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Original Research Article

A cross-sectional study on ante-natal depression in a tertiary health care hospital in Navi Mumbai

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ABSTRACT

Background: Depression is a common source of disability among women. Antenatal depression has been often overlooked and under diagnosed, throughout the world especially in the developing countries like India. This study was conducted to assess the mental health status of pregnant women attending the antenatal clinic in a tertiary health care hospital.
Methods: A cross-sectional study was conducted over a period of three months among randomly selected pregnant women attending the antenatal clinic of a tertiary hospital. A total of 170 pregnant women formed the study subject. Data was collected using a pre-designed, pre-tested, semi-structured questionnaire and analysis was done using SPSS version 20.0.
Results: Among the study population, the prevalence of depression was found to be 20.6%. Depression was significantly associated with the socio-economic status and education of the study subjects. Women with family discord were significantly more depressed than those with no discord. Unplanned pregnancy and preference of male child very significant factors for depression. Multiparity and bad obstetric history also showed a higher level of depression which was statistically significant.
Conclusions: There is a significant prevalence of antenatal depression which needs screening and appropriate management. Maternal health policies must integrate maternal depression as a disorder of Public Health importance and interventions should target the pregnant women as early as possible.

Keywords: Antenatal, Depression, Pregnancy

INTRODUCTION

Pregnancy and childbirth are considered to be major milestones in a woman's life. It is supposed to be a time of joy and well-being but for many women, this is a time of anxiety, confusion, fear, sadness and sometimes also depression.

Pregnancy entails physiological, hormonal and psychological changes which could increase the probability of mental and emotional changes resulting in depression, anxiety or psychological distress in the pregnant mother.[1]

Mental health problems like anxiety and depression are common during pregnancy and after childbirth in both the developed and developing countries. One in three to one in five women in developing countries and about one in ten in developed countries, have a significant mental health problem during pregnancy and after childbirth.[2]

The World Health Organization (WHO) defines mental health as a state of well-being in which an individual

realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his or her community.[3]

The WHO estimates that depressive disorders will be the second leading cause of the global disease burden by 2020.[4]

The psychiatric illnesses occurring during the antenatal period not only affect maternal health but it also causes adverse action on foetal development.[5] The reduced uterine blood flow in highly anxious women could be a mechanism for lower birth weight, pre-term birth and elevated cortisol in infants.[6]

Depression and anxiety during the post-partum period may also affect maternal - infant attachment and thereby affect later infant development.[7] Children of depressed mothers are more likely to display behavioural problems and exhibit disruption in motor, cognitive and emotional development.[8]

Antenatal depression, an easily detectable and preventable medical condition, associated with adverse obstetrics, maternal and neonatal complications has often been overlooked and under diagnosed throughout the world especially in developing countries like India.[9]

Addressing mental health concerns such as maternal depression could play an important role in achieving the millennium development goals set by the United Nations.[10]

METHODS

A cross-sectional observational study was conducted in the antenatal clinic of the obstetrics OPD of a tertiary hospital in Navi Mumbai. Permission for the study was obtained from the Institutional Ethics Committee. The study was conducted for a period of three months from February to April 2015. Simple random sampling technique was used to select the pregnant women for the study. Pregnant women attending the ANC clinic and willing to take part in the study were included in the study. Pregnant women with known psychological problems, women on anti-epileptic, neurogenic drugs, anti-depressants, CNS stimulants were excluded from the study. Informed consent was taken and those who did not give consent were excluded from the study.

Sample size was calculated taking into consideration the prevalence of antenatal depression to be 36.76%.[11] The sample size was calculated to be 170 using the formula 4PQ/ L2, with an allowable error of 20% of prevalence. Data was collected using a pre-tested, pre-structured questionnaire which was divided into two parts. The first part (section A) included the socio demographic profile, past obstetric history and details of current pregnancy. section B included the Edinburg postnatal depression scale (EPDS) used as a translated version in Hindi.

The EPDS is a widely used 10 item self-reporting instrument, specifically designed for assessing both prenatal as well as postnatal depression. It has a sensitivity of 86%, specificity of 78% and positive predictive value of 73%.[12] Respondents scoring >10 were considered to be depressed.[13]

Statistical analysis

The data were entered and analysed using a SPSS 20.0 package. For statistically analysis percentages and chi-square test was used and the statistically significant association of different factors with the presence of depression in the pregnant women was determined.

RESULTS

Among the study population, of 170 pregnant women, the prevalence of depression was found to be 20.6%.

In Table 1 which depicts the socio-economic factors associated with depression it is seen that most of the women were Hindu, 67.6%, followed by Muslims 29.5%. Majority of the women were in the age group 18-25 years (63.5%). It was seen that depression was 30% in illiterate women and 25.8% in women with primary education. Depression progressively decreased with higher education which was found to be statistically significant. Majority of women, 26.5% belonged to class 3 of socio-economic class as classified by Kuppuswamy of which 28.9% were showing positive EPDS. Family discord was found to be strongly significantly associated with depression where out of the 31 women with history of family discord almost half 48.4% showed signs of depression.

Table 2 depicts the relationship between maternal factors and depression. It was seen that depression was significantly higher in unplanned pregnancy (34.1%) than a planned pregnancy. This was found to be statistically significant. Preference and pressure for a male child was also significantly associated with depression ($p<0.025$). History of acute or chronic illness and complications during the present pregnancy was not significantly associated with depression. It was seen that the percentage of depression among the multigravida was 28.7% which was significantly higher than that in primigravida. Depression was also not significantly associated with the trimester of pregnancy. It was however seen that depression was significantly associated with history of previous abortion where 39.3% of females with bad obstetric history (BOH) were found to be depressed compared to 17% with no BOH. This difference was found to be statistically significant.

Table 1: Socio demographic factors and antenatal depression.

Characteristics	No depression EPDS <10 N (%)	Depression EPDS >10 N (%)	Total	P value
Religion				
Hindu	93 (80.9)	22 (19.1)	115	<0.776
Muslim	38 (76)	12 (24)	50	
Others	4 (80)	1 (20)	5	
Age group (in years)				
18-25	90 (83.3)	18 (16.7)	108	<0.191
26-30	42 (73.7)	15 (26.3)	57	
>30	3 (60)	2 (40)	5	
Education status				
Illiterate	28 (70)	12 (30)	40	<0.039
Primary school	46 (74.2)	16 (25.8)	62	
Middle + high	39 (86.7)	6 (13.3)	45	
> high school	22 (95.7)	1 (4.3)	23	
Socio economic status				
Class 1	31 (93.9)	2 (6.1)	33	<0.071
Class 2	29 (80.6)	7 (19.4)	36	
Class 3	32 (71.1)	13 (28.9)	45	
Class 4	33 (76.7)	10 (23.3)	43	
Class 5	10 (76.9)	3 (23.1)	13	
Discord in the family				
Yes	16 (51.6)	15 (48.4)	31	<0.000
No	119 (85.6)	20 (14.4)	139	
Total	135 (79.4)	35 (20.6)	170	

Table 2: Medical factors and antenatal depression.

Characteristics	No depression EPDS <10 N (%)	Depression EPD S>10 N (%)	Total	P value
Type of pregnancy				
Planned	108 (83.7)	21 (16.3)	129	<0.015
Un planned	27 (65.9)	14 (34.1)	41	
Preference for male child				
Yes	17 (63)	10 (37)	27	<0.025
No	118 (82.5)	25 (17.5)	143	
Past history of acute illness				
Yes	12 (75)	4 (25)	16	<0.426
No	123 (80)	31 (20)	154	
Past history of chronic illness				
Yes	5 (62.5)	3 (37.5)	8	<0.212
No	130 (80.2)	32 (19.8)	162	
Birth order				
Primigravida	58 (93.5)	4 (6.5)	62	<0.000
Multigravida	77 (71.3)	31 (28.7)	108	
Trimester of pregnancy				
1	21(77.3)	6 (22.2)	27	<0.135
2	59 (73.7)	21(26.3)	80	
3	55 (87.3)	8(12.7)	63	
Complication in present pregnancy				
Yes	24 (88.9)	3 (11.1)	27	<0.141
No	111 (77.6)	32 (22.4)	143	
Previous abortions				
No	118 (83)	24 (17)	142	<0.010
Yes	17 (60.7)	11 (39.3)	28	
Total	135 (79.4)	35 (20.6)	170	

DISCUSSION

A total of 170 pregnant women from the antenatal clinic of department of obstetrics and gynaecology in a tertiary health care hospital were taken up for the study. They were studied in detail with regards to their socioeconomic demographic and medical characteristics and their association with depression. The prevalence of depression was found to be 20.6%. Similar prevalence of depression was seen in other studies, 18%, 24.8%, 26%, while a few others showed a higher prevalence of depression 35.7%, 36.76%, suggesting that this is a need to screen the antenatal women for early diagnosis and effective management of depression.[4,11,14-16]

In Table 1 which depicts the socio-economic factors associated with depression it is seen that most of the women were Hindu, 67.6%, followed by Muslims 29.5%. Majority of the women were in the age group 18-25 years (63.5%), suggesting a still prevalent tradition of early marriages and pregnancy. It was seen that depression was 30% in illiterate women and 25.8% in women with primary education. Depression progressively decreased with higher education which was found to be statistically significant. This is probably because education made the women more empowered and had a larger control over their own lives causing less changes of depression. Majority of women 26.5% belonged to class 3 of socio-economic class as classified by Kuppuswamy of which 28.9% were showing positive EPDS. Although a significant association was not established, the risk of depression is higher among the socially disadvantaged group, probably as lower income leads to poor living conditions and financial worries. Family discord was found to be strongly significantly associated with depression where out of the 31 women with history of family discord almost half 48.4% showed signs of depression. Similar strong association between marital discord within family with depression was also seen in other studies.[14-17]

Table 2 depicts the relationship between maternal factors and depression. It was seen that depression was significantly higher in unplanned pregnancy (34.1%) than a planned pregnancy. This was found to be statistically significant. The result was in accordance with the findings from other studies which also showed a co-relation between unplanned pregnancy and depression.[11,16-18] Preference and pressure for a male child was also significantly associated with depression ($p<0.025$). In India due to various cultural factors there is a preference and pressure to have a male child. This stress is an important factor in ante-natal depression. Similar findings were observed in a study by Hegde et al.[11] However studies by Kumar et al and Mina et al showed no association between gender preference and ante-natal depression.[17,18] History of acute or chronic illness and complications during the present pregnancy was not significantly associated with depression. It was seen that the percentage of depression among the multigravida was 28.7% which was significantly higher than that in primigravida. Similar results were seen in other studies.[16,17,19] In contrast to the above a study done in Chennai concluded that the risk of developing depression was the same for primi and multi-gravid.[9] Depression was also not significantly associated with the trimester of pregnancy. It was however seen that depression was significantly associated with history of previous abortion where 39.3% of females with BOH were found to be depressed compared to 17% with no BOH. This difference was found to be statistically significant. Similar results were also obtained by a study conducted by Maheshwari et al, while contra results were seen in another study by Kumar et al.[14,17]

CONCLUSION

The present study showed that antenatal depression was more commonly seen in women who very less educated, of a lower socioeconomic stata and in those with little or no family support. It was seen that male gender preference, unplanned pregnancy and multiparity and a bad obstetric history were factors significantly associated with antenatal depression. There is a need to train primary care physicians for screening and early recognition and effective management of ante-natal depression.

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