An Empirical Study on Stress Management during Pregnancy: A Case Study on Select City in India

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ABSTRACT

Every woman's life undergoes with the changes prospective; with the event of course of pregnancy. During the course of pregnancy the woman undergoes the time of psychological and biological changes. The woman experiences a new social role of being a mother for the first time of her life period. Another optimistic view regarding pregnancy is that, this period provides a specially wonderful feeling of happiness with the gaining of psychological strength or power. Some psychologists also view pregnancy as a woman's relatively normal and positive developmental experiences everyday during the whole course. Pregnancy has some important short term and long term implications of the health of the woman and her well being and social roles. In this context, this study will really explore the stress of pregnant women during those days and also give adequate solution overcome the problems with keep in mind the present context. In this study, I will use structural equation model to find out the real influencing factors for stress of pregnant women's in selected city in odisha.

Keywords: Stress Management, Pregnant women, t test,

I. INTRODUCTION:

"Each neurotic disorder protects the individual from recognizing the true source of his anxieties, yet allows the anxiety a measure of release without damaging his self-image or provoking social rebuke. In phobias, the inner tension is symbolized and attached to an external object; in conversions, it is displaced and expressed through some body part; in dissociative symptoms, there is a blocking or splitting off of the anxiety source; in obsessions and compulsions, tension is controlled, symbolized and periodically discharged through a series of repetitive acts or thoughts."

Human beings are likely to lead the life of freedom or comfortableness, provided their biological and psychological needs were automatically satisfied or gratified. But it does not happen. Environmental and internal obstacles interfere such gratifications. These obstacles follow adjective demands or stress.

2. BACKGROUND OF THE STUDY:

Every woman's life undergoes with the changes prospective; with the event of course of pregnancy. During the course of pregnancy the woman undergoes the time of psychological and biological changes. The woman experiences a new social role of being a mother for the first time of her life period. Another optimistic view regarding pregnancy is that, this period provides a specially wonderful feeling of happiness with the

gaining of psychological strength or power. Some psychologists also view pregnancy as a woman's relatively normal and positive developmental experiences everyday during the whole course. Pregnancy has some important short term and long term implications of the health of the woman and her well being and social roles.

As the pregnant woman becomes the psycho-somatic environment for the fetus, soothe variations in the psychological aspects and mental disorders may affect the fetus to a considerable amount. Studies show that usually 90% among all women undergo the course of pregnant life at least once during their life. Therefore it becomes sincerely relevant to investigate psychological changes of the woman during her pregnancy period. Estimation of a woman's mental health during pregnancy is an under-investigated area which is as important as its impact on the baby. Of course the pregnancy is being represented as the period of immense joy and pleasure, but all women do not experience the same always. At least 9 to 10% of pregnant women undergo some spells of stress, depression or anxiety.

Some scientific research reports that, the hormones during the pregnancy protected against the depression, leaving the women more vulnerable to the illness only after the birth of the baby and there occurs plunging of hormone levels. The researchers therefore, believe that the rapid increase of hormone levels at the beginning stage of the pregnancy can disturb the chemistry within the brain and may lead to stress, depressions or anxieties.

2. REVIEW OF LITERATURE

In Anxiety has been derived from French word 'anxieté'. It means 'the state of feeling nervous or worried that something bad is going to happen. (Oxford Advanced Learner's dictionary, Oxford University Press. 2010). Thus it has been described as a painful uneasiness of the mind concerning impending or anticipated ill. It represents a danger or threat within the individual rather than an external danger. Anxiety is accompanied by a sense of helplessness due to the person unable to find a solution to his problem. (Hurlock E.B., 2005). In this context, Suinn, Richard M. (2001) stated that Positive emotions are both physically and psychologically beneficial as these emotions often counteract almost all the negative emotions or chronic stress states. People with positive emotions think more creativity about the opportunity and choices in order to achieve their goals. Such people with positive emotions usually attract friends, supporters and social activities of contributing the positive actions for psychosomatic healthy states of the self and the society too. Morgan,C.T. et al.,(1993) in their book defined that anxiety is an uneasy, fearful feeling and is the hallmark of many psychological disorders. It is often concealed and reduced by defensive behaviours such as avoidance or ritualistic action (e.g. hand washing). In many anxiety disorders, however, intense observable anxiety or fears are the principal signs. A major United States survey by the National Institute of major health showed that anxiety disorders are more common in the general population than any other disorders, including depression. At the same time Guyton, c., (1996) said that acute hypertension can be caused by a strong stimulation of the sympathetic nervous system in anxiety, because when a person becomes excited for any reason during the states of anxiety its sympathetic nervous system becomes stimulated and as a result the peripheral vasoconstriction occurs resulting in acute hypertension.

Hence, emotional stress can make an individual sick with physical symptoms like diabetes, cancer, skin disease, etc. Negative emotions like anxiety, depression, helplessness, being trapped, chronic physical ailments are likely to develop psychological stress. Continues worry and loneliness can suppress the immune system by creating viruses like herpes which may create severe painful or irritating state of the body. People remain prone for other risks factors of the abnormality, (Ader. 200, Segerstrom, S. C., & Miller, G. E. 200, Levenstein, Susan; Ackerman, S.; Kiecolt-Glaser, Janice K.; & Dubois, A.1999, Evans, G. W., Lepore, S. J., & Allen, Karen Mata 2000, Evans, Gary W.; Lepore, Stephen J.; & Schroeder, Alex 1996). At the same time, it has been said that stressful life events affect the health. The greater the stress the greater is the degradation of health. Stress and personal health link up is very strange indeed (Kiecolt Glaser, J.K., & Glaser, R.1992, Matthews, K. A., Gump, B. B. & Owens, J. E. 2001. Also it has been proved that stressful events may include fear, anxiety, excitement, embarrassment, anger, depression, stoicism or denials, etc. These states may require emotional responses of quite insistent, prompting rumination over a stressful event, which as a resultant effect may keep biological stress responses elevated (L. M., Christenfeld, N., & Gerin W., 2002). Subjective and objective stress is likely to result with health problems. Both subjective and objective measures of stress independently predict the psychological distress along with health disturbances (Repetti, R. I. 1993). In this context, it has been said that Pregnancy either induces or exacerbates pre-existing stress and in turn stress seems to have a negative effect on pregnancy, especially in the first trimester 2. The period of greatest stress during pregnancy, the first trimester, is also the period of the highest rate of pregnancy loss, (Parikh, R.M. et.al., 1993).

3. NEED OF THE STUDY

Today the society has changed very fast due to the up the gender neutrality and subsequently it can help to the women to come forward and involving them self for the national development. But due to the biological difference it can compel to passing themselves most important phase is called gestation period. As a result it will create lots of physical and mental stress during that day. The purpose of the study is that to find out the cause and consequence of the stress and how it will irritate to them in the different periods

4. RESEARCH OBJECTIVES:

1. To increase the quality of life in the pregnant women with anxiety during their third trimester by employing different modes of therapies e.g. Behavioral therapy, Yoga therapy and Homoeopathic therapy.
2. To find out the most preferable mode of treatment for the anxiety during third trimester of pregnancy.
3. To observe the action of different Constitutional anti-miasmatic Homeopathic medicines in the management of anxiety during third trimester of pregnancy.
4. To find out the most effective drugs with their reliable indications and suitable potencies.
5. To study the incidence of Anxiety in relation to age and other associated conditions.

5. RESEARCH METHODOLOGY:

5.1. Research Design

Tourism Among the patients admitted to above institution during the study period, whose ever fitted to any of the following diagnostic criteria were taken up for the primary screening for detection of anxiety.

- **Inclusion criteria:**
  - Females of Reproductive age group who are primigravida.
  - Presence of Anxiety symptoms.

- **Exclusion criteria:** Following conditions were excluded-
  - Depression
  - Migraine
  - Schizophrenia
  - Organic brain disorders (such as brain tumors)

5.2. Sampling:

a) Sample size: In a view of the design of this study, the sample size was set at 120. (Applying formula $n = 4pq/L^2$)[83]

b) Sampling Method: Simple random method was adopted for selection of the case.

5.2. RESEARCH HYPOTHESIS

5.2.1. For behavioural group:

H_0 = Quality of life of anxiety patients during third trimester of pregnancy is not significantly improved treated through only Behavioral therapy.

H_1 = Quality of life of anxiety patients during third trimester of pregnancy is significantly improved treated through only Behavioral therapy.

5.2.2. For yoga group:

H_0 = Quality of life of anxiety patients during third trimester of pregnancy is not significantly improved treated through only Yoga therapy.

H_1 = Quality of life of anxiety patients during third trimester of pregnancy is significantly improved treated through only Yoga therapy.

5.2.3. For homoeopathic group:

H_0 = Quality of life of anxiety patients during third trimester of pregnancy is not significantly improved treated through only Homoeopathic medicines.

H_1 = Quality of life of anxiety patients during third trimester of pregnancy is significantly improved treated through only Homoeopathic medicines.

5.2.4. For comparative study of four groups:

H_0 = There is no significant difference in mean score difference of four groups of approaches.

H_1 = There is significance difference in mean score difference of four groups of approaches.

5.3. RESEARCH METHODOLOGY

Outside the O.P.D. patients and I.P.D. patients of Dr. AC Homoeopathic Medical College & Hospital, Bhubaneswar during the study period, those who exhibited anxiety disorders in the third trimester of pregnancy, especially primigest, were taken as thesis subjects.

Out of 120 patients of this type, 30 received only one behavioural therapy, 30 only yoga, 30 a constitutional homeopathic anti-miasmal drug and 30 others a placebo.

5.4. SAMPLING DESIGN:

Sampling is a process of selecting an adequate number of elements from the population so that study of the sample will not only help in understanding the characteristics of the population but will also enables us to generalize the result.

This research paper has included of 120 observations regarding age distributions as shown the below table.

Table: 1. Age Distribution of patients

Age group in years	No. of patients	Percentage (%)
15-20 yrs.	10	8.335
21-25 yrs.	25	20.83
26-30 yrs.	50	41.66
31-35 yrs.	20	16.66
36-40 yrs	15	12.5
Total	**120**	**100**

Source: Primary Data

From the age distribution, the majority of cases (50 cases, 41.66%) were observed in the age group of 26-30 yrs. Lower to that, 25 cases (20.83%) were in the age group 21 to 25 years. The incidence is greater in this age group because these groups formed the bulk of the working class and are more exposed to various situations.

Table: 2. Causes of anxiety

Causes of anxiety	Frequency	%
Family history of anxiety	15	12.5
Relationship difficulties	40	33.33
Fertility treatment	15	12.5
Problem with pregnancy	15	12.5
Stressful life events	25	20.83
Past history of abuse	10	8.3

Total	**120**	**100**

Source: Primary Data

In this study, more cases (40 cases, 33.33%) showed relationship difficulties as cause of anxiety and next to that stressful life events (25 cases, 20.83%) presented as cause. Next in order of frequency, family history of anxiety (15 cases, 12.5%), fertility treatment (12 cases, 12.5%), problem with pregnancy (12 cases, 12.5%) and past history of abuse (10 cases, 8.3%) presented as causes of anxiety.

6 ANALYSIS & FINDINGS:

For Analysis of the data after proper collection is one of the most important steps in the research protocol. Correct analysis is important because the final conclusion depends upon this. This analysis of data requires various statistical tools like t – test, *z*- test, Chi-square test (χ^2), ANOVA test, Variance ratio test, etc. For testing the hypothesis of the present study t-test and ANOVA test were applied for test of significance. For this study the level of significance was taken at 1%.

To know that the effectiveness of each therapy in their respective groups **paired t-test** was done taking into account the STAI scoring before and after intervention.

In this study, four approaches were used to examine the relative improvement in quality of life in anxiety patients. These are as follows:

i) Behavioral therapy
ii) Yoga therapy
iii) Homoeopathic medicine
iv) Placebo

6.1. Paired t-test between before and after intervention of Behavioral therapy approach

Table: 6.1. Paired t-test between before and after intervention of Behavioral therapy approach

t-Test: Paired Two Sample for Means		
	Score Before	**Score After**
	55	*51*
Mean	59.05263	54.05263158
Variance	29.7193	25.16374269
Observations	19	19
Pearson Correlation	0.944549	
Hypothesized Mean Difference	0	
df	18	
t Stat	**12.14141**	
P(T<=t) one-tail	2.09E-10	
t Critical one-tail	2.55238	
P(T<=t) two-tail	4.18E-10	
t Critical two-tail	**2.87844**	

Source: Primary Data

The calculated' value **12.14141** is more than the tabulated value 2.87 for 19 df at 1% level of significance (P<0.01). So we REJECTED the hypothesis that the quality of life of anxiety patients during third trimester of pregnancy is significantly improved treated through only Behavioral therapy. Obviously the null hypothesis is rejected. The average quality of life of anxiety patients during third trimester of pregnancy before approach of behavioral therapy is 55 with SD 5.38. Similarly, the average quality of life of anxiety patients during third trimester of pregnancy after approach of behavioral therapy is 51 with SD 4.94. On application of paired t-test, it is found that the mean, SD, SE of differences are 4.66 and 0.45 respectively. Because the average in former is more than the later, it may be concluded that the behavioral therapy approach has significant impact on the quality of life of anxiety patients during third trimester of pregnancy.

Findings: In the analysis of Behavioral group the calculated t value is more than the tabulated t value at 1% level of significance (P<0.01). So, we reject the null hypothesis and accept the alternative hypothesis that the quality of life of anxiety patients during third trimester of pregnancy is significantly improved treated through only Behavioral therapy. On application of paired t-test, the average quality of life of anxiety patients during third trimester of pregnancy before approach of behavioral therapy is more than the average quality of life after therapy. So, it may be concluded that the behavioral therapy approach has significant impact on the quality of life of anxiety patients during third trimester of pregnancy.

6.2. Paired t-test to ascertain effectiveness of 'Yoga therapy' approach:

To apply the t-test two hypotheses are taken into consideration. These are:

H_0 = Quality of life of anxiety patients during third trimester of pregnancy is not significantly improved treated through only Yoga therapy.

H_1 = Quality of life of anxiety patients during third trimester of pregnancy is significantly improved treated through only Yoga therapy

The total number of observation (n) in this approach is 20.

Table: 6.2 Paired t- test between before and after intervention of Yoga therapy approach

t-Test: Paired Two Sample for Means		
	Score Before	***Score After***
Mean	57.25	51.3
Variance	54.61842	57.8
Observations	20	20
Pearson Correlation	0.988715	
Hypothesized Mean Difference	0	
df	19	
t Stat	23.2206	
P(T<=t) one-tail	1.04E-15	
t Critical one-tail	2.539483	
P(T<=t) two-tail	2.08E-15	
t Critical two-tail	2.860935	

Source: Primary Data

The calculated 't' value 23.22 is more than the tabulated value 2.86 for 19 df at 1% level of significance (P<0.01). So we accept the hypothesis that the quality of life of anxiety patients during third trimester of pregnancy is significantly improved treated through only Yoga therapy. Obviously the null hypothesis is rejected. The average QOL of anxiety patients during third trimester of pregnancy before approach of yoga therapy is 57.25 with SD 7.39. Similarly, the average quality of life of anxiety patients during third trimester of pregnancy after approach of yoga therapy is 51.30 with SD 7.30. On application of paired t-test, it is found that the mean, SD, SE of differences are 5.950, 1.146 and 0.256 respectively. Because the average in former is more than the later, it may be concluded that the yoga therapy approach has significant impact on the QOL of anxiety patients during third trimester of pregnancy.

Findings: In the analysis of Yoga group the calculated t value is more than the tabulated t value at 1% level of significance (P<0.01). So, we accept the alternative hypothesis that the quality of life of anxiety patients during third trimester of pregnancy is significantly improved treated through only Yoga therapy and the null hypothesis is rejected. On application of paired t-test, it was found that the average QOL of anxiety patients during third trimester of pregnancy before approach of yoga therapy is more than the average quality of life after therapy. So it may be concluded that the yoga therapy approach has significant impact on the QOL of anxiety patients during third trimester of pregnancy.

6.3. Paired t-test between before and after intervention of Homoeopathic medicines approach:

To apply the t-test two hypotheses are taken into consideration. These are:

H_0 = Quality of life of anxiety patients during third trimester of pregnancy is not significantly improved treated through only Homoeopathic medicines.

H_1 = Quality of life of anxiety patients during third trimester of pregnancy is significantly improved treated through only Homoeopathic medicines.

The total number of observation (n) in this approach is 20.

Table: 6.3 Paired t-test between before and after intervention of Homoeopathic medicines approach

t-Test: Paired Two Sample for Means		
	Score Before	**Score After**
	58	*30*
Mean	61.57895	32.73684
Variance	42.03509	21.09357
Observations	19	19
Pearson Correlation	0.82072	
Hypothesized Mean Difference	0	
Df	18	
t Stat	33.30229	
P(T<=t) one-tail	6.32E-18	
t Critical one-tail	2.55238	
P(T<=t) two-tail	1.26E-17	
t Critical two-tail	2.87844	

Source: Primary Data

The calculated't' value 33.30 is more than the tabulated value 2.87 for 19 df at 1% level of significance (P<0.01). So we accept the hypothesis that the QOL of anxiety patients during third trimester of pregnancy is significantly improved treated through only homoeopathic medicines. Obviously the null hypothesis is rejected. The average QOL of anxiety patients during third trimester of pregnancy before approach of homoeopathic medicines is 58 with SD 6.36. Similarly, the average QOL of anxiety patients during third trimester of pregnancy after approach of homoeopathic medicines is 30 with SD 4.51. On application of paired t-test, it is found that the mean, SD, SE of differences are 28.8, 3.679 and 0.823 respectively. Because the average in former is more than the later, it may be concluded that the homoeopathic medicines have significant impact on the QOL of anxiety patients during third trimester of pregnancy.

Findings: In the analysis of Homoeopathic group the calculated t value is more than the tabulated t at 1% level of significance (P<0.01). So, we reject the null hypothesis and accept the alternative hypothesis that the QOL of anxiety patients during third trimester of pregnancy is significantly improved treated through only homoeopathic medicines. On application of paired t-test the average QOL of anxiety patients during third trimester of pregnancy before approach of homoeopathic medicines is more than the average quality of life after approach of homoeopathic medicines. Because the average in former is more than the later, it may be concluded that the homoeopathic medicines have significant impact on the QOL of anxiety patients during third trimester of pregnancy.

6.4. Paired t-test to ascertain effectiveness of 'Placebo' approach in control group:

To apply the t-test two hypotheses are taken into consideration. These are

H_0 = Quality of life of anxiety patients during third trimester of pregnancy is not significantly improved treated through placebo approach.

H_1 = Quality of life of anxiety patients during third trimester of pregnancy is significantly improved treated through placebo approach.

The total number of observation (n) in this approach is 20.

6.4. Paired t-test to ascertain effectiveness of 'Placebo' approach in control group:

t-Test: Paired Two Sample for Means

	Score Before	Score After
	56	*55*
Mean	58	57.63158
Variance	40.88889	40.24561
Observations	19	19
Pearson Correlation	0.994265	
Hypothesized Mean Difference	0	
df	18	
t Stat	2.347871	
P(T<=t) one-tail	0.015256	
t Critical one-tail	2.55238	
P(T<=t) two-tail	0.030513	
t Critical two-tail	2.87844	

Source: Primary Data

The calculated 't' value 2.39 is less than the tabulated value 2.86 for 19 degree of freedom at 1% level of significance (P>0.01). So we accept the null hypothesis that there is no significant improvement in absence of any treatment in QOL of anxiety patients during third trimester of pregnancy. Obviously the alternative hypothesis is rejected. The average QOL of anxiety patients during third trimester of pregnancy before stage is 56 with SD 6.24. Similarly, the average QOL of anxiety patients during third trimester of pregnancy after untreated stage is 55 with SD 6.20. On application of paired t-test, it is found that the mean, SD, SE of differences are 0.4, 0.681 and 0.152 respectively. Although the average in former is more than the later, it may be concluded that the there is no change in the QOL of anxiety patients during third trimester of pregnancy if untreated.

Findings: In the placebo group the calculated t value is less than the tabulated t value at 1% level of significance (P>0.01). So, we accept the null hypothesis that there is no significant improvement in absence of any treatment in QOL of anxiety patients during third trimester of pregnancy. Obviously the alternative hypothesis is rejected. On the application of paired t-test the average QOL of anxiety patients during third trimester of pregnancy before stage is more than the average QOL of anxiety patients during third trimester of pregnancy after untreated stage. Although the average in former is more than the later, it may be concluded that the there is no change in the QOL of anxiety patients during third trimester of pregnancy if untreated because the difference is so negligible as compared to the values in other therapies.

6. CONCLUSION AND SUGGESTIN:

Human beings are likely to lead the life of freedom or comfortableness, provided their biological and psychological needs were automatically satisfied or gratified. But it does not happen. Environmental and internal obstacles interfere such gratifications. These obstacles follow adjustive demands or stress. In this study results many patients were from 21-30 yrs. age group. In this study more cases showed relationship difficulties as cause of anxiety. Next in order of frequency, stressful life events, family history of anxiety, fertility treatment, problem with pregnancy and past history of abuse presented as causes of anxiety.

From the various symptoms of anxiety, fear, short tempered, irritability, mental overreacting, physical fatigue, breathing difficulties, muscle cramp, heartburn, fainting, chocking sensation, headache, etc. were more frequent in these study cases. Although the present study was concluded with encouraging results but due to limitations of the study period and wanting of enough facilities, the depth of the study in different aspects is incomplete. But this research work will add the data for future expanded works in relation to anxiety.

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