Prevalence of Antenatal Depression Among Pregnant Women; A Cross Sectional Study in Tertiary Care Hospital Islamabad, Pakistan

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ABSTRACT

Background: Psychological health problems like anxiety and depression during pregnancy are very common, and have negative impact on women, neonatal and postnatal health. Sometimes the depression and anxiety lead to serious complications during pregnancy and postnatal period.

Objective: To determine prevalence of depression in pregnant women and risk factors.

Material and Methods: Study was conducted in the department of Gynecology and Obstetrics, Federal General Hospital, Islamabad from January to June 2017. Total number of 213 pregnant females were recruited on random basis and interviewed by using Edinberg Postnatal Depression Scale to determine depression during pregnancy. Results of the interview were analyzed by using SPSS v.20.

Results: Findings reveal that majority of the patients (64%) were found depress according to scale scoring. It was also found that the level of depression was higher among young aged fragment (93.65%) and require immediate counselling.

Conclusion: The results indicate that the women in younger age group, seems to be more depressed as compared with elder age group. The education level and exposures of pregnancy circumstances reduce the level of depression among pregnant women.

Keywords: EPDS, Anxiety, antenatal depression, pregnancy

INTRODUCTION

Pregnancy is generally considered as a time of joy and satisfaction for the woman and family. At the same time, along with satisfaction, the women mostly develop unknown threat and uncertainties about their underlaying pregnancy period. Individual anxiety and depression linked with variable physical condition in Pakistani society. Sometimes pregnant women experience uncertain prospective fears about their pregnancy period ¹. They may have impact on its outcome and may lead to maternal and as well as fetal complications. Many of the scholars pointed out higher rate of depressed women while in pregnancy and developed associated complication during antenatal and postnatal pregnancy period ². Generally, it is considered that pregnancy increases the risk for woman to have emotional instability and psychiatric illness ³. The common psychiatric disorders observed in pregnancy are depression, anxiety disorders, eating disorders and psychoses ⁴. Among them depression and anxiety are highly prevalent and are considered to be the risk factor for adverse effects on offspring and poor outcome of pregnancy ⁵⁻⁹.

Some studies have shown that women with antenatal depression are at greater risk to have complications like miscarriages, preterm delivery and low birth weight ¹⁰. Common predisposing factors found to cause antenatal depression in pregnancy are previous history of depression domestic violence lack of social support low socioeconomic support unwanted pregnancy and pervious uneventful pregnancy ¹¹⁻¹³. In Pakistani population risk factor for antenatal depression are almost similar to those seen in other populations ¹⁴. A meta-analysis from 21 studies done at different centers from developed countries including 19,285 pregnant women found that depression was present in 7.4% and 12.8% and 12% during first, second and third week of pregnancy, respectively ¹⁵. A study from Lahore Pakistan, showed that in pregnant women anxiety and depression was found to be 39% ¹⁶. In another study done in Hyderabad Pakistan, 18% women found depressed during their course of pregnancy ¹⁷. It is needed to observe the depression level among pregnant women in Islamabad. Present study aimed to develop deeper understanding on antenatal depression in urban and rural areas of Islamabad. Further, the study would also help to determine the variable factors in determining depression level among pregnant women within existing social standings.
MATERIAL AND METHODS

Design and Settings
A cross-sectional study design was used. The study was conducted at Federal general hospital, Islamabad in the department of Gynecology and Obstetrics in collaboration with department of internal medicine.

Participants
A total sample size of 213 pregnant women fulfilling the selection criteria (who gave consent to be the part of study) were recruited by stratified random sampling that included every third pregnant women from all pregnant women visiting in OPD for antenatal services from 1st January 2018 to 30th June 2018.

Sample size calculation
In order to calculate the required sample size, the Epi statistical program from the Open Source Statistics for Public Health was used. The assumptions were: a two sided confidence level of 95% = (1- α); a power (1- β) or (% chance of detecting) of 80%; ratio of sample size, unexposed (control)/ exposed (study group) = 1% of unexposed with outcome (awareness) = 5%; Then one of four parameters which was % of exposed, s = 20% was entered, and the others three parameters were calculated by the Epi website program and results were presented using methods of Kelsey, Fleiss, and Fleiss (2010) with a continuity correction.

Ethical approval
Ethical approval was granted by the ethical committee of Federal General Hospital, Islamabad.

Measure
Urdu version of EPDS by Rehman et all was the instrument used. It is a ten item questionnaire with scores ranging from zero to three on a four point Likert scale, summing a total score of 30 points. Although the EPDS was originally made for the detection of depression in postnatal period, but latter proved to be equally reliable to detect prenatal depression and its severity. A score of 12 or above was considered to be moderately depressed.

Data collection procedure
All recruited respondents, who provided written informed consent, were given a 10-item Edinburgh Postnatal Depression Scale in native language; validated Urdu version. EPDS Perfora was provided to all the females and collected at the same time. For those who could not read or having problem in understanding EPDS, a health personal was appointed for assistance. Socio-demographic information like age, parity, place of residence, working status, literacy and trimester were noted. Depression was diagnosed and graded according to the score calculated. Data was secured in a locker accessible only to the researcher.

Statistical analysis: All the statistical demographics and quantitative analysis was done in SPSS 20.0 version. Correlation of different variables was calculated using Chi-Square test. p value < 0.05 was considered to be significant. Data was compared in different residential groups, age groups, parity and other variables to analyze the whole surveyed population.

RESULTS
A total of 213 pregnant females were enrolled in the study. Participation rate was 100%. Mean age was 25 years with ±3.04 std dev. Participants were divided into two groups, 17-26 years (144, 68%) and 27-36 years age groups (69, 32%). Mean parity was 2 children in number. Among total respondents 42% were primigravida, while rest of were multi gravida (58%).

Based upon the evidence from the respondents and calculation of EPDS values, 135 (64%) pregnant women were depressed at the time of interview, requiring psychiatric consultation. Further, the prevalence of depression was higher (93, 65%) in younger age group (17-26 years) as compared with older age group (27-36 years).

Fig 1: Comparison of presence of depression among age groups

Regarding area of residence, majority of the participants was living in urban areas (176, 83%) and only 37 (17%) were from rural settings. Depression was common among urban residents...
(110, 63%) compared to rural settlers. 210 (98.5%) women were house wives and 03 were doing job (1.4%). Majority of the study population was educated (179, 84%) while 34 (16%) did not receive any kind of education. Details of qualification are given in table1.

Literacy was found to be statistically associated with no depression among participants. Age, parity, place of residence, working status and trimester were not significant. On multivariate analysis, education remains statistically significant. (Table 2).

**DISCUSSION**

Our study showed overall prevalence of antenatal depression was 64%, it was more common in educated women. There was no difference in prevalence among different age groups and living in urban or rural areas.

Prevalence of antenatal depression is variable in different regions. A systemic review of 109 articles by Gynes et al. found that 13% of pregnant women had some form of major or minor depression. Faisal-Cury et al. showed in a study that prevalence of depression and anxiety among pregnant women in Sao Paulo Brazil was 20% and 60% respectively. One such study done by Nilam Shakeel et al. showed that prevalence of depression was Western Europeans in 8.6%, Middle Easterners: 19.5%, South Asians 17.5% and other groups: 11.3%.

Whereas studies from developing world have little bit different finding. One study from Ethiopia doing job (1.4%). Majority of the study population showed prevalence of antenatal depression was 24.5%. In a study performed by T.Verbeek at al showed prevalence 57% of pregnant in Nicaragua in Central America women had symptoms of depression. In South Asia prevalence of psychiatric illness was found to be higher likely related to different social and cultural settings. For example, a study from Bangladesh showed that anxiety and depression were present in 29% and 34% of pregnant women respectively.

Data from Pakistan in different studies had different results. For example, in one comparative study prevalence of depression was found as 48% in Pakistani women as compared to 9% in Caucasian 31% in Canadian aboriginal. One study from Karachi showed prevalence of antenatal depression was 34%. AHumayun et al. showed prevalence of antenatal depression was 64% in Lahore. In another study carried out in Lahore, it was found that antenatal anxiety and depression was present in 49% and 31% respectively. One study from Peshawar showed Overall, 45% of women had symptoms for composite depression, anxiety, and stress (DAS). Jafri SAM, et al showed in a study that prevalence of depression was 81% is among the pregnant women of Karachi.

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**Table 1: Qualification details among study participants**

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>58</td>
<td>32.4%</td>
</tr>
<tr>
<td>Matric</td>
<td>44</td>
<td>24.5%</td>
</tr>
<tr>
<td>Inter</td>
<td>36</td>
<td>20.4%</td>
</tr>
<tr>
<td>Graduate</td>
<td>29</td>
<td>16.3%</td>
</tr>
<tr>
<td>Masters</td>
<td>11</td>
<td>6.3%</td>
</tr>
<tr>
<td>Total</td>
<td>179</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Table 2: Logistic Regression showing the role of education in preventing depression**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Odds Ratio</th>
<th>95% C.I.</th>
<th>Coefficient</th>
<th>S.E.</th>
<th>Z-Statistic</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literacy</td>
<td>0.136</td>
<td>0.04</td>
<td>0.4621</td>
<td>-1.9948</td>
<td>0.6239</td>
<td>-3.1975</td>
</tr>
<tr>
<td>AGE</td>
<td>0.9748</td>
<td>0.907</td>
<td>1.0476</td>
<td>-0.0256</td>
<td>0.0368</td>
<td>-0.6953</td>
</tr>
<tr>
<td>Residence</td>
<td>0.8217</td>
<td>0.3766</td>
<td>1.7929</td>
<td>-0.1964</td>
<td>0.3981</td>
<td>-0.4934</td>
</tr>
<tr>
<td>CONSTANT</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>3.1279</td>
<td>1.1587</td>
<td>2.6995</td>
</tr>
</tbody>
</table>
Comparing the results with the other studies, it is evident that depression is more common in middle income, developing countries. In South East Asia antenatal depression is a common issue. In Pakistani studies prevalence of antenatal depression is variable ranging from 18% to 81%. Most of the studies which used Edinburgh postnatal depression scale (EPDS) found high prevalence. We also used the same scale and prevalence is comparable to the studies done in Pakistan. We think some studies should be carried out to compare the different scales used to assess antenatal depression.

CONCLUSION
Depression and anxiety are common conditions which may be observed during pregnancy and there are several physical and social factors responsible for them. There should be some mechanism for screening of all the pregnant women at least once for presence of antenatal depression so that they can be managed accordingly to avoid maternal and fetal complications.

REFERENCES


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**DATA SHARING STATEMENT:** The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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**AUTHOR’S CONTRIBUTION**
Following authors have made substantial contributions to the manuscript as under

**Abbasi MSR:** Concept and design of study, Collection of data, statistical analysis

**Irum S, Tanveer S:** Writing of manuscript, critical review of manuscript

**Khan MA, IShaq M:** Analysis and interpretation of data, statistical analysis

**Uddin I, Tahir MA:** Data collection, bibliography

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.