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## Risk factors for depression among married women belonging to higher and lower socioeconomic status in Karachi, Pakistan

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### Abstract

**Objectives:** To determine the risk factors for depression among married women belonging to low and high socioeconomic status in Karachi.

**Methods:** The study design was cross-sectional. The data was collected from 128 adult married women during July to September 2005. The women were selected from different socioeconomic classes from five hospitals/institutes in Karachi. The Centre for Epidemiology Studies-Depression (CES-D) scale was used to screen the subjects for depression and a structured questionnaire was used to identify the factors for depression.

**Result:** According to the CES-D scale, 65% of the study population was found to be depressed. Among the women from high socioeconomic status, social conditions were identified as a significant factor for causing depression, whereas social relations, specifically relationship problems with husband, were the major factor for depression among women belonging to the low socioeconomic status.

**Conclusion:** The prevalence of depression among married women living in Karachi is high. However, underlying factors for causing depression vary among women belonging to low and high socioeconomic status.

**Keywords:** Depression, Factors, Married women, Socioeconomic status, Karachi (JPMA 62: 249; 2012).

### Introduction

Universally it is estimated that 5-10% of the population at any given time is suffering from identifiable depression needing psychiatric or psychosocial intervention.<sup>1</sup> Women have higher rates of depression than men. The life-time risk of developing depression is 10-20% in females.<sup>1</sup> In Pakistan the frequency of depression is higher among females compared to males.<sup>2</sup> According to previous studies, the prevalence of anxiety and depression among women ranges from 30-66%.<sup>2-7</sup> Depression is causing a huge burden on low resources of Pakistan as the health budget of the country is less than 1% of Gross National Product out of which only 0.4% is allocated to mental health.<sup>8</sup>

Depression is a complex phenomenon and there is no single factor which can explain the cause for depression. Social environment has been identified as one of the major determinants of depression.<sup>9</sup> It includes both social conditions and social relations.<sup>10,11</sup>

The identified factors associated with depression among women in Pakistan are, being a housewife, relationship problems with husband and in-laws, having four or more children, financial difficulties and lower level of education, battering and verbal violence.<sup>10,12,13</sup> Marital satisfaction has been negatively associated with depressive symptoms.<sup>14,15</sup>

Many studies have identified an inverse relationship between the level of education and depression,<sup>16-18</sup> whereas increasing age has direct relationship with developing depression among adult married women.<sup>3,5,7,19</sup>

Though married women are facing high levels of depression, there is no study which highlights the factors behind it among different social classes.<sup>2,5,7,14</sup> The living standards of population in urban settings of Pakistan vary from very low socioeconomic class to the high class. There are multiple problems varying in type which these segments are facing which probably need to be addressed accordingly. Therefore, it is important to study the married women's perceptions belonging to different socioeconomic strata of urban Karachi regarding the different social environmental factors as a potential determinant for causing depression. This study was conducted to identify the factors associated with depression among married women belonging to high and low socioeconomic status in an urban Pakistani setting.

### Patients and Methods

The study design was cross-sectional. The data collection was completed during July to September 2005. The study sites were purposefully selected from high and low socioeconomic localities of the city in order to ensure the participation from different socioeconomic groups. Study sites included one hospital, and four private institutes situated in different Karachi localities. Their names were

Atia Hospital, Community Centre at Zia colony, Memon Foundation Vocational Training Centre, Karachi Club and Nova Nordic Community Centre. In our study we included women of reproductive age. The study participants were grouped under low and high socioeconomic status groups according to the study site they visited. The participants recruited from Atia Hospital, Memon Foundation and Zia Colony Community Centre were considered as low socioeconomic group, while those from the Karachi Club and Nova Nordic Community Centre were considered as high socioeconomic group. Only those institutes were selected whose administration gave consent for participation. The process was facilitated by a local NGO. Purposive sampling technique was used to include the participants in the study.

Two types of instruments were utilised for data collection. The Centre for Epidemiology Studies-Depression (CES-D) scale was used to screen the subjects for depression. It is a self-reporting depression scale developed to identify depression among the general population. The CES-D was designed to cover the major symptoms of depression identified in the literature. The sensitivity and specificity of the CES-D have been frequently reported and generally appear to be very good.<sup>20</sup> It has reliability of alpha coefficients of 0.85 for general population samples. The CES-D is one of the best-known survey instruments for identifying symptoms of depression. It has been extensively used in large studies; it is applicable across age and socio-demographic groups, and it has been used in cross-cultural research.<sup>20</sup> CES-D has been previously validated in Pakistan on pregnant women.<sup>9</sup>

The CES-D scale has 20 items; each item having a score range of 0-3. An individual can score from 0-60. The cutoff of 16 and above has been recommended for depression diagnosis. In Pakistan it has been previously validated amongst pregnant women.<sup>9</sup> For our study we used the previously translated version of the scale. The sample size was calculated by using Epi Info software. With alpha 5%, power 80%, prevalence of depression 50% and OR 3.04;<sup>21</sup> the sample size calculated was 128.

In addition to CES-D scale, a separate structured questionnaire was also administered to identify the social environment factors for causing depression among women belonging to different socioeconomic strata. This questionnaire was obtained from the study which was done to identify pregnant women's factors for depression.<sup>9</sup> From the questionnaire, pregnancy related items were excluded and the variables related to social environment of the married women were utilised to collect the data. In this questionnaire the social environmental determinants of married women are described under the themes of (1) social

relations: which consist of different categories such as husband, in-laws and children-related factors; and (2) social conditions: which consist of categories such as economy, illness, life events, household work, environmental circumstances and social problems.

Data collectors were trained for three days before going in the field. The interviews were conducted while the women were sitting in waiting areas or the rest rooms of club/institute. The women were approached by female data collectors and the study purpose was explained. If the woman gave consent, she was taken to a separate room for interview. Each interview on an average lasted 30 minutes. The questionnaire was developed in Urdu<sup>9</sup> and women who had difficulty in speaking or understanding Urdu were not included in the study.

Counselling was provided to those women who were identified as depressed by the interviewer or, if required, the woman was referred to some psychiatrist for further assessment and treatment. The study was started after obtaining the approval from the Ethical Review Committee of the Aga Khan University and was funded by the University Research Council (URC).

The data was entered by using EpiData 3.1 software. The data was analysed for low and high socioeconomic class women. In both groups the descriptive statistics of the socio-demographic variables were calculated as frequency with percentages. The prevalence of depression was calculated as percentage of women who scored more than 16 on the CES-D scale. Univariate linear regression was used to determine the unadjusted relationship between predictor variables (social relations, social conditions, age, husband, in-laws, children, economy, illness, social problem, household work) and outcome variable (depression). Multivariate analysis was done using multiple linear regressions to come up with factors where the simultaneous effect of multiple factors on the outcome was adjusted. A p-value of <0.05 was considered to be statistically significant. The data which was entered in the computer using EpiData 3.1 software, was then exported in SPSS Version 16 software for analysis.

## Results

Out of 128 married women, 61 (47.7%) belonged to low socioeconomic status (SES) while 67 (52.3%) belonged to the high socioeconomic status (Table-1). The women in low socioeconomic group were younger in age than those in the high socioeconomic group. Over 50% of women in low SES had never gone to school as compared to the high group where more than 50% of the women had graduate-level education and 7.5% had some professional degree. Among the low SES group, 23 (37.7%) women had history of one abortion as compared to 21 (31.3%) in the high SES.

**Table-1: Descriptive characteristics of the married women in the low and high socioeconomic status group in Karachi.**

S. No.	Variables	Low socioeconomic status n=61 (%)	High socioeconomic status n=67 (%)
1	Mean Age in years (SD)	29.6 (7.6)	34.6 (6.9)
2	Occupation (%)		
	Housewives	55 (90.2)	56 (83.6)
	Teachers	1 (1.6)	8 (11.9)
	Office worker	0	3 (4.5)
	Other	5 (8.1)	0
3	Education (%)		
	No schooling	34 (55.7)	8 (11.9)
	Primary	6 (9.8)	2 (3)
	Secondary	13 (21.3)	18 (26.9)
	Graduation	8 (13.1)	34 (50.7)
	Professional	0	5 (7.5)
4	History of abortion (%)		
	Yes	23 (37.7)	21 (31.3)
	No	38 (62.3)	46 (68.7)
5	No. of children		
	0	6 (9.8)	9 (13.4)
	<=5	44 (72.1)	51 (76.1)
	>5	11 (18)	7 (10.4)
6	Depression (CES-D score)		
	>16	40 (65.6)	44 (65.7)
	<16	21 (34.4)	23 (34.3)

Over 90% women were housewives in the low SES group and the remaining were working as maids, receptionists and paramedical staff, whereas in the high SES, although majority (83%) were housewives but the rest were working as teachers or in offices.

The study found the prevalence of depression (CES-D score >16) to be similar in both groups (65%). The mean scores on CES-D was 26.4 for women

belonging to low SES, whereas it was 14 for women belonging to the high SES (p value <0.01). Univariate linear regression (Table 2) found significant association between theme scores (social relations, social conditions) and total CES-D score in both groups. It was also found that with one-unit increase in the scores of social relations and conditions, there was 0.66 and 0.06 increases respectively in the score on the CES-D scale for low socioeconomic group and 0.5 and 0.6 increase in score on CES-D scale for high SES women. Among the low socioeconomic group, with each year increase in education, there was 0.29 decreases in score of CES-D but no significant association was found between education and depression for high SES women.

Univariate linear regression found significant association between categories and total CES-D scores. For social relations, Increase of 1 unit in husband, in-laws and children categories led to 0.59, 0.45 and 0.47 increase in the CES-D score among low SES, whereas for high SES women, increase of 1 unit in husband, in-laws and children categories led to 0.51, 0.19 and 0.27 increase in CES-D score. For social conditions, unit increase in categories for illness, economy, household work, environmental circumstances and social problems led to a unit increase in the CES-D score in both the groups.

In Multivariate analysis (Table-3) we found significant association between social relations and total CES-D score for high SES women, whereas social conditions and CES-D was significant for low SES women. Regarding the categories, only husband-related among the low SES and household work for high SES were significantly associated with the total CES-D score.

**Table-2: Univariate linear regression analysis between themes and categories of social determinants and CES-D among married women in low and high socioeconomic status in Karachi.**

Variables	Low Socioeconomic Status n=61		High Socioeconomic status n=67	
	Beta	P value (95% CI)	Beta	P value (95% CI)
<b>Themes</b>				
Social relation	0.66	0.00 (1.89-3.49)	0.54	0.00(1.66-3.73)
Social conditions	0.60	0.00 (0.76-1.57)	0.60	0.00 (0.92-1.82)
<b>Categories</b>				
Age	-0.13	0.30 (-0.91- 0.28)	-0.09	0.43(- 0.74- 0 .32)
Education	-0.29	0.02 ( -8.4- -0.7)	-0.20	0.09 (-6.26-0.48)
Occupation	-0.11	0.37 (-3.89- 1.48)	0.03	0.80 (-1.9- 2.57)
Abortion history	0.007	0.95 (-4.8-5.07)	0.27	0.02 (0.52-6.5)
No. of Children	0.28	0.02 (1.06-17.94)	0.16	0.17 (-2.35-12.67)
Husband	0.59	0.00 (2.3-5.0)	0.51	0.00 (2.18-5.21)
In-laws	0.45	0.00 (3.18-9.7)	0.19	0.11 (-0.82-7.46)
Children related matters	0.47	0.00 (5.56-15.94)	0.27	0.02 (0.61-9.3)
Illness	0.51	0.00 (2.48-6.25)	0.46	0.00 (1.84-5.1)
Economy	0.50	0.00 (0.98-2.56)	0.53	0.00 (1.36-3.11)
Household work	0.49	0.00 (3.8-10.33)	0.56	0.00 (4.8-10.30)
Environmental circumstances	0.37	0.00 (1.7-7.63)	0.32	0.00 (1.07-6.66)
Social problems	0.57	0.00 (5.12-11.27)	0.19	0.12 (-0.86-0.70)

**Table-3: Multivariate linear regression analysis between themes and categories of social determinants and CES-D among married women in low and high socioeconomic status in Karachi.**

Variables	Low Socioeconomic Status n=61		High Socioeconomic status n=67	
	Beta	P value (95% CI)	Beta	P value (95% CI)
<b>Themes</b>				
Social relation	0.47	0.002 (0.77-3.13)	0.22	0.10 (-0.23-2.51)
Social conditions	0.24	0.09 (-0.89- 1.03)	0.44	0.002 (0.37- 1.63)
<b>Categories</b>				
No. of Children	0.06	0.61 (-6.26-10.5)	-	-
Husband	0.29	0.03 (0.15-3.94)	0.22	0.05 (-0.05-3.28)
In-laws	0.07	0.58 (-2.75-4.83)	-	-
Children related matters	0.11	0.47 (-4.39- 9.37)	-0.07	0.49 (-5.62-2.72)
Illness	0.17	0.21 (-0.87-3.84)	0.17	0.14 (-0.44-3.07)
Economy	0.00	0.96 (-1.11- 1.17)	0.21	0.09 (-0.15-1.97)
Household work	0.08	0.57 (-2.93-5.22)	0.29	0.03 (0.29-7.51)
Environmental circumstances	-0.09	0.51 (-4.69-2.36)	-0.01	0.90 (-2.78-2.47)
Social problems	0.20	0.16 (-4.68-2.44)	-	-

## Discussion

The study identified the prevalence of depression to be around 66% among married women belonging to both high and low socioeconomic status women in Pakistan. This is a high percentage and shows the same trend as the studies done previously.<sup>5-7,12,22</sup> Although few studies have identified the low prevalence of depression in Pakistan, but those studies have been either conducted on both genders, hence diluting the burden of depression among women versus men,<sup>2,4,16,17,23</sup> or on specific sets of population like pregnant women or women in rural areas.<sup>9,15</sup>

Although the prevalence of depression was the same in both low and high SES groups, but the factors associated with depression were different in both the groups. A separate study conducted by the same researchers identified social relations to be more important than social conditions for causing depression in a group of pregnant women. However, factors were not identified in terms of social classes.<sup>9</sup> Among low SES class, we identified significant association between social relations and depression. Social relations are the relationships with husband, in-laws and children in the married life of a woman.<sup>3,9,14</sup> Social relations play an important role in low SES women, as after marriage they usually live in extended families where they have to adjust with several relationships. Their major role revolves around the family members only. Previous studies have also reported that among the married women, lack of satisfaction in relationship with family members was an important factor for causing mental disturbances.<sup>11,14,24</sup> Similar to our findings another study also showed that women feel being isolated and stressed in living with an extended family after marriage which is a challenging environment for them.<sup>10</sup> Conflict with in-laws<sup>12,14</sup> and verbal abuse<sup>3</sup> are found to be correlated with psychiatric morbidity among married women.

Previous studies have shown strong association between relationship with husband and depression. Intimate partner violence, either verbal or physical, is identified as an important risk factor for depression among married women.<sup>19,25</sup> Our study has supported such findings for women belonging to low SES. In Pakistan the head of the household is usually male and they get involved in every matter of the family and restrict women in taking decisions which creates conflict situations between the couple. Conflict with husband<sup>24</sup> and stress in married life<sup>10</sup> has been identified as established risk factors for depression among women. Husband getting too busy with his profession or having extramarital affair could be another reason behind poor relationship.

Our study identified that among the high SES married women, depression is more associated with social conditions and household work as compared to social relations. In previous literature the social conditions which were significantly associated with depression were old age, late marriage, less education, being housewife, household work and financial difficulties.<sup>3,5,14</sup> Women belonging to high SES have to maintain living status and position in society. They are constantly under pressure because of social conditions surrounding them. Any financial difficulty in maintaining their social status results in anxiety.<sup>16</sup> Women in this class usually go out for attaining education or socialisation so they have to balance between work, outings and household roles. Household work can become a factor for depression if they don't have appropriate and sufficient support for domestic chores. Any situation in which they have to perform household work, they easily get stressed and tired. The literature has identified that experiencing household difficulties was a significant factor of causing depression among women with secondary level of education.<sup>13</sup> Living as a housewife against one's will can

also be a factor for causing mental disturbance.<sup>14</sup>

The strengths of our study included consistency in data collection and constant supervision of data collectors by the principal investigator during the survey. We used CES-D scale for measuring depression; this scale has been previously validated and used in this setting.<sup>9</sup> The study has been conducted in different institutions around the city to capture the population from all social classes. To our knowledge, this is the first study to identify the prevalence of depression among married women belonging to different socioeconomic status, and the factors associated with depression in each class.

The limitation of our study is that it is a cross-sectional study and we cannot establish the cause and effect relationship between the determinants and depression. Besides, we ascertained the socioeconomic status of the participants by the location of the facility they visited. This may have resulted in misclassification of women between the socioeconomic groups.

### Conclusion

There are different underlying factors for depression among the women of high and low socioeconomic status. Social relations were found to be more important determinant for depression among low SES versus social conditions which were a major determinant for causing depression among women of high SES.

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