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SCREENING FOR ANXIETY AMONG ANTENATAL WOMEN ATTENDING A TALUK HOSPITAL IN RURAL INDIA

Chris Zacharias Thomas[1], Surekha A[2], Suguna A[2] , Kurian Jose Puthur[1], Pretesh Kiran[3], Sulekha T[4]

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Author's Affiliation:
[1]Medical Student; [2]Post graduate student; [3]Associate Professor; [4]Assistant Professor, Community Health, St. John's Medical College, Bangalore

Correspondence:
Dr. Surekha A
surecommed87@gmail.com

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ABSTRACT

Background: Antenatal anxiety can adversely affect pregnancy outcome, have an impact on maternal competence in childcare. Lot of emphasis has been given on antenatal depression but studies addressing the anxiety issues are few. Objectives were to study the prevalence of anxiety, using the Perinatal Anxiety Screening Scale (PASS) and to identify the risk factors associated with anxiety among antenatal women attending the Anekal Taluk Hospital, Bangalore.

Method: This was a cross sectional study, done at Anekal between April and May 2014 among 146 antenatal women by convenience sampling.

Results: The mean [SD] age of the study population was 22.52 ± 3.04 years. Majority (89.73%) were housewives and 43.2% were in the third trimester of pregnancy. Of the 146 antenatal women, 22.6% of women screened positive for anxiety. Anxiety was significantly associated with primigravida, low parity and previous abortions. Multivariate regression analysis showed significant association of anxiety with period of gestation and gravidity.

Conclusion: The findings of the study highlight the importance of routine screening for antenatal anxiety in primary health care.

Key words: Antenatal anxiety, PASS scale, Rural India.

INTRODUCTION

Antenatal anxiety is a common problem. Studies on anxiety in the ante-natal period have shown prevalence ranging from 6.6% in a Swedish study[1] to 54.0% in a study from Hong Kong[2]. Studies have shown the prevalence of antenatal anxiety to be higher than depression[3] and shown the need to study both in the antenatal period.[3] though postnatal depression is an extensively studied topic; few studies have been done to look at anxiety during pregnancy.

Anxiety during pregnancy has been shown to have various undesirable effects. Maternal Anxiety during pregnancy has been shown to have possible negative effects on somatic and psychological outcomes in children[4]. Studies have shown that a condition like anxiety during pregnancy which is associated with increased cortisol in utero is associated with impaired cognitive development of the child[5]. It is also seen to cause long-term behavioural and emotional problems in children[6].

Specific types of anxiety have even been linked to various complications to maternal health[7].Over two thirds of women with postnatal anxiety have been shown to have preceding antenatal anxiety[8]. Antenatal anxiety seen to predict postnatal depression, even after separately controlling for antenatal depression[8].Women with anxiety disorders during pregnancy have shown to have three times the risk of developing postnatal depression[9]. Yet another study describes antenatal anxiety as one of the key risk factors for Postnatal depression[10].Anxiety during pregnancy can adversely affect pregnancy outcome and have an impact on maternal competence in childcare and consequences upon the physical and psychological development of the child. Lot of emphasis has been given on antenatal depression but studies addressing the anxiety issues are few.

After a thorough literature review, a single study on maternal anxiety has been published from India which was a hospital based study done in New Delhi using Hospital Anxiety Depression Scale (HADS) which showed a prevalence of maternal anxiety of 27%[11]. Current research works have clearly revealed the need for such a study. Objectives were to screen for the presence of anxiety, using the Perinatal Anxiety Screening Scale (PASS), among antenatal women attending the Anekal Taluk Hospital, Bangalore and to identify the risk factors associated with antenatal anxiety.

METHOD

A cross sectional study which included 146 antenatal women who attended the antenatal clinic at Anekal General Hospital, Karnataka, South India were included for this study . A sample size of 144 was estimated on assuming a prevalence of 60%, a precision of 8% and at 95% confidence interval.

Data was collected between April and May 2014. Participants were recruited from the patients attending the antenatal clinic at the hospital. Consecutive sampling of the women attending the clinic was done.

Permission was obtained from the concerned authorities of the hospital and Ethical approval was obtained from the Institutional Ethics Review Board. Informed consent was obtained from each participant. Following this the questionnaire was administered to each participant by one of three of the investigators who had been previously trained to uniformly administer the questionnaire.

The study questionnaire composed of two parts, first being the socio demographic questionnaire which was followed by the Perinatal Anxiety Screening Scale (PASS). The socio demographic questionnaire was administered to collect information regarding age, obstetric score, religion, type of family, monthly income, education and marital status of the mother.

The second part of the questionnaire was the PASS questionnaire[12]. This is a 31 item validated scale, which is scored on a likert scale ranging from 0 ("not at all") to 3 ("almost always"). An overall score greater than 26 was considered as a cut-off for high risk for presenting with anxiety disorder. Permission to use the PASS Scale was sought and obtained. The questionnaire which was originally designed in English was translated and back-translated to the local language (Kannada). A pilot study was done to look at the reliability and the ease of use in the field.

Data were analyzed to examine the association between the socio demographic variables, the gestational age and the presence of high risk for anxiety. Descriptive statistics are reported using number and percentages. Chi-square test was used to find the association between variables. Pearson's correlation coefficient was used to correlate the continuous variables. Multivariate regression analysis was done to look for independent association between variables. The data were analyzed using SPSS version 18. Level of significance (two-sided) less than 5% was considered as statistically significant.

RESULTS

The characteristics of the study sample are included in Table1. The mean age of the participants was 22.52 ± 3.04 years. 87.7% were from the Hindu religion. Majority (58.9%) of the study population was educated up to secondary school. 89.7% of the participants were housewives while 10.3% were otherwise employed. According to the gestational age of the women, 15.8% were in the first trimester, 41.1% in the second trimester and 43.2% in the third trimester.

Multinomial logistic regression taking high risk on screening for anxiety as the dependent variable; the trimester and Gravida status as the two factor variables for this analysis.

Table 1: Demographic details (n=146)

Variables	Number (%)
Age (in Years)	
≤19 years	24 (16.4)
20-25 years	95 (65.1)
26-30 years	25 (17.1)
>30 years	2 (1.4)
Religion	
Hindu	128 (87.7)
Muslim	18 (12.3)
Education	
No formal education	12 (8.2)
Primary	10 (6.8)
Secondary	86 (58.9)
High school	24 (16.4)
College	14 (9.5)
Employment	
Housewife	131 (89.7)
Otherwise employed	15 (10.3)
Stage of pregnancy (Trimesters)	
1st Trimester	23 (15.8)
2nd Trimester	60 (41.1)
3rd Trimester	63 (43.2)

Table 2 Anxiety score details (n=146)

Overall prevalence of anxiety risk	Frequency (%)
Low risk for anxiety (0-25)	113 (77.4)
High risk for anxiety (≥26)	33 (22.6)
Severity of anxiety	
Asymptomatic (0-20)	94 (64.4)
Mild-moderate symptoms (21-41)	45 (30.8)
Severe symptoms (42-93)	7 (4.8)

Table 3: Anxiety risk factors - associations (n=146)

Domain	Low risk(%)	High risk (%)	P value
Gravida			
Primi	51 (78.5)	14 (21.5)	0.01
2nd	48 (85.7)	8 (14.3)	
3rd and higher	14 (56.0)	11 (44.0)	
Para			
Nullipara	54 (79.4)	14 (20.6)	0.03
Primipara	54 (80.6)	13 (19.4)	
2nd and higher	5 (45.5)	6 (54.5)	
Abortions			
No previous abortions	99 (79.8)	25 (20.2)	0.001
Previous abortions	14 (63.6)	8 (36.4)	
Period of gestation			
1st Trimester	12 (52.2)	11 (47.8)	0.007
2nd Trimester	50 (83.3)	10 (16.7)	
3rd Trimester	51 (81.0)	12 (19.0)	

Taking a total score of ≥26 as high risk, 22.6% of the subjects fell in the high risk category of anxiety. Among those women who were pregnant for the first time 21.5% were high risk, while during the second pregnancy 14.3%. This difference was found to be statistically significant (P<0.05). Women who had abortions in previous pregnancies were significantly more likely to fall in the high risk group in comparison to those without any previous abortions (36.4% vs 20.2% (P<0.001)). Anxiety was significantly associated with primigravida, low parity and previous abortions. The number of living children of the women was not found to be significantly associated with the anxiety.

Table 4 Multivariate regression analysis (n=146)

Variables	Freq (%)	OR	95% CI	P value
Trimester				
1st Trimester	23(15.8)	4.44	1.49-13.18	0.007
2nd Trimester	60(41.1)	0.38	0.32-2.17	0.704
3rd Trimester	63(43.2)			
Gravida				
Primi	65(44.5)	0.264	0.092-0.76	0.014
2nd	56(38.4)	0.195	0.063-0.60	0.005
3rd and higher	25(17.1)			

OR=Odd Ratio

On comparing the high risk for anxiety and the gestational period, the women were found to have significantly higher levels of anxiety during early pregnancy, with 47.8% of ladies in the 1st Trimester, 16.7% of those in the 2nd trimester and 19% during the 3rd trimester (P<0.01). In addition, the overall score of the anxiety questionnaire was found to negatively correlated with the gestational period in weeks (-0.248, (P<001)).Multivariate regression analysis showed significant association of anxiety with period of gestation and gravidity. No significant associations were found between being high risk for anxiety and age, the educational status, income and occupation of the woman.

DISCUSSION

The solitary study done previously in New Delhi[11] using the HADS (Hospital anxiety and depression scale) has reported the prevalence of anxiety in the antenatal period to be 27% in comparison to the 22.7% obtained in our study. Several studies have been done internationally to look at the problem of antenatal anxiety. From the developed countries, Lee AM et al from a Hong Kong based study[2] show a prevalence of 54% throughout pregnancy, Leigh B et al from Australia[13] report 27.7% as the overall prevalence of moderate to severe anxiety during pregnancy, Giardinelli L. et al from an Italian[14] study report a

prevalence of 27.3%. Among developing countries, a study done by Fadzil A. et al from Malaysia[15] reported at 23.4% of antenatal women screened positive for anxiety, Oiao YX et al from a study done in Shanghai, China[16] report a low prevalence of 6.8% using HAD screening. A population based study from rural Bangladesh[17] by Nasreen HE et al reports a prevalence of 29% and a study from Pakistan[18] by Karmaliani R et al. reports 18 percent of this group screening positive for anxiety. Therefore the rate of screened antenatal anxiety in our study seems to similar rates to ones done both in developed and developing countries.

When looking at the various risk factors emerging in literature for anxiety during the antenatal period. Period of gestation, increased anxiety in early pregnancy has been been reported by Lee AM in the Hong Kong study[2] and by Fadzil A. in the Malaysian study[15]. Lee AM reports that anxiety was seen to go down from 36.3% in the 1st trimester to 32.3% in the 2nd trimester to 35.8% in the 3rd. A similar trend has been observed in our study from 47.8% in 1st trimester to 16.7% in the 2nd and 19.0% in the 3rd.

A strong trend to emerge from our data was increased anxiety in the first pregnancy (21.5%) compared to 14.3% in the 2nd pregnancy, this has also been shown Lee AM et al[2] in their data, however a striking fact was the highly increased rates of anxiety in 3rd or later pregnancies (44.0%) in our data, such a fact was not seen reported in other studies. We feel that a possible reason for this was a bias due to adverse outcomes of pregnancy in earlier pregnancies in these women.

Women with adverse outcomes of previous pregnancy including abortions was seen to be at risk for a positive anxiety screen (36.4% vs 20.2%) similar data has been reported by Ali NS et al from a study in Lahore, Pakistan[19] (23.1% vs 19.1%)

Socioeconomic status of the mother has been reported to be a risk factor for antenatal anxiety by the study from rural Bangladesh[17], Australia[13], Italy[14] and Hong Kong[2], however no significant associations were found in our data.

Younger age of the mother, especially less than 20 years emerges as a risk factor in the study from Hong Kong[2], China[16] and Pakistan[18], however it did not emerge as a risk factor in our study.

Similarly literacy of the mother (Oiao YX from the Chinese study[16] and Nasreen HE from Bangladesh[17]) and occupational status of the parents (Karmaliani R from Pakistan[18] and Giardinelli L from the Italian[14] study) have been reported to be significant risk factors. However such an association was not seen in our data.

Unplanned pregnancy and abuse from partner and marital status were risk factors for maternal anxiety that were reported by various studies, however we did not adequately assess for there factors in our study.

CONCLUSION

Among the antenatal women screened, 22.6% of them screened positive for anxiety. The factors which were significantly associated with anxiety were obstetric score, gestational period and previous abortions. The findings of the study highlight the importance of routine screening for antenatal anxiety in primary health care. We need to refer patients with severe symptoms for counseling and increase the awareness about antenatal anxiety, its risk factors and its effects.PASS scale is a potential complimentary choice for practitioners in routine perinatal mental health screening.

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