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Psychiatric morbidity and domestic violence: a survey of married women in Lahore

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Abstract
Objective A number of studies have looked at the prevalence rates of psychiatric disorders in the community in Pakistan over the last two decades. However, a very little information is available on psychiatric morbidity in primary health care. We therefore decided to measure prevalence of psychiatric disorders and their correlates among women from primary health care facilities in Lahore.
Methods We interviewed 650 women in primary health care settings in Lahore. We used a semi-structured interview and questionnaires to collect information during face-to-face interviews.
Results Nearly two-third of the women (64.3%) in our study were diagnosed to have a psychiatric problem, while one-third (30.4%) suffered with Major Depressive Disorder. Stressful life events, verbal violence and battering were positively correlated with psychiatric morbidity and social support, using reasoning to resolve conflicts and education were negatively correlated with psychiatric morbidity.
Conclusion The prevalence of psychiatric disorders is in line with the prevalence figures found in community studies. Domestic violence is an important correlate which can be the focus of interventions.

Keywords Common psychiatric disorders · Primary care · Women · Domestic violence

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Introduction

In a review of 20 published studies of the prevalence of anxiety and depression and associated risk factors in a wide range of settings in Pakistan, Mirza and Jenkins [25] reported overall prevalence of depression and anxiety to be between 29 and 66% for women and between 10 and 33% for men. Most studies confirmed greater prevalence in women. A number of social factors such as low level of education, financial difficulties and socio-economic adversity were correlated with depression and anxiety. However, majority of the studies were conducted in a narrow geographical region in and around Rawalpindi [18, 25, 27–29, 43].

In a survey of two primary health clinics in Goa, India, the rates of common mental disorder were found to be 46.5%. Inability to buy food due to lack of money and being in debt were associated with Common Mental Disorders [38]. Very little information is available on psychiatric morbidity in primary care in Pakistan [9, 19, 25]. To our knowledge, there is no study, which has used valid interview as measure of psychiatric morbidity and has been conducted at multiple sites.

The studies of domestic violence against women in community and primary care have reported a strong

association with psychiatric morbidity [4, 11, 35, 44, 55]. In a community study of women in India, Patel et al. [35] found that sexual violence by husband was associated with common mental disorders in women. In a multisite survey of 9,938 women in India, domestic violence was strongly associated with psychiatric morbidity [20].

Poverty, lack of education, relationship difficulties, stressful life events and lack of social support are some of the correlates associated with common psychiatric disorders in the developing and developed countries [14, 17, 18, 23, 27, 30, 33–36].

In this survey, we looked at the prevalence of common psychiatric disorders and self-reported violence among women who presented to the primary care physicians. We hypothesized that the rate of common psychiatric disorders will be high in women seeking help for physical health problems in primary care; various form of domestic violence reported by women will be associated with psychiatric morbidity. In this report, we describe the prevalence of the psychiatric disorders and their correlation with socioeconomic status, relationship difficulties, life events, social support and various forms of violence.

Methods

World Health organization defines primary health services functionally as the first level at which help from the medical system is sought, the route through which continuing care is provided and the delivery of different types of health and social care services is coordinated [57]. These roles are performed by the general practice facilities both in private and in non-profit sectors in Lahore. Primary care for the purpose of this survey was defined as "any facility where consultation and advice is provided by a registered medical graduate and in the local community, the facility is perceived as a generic as opposed to a specialist health facility". We included primary care facilities from private and non-profit sector in this study.

We consulted the representatives of the organization of family physicians at the start of the study. They arranged group meetings with their members that were attended by 60 physicians from different parts of the city. Through discussions with physicians and from the records of the organization, a list of suitable practices and primary care facilities run by the private and non-profit sector was compiled. The city was divided into seven geographic sectors reflecting the socioeconomic diversity within the city. We randomly selected one facility from each sector. Five facilities were from private sector and two facilities from non-profit sector.

A meeting was held with the physicians working on these sites to explain the purpose of the study. Only one general practice declined to participate and another practice was selected from the same area who agreed to take part in the study.

Assessments

Following instruments were used for assessments:

- Demographic details sheet included age, education, marital status and monthly income of the family.
- Psychiatric interview

Mini International Neuropsychiatric Interview (MINI) [1, 21, 45, 46] was used to generate ICD 10 diagnoses [58]. This instrument has been tested against Composite International Diagnostic Interview (CIDI) and Structured Clinical Interview for DSM Patient Edition (SCID-P). It has been used in other studies in developing world and in Pakistan [2, 21, 26, 31, 45, 46].

Pilot

The interview was piloted on a group of 15 patients from the catchment similar to our proposed sample. The patients and clinicians, who administered the interview, provided the feedback about the interview which was then used to modify the draft interview questions and to develop the final version.

Training

Interviewers were trained as a group on how to use this interview. The training lasted 7 days. Inter-rater reliability exercise was carried out by asking one interviewer to carry out the interview and the rest simultaneously rating the interview. Following the interview, a consensus rating was agreed for each item. Each interviewer had to achieve an agreement in over 85% of the items with consensus rating in at least three interviews to complete the training satisfactorily.

- *Relationship Assessment Scale* Relationship Assessment Scale [15] measures the subjective satisfaction with intimate partner's relationship and has been widely used in studies [16]. The Cronbach's alpha in our sample was 0.94.
- *Women experience with battering* (WEB) Smith and colleagues define battering "as a process whereby one member of an intimate relationship experiences vulnerability, loss of power and control, and entrapment as a consequence of the other member's exercise of power through the patterned use of physical, sexual, psychological, and/or moral force" [48]. The WEB Scale measures "battering" by operationalizing this concept.

The WEB Scale has good construct validity, accurately discriminates battered from non-battered women and shows strong internal consistency. WEB Scale is a prevalence measure that is not bounded by any particular time frame (e.g., within the past year) [8, 48–50]. A modified version of this was used in which women responded in yes or no instead of showing agreements on a Likert scale. Cronbach's alpha for WEB in our sample was 0.87. The positive responses were added together for each respondent and used as independent variable in logistic regression.

- *Conflict Tactics Scale* (CTS) [54] Conflict Tactics Scale is a 15-item measure, which looks at the 3 tactics used by couples to resolve their conflicts, reasoning, verbal aggression and physical violence. Higher scores for a tactic indicate greater use of that tactic. Responses for each sub-scale were added. The scores for each sub-scale were used in logistic regression. The Cronbach's alpha for reasoning sub-scale was 0.6 and for the other two subscales, it was 0.87.
- *Life events checklist for Pakistan* Rahman et al. [43] have derived items relating to life events and difficulties from the Life Events and Difficulties Schedule (LEDS) [6] and developed semi-structured instrument that explores events and difficulties in the previous year. This instrument specially looks at the areas relevant in Pakistani context. We added the positive responses and used them for logistic regression analysis.
- *OSLO social support questionnaire* The Oslo social support questionnaire measures the level of social support available to the participants [10]. We used the scores for logistic regression.

Translation of instruments

Women Experience with Battering, Relationship Assessment Scale, Conflict Tactics Scale and Oslo Social Support Questionnaire were translated into Urdu.

A group of bilingual psychiatrists and psychologists translated the questionnaires. These translations were back translated by another group of bilingual professionals who were not familiar with the English versions of the questionnaires. For each questionnaire, the two versions were compared for linguistic and conceptual equivalence by a committee of experts. The differences were resolved through another round of translations and back translations. The drafts were then discussed in a focus group of women from the area where the study was being planned. We made some changes to the drafts in light of those discussions. A similar process was adapted for the translation of MINI Neuropsychiatric Interview, except that focus groups with women were not felt to be appropriate in the end.

Interviewers

The interviewers were all psychologists with a Masters Degree in Psychology. They had a minimum of 2 years of experience of working in clinics under supervision. They had a period of training before they started to collect the data. The training was provided by a senior clinician with over 20 years of experience as clinical psychologist.

Ethics approval

The project had approval from local ethics committee in Lahore.

Data collection

The data were collected in 2005 in face-to-face interviews with the participants. The interviewers went to the clinics at fixed time in the mornings and interviewed the first eligible patient who consented to take part in the study. Interviewers explained the purpose of the study and took an informed written consent.

Every fifth patient after the first one was interviewed. If the patients were not eligible or did not consent, the interviewers moved on to the next patient until they found one who they could interview. As the clinics are open walk in service, it was not possible to randomize the patients for interview before hand.

Statistical analysis

If the data were missing for a variable in a case, we excluded that case from the analysis for that particular variable. SPSS v12 was used for the analyses. Initial analyses included calculations of frequencies, percentages and respective confidence intervals.

A composite category of any psychiatric diagnosis was used as dependent variable to look at the correlates of the psychiatric morbidity. This category included ICD diagnoses of Depressive Episode, Generalized Anxiety Disorder, Panic Disorder, Dysthymia, Agoraphobia, Social Phobia and Obsessive Compulsive Disorder. In primary care and community studies, a combined group of common mental disorders is used by other authors for study of correlates of psychiatric morbidity [27, 35, 38]. There were five (0.8%) cases of psychosis which were excluded from logistic regression and *t* test.

The *t* test was used to look at the difference between distribution of variables in cases and non-cases. As the dependent variable in the regression was discrete, a logistic regression was used for regression analysis. The scores from Women Experience with Battering, Life Events Checklist, Oslo Social Support Questionnaire and

Relationship Assessment Scale were used as continuous independent variables for logistic regression. Three subscales of Conflict Tactics Scale were used as measures of reasoning, verbal aggression and physical aggression and the scores were included in the logistic regression as independent variables. Monthly income of the family and years in education of the respondent were used as independent variables in logistic regression analysis. The independent continuous variables were not normally distributed but because of the size of the dataset, they were not transformed.

Results

Survey was conducted at multiple sites in Lahore. Lahore has a population of 8 million and like other big cities has socioeconomic and cultural diversity. There is some variation in the way primary care services are provided and accessed. The service provided by the Government is not very well resourced and is generally overstretched. There is variation within the private sector, where people pay as they use the service. There is no set pathway to specialist care. In some parts of the city, there are primary care facilities run by Government and Voluntary sector.

Six hundred and fifty women completed the interview. Eight hundred and seven women were approached and among them 658 agreed to be interviewed. Eight of the interviews could not be completed because of the time constraints on part of the participants. We excluded those cases from further analyses. Women who declined to participate were not statistically different from the rest in terms of education and age (t test P value 0.8 for age and 0.2 for education). We initially intended to gather information about the diagnoses from physicians, but women in the study did not want their doctors to be contacted. They were anxious that their families might become privy to the knowledge that they have discussed issues related to relationships and abuse with professionals. For similar reasons, women were reluctant to give their contact numbers or addresses. Many of them did not want us to contact them after the interviews for any form of follow-up.

The mean age of women in the study group was 34.41 years (SD = 10.35), (range = 17–65). Forty-one percent had less than 5 years of school education, 36.3% had 5–10 years and 20% more than 10 years of education. Seventy-five percent lived in nuclear families while the rest lived in joint or extended families. Just over one percent had an employment outside the house and 98% were housewives. Ninety-one percent had contact with their doctor at least once in 3 months.

Table 1 gives the clinical diagnoses according to ICD 10 criteria. One hundred and ninety-four (30.35%) had a diagnosis of a Depressive Episode and it was the most common diagnosis. Generalized Anxiety Disorder was present in 109 (17.08%) women. The rates of other disorders were: Panic Disorder 11.59%, Agoraphobia 10.97%, Post Traumatic Stress Disorder 11.89%, Dysthymia 5.79%, Obsessive Compulsive Disorder 7.0% and Social Phobia 2.19%. Many women fulfilled criteria for more than one diagnosis. We included a broad category of 'any psychiatric diagnosis' which included ICD diagnoses of Depressive Episode, Generalized Anxiety Disorder, Panic Disorder, Dysthymia, Agoraphobia, Social Phobia and Obsessive Compulsive Disorder. Any woman who had one or more of these diagnoses was included in this category. It is an equivalent of common mental disorders used by other authors.

Table 1 Diagnoses according to ICD 10 criteria

Diagnosis	Number	Percentage	95% CI
Generalized Anxiety Disorder	109	17.08	14.24–20.23
Depressive Episode	194	30.35	26.81–34.08
Dysthymia	37	5.79	4.10–7.89
Panic Disorder	74	11.59	9.21–14.34
Agoraphobia	70	10.97	8.65–13.65
Social phobia	14	2.19	1.20–3.64
OCD	48	7.0	5.2–9.2
PTSD	76	11.89	9.48–14.65
Any psychiatric diagnosis	410	64.26	60.40–67.98

Tables 2 and 3 give the distribution of various factors among the cases and non-cases.

The factors are the scores from various scales. Relationships are the score from Relationship Assessment Scale. The higher score indicates self-reported satisfaction with the relationship with the spouse. Battering is the score from Women Experience with Battering. A higher score on this scale is indicative of women's perceptions of susceptibility to physical and psychological danger, or loss of power and control in a relationship with a male partner. Reasoning, verbal aggression and physical violence are sub-scales of Conflict Tactics Scale. They are a measure of pre-dominant tactic the couple apply to negotiate any conflict between them. The reasoning as a tactic to resolve conflict, satisfaction with relationship with spouse, social support and higher level of education are protective factors while verbal aggression, physical violence and battering increase the risk of psychiatric disorders.

Logistic regression model

Using any psychiatric diagnosis as dependent variable, logistic regression analysis was performed to look at the contribution of each variable to the variance of the

Table 2 Distribution of various risk and protective factors in cases and non-cases

Factor↓	Cases mean (SD)	Non-cases mean (SD)	*t* test (*P* value)
Protective factors			
Social support	9.0 (2.5)	9.99 (2.7)	0.000
Relationships	26.61 (7.35)	29.89 (7.0)	0.000
Education	1.41 (1.2)	1.78 (1.1)	0.000
Reasoning	12.72 (4.7)	14.21 (5.2)	0.000
Provoking factors			
Life events	5.91 (3)	4.3 (3.1)	0.000
Battering	2.43 (3)	0.84 (1.7)	0.000
Verbal aggression	11.05 (5.7)	7.75 (4.5)	0.000
Physical violence	6.54 (4.2)	4.99 (2.4)	0.000

dependent variable. The enter method was used. Social support, life events score, relationships, level of education, monthly income, WEB score and three subscales of Conflict Tactics Scale were independent variable. In the final model, only life events, education, social support, battering and verbal aggression and reasoning subscales of Conflict Tactics Scale independently contributed to the variance. Life events, battering and verbal aggression increased the risk of psychiatric disorders while social support, education and use of reasoning to resolve conflict were protective factors. The highest Odds Ratio was for battering followed by life events.

Table 3 Multiple Logistic Regression

Variable	Odds ratio	CI	Z	p-value
Protective factors				
Income	1.02	0.81–1.28	0.21	0.833
Social support	0.90	0.84–0.98	−2.48	**0.013**
Reasoning	0.95	0.91–0.99	−2.41	**0.016**
Relationships	1.00	0.96–1.04	0.07	0.945
Education	0.81	0.68–0.96	−2.34	**0.019**
Provoking factors				
Battering	1.20	1.05–1.38	2.66	**0.008**
Verbal aggression	1.07	1.01–1.15	2.25	**0.024**
Physical violence	0.93	0.84–1.04	−1.20	0.23
Life events	1.12	1.05–1.21	3.29	**0.001**

The *P* values in bold are significant at 5% level

Discussion

To our knowledge, this is the first survey of psychiatric morbidity and violence conducted in primary care in Pakistan. We achieved a reasonable response rate.

Problems with the study

It is a cross sectional study and caution is warranted when interpreting the associations. This study was conducted among women and in only one city. Pakistan has cultural, social and linguistic diversity and the results may not be relevant for other parts of the country. Physical health of the women was not evaluated and this may have influenced the psychiatric morbidity. It was not possible to gather information from physicians about their diagnoses and management of the cases. The assessments for the risk factors were administered by the same interviewers who administered the diagnostic interviews. The blind assessment of risk factors was not possible. Alternative means of help seeking like faith healers are not included in the study. The instruments we have used to measure different variables were translated from English. There may be concerns about the cross-cultural validity of the instruments which measure social constructs. However, development of new instruments was beyond the scope of this project. Second, the well-established instruments facilitate the comparison with other studies.

Overall rate of psychiatric disorders

In the multi-site WHO study, which used the CIDI-PHC, the rate of overall psychiatric morbidity among women ranged from 9.9 to 53% (average 24.7%) across the centres. In Bangalore, which would be the closest to Lahore geographically among the sites, the rate was 29.8% in women [14]. In another study, in Vellore, India, the rate was 33.9% and there was no difference between the genders [41]. In a multi-site study from United States, the rate of psychiatric morbidity in women was 43% [22]. In Tanzania, the rate of psychiatric morbidity in primary care was 26.4% with no significant gender difference [32]. In a study in Denmark, the rate of Psychiatric Disorder in women was 53.2% [56]. The rate of common psychiatric disorders in women was calculated from the data provided for their study in Goa India by Patel and colleagues and it was 56% [38].

The rate of common psychiatric disorder in our study is 64.26%, which seems higher in comparison with other

primary care studies. Community based epidemiological studies of common psychiatric disorders in Pakistan have returned a prevalence rate in the range of 29–60% for women [25, 27–29, 43]. However, the rates in the rural areas are much higher in comparison with the urban areas. There is only one study from Punjab, which has included an urban sample. This was conducted in Rawalpindi and the rate of common psychiatric disorders for women was 25–36% [27]. There is a complex bidirectional relationship between physical illness and psychiatric symptoms [36]. According to the Goldberg and Huxley model of pathway into psychiatric care, the rate of psychiatric disorders should be higher in primary care than in the community [13]. A rate of 64.26% in our urban primary care sample is a reflection of high rates of common psychiatric disorders in the community and does not deviate from expectation under Goldberg and Huxley model.

Correlates of common psychiatric disorders

In multiple logistic regression model, a number of variables were independently associated with common psychiatric disorders. Stressful life events, battering as defined by Smith et al. [48] and verbal violence had significant positive association with the common psychiatric disorders. Social support, reasoning as a tactic to resolve interpersonal conflict with spouse and education were protective factors against common psychiatric disorders.

After the initial work by Brown and Birley [5], hundreds of studies across the globe have looked at the association of life events with various psychiatric disorders [39]. In a study of pregnant women in Pakistan, Rahman et al. [43] found a strong correlation of depression with serious events and difficulties. Other studies in the region have also described a link between life events and psychiatric morbidity [17, 18]. The correlation within this group in primary care, in Lahore, reaffirms the relationship of psychiatric morbidity with the stressful life events.

Social support is another important factor reported in many studies as negatively correlated with depression and other psychiatric disorders [7, 35, 42, 51–53].

Lack of positive relationships also predisposes to psychiatric symptoms [51]. In this sample, the positively perceived relations were negatively associated with psychiatric morbidity in univariate analysis but the effect disappeared in multivariate analysis. This can be a result of an overlap of the effect with other variable.

The socioeconomic status measured as monthly income and level of education have been associated with psychiatric morbidity in numerous studies in developing as well as developed countries [14, 17, 18, 23, 27, 37]. Education remains a significant independent predictor of psychiatric morbidity in our sample in the final model. The effect of monthly income is not significant. Affordability of treatment is a factor in help seeking in this sample from primary care. Those seeking help may not be representative of everybody in the community with psychiatric morbidity. This is likely to distort the relationship between income and psychiatric morbidity.

Violence

Domestic violence is seen as important public health issue as it is associated with physical and mental health problems [3, 12, 40, 47]. In a telephone interview of 3,429 women in United States, Bonomi et al. found that with any recent intimate partner violence (physical, sexual, or non-physical) severe (prevalence ratio 2.6) and minor depressive symptoms (PR = 2.3) were higher than the group with no exposure to intimate partner violence. The women who reported higher violence also reported a higher number of physical symptoms and lower SF-36 mental and social functioning scores [3]. In a study in India, Kumar and colleagues used Self Reporting Questionnaire to identify the Psychiatric Morbidity. Domestic violence was strongly associated with psychiatric morbidity [20]. The scores on WEB scale were independent predictors of common psychiatric disorders in women and their association was the strongest among all the predictors. The WEB validly measures the effects of the systematic and subtle use of power to intimidate the other partners into submission.

Strauss and colleagues have identified three ways in which couples deal with interpersonal conflict: reasoning, verbal aggression and physical aggression. Reasoning has been found to be protective while verbal and physical aggression is associated with higher rate of psychiatric morbidity [24]. In the sample from this study, reasoning is protective while verbal aggression independently predicts psychiatric morbidity. The physical aggression is not a predictor of psychiatric morbidity in the final model. In univariate analysis (data not presented), physical aggression predicted psychiatric morbidity but when battering and verbal aggression are included in the model its effect disappeared. Verbal aggression is more frequent phenomenon leading to prolonged stress. Women who are victims of physical violence in addition are victims of verbal violence and physical violence in presence of verbal violence does not explain any additional variance.

As predicted from community studies, the rate of common mental disorders was very high among women attending the primary health care facilities in Lahore. There was a strong association with domestic violence particularly with battering and verbal aggression.

As follow up of the study, we provided training to the local physicians to screen their patients for mental disorders and domestic violence. Domestic violence as a health

risk factor needs more attention in countries like Pakistan. The undergraduate and postgraduate training of doctors and other professionals need to put more emphasis on detection of domestic violence, particularly non-physical forms that are more likely to go undetected. Public health education about the detrimental effects of domestic violence on mental and physical health may play a preventive role. The religious and cultural barriers to the development of spectrum of services needed for women victims of violence need addressing. With changes in social environment, some of the protection provided against domestic violence by the extended family is disappearing in urban areas [30]. This needs replacing with newer services like women refuge. In this context, both public and voluntary sector have an important role.

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