2004); revealed that poor marital relationship, lack of support from partners, family members and less social supports are the predictors of stress in pregnancy period.

CONCLUSIONS

70% pregnant women were nulliparous and 30 % were parous women. Majority of pregnant women 60% belonged to the age group of 28-30 years. Only 6 % of them were below the age of 25-27 years. 80% pregnant women were housewives. The remaining were working as clerk (4%), technician (4%) and 4% of them were working as professionals. Only 18 % belonged to municipality area. Eighty percent of the pregnant women were having nuclear type of family and the remaining 20 % belonged to joint family system. Only 2% subjects were the only child group and 16% were the last one for their parents. 44 % were first born and 38 % were with a birth order of in between position. Only 10 percentages had history of abortion. It is observed that 50 % subjects were using only television as a source of information and the remaining 50 % sought information from different sources. Further details revealed that only 0 % got information from relatives and friends. Majority of pregnant women did not report any family members with fear of pregnancy (94%). All pregnant women were not having any family history of mental disease (100%).

Prevalence of 48.4% severe general anxiety during first trimester among pregnant women was noted. Data further indicated that the mean general anxiety score during third trimester was high (106.89) compared to other trimesters, indicating that pregnant women were having high degree of general anxiety especially of state anxiety (56.25) during their third trimester.

Majority of pregnant women (96%) reported having support system majority of the pregnant women had minimal stress during all trimesters of pregnancy and postnatal period. Only (2%) pregnant women reported moderate degree of depressive symptoms during first trimester and 2% during third trimester. When compared to anxiety, prevalence of stress is less may be due to the prevailing social and family support system. Anxiety scores also revealed the same trend. This indicated that pregnant women were more relaxed

during second trimester. Further, women who experienced high stress symptoms and anxiety during pregnancy also show significantly higher on postpartum depression.

Implications of the Study

This finding has got wider implications in the area of nursing practice especially of midwifery practice, nursing education, and nursing research. The implications with regard to nursing practice, nursing education and nursing research are discussed below.

Implications for Nursing Practice

The findings of the present study showed that prevalence of pregnancy-specific anxiety was high among pregnant women especially during third trimester of pregnancy (100 %). Further, the detailed analysis of pregnancy-specific anxiety also revealed that majority of pregnant women in their third trimester had severe childbirth anxiety (94 %). It is found that 2% pregnant women had moderate degrees of stress during first trimester and 2 % of pregnant women had during third trimester. This indicates that health promotion activities and antenatal care need to be further strengthened with a component of regular organized childbirth education. Measures must be taken to empower women to take charge of their pregnancy related needs. Findings of the study provide a basis for policy makers to suggest and implement various strategies and techniques to promote health behaviours of women in reproductive age.

A well-designed Information Education and Communication (IEC) programs should be effectively implemented to enhance reproductive health of women in our country.

The findings also showed prevalence of high anxiety among the first time pregnant women as compared to parous women. This emphasizes the need for intense information regarding childbirth preparation to pregnant women especially to first time pregnant women. As nurses contribute to the largest population of healthcare delivery personnel, they have a major role to play in identifying and providing supportive measures, especially childbirth education to nulliparous women being the priority.

We can plan for nurses running a regular scientific childbirth education programme at antenatal outpatient department and inpatient maternity services of each hospital on a scheduled basis. So, all pregnant women can avail themselves of their service and get prepared for a stress free and safe delivery. The structured childbirth education programme delivered by nursing personnel in wards and outpatient departments will enable pregnant women to increase their knowledge and get prepared for a stress-free enjoyable delivery experience. Several teaching strategies could be used to disseminate information on childbirth education like demonstration, printed materials, slide projectors, charts, video and audio. In the era of “Health for all” healthcare has become a universal concept and more emphasis is given on self-reliance and client participation in healthcare, so steps may be taken to implement such programs in community settings too.

Implications for Health Care Delivery System

These data and results of the study emphasized the need for screening for anxiety and stress and its risk factors during pregnancy and postpartum period along with routine antenatal checkup. High prevalence of pregnancy-specific anxiety and its adverse effect on mother and child indicate the importance of preventive and control measures to combat maternal anxiety and stress.

Reproductive and child health is an integral and important component and dimensions of National Health Programmes and the present study has important significance for reproductive health care. In addition to institutional programmes outlined above an awareness program through mass media especially at adolescence are to be arranged at schools and community settings.

Health education materials on childbirth preparation in the form of posters, charts, pamphlets should be made available to the pregnant women from all healthcare facilities. Childbirth education aspects in the mass media like radio, television, newspaper, and even website regarding childbirth education can be made available especially with inclusion of culturally sensitive care. Every health delivery system especially of maternity service organization must have the facility for childbirth education.

Systematic effort to develop mental health services for women in pregnancy is to be planned and implemented. Pregnancy provides an optimal time for screening, as women have frequent contact with healthcare providers. Early detection of stress during pregnancy is important because untreated illness has consequences for both mother and child, and may evolve into postpartum stress.

Implications for Nursing Education

Nursing education today is preparing nurses to play a major role in the health care system. The nursing curriculum should focus on processing of information and implementation. Today there is a need for continuously updating the nurses to provide quality service. Collaborative care with patient participation involving various models of health care delivery midwifery system becomes the need of the day. Innovative teaching methods such as participatory teaching, role play, street plays, preparation of women group and health workers should be emphasized in education programme.

Though nursing curriculum is with comprehensive midwifery course it must be enriched with current concepts of midwifery practice. The investigator feels that a culturally sensitive midwifery care concept must be incorporated in the nursing curriculum. Childbirth Education given to pregnant women should be emphasized in Midwifery component in nursing curriculum as a health promotion activity

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Implication for Nursing Research

Women in developing countries continue to face high risk of death and morbidity related to complication of pregnancy. This situation is likely to be improved only if more cost-effective interventions are developed to deal with psychosocial problems of pregnant women especially of their anxiety problems which in turn lead to bad obstetrics outcome and childcare. As even normal pregnant women exhibit such high levels of anxiety more research need to be done to explore the anxiety and stress among pregnant women with high-risk pregnancy. The high prevalence of infertility and modern infertility treatment modalities add up a great deal of anxiety to these pregnant women.

Getting pregnant at late age for various reasons also causes more anxiety and stress among pregnant women. So, these areas need to be explored to find out the magnitude of the problems and measures must be taken to reduce the psychosocial impact on pregnancy outcome.

Delimitations of the Study

The study was delimited to the following due to time constrains and limited resources to the investigator:

- The study was delimited to the pregnant women only.
- The study was further delimited to the 80 women from the regions of rural Delhi and NCR**.**

Suggestions For Further Research

Based on the findings of the present study the following topics are suggested for further research

- The present study needs to be replicated on a larger sample of pregnant women of Delhi so that findings could be more generalizable.
- A comparative study of anxiety, stress and post partum depression among pregnant women with abnormal and normal pregnancy status can be done.
- A qualitative explorative study can be done to find out the perception of pregnant women regarding childbirth preparation and breast feeding.
- Longitudinal studies can be done to measure the breastfeeding practices of pregnant women.
- Coping up with pregnant women during labor period can be taken up to measure the effect of anxiety in third trimester on a larger sample.
- The variance in the prevalence of anxiety and stress and depression among women during pregnancy needs detailed exploration on clinical and etiological dimensions.

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Acknowledgement

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Mann P. & Deepmala (2021). A Study of Anxiety and Stress During Pregnancy and Postpartum Depression Among Rural Women in Delhi NCR. *International Journal of Indian Psychology*, *9*(4), 2395-2457. DIP:18.01.226.20210904, DOI:10.25215/0904.226