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Prevalence of and Factors associated with Anxiety and Depression among Women in a lower middle class semi-urban community of Karachi, Pakistan

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Abstract

Objective: To study the prevalence of, and factors associated with anxiety and depression among women.

Design: A cross sectional survey.

Setting: A lower middle class semi-urban community of Karachi, Pakistan.

Participants: A total of 1218 women between the ages of 18-50 years.

Methodology: Systematically every third household was identified from which a woman was randomly selected. The Aga Khan University Anxiety and Depression Scale and a socio-demographic questionnaire were administered verbally by trained interviewers for assessing the prevalence of, and associated factors for anxiety and depression.

Results: A prevalence of 30% was found. Increasing age, lack of education and verbal abuse were the associated factors found to have an independent relationship.

Conclusion: Providing education and reducing domestic abuse could lead to decrease in the prevalence of anxiety and depression in women (JPMA 52:513;2002).

Introduction

World-wide 480 million people are estimated to be suffering from depression and a quarter of these have anxiety as well. Over ninety percent of mental health problems in the community are anxiety and depression and co-morbidity is common. Their combined prevalence is taken as a measure of the magnitude of mental illness in a community and the enormous universal burden of depression has been reported in several studies. Two thirds of the affected are living in the developing countries, and this ratio is expected to rise due to the rapid population growth, urbanization and strong links between adverse socio-environmental factors and prevalence of mental illness.

Studies conducted in Pakistan have revealed a high prevalence of anxiety and depression on the whole with more than double the prevalence in women, and a higher prevalence in rural compared to urban areas. Some of the psycho-social risk factors for depression identified among women living in Karachi are very early marriage, hostile in-laws and lack of an intimate and confiding relationship with the husband.

Pakistan is a developing country with an estimated population of 140 million. About 70% of the population is rural based and dependent on agriculture for its livelihood. Persisting drought over the last few years has forced people to urban areas in search of employment. Karachi is a mega-city with a population of more than 14 million of which 40% live in squatter settlements where over crowding, unemployment, poor civic amenities and rapidly changing social structure are common. Women are in double jeopardy because of their illiteracy, domestic violence and loss of extended family.

This survey was carried out to identify women who were anxious and depressed for a community based...
interventional study being conducted in Qayoomabad one of the lower middle class semi-urban community of Karachi. This paper reports the baseline data collected before initiation of the main study.

Methodology
A cross-sectional survey was carried out in Qayoomabad which has a population of about 80,000, from January 8 - February 14, 2001, to identify women suffering from anxiety and depression. Systematically every third household was identified from which a woman meeting the inclusion criteria was randomly selected. The inclusion criteria were: informed consent, age 18-50 years, able to understand the local language Urdu, planning to live in Qayoomabad for at least one year, and not having suffered a bereavement in the last six weeks. The Aga Khan University Anxiety and Depression Scale (AKUADS) was used as the assessment tool. It is an indigenously developed and validated screening instrument that has been used in several studies.\(^{20-23}\) AKUADS was administered verbally by trained interviewers. A questionnaire covering the socio-demographic characteristics and potential factors associated with anxiety and depression was also administered. Pretesting was carried out at a field site with socio-economic and cultural environment similar to the study area. Data was entered using Epi-Info package following standard double entry procedure; 10% of the records were compared and the error rate detected was 0.03%. Data was analyzed using the statistical software package SPSS, version 10. The descriptive analysis provides important information about the study population. Univariate and multivariate logistic regression models were used to estimate the crude and adjusted odds ratios and their confidence intervals.

Results
Overall 1226 women were interviewed. Out of these women, 8 were excluded from the sample, as their age was less than 18 years. Finally a sample of 1218 women was analyzed of which 366 were identified to be anxious and depressed. This provides an estimate of 30% for the overall prevalence of anxiety and depression in this population. Mother tongue (language spoken at home) was used as a surrogate marker for ethnicity and immigration. Five ethnic groups were identified; Hazarawalas, Pathans, Punjabis, Urdu speaking and others (Gujrati/Sarieki). In the entire study population (1218 women), 430 were Hindko speaking, out of the later 140 (32.6%) were found to be cases. Similarly of the 155 Pushto speaking 58 (37.4%), of 421 Punjabi speaking 113 (26.8%), of 196 Urdu speaking 52 (26.5%), of 16 Gujrati/Sarieki speaking 3 (18.8%) were found to be cases. Among the 366 anxious and depressed women identified, 140 (38.3%) were Hindko speaking, 113 (30.9%) spoke Punjabi, 58 (15.8%) were Pushto speaking, 52 (14.2%) were Urdu speaking and 3 (0.8%) spoke Gujrati/Sarieki (They have been grouped together as their number are too small to influence the results. Majority of the residents (86.5%) had houses of concrete construction, 47% had three or more than three living rooms, almost all the households (98.4%) had Sui gas and electricity (99.4%). Households with a television were 75.3%, with a motorcycle or a car were 20.2% and with a telephone were 26%. These possessions were used as proxy indicators for socioeconomic status as used in the National Health Survey of Pakistan.\(^{24}\) According to these criteria 4.5% belonged to the high socioeconomic class, 78.2% to the middle and 17.2% to the low socioeconomic class. The baseline characteristics of the population are provided in Table 1.
The mean age was 30.7 years with the standard deviation of 8.3. The majority of the women were migrants from other areas of Pakistan as only 16.6% considered Urdu as their first language. The mean number of children in the family was 4.7 with a standard deviation of 2.8. Contraception was practiced by 44.5% of women.
Factors associated with anxiety and depression in the univariate analysis are summarized in Tables 2 and 3 list the factors that remained significant in multivariate analysis.

### Table 2: Univariate Analysis of Factors Associated with Anxiety and Depression in Women in Qayoomabad-Karachi, 2001 (n=1218)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Anxious &amp; Depressed n1=366(%)</th>
<th>Not Anxious &amp; Not Depressed n2=852(%)</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age group (years)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>27 (7.4)</td>
<td>147 (17.3)</td>
<td>1</td>
</tr>
<tr>
<td>21-30</td>
<td>134 (36.6)</td>
<td>388 (45.5)</td>
<td>1.9 (1.2, 2.9)</td>
</tr>
<tr>
<td>31-40</td>
<td>145 (39.6)</td>
<td>234 (27.5)</td>
<td>3.4 (2.1, 5.3)</td>
</tr>
<tr>
<td>41-50</td>
<td>60 (16.4)</td>
<td>83 (9.7)</td>
<td>3.9 (2.3, 6.7)</td>
</tr>
<tr>
<td><strong>Educational status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal education</td>
<td>180 (49.2)</td>
<td>535 (62.8)</td>
<td>1.7 (1.4, 2.2)</td>
</tr>
<tr>
<td>No formal education</td>
<td>186 (50.8)</td>
<td>317 (37.2)</td>
<td></td>
</tr>
<tr>
<td><strong>Total household income per month</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;3000</td>
<td>166 (47.7)</td>
<td>426 (50.7)</td>
<td>1</td>
</tr>
<tr>
<td>≤3000</td>
<td>182 (52.3)</td>
<td>414 (49.3)</td>
<td>1.3 (0.9, 1.4)</td>
</tr>
<tr>
<td><strong>Type of household Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monthly Income</td>
<td>208 (59.8)</td>
<td>553 (65.8)</td>
<td>1</td>
</tr>
<tr>
<td>Own Business</td>
<td>105 (30.2)</td>
<td>87 (10.4)</td>
<td>1.1 (0.7, 1.6)</td>
</tr>
<tr>
<td>Daily Wages</td>
<td>35 (10.0)</td>
<td>200 (23.8)</td>
<td>1.4 (1.1, 1.9)</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>26 (7.1)</td>
<td>142 (16.7)</td>
<td>2.5 (1.6, 3.9)</td>
</tr>
<tr>
<td>Married</td>
<td>320 (87.4)</td>
<td>688 (80.7)</td>
<td></td>
</tr>
<tr>
<td>Widowed &amp; divorced</td>
<td>20 (5.5)</td>
<td>22 (2.6)</td>
<td>2.5 (2.4, 10.4)</td>
</tr>
<tr>
<td><strong>Parity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤2 children</td>
<td>56 (15.3)</td>
<td>193 (22.7)</td>
<td>1</td>
</tr>
<tr>
<td>&gt;2 children</td>
<td>284 (77.7)</td>
<td>517 (60.7)</td>
<td>1.9 (1.4, 2.6)</td>
</tr>
<tr>
<td><strong>Permission to leave home alone</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not always</td>
<td>71 (19.4)</td>
<td>155 (18.2)</td>
<td>1</td>
</tr>
<tr>
<td>Always</td>
<td>235 (64.2)</td>
<td>468 (54.9)</td>
<td>1.1 (0.8, 1.5)</td>
</tr>
<tr>
<td>Not at all</td>
<td>60 (16.4)</td>
<td>229 (26.9)</td>
<td>0.6 (0.4, 0.9)</td>
</tr>
<tr>
<td><strong>Responsibility to make household decisions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined</td>
<td>174 (47.5)</td>
<td>429 (50.4)</td>
<td>1</td>
</tr>
<tr>
<td>Self</td>
<td>33 (9.0)</td>
<td>30 (3.5)</td>
<td>1 (0.8, 1.3)</td>
</tr>
<tr>
<td>Husband</td>
<td>159 (43.3)</td>
<td>393 (46.1)</td>
<td>2.7 (1.6, 4.6)</td>
</tr>
<tr>
<td><strong>Verbal abuse by any family member</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>278 (76.0)</td>
<td>776 (91.1)</td>
<td>1</td>
</tr>
<tr>
<td>Yes</td>
<td>88 (24.0)</td>
<td>76 (8.9)</td>
<td>3.2 (2.3, 4.5)</td>
</tr>
<tr>
<td><strong>Physical Abuse by any family member</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>332 (90.7)</td>
<td>830 (97.4)</td>
<td>1</td>
</tr>
<tr>
<td>Yes</td>
<td>34 (9.3)</td>
<td>22 (2.6)</td>
<td>3.9 (2.2, 6.7)</td>
</tr>
</tbody>
</table>

*Information is missing for 30 subjects  ** Information taken only from ever-married women
Discussion

The prevalence of anxiety and depression is universal, but varies in different countries, environments, between sexes and different ages. A community based study of prevalence in women done in urban Zimbabwe\textsuperscript{25} reported a figure of 30.8\% and another in urban Mumbai 25-28\%\textsuperscript{26}. A prevalence of 25\% in women of urban Rawalpindi\textsuperscript{16} has been shown, these figures are close to our finding of 30\%. Prevalence of 46\% among women in Chitral\textsuperscript{13} and 66\% in rural Punjab\textsuperscript{14} has been reported, which is much higher than in urban women, suggesting the possibility that the associated factors for depression are more prevalent in rural women.

A crosssectional study conducted in 1996\textsuperscript{15} in a similar community in Karachi had reported a prevalence of depression in 42\% women, but the subjects were not recruited randomly and according to authors a self-selection bias was possible. A prevalence of only 17.6\% is reported from Banglore\textsuperscript{26}, which is known for its high literacy rate and education and has been found to confer protection in many studies\textsuperscript{13,16,27} including ours (p <0.001).

Education improves coping mechanisms in more than one-way; it raises the self-efficacy and therefore the self-esteem of women. It also makes women feel less helpless in difficult situations and gives a greater sense of control over their environment\textsuperscript{28}.

\begin{table}
\centering
\caption{Multivariate analysis of factors associated with Anxiety and Depression in women in Qayoomabad, Karachi, 2001 (n=1218).
}
\begin{tabular}{|l|c|c|}
\hline
Variables & Adjusted OR & 95\% CI \\
\hline
Age group (years) & & \\
18-20 & 1 & - \\
21-30 & 1.83 & 0.88 - 3.81 \\
31-40 & 2.80 & 1.35 - 5.83 \\
41-50 & 3.48 & 1.59 - 7.60 \\
\hline
Educational status & & \\
Literate & 1 & - \\
Illiterate & 1.45 & 1.09 - 1.92 \\
\hline
Abusive language in the house & & \\
No & 1 & - \\
Yes & 3.54 & 2.42 - 5.18 \\
\hline
\end{tabular}
\end{table}
The lowest prevalence was found in the local population (Urdu as mother tongue) lending credence to immigration being an associated factor for depression\textsuperscript{10}. Prevalence of depression rises with age\textsuperscript{15,16,29} which is similar to our finding, of a 5% increase in the odds of becoming anxious and depressed for every one year increase in age. Marital status and parity have been identified as associated factors consistently in studies carried out in Pakistan\textsuperscript{13,27} and this is supported by our study as well. The retention of verbal abuse and the elimination of physical abuse in the multivariate model is noteworthy as it indicates that emotional trauma is worse than physical\textsuperscript{30}. Financial difficulty was found significant in the univariate analysis but it did not come out as an independent factor in our multivariate model indicating that depression is not just an inventory of poverty. Compared to women who could go out unescorted, the women who always had to be escorted were less likely to be anxious and depressed. This finding probably indicates that culturally women who are escorted feel more secure and cared for. As Qayoomabad is predominantly a lower middle class semi-urban community in Karachi, the results can be generalized to similar settings. To avoid interpreter bias only women who could understand Urdu were included which could be responsible for a bias in interpreting prevalence in different ethnic groups. Educating women, enabling them to generate revenue and reducing verbal abuse could lead to decrease in the prevalence of anxiety and depression. Currently a study is underway to assess the effect of counselling by briefly trained community counsellors on levels of anxiety and depression in women identified in this survey. The results will be reported in a subsequent paper.

Acknowledgements

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References