OVERVIEW

An Overview of the Predictors of Depression Among Adult Pakistani Women

Aysha Zahidie and Tanzil Jamali

ABSTRACT

Diseases of women that are due to their gender specific roles and responsibilities result from cultural and social factors prevalent in the environs. World Health Organization has put special emphasis on research need regarding gender related factors for diseases disproportionately affecting women in developing countries. The objective of this write up was to determine the prevalence of depression and the associated risk factors among adult women in Pakistan. PubMed was searched using key words depression, risk factors, women and Pakistan. Out of 20 initially retrieved articles, 12 were directly related to depression and its risk factors among Pakistani women within Pakistani geographical context. Women in Pakistan are vulnerable to poor mental health due to marriage related issues, domestic violence, verbal or physical abuse by in-laws, stressful life and poor social conditions. Women in their perinatal period are more at risk of depression due to pregnancy related concerns.

Key Words: *Depression. Risk factors. Women. Pakistan.*

INTRODUCTION

All over the world, 150 million people undergo with morbidities due to depression at some point in life time and nearly 1 million commit suicide annually.[1] Gender differences are already appreciated in mental health. Global studies provide supportive evidence that although women live longer, they do not necessarily live better or healthier lives. It is acknowledged that besides their specific disorders (pre-menstrual syndrome or PMS and postpartum depression etc.), women are also at higher risk for developing anxiety, depression and eating disorders.[2] Research has shown that for depressive disorders, women account for 41.9% of cases as compared to 29.3% cases among men.

Diseases of women that are due to their gender specific roles and responsibilities actually result from cultural and social factors prevalent in the environs. Stress is generated because of woman's multiple roles and gender based discrimination while associated factors of poverty, hunger, malnutrition and domestic violence combine to account for her poor mental health especially in low resource settings of developing world.[2,3] Therefore, World Health Organization has put special emphasis on research need regarding gender related factors for diseases disproportionately affecting women in developing countries.[3]

South Asian women face circumstances which may lead to poor mental health. Antenatal depression among South Asian women was found to be 16 – 33%.[4] Violence inflicted by the husband, lack of support from in-laws and family preference for a male child are strongly associated factors for depression among pregnant women in the entire South Asian region.[4,5]

Indeed, social problems are a major cause of anxiety and depression in Pakistan and have an overall prevalence of 34%.[6,7] Moreover, depression is contributing significant DALYs (Disability-adjusted life years) in the country and its high social and monetary cost to families and societies is critically substantial, while health budget is < 1% of GNP, even scarce amount is allocated to mental health.

Depression among pregnant women has already been reported as an independent risk factor for pre-term labor and low birth weight (LBW) that are major causes of infant mortality and long-term adverse health effects for children. Children of depressed mothers are more likely to face school failure and other depressive disorders in their future lives. Therefore, successful identification and treatment of maternal depression may provide an opportunity for primary prevention of this global public health concern.[8] Furthermore, a significant association has also been observed between high maternal self-esteem and improved pregnancy outcomes.[9]

Factors like family setup, social support and social status are considered to influence mental health. Social and family support is considered a buffer against depression, whereas family conflicts and economical concerns are found to enhance depression.[10-12]

The objective of this overview article was to determine the prevalence of depression and the associated risk factors among adult women in Pakistan so that interventions could be recommended accordingly.

Department of Community Health Sciences, The Aga Khan University, Karachi.

Correspondence: Dr. Aysha Zahidie, Department of Community Health Sciences, The Aga Khan University Hospital, Stadium Road, P. O. Box. 3500, Karachi-74800.
E-mail: aysha.zahidie@aku.edu

Received: November 02, 2012; Accepted: March 19, 2013.

METHODOLOGY

A review of literature was done through published sources regarding depression among Pakistani women. In the first attempt, PubMed data base was searched using key words "depression, risk factors, women, Pakistan."

The search was limited to articles for which full text was available in English language, published in last 10 years (2001 – 2011) and which only included females of 19 years or more.

A total of 20 articles were retrieved initially. Out of these 20 articles, 12 were directly related to depression and its risk factors among Pakistani women within Pakistani geographical context.

The pre-defined exclusion criteria was (i) research not directly related to depression or its risk factors among women (3 studies); (ii) not conducted in Pakistan (2 studies); (iii) not providing adequate elaboration on prevalence or risk factors of depression among women (3 studies) and (iv) no abstract available (none).

Out of 12 articles reviewed, 5 were the studies conducted on women of reproductive age or married women. Remaining 7 were directly related to prevalence and risk factors of depression among pregnant women or women in their postpartum period. We reviewed data of both the groups of women as depression during pregnancy and postpartum period substantially contributing to overall burden of depression among women (Figure 1).

RESULTS AND DISCUSSION

A. Prevalence of depression among women in Pakistan

In a survey conducted in Lahore, 807 married women visiting clinics of private family physicians were approached and among them 658 agreed to be interviewed. The researchers used International Classification of Diseases (ICD) diagnoses for Depressive Episode and other psychiatric ailments. Results showed that 30.35% married women had a diagnosis of a depressive episode and it was the most common diagnosis among other psychiatric ailments assessed.[13]

In another cross-sectional study, data was collected from 128 adult married women belonging to different socioeconomic classes, visiting private hospitals in Karachi. The Centre for Epidemiology Studies-Depression (CES-D) scale was used to screen the subjects for the prevalence of depression. This study revealed that 65% of the study population was depressed and there was no difference in this regard among women belonging to low or high socioeconomic groups.[14]

Pregnant women and women in their post-natal period:
A research study conducted to evaluate the relative power of social relations and social conditions in predicting depression among rural pregnant women belonging to Sindh, using CES-D scale showed prevalence of depression as 62%.[15]

In another study, the cross-sectional data was collected enrolling women from an antenatal care clinic situated in an urban area of Pakistan and the study subjects were followed till delivery. A total of 1,369 pregnant women were recruited and to evaluate depressive symptoms, Aga Khan University Anxiety Depression Scale was administered at 20 – 26 weeks of gestation. Results showed that overall, 148 of the 1,369 (11%) women studied had ever considered suicide. Of these, 148 women, 67 (45%) had attempted suicide. In all, 18% of the women were classified as having depression/anxiety.[16]

In one of the broad scale study that included all women in their third trimester of pregnancy living in southern Kahuta, Pakistan, WHO Schedule for Clinical Assessment in Neuropsychiatry (SCAN), Personal Information Questionnaire (PIQ) and Brief Disability Questionnaire (BDQ) was used to assess depressive symptoms. Women were interviewed at 6 weeks before delivery (n = 632) and again at 10 – 12 weeks after delivery (n = 541). Results of this study showed a point prevalence of ICD-10 depressive disorder as 25% in the antenatal period and 28% in the post-natal period.[17]

A quasi-experimental study investigating the burden of postpartum anxiety and depression was conducted in two peri-urban, multiethnic communities of Karachi in which a house to house questionnaire based survey was carried out. Mothers' levels of anxiety and depression were assessed after one month, 2 months, 6 months and 12 months of childbirth; this was two-step process: initially an indigenous, validated screening instrument. Aga Khan University Anxiety and Depression Scale was used and diagnostic confirmation was done through a psychologist's interview based on DSM IV criteria. The overall prevalence of postpartum anxiety and depression was found to be 28.8%.[18]

In a population-based survey that was conducted to assess post-natal depression among women in Pakistan, 149 women at 12th week after delivery were assessed using the Edinburgh Postnatal Depression Scale (EPDS). A score of ≥ 12 was used to distinguish cases of depression from non-cases. The higher the EPDS score, the greater is the severity of depression. Study revealed 25.8% prevalence rate of antenatal depression out of which 38.3% showed persistent depression in post-natal period as well.[19]

In another population-based survey of women in their post-natal period, 36% women scored greater or equal to 12 on at EPDS.[20]

Though sporadic, this data indicates an overall high prevalence of depression among women in general as

well as among women in their perinatal period in Pakistan. There is a need of broad-spectrum studies that could find actual prevalence of depression among women all over the country. An internalized validated scale has already been developed that could be used to assess prevalence of depression and other psychiatric disorders (Table I).

B. Risk factors of depression among women in Pakistan

Marriage and related issues: The results of this review showed that marriage and related issues contribute to be the major cause of depression in Pakistani society.

In a case control study included in this review, research was carried on women suffering with depression in two hospitals of Karachi, it was found that the odds of patients being married for more than 5 years were more than the odds for controls (OR = 2.24; CI = 1.87, 3.68). Moreover, considering very much satisfied as the reference category, the odds of patients who were just satisfied (OR = 2.24; CI = 2.1, 5.91) or not satisfied with their married life (OR = 19.65; CI = 3.56, 150.2) were more than the odds for controls.[21]

In another case control study conducted to find out association of various reproductive rights, domestic violence and marital rape with depression among Pakistani women, it was revealed that age less than 18 years at marriage (OR 2.00; 95%; CI = 1.07, 3.7) and decision for marriage by parents (OR 3.51; 95% CI = 1.67, 7.37) could also contribute to depression among women in Pakistan.[22]

Both the above studies showed that the odds of patients spending less than or equal to 3 hours per day with their spouses were more than those for controls (OR = 2.33; CI = 1.34, 4.08). While in the same connection, it was found that frequency of intercourse ≤ 2 times per week (OR 1.85; 95%; CI = 1.06, 3.22) and marital rape (OR 3.03; 95%; CI = 1.50, 6.11) were also associated with depression among women.[22]

Interestingly, one of the studies that was conducted to identify social factors associated with chronic depression among women in rural Pakistan, it was also revealed that not being married could also be a cause of chronic depression among women.[23]

These results indicate the social set-up of the country in which life of a woman is closely dependent on marriage and husband's temperament. Social security and women's prosperity mostly depend on successful marital life. Any setbacks in women's relationship with spouse put her in a situation of insecurity and miserable dependence resulting in onset of depression and anxiety. Moreover, lack of decision-making power in male dominant society also lead to curbed emotions ending in deterioration of mental state.

Being abused by in-laws, domestic violence and social relations: It was also reported by 4 out of 5 included in this review to find out predictors of depression among women in Pakistan in general that domestic violence and battering were positively correlated with psychiatric morbidity and abuse by spouse or in-laws significantly contributed to depression among married women (OR = 5.21; CI = 2.79, 9.42).[13,14,21,22]

These finding actually emphasis to the need of uplifting women empowerment levels by investing more and more in her education and financial independence. Studies have already revealed that better education and financial independence leads to better mental health outcomes among women.

Stressful life events and social conditions: Stressful life events were also positively correlated with psychiatric morbidity. While social support and education were negatively correlated with depression.[13] Moreover, low educational status, having four or more children, overcrowding of household and lack of confidence were the variables most closely associated with a raised SRQ score. (Pearson correlation=0.24, p=0.004).[22] In the study that was conducted on married women belonging to higher and lower socioeconomic status in Karachi, it was found that for the women from high socioeconomic status, social conditions were significant factor for depression, whereas social relations, specifically relationship problems with husband, were the major factor for depression among women belonging to the low socioeconomic status.[14]

These findings could be generalized to both the genders, however, women are more vulnerable to stressful life as compared to males due to their relative submissive position and lack of empowerment.

Risk factors among pregnant women or women in their postpartum period: The review of the articles on pregnant women identified following factors especially contributory to depression in peri or post-natal period.

Pregnancy related issues: Pregnancy related issues were significantly contributory to depression among women in Pakistan as reported by the 5 out of 7 studies on perinatal depression among women that were included in this review. High depression scores were associated with higher levels of psychological distress in the antenatal period.[14,15, 19,23,24]

The quasi-experimental study conducted to find prevalence and predictors of postpartum anxiety and depression in peri-urban communities of Karachi showed that unplanned current pregnancy (p-value = 0.038), child having any difficulty soon after birth (cyanosis/apnea/flaccidity, p-value = 0.03) and having difficulty in breast feeding the newborn (p-value = 0.125) were significantly related to postpartum anxiety and depression.[18]

Pregnancy is an important period of women's life in which she is physically as well as mentally vulnerable to

Table I: Articles related to prevalence and general predictors of depression among adult women in Pakistan.

S. No.	Title of article	Name of journal and year of publication	Study design	Study site	Key findings
1.	Psychiatric morbidity and domestic violence: a survey of married women in Lahore.	Social Psychiatry and Psychiatric Epidemiology, 2009.	Two phase cross-sectional survey.	Primary health care settings in Lahore.	*Prevalence of depression:* 64.3% *Predictors:* Stressful life events, verbal violence and battering.
2.	Risk factors for depression among married women belonging to higher and lower socioeconomic status in Karachi, Pakistan.	Journal of Pakistan Medical Association, 2012.	Cross-sectional study.	One hospital, and four private institutes situated in Karachi viz. Atia Hospital, Community Centre at Zia Colony, Memon Foundation for Women from Vocational Training Centre, Karachi Club and Nova Nordic Community Centre.	*Prevalence of depression:* 65% *Predictors:* Social conditions for women from high socioeconomic status whereas social relations for women belonging to the low socioeconomic status.
3.	Association of Sociodemographic Factors with depression in women of reproductive age.	Asia-Pacific Journal of Public Health, 2011.	Case control study.	Psychiatry and family medicine clinics of Aga Khan University Hospital (AKUH) and psychiatry clinics at Liaquat National Hospital (LNH) Karachi.	*Prevalence of depression*: NA *Predictors:* Being married for > 5 years, being abused by in-laws, spending ≤ 3 hours per day with spouse, and being just satisfied or not satisfied with married life.
4.	Association of various reproductive rights, domestic violence and marital rape with depression among Pakistani women.	BMC Psychiatry, 2009.	Case-control study.	Psychiatry and family medicine clinics of Aga Khan University Hospital (AKUH) and psychiatry clinics at Liaquat National Hospital (LNH) Karachi.	*Prevalence of depression:* NA *Predictors:* Less than 18 years of age at marriage, decision for marriage by parents, abuse by in laws, ≤ 3 hours per day spent with husband, frequency of intercourse ≤ 2 times per week and marital rape.
5.	Social factors associated with chronic depression among a population-based sample of women in rural Pakistan.	Social Psychiatry and Psychiatric Epidemiology, 2004.	Two phase cross sectional survey.	House-to-house survey of a geographically designated area of Mandra (a rural area about 50 kilometers east of Islamabad).	*Prevalence of depression:* NA *Predictors:* Low educational level independently contributed to the presence of depression, other predictors include marked housing and financial (experiencing both housing and financial difficulties was a significant risk factor for depression in women with secondary education, but not for those without secondary education).

various ailment and poor health conditions. Therefore, successful identification and treatment of maternal depression may provide an opportunity for primary prevention of this global public health concern.

Verbal or physical abuse, domestic violence and poor social support: Domestic violence and low social support as well as verbal and physical abuse by in-laws or spouse not only contribute to depression and anxiety during pregnancy but also cause persistence of depression in post-natal period ultimately causing chronic depression among women.[15,16,19,20]

Poor social conditions: One of the studies that was conducted on pregnant women of rural areas of Sindh determined that social conditions, as compared to social relations, were more important determinants for depression among women. The results of this study showed that for each unit increase in poor social conditions, there was 0.57 increase in depression scores.[15]

These findings were also endorsed by other two studies included in our review ascertaining that persistent depression was also significantly associated with poverty, having 5 or more children, an uneducated husband.[24]

In another study, conducted in southern Kahuta, there was no association between post-natal depression and husband's monthly income, or poor socioeconomic situation, however, significant negative associations were found between 'financial independence' of women and depression.[17]

Life threatening events: The study conducted in Kahuta also pointed out that depressed mothers were significantly more disabled in their post-natal period and had more threatening life events as compared to non-depressed mothers.[17]

Life threatening conditions and ill health leads to poor mental health as well. There is a need to enhance accessibility to health care facilities and focus on primary and secondary prevention of diseases to prevent poor mental health outcomes of ill-health or life-threatening conditions (Table II).

CONCLUSION AND RECOMMENDATIONS

Women in Pakistan are facing high burden of depressive disorders. Women in their perinatal period are vulnerable to various psychiatric ailments.

This overview has found significant associations between being depressed and lacking marital rights among Pakistani women. These findings have important policy implications for reducing morbidity due to highly prevalent depressive disorders among women.

Table II: Articles related to prevalence and predictors of depression among adult women in their perinatal period in Pakistan.

S. No.	Title of article	Name of journal and year of publication	Study design	Study site	Key findings
1.	Social environment and depression among pregnant women in rural areas of Sind, Pakistan.	Journal of Pakistan Medical Association, 2011.	Mix methods study Qualitative phase I: (indepth interviews) Quantitative phase II: (cross-sectional survey).	Community settings of rural areas of Sind: Dadu (included for phase 1 only), Khairpur and Hyderabad districts (included for both phase I and II).	Prevalence of depression among pregnant women: 62%. Prevalence of depression among women in post-natal period: NA. Predictors: Social conditions.
2.	Prevalence of suicidal thoughts and attempts among pregnant Pakistani women.	Acta Obstetricia et Gynecologica Scandinavica, 2010.	Cross-sectional study.	Family Planning and Primary Health Care Centres of Hyderabad.	Prevalence of depression among pregnant women: 18% Prevalence of depression among women in post natal period: NA. Predictors: verbal or physical / sexual abuse.
3.	Life events, social support and depression in childbirth: perspectives from a rural community in the developing world.	Psychological Medicine, 2003.	Two stage cross-sectional survey.	Union councils of two adjoining administrative units in southern Kahuta (Kallar Syedan and Choha Khalsa).	Prevalence of depression among pregnant women: 25% Prevalence of depression among women in post-natal period: 28%. Predictors: Disability, threatening life events, and poorer social and family support.
4.	Postpartum anxiety and depression in peri-urban communities of Karachi, Pakistan: a quasi-experimental study.	BMC Public Health, 2009.	Quasi-experimental study.	Two peri-urban, multi-ethnic, communities of Karachi: Qayyumabad and Manzoor Colony.	Prevalence of depression among pregnant women: NA. Prevalence of depression among women in post-natal period: 28.8%. Predictors: Domestic violence, difficulty in breast feeding at birth and unplanned.
5.	Prevalence and psychosocial correlates of perinatal depression: a cohort study from urban Pakistan.	Archives of Women's Mental Health, 2011.	Cohort study.	Antenatal clinics of Chiniot Maternity and Child Care Centre, Karachi.	Prevalence of depression among pregnant women: 25.8%. Prevalence of depression among women in post-natal period:38.3%. Predictors: Disability, and stressful life events.
6.	Prevalence and social correlates of postnatal depression in a low income country.	Archives of Women's Mental Health, 2006.	Population-based survey.	Community setting of Kallar Syedan, (one of four administrative Circles of a sub-district in Rawalpindi).	Prevalence of depression among pregnant women: NA. Prevalence of depression among women in post-natal period: 36%. Predictors: lower social support, increased stressful life events in the preceding year and higher levels of psychological distress in the antenatal period.
7.	Outcome of prenatal depression and risk factors associated with persistence in the first postnatal year: Prospective study from Rawalpindi, Pakistan.	Journal of Affective Disorders, 2007.	Four stage cross-sectional survey.	Union councils of rural sub-district of Rawalpindi.	Prevalence of depression among pregnant women: 94% were depressed at 3 months; 76% at 6 months and 62% at 12 months Prevalence of depression among women in post-natal period: 62% mothers depressed during the third trimester of pregnancy were still depressed at 12 months postnatally but 7 of these had not been depressed at 6 months; thus 73 (57%) were depressed at all-time points. Predictors: Poverty during pregnancy.

Knowledge and recognition of lack of women autonomy and its association with depression could possibly make a difference in reducing the disease burden among vulnerable women. Families and communities should be educated regarding the importance of woman's autonomy in her marriage decisions. Women should be made aware of their reproductive and sexual rights, and married women should be asked screening questions regarding domestic abuse and marital rape. Clinicians can contribute to positive mental health outcomes through early identification of woman who might be at risk for psychological distress as a result of domestic violence and denial of her individual / marital rights. Women identified with predisposing factors of depression should be referred for individual or marital counseling. It could also be useful for couples having communication gaps; physicians can help to provide counseling to bridge this gap. Primary care physicians should be trained to identify depression and provide appropriate guidance and counseling not only to the women at risk but also to their families about the predisposing factors for depression.

Limitations and strengths of the review: Data from only one search engine i.e. PubMed could be one limitation of this review. The scales used for diagnosis and measurement of depression among women were

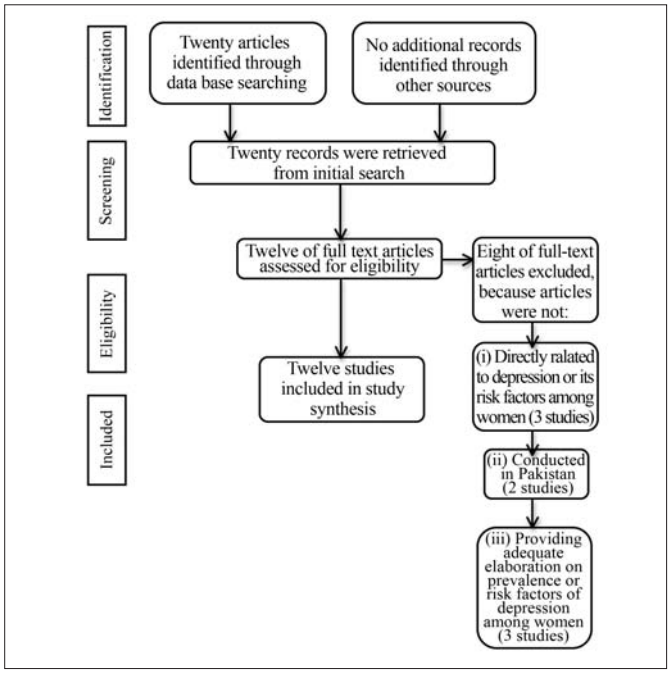

Figure 1: Flow diagram of twenty articles identified through database searching.

diverse in different studies that may affect the interpretation of our results. Moreover, the studies included in this review were conducted on women belonging to different sociocultural backgrounds. Studies that were conducted on women in general included women of reproductive age group in major cities of the country i.e. Karachi and Lahore. These studies were either case control or cross-sectional studies and had the specific limitations of study designs as recall bias or lack of temporality. Out of 5 studies on women in general, 4 were hospital based and, therefore, generalizability of results could be a concern as participants presenting in hospital setting could be different from general population. However, one population based survey of rural women in general and 5 out of 7 studies conducted on pregnant women in rural or urban community settings included a representative sample of Pakistani women and showed similar results providing ample evidence for policy making in terms of women empowerment and need for investment in her education and well-being.

REFERENCES

1. The World Health Report 2001: Mental health: new understanding, new hope [Internet] [cited 2010 Aug 25]. Available from URL: http://www.who.int/whr/2001/en/whr01en.pdf
2. Douki S, Zineb SB, Nacef F, Halbreich U. Women's mental health in the Muslim world: cultural, religious, and social issues. *J Affect Dis* 2007; **102**:177-89.
3. Disease control priorities in developing countries. London: World Bank and Oxford University Press; 2006.
4. Gausia K, Fisher C, Ali M, Oosthuizen J. Antenatal depression and suicidal ideation among rural Bangladeshi women: a community-based study. *Arch Women's Mental Health* 2009; **12**:351-8.
5. Chandran M, Tharyan P, Muliyil J, Abraham S. Post-partum depression in a cohort of women from a rural area of Tamil Nadu, India. Incidence and risk factors. *Br J Psychiat* 2002; **181**:499-504.
6. Mumford DB, Nazir M, Jilani FU, Baig IY. Stress and psychiatric disorder in the Hindu Kush: a community survey of mountain villages in Chitral, Pakistan. *Br J Psychiat* 1996; **168**: 299-307.
7. Dodani S, Zuberi R. Center-based prevalence of anxiety and depression in women of the Northern areas of Pakistan. *J Pak Med Assoc* 2000; **50**:138-40.
8. Luni FK, Ansari B, Jawad A, Dawson A, Baig SM. Prevalence of depression and anxiety in a village in Sindh. *J Ayub Med Coll Abbottabad* 2009; **21**:68-72.
9. Stuart JJ. Psychosocial determinants of pregnancy outcomes among the Amish [Thesis]. 2009. Available from: https://dspace.fandm.edu/handle/11016/8571?show=full
10. Mair C, Diez Roux AV, Galea S. Are neighbourhood characteristics associated with depressive symptoms? A review of evidence. *J Epidemiol Community Health* 2008; **62**: 940-6.
11. Reblin M, Uchino BN. Social and emotional support and its implication for health. *Curr Opin Psychiatry* 2008; **21**:201-5.
12. Turagabeci AR, Nakamura K, Kizuki M, Takano T. Family structure and health, how companionship acts as a buffer against ill health. Health Qual. *Life Outcomes* 2007; **5**:61.
13. Ayub M, Irfan M, Nasr T, Lutufullah M, Kingdon D, Naeem F. Psychiatric morbidity and domestic violence: a survey of married women in Lahore. *Soc Psychiatry Psychiatr Epidemiol* 2009; **44**:953-60. Epub 2009 Mar 11.
14. Zainab S, Fatmi F, Kazi A. Risk factors for depression among married women belonging to higher and lower socioeconomic status in Karachi, Pakistan. *J Pak Med Assoc* 2012; **62**: 249-53.
15. Zahidie A, Kazi A, Fatmi Z, Bhatti MT, Dureshahwar S. Social environment and depression among pregnant women in rural areas of Sindh, Pakistan. *J Pak Med Assoc* 2011; **61**:1183-9.
16. Nargis A, Rozina K, Nasreen S, Bann CM, McClure EM, Omrana P, *et al*. Prevalence of suicidal thoughts and attempts among pregnant Pakistani women. *Acta Obstetriciaet Gynecologica* 2010; **89**:1545-51.
17. Rahman A, Iqbal Z. Harrington R. Life events, social support and depression in childbirth: perspectives from a rural community in the developing world. *Psychol Med* 2003; **33**: 1161-7.
18. Ali NS, Ali BS, Azam SI. Postpartum anxiety and depression in peri-urban communities of Karachi, Pakistan: a quasi-experimental study. *BMC Public Health* 2009; **9**:384.
19. Husain N, Parveen A, Husain M, Saeed Q, Jafri F, Rahman R, *et al*. Prevalence and psychosocial correlates of perinatal depression: a cohort study from urban Pakistan. *Arch Womens Ment Health* 2011; **14**:395-403.
20. Husain N, Bevc I, Husain M, Chaudhry IB, Atif N, Rahman A. Prevalence and social correlates of postnatal depression in a low income country. *Arch Womens Ment Health* 2006; **9**: 197-202. Epub 2006 Apr 24.

21. Ali FA, Zuberi RW. Association of sociodemographic factors with depression in women of reproductive age. *Asia-Pacific J Public Health* 2012; **24**:161-72. Epub 2011 Jan 19.

22. Ali FA, Israr SM, Ali BS, Janjua NZ. Association of various reproductive rights, domestic violence and marital rape with depression among Pakistani women. *BMC Psychiatry* 2009; **9**:77.

23. Husain N, Gater R, Tomenson B, Creed F. Social factors associated with chronic depression among a population-based sample of women in rural Pakistan. *Soc Psychiatry Psychiatr Epidemiol* 2004; **39**:618-24.

24. Rahman A, Creed F. Outcome of prenatal depression and risk factors associated with persistence in the first postnatal year: Prospective study from Rawalpindi, Pakistan. *J Affect Disord* 2007; **100**:115-21.