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Research Article

GENERALIZED ANXIETY DISORDER AND FACTORS AFFECTING IT DURING THE POSTNATAL PERIOD: AN OBSERVATIONAL STUDY

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ABSTRACT

Objectives: The present study was planned to study the generalized anxiety disorders among mothers attending the outpatient department clinic (OPD) for vaccination of their children or gynecology OPD for follow-up and explore the common associated factors among postnatal women in India.

Methods: A total of 180 women of the postpartum period, up to 6 months, were randomly selected. They were assessed for GAD using the self-reporting questionnaire GAD-7. General demographic details were obtained through a pre-validated and pre-designed proforma. Prevalence and risk factors for GAD were assessed.

Results: The incidence of GAD was found to be 31.11%. Primigravida mothers scored higher on GAD-7 score than multigravida mothers and incidence of GAD was also higher in primigravidas mothers (p=0.042). No significant association was found between the age of the mother, socioeconomic status of the mother, and sex of the child born, with development of GAD in the postnatal period. Substance abuse in the husband was significantly related to the development of GAD in women in the postnatal period.

Conclusion: A significant proportion of women had a generalized anxiety disorder. Pregnancy for the first time was associated with an increased risk of GAD. Substance abuse by the husband is significantly associated with the development of GAD during the postnatal period. Psychological support should be an integral part of mothers' care in the antenatal period.

Keywords: Generalized anxiety disorder, Postnatal period, Postpartum.

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INTRODUCTION

Pregnancy is generally a very happy time for woman, but for many, pregnancy and new motherhood are associated with the increase vulnerability to various psychiatric conditions such as depression, psychoses, and anxiety disorders. Many times, these conditions remain underdiagnosed as they tend to be attributed to many pregnancy-related changes in maternal physiology. In addition, during pregnancy and immediate postpartum period, such conditions are often tends to be undertreated because of underlying concerns regarding the potentially harmful adverse effects of medication on the fetus and mother. Hence, pregnancy does not confer any protection against anxiety and other psychiatric conditions [1].

Some form of anxiety is found in all new mothers. Anxiety due to pregnancy and new motherhood is quite common and sometime it can be adaptive. However, some mothers experience excessive anxiety for various reasons in the perinatal period. Pregnancy brings various changes in gonadal steroid levels in body. Some authors have reported a 100-fold variation in serum levels of estrogen and a 1000-fold variation in the level of serum progesterone in pregnancy [2]. These many changes in physiology can increase emotional difficulties like anxiety.

The postnatal period is of particular importance as abnormal maternal mood, anxiety, and depression in this period is sometimes associated with compromised parenting, impaired affect and behavior regulation, and secure attachment in offspring [3-5]. During the postnatal period, the most common medical person visited is a pediatrician either for immunization or for health check-up of the baby. Thus, if the pediatrician is aware and has a high index of suspicion, he/she can diagnose early and this will lead to a favorable outcome in both mother and baby.

Although the postpartum period is recognized as a time of increased susceptibility to affective disorders, the prevalence of GAD and various factors affecting anxiety disorders during pregnancy and the postpartum period has not been studied in detail especially in developing countries. There is a paucity of data regarding generalized anxiety disorder (GAD) prevalence and factors associated with it particularly in a rural area like ours. Hence, this study was planned to study generalized anxiety disorder and factors affecting it during the postnatal period.

METHODS

Our study was a hospital OPD-based prospective study conducted in a tertiary care teaching hospital, in the Marathwada region in Maharashtra. The study was conducted from January 2020 to December 2020 after permission from the college, Ethical Committee was taken and informed consent from the mother and her primary caretaker was taken before enrolling her for study.

Every woman satisfying the selection criteria with no previous history of GAD and willing to participate and giving written informed consent was enrolled in the study. Every participant was given GAD-7 at the time of enrolment and all the items in the scale were explained in detail in the local language. Thereafter, GAD is given again after every 6 weeks. They were given GAD-7 till 6 months of the postpartum period was over.

The "Generalized Anxiety Disorder 7-item (GAD-7)" is an easy to use screening tool for generalized anxiety disorder. It is a self-administered instrument containing seven items. It uses some of the "Diagnostic and Statistical Manual of Mental Disorders-V (DSM-V)" criteria for GAD to identify the most probable cases of GAD.

Using this scale, the participants were explained how to rate the frequency of their anxiety symptoms. Then, they were asked to rate the same in the past 2 weeks on a Likert-like scale which was ranging from 0 to 3. Summation of all the items was dome to provide a total score. The response categories of "not at all," "several days," "more than half the days," and "nearly every day," were assigned a score of 0, 1, 2, and 3, respectively. Thereafter, all the scores for the seven questions were added together [6].

General demographic details, information regarding the social background, and birth order were collected in a predesigned proforma. Enrolment number and coding were done to avoid researcher bias. Every participant was telephonically contacted for follow-up. A score of more than 10 on GAD-7 was considered positive for the diagnosis of generalized anxiety disorder.

The first interview was conducted as soon as the patient was enrolled in the study, that is, any time after the 1st week of delivery till 6 months after delivery. After that, interview was repeated every 6 weeks till 6 months have elapsed after childbirth. The highest score obtained was considered for data analysis.

Participants who were found to have severe anxiety-based on questionnaire response were assessed by psychiatrist or family physicians as per wish of participant for further management. This was done within the same week of questionnaire completion. Participants with a mild or moderate anxiety were given appropriate counseling and follow-up care as needed. The confidentiality of the each participants was maintained.

Statistical analysis

The data collected were analyzed for the occurrence of GAD in various categories. For birth order, age of mother, and socioeconomic status, Chi-square test was applied for the calculation of the p-value and significance. For comparison of scores obtained in various categories, ANOVA/unaired t-test was applied as was suitable.

RESULTS

A total of 180 women were enrolled in the study. Out of 180 women, 56 women scored above the cutoff point for the diagnosis of GAD and were thus diagnosed as suffering from GAD. The incidence was found to be 31.11%.

Table 1 shows the association between birth order and GAD. The first birth order or primigravida status of the mother was associated with more risk of GAD among women in postnatal women. Thus, primigravida mothers are more likely to suffer from GAD.

Table 2 depicts the mean and standard deviation, for primigravida and multigravida. There is a significant difference between primigravida and multigravida in GAD scores with primigravida having more GAD scores than multigravida.

Table 1: Association of birth order and generalized anxiety disorder

Birth Order	*n*	GAD present	GAD absent
Primigravida	75	30	45
Multigravida	105	26	79

Chi-square value=3.425, *P*=0.0422. GAD: Generalized anxiety disorder

Table 2: Mean and standard deviation of generalized anxiety disorder score among primigravida and multigravida

Birth Order	Mean	SD	P
Primigravida	10.3733	4.47145	0.0201
Multigravida	8.7429	4.68227	

SD: Standard deviation

Table 3 shows the association between the age of the mother and anxiety. The age of the mother did not correlate with the incidence of GAD in women during the postnatal period (p=0.284).

Table 4 depicts the mean and SD among different age groups. As shown in Table 4, the GAD-7 scores among women belonging to different age groups were comparable with no significant difference.

Table 5 shows the association between socioeconomic status and GAD. Socioeconomic status (SES) of the mother had no correlation with the incidence of GAD in women during the postnatal period (p value= 0.2555).

Table 6 shows mean and standard deviation for different socioeconomic status groups for GAD score. There is no significant difference between the GAD scores obtained among postnatal women belonging to different SES.

Table 7 shows the association between substance abuse in husband and GAD. Incidence of GAD was higher in women during the postnatal period, having a history of substance abuse in the husband (p=0.000134).

As presented in Fig. 1, the sex of the child born had no correlation with the incidence of GAD in women during the postnatal period (p=0.1822).

Table 3: Association between the age of mother and generalized anxiety disorder

Age group (years)	*n*	GAD present	GAD absent
≤20	48	20	28
21–25	79	23	56
26–30	39	10	29
≥31	14	3	11

Chi-square value: 3.799, p: 0.284. GAD: Generalized anxiety disorder

Table 4: Mean and standard deviation of generalized anxiety disorder score among different age groups

Age group (year)	Mean	SD	p
≤20	10.6667	4.81723	0.8653
21–25	9.4177	4.36362	
26–30	8.6154	4.78273	
≥31	7.4286	4.60291	

SD: Standard deviation

Table 5: Association between socioeconomic status and generalized anxiety disorder

SES class	*n*	GAD present	GAD absent
Lower	20	8	12
Upper lower	64	25	39
Lower middle	68	16	52
Upper middle	17	5	12
Upper	11	2	9

GAD: Generalized anxiety disorder, SES: Socioeconomic status

Table 6: Mean and standard deviation of generalized anxiety disorder score for different socioeconomic status

SES class	*n*	Mean	SD	p
Lower	20	10.0000	5.06796	0.3279
Upper lower	64	10.2344	5.32065	
Lower middle	68	8.6618	3.85796	
Upper middle	17	9.4118	4.86131	
Upper	11	8.3636	3.58532	

SES: Socioeconomic status, SD: Standard deviation

Table 7: Association between substance abuse in husband and generalized anxiety disorder

Substance abuse status	*n*	GAD present	GAD absent
Substance abuse present	81	37	44
Substance abuse absent	99	19	80

Chi-square value: 14.583, degree of freedom: 1, p: 0.000134. GAD: Generalized anxiety disorder

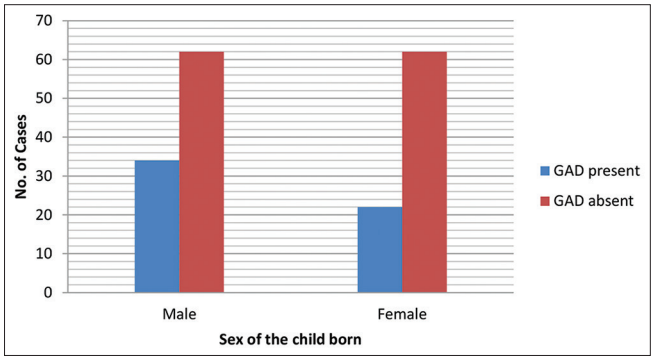

Fig. 1: Association between sex of delivered child and GAD. Chi-square value=1.779, degree of freedom= 1, and p=0.1822

DISCUSSION

The present study was conducted at a tertiary teaching hospital and Rural Government Medical College, Ambajogai, in which 180 female subjects were studied for the presence of GAD in their postnatal period.

The incidence of GAD in our study was found to be 31.11%, which was nearly the same as that reported by another study carried out by Wenzel *et al*. and Hashima *et al*. who noted the incidence of 27.9% and 29%, respectively [7,8]. The incidence of generalized anxiety disorder during the postnatal period in developing countries is higher as compared to developed countries because of higher income, better living standards, female literacy, etc. Niloufer *et al*. conducted a study in Pakistan and found that nearly 70% of the women were suffering from anxiety during and after pregnancy [9].

In our study, we found that primigravida is more likely to suffer from GAD as compared to multigravida. This finding is in accordance to a study by Roberta *et al*. who also reported that primigravida is more likely to suffer from GAD [10]. There various reasons for this finding may be due to difficulty in handling the baby for the first time, difficulty in breastfeeding for the first time, change in body proportions for the first time, etc.

In our study, there was no association between the GAD development and the age of the mother. This finding is in accordance with the finding reported by Hashima [8], Reck [11], and Austin *et al*. [12]. All these workers did not find any relation between the age of the mother and the development of GAD.

In this study, we did not find any association between the development of GAD and the socioeconomic status of the subjects. This finding is in contrast to the findings of workers like Wenzel *et al*. [7] and Hashima *et al*. [8], who reported lower SES as an important risk factor for the development of GAD in women in the postnatal period. This can be because our sample consisted of predominantly women belonging to poor SES and living in a joint family (154 out of total 180).

In our study, we found that substance abuse by husbands is a significant risk factor for the development of GAD in women in the postnatal period. To the best of our knowledge, this factor was not reported by any of the workers previously.

In our study, we found that the sex of the child born did not have any association with the development of GAD in subjects. This finding is similar to that reported by Reck [11], who also did not find the sex of the child born as a risk factor for the development of GAD. Very few studies have been carried out in India which has explored the association between sex of child and GAD. Some studies like those carried out by Savarimuthu *et al*. [13], Dubey *et al*. [14], Desai *et al*. [15], and Shivalli and Gururaj [16] have reported an association between sex of the child and postpartum depression. All these workers reported that the birth of a female child was a significant risk factor for the development of postpartum depression.

CONCLUSION

A significant proportion of women had a generalized anxiety disorder. Pregnancy for the first time was associated with an increased risk of GAD. Substance abuse by the husband is significantly associated with the development of GAD during the postnatal period. Policies concerning maternal and infant health, which are considered as a priority in low-income countries like India, should integrate maternal psychological well-being as an essential component of care. Psychological support should be an integral part of mothers' care in the antenatal period.

Limitations

This is a small study conducted in single center located at rural center, so results cannot be generalized. Larger study is required for more reliable conclusion.

AUTHORS CONTRIBUTIONS

All authors Dr. Manish Tiwari, DrHarshal N Pise, and Mahima Tiwari contributed substantially to the conception, design of the study, conduct of study, analysis of results, and interpretation of data. Manuscript was discussed by all authors. Dr. Manish Tiwari and Dr. Harshal N Pise drafted the final manuscript.

CONFLICT OF INTEREST

None to declare.

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Nil.

REFERENCES

1. Tyano S, Keren M, Herrman H, Cox J. Parenthood and mental health. In: A Bridge between Infant and Adult Psychiatry. Oxford: Wiley, Blackwell; 2010.
2. Rubinchik SM, Kablinger AS, Gardner JS. Medications for panic disorder and Generalized anxiety disorder during pregnancy. Prim Care Companion J Clin Psychiatry 2005;7:100-5.
3. Davis EP, Snidman N, Wadhwa PD, Glynn LM, Schetter CD, Sandman CA. Prenatal maternal anxiety and depression predict negative behavioural reactivity in infancy. Infancy. 2004;6:319-31. doi: 10.1207/s15327078in0603_1
4. Coplan RJ, O'Neil K, Arbeau KA. Maternal anxiety during and after pregnancy and infant temperament at three months of age. J Prenat Perinat Psychol Health 2005;19:199-215.
5. Field T, Diego M, Hernandez-Reif M, Figueiredo B, Deeds O, Ascencio A, *et al*. Comorbid depression and anxiety effects on pregnancy and neonatal outcome. Infant Behav Dev 2010;33:23-9. doi: 10.1016/j.infbeh.2009.10.004, PMID 19945170
6. Spitzer RL, Kroenke K, Williams JB, Löwe B. A brief measure for assessing generalized anxiety disorder: The GAD-7. Arch Intern Med 2006;166:1092-7. doi: 10.1001/archinte.166.10.1092, PMID 16717171
7. Wenzel A, Haugen EN, Jackson LC, Brendle JR. Anxiety symptoms and disorders at eight weeks postpartum. J Anxiety Disord 2005;19:295-311. doi: 10.1016/j.janxdis.2004.04.001, PMID 15686858
8. Nasreen HE, Kabir ZN, Forsell Y, Edhborg M. Prevalence and associated factors of depressive and anxiety symptoms during pregnancy: A population based study in rural Bangladesh. BMC Womens Health 2011;11:22. doi: 10.1186/1472-6874-11-22
9. Ali NS, Azam IS, Ali BS, Tabbusum G, Moin SS. Frequency and

associated factors for anxiety and depression in pregnant women: A hospital-based cross-sectional study. Sci World J 2012;2012:653098.
10. Anniverno R, Bramante A, Mencacci C. New Insights into anxiety disorders. In: Durbano F, editor. Anxiety Disorders in Pregnancy and the Postpartum Period. London, UK: INTECH Open Access Publisher; 2013. p. 260-85.
11. Reck C, Struben K, Backenstrass M, Stefenelli U, Reinig K, Fuchs T, *et al*. Prevalence, onset and comorbidity of postpartum anxiety and depressive disorders. Acta Psychiatr Scand 2008;118:459-68. doi: 10.1111/j.1600-0447.2008.01264.x, PMID 18840256
12. Austin MP, Hadzi-Pavlovic D, Priest SR, Reilly N, Wilhelm K, Saint K, *et al*. Depressive and anxiety disorders in the postpartum period: How prevalent are they and can we improve their detection? Arch Womens Ment Health 2010;13:395-401. doi: 10.1007/s00737-010-0153-7, PMID 20232218
13. Savarimuthu RJ, Ezhilarasu P, Charles H, Antonisamy B, Kurian S, Jacob KS. Post-partum depression in the community: A qualitative study from rural South India. Int J Soc Psychiatry. 2010;56(1):94-102. doi: 10.1177/0020764008097756. PMID 19906768
14. Dubey C, Gupta N, Bhasin S, Muthal RA, Arora R. Prevalence and associated risk factors for postpartum depression in women attending a tertiary hospital, Delhi, India. Int J Soc Psychiatry 2012;58:577-80. doi: 10.1177/0020764011415210. PMID 21821632
15. Nimisha DD, Ritambhara YM, Jaishree G. Study of prevalence and risk factors of postpartum depression. Natl J Med Res 2012;2:194-8. PMID 194198
16. Shivalli S, Gururaj N. Postnatal depression among rural women in South India: Do socio-demographic, obstetric and pregnancy outcome have a role to play? PLoS One 2015;10:e0122079. doi: 10.1371/journal.pone.0122079, PMID 25848761