PREVALENCE OF DEPRESSION AND ANXIETY IN A VILLAGE IN SINDH

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Objective: To study the prevalence of Anxiety and Depression and its association in a rural area of Sindh, Pakistan. **Methods:** A cross-sectional study was conducted at Ansari Para, in Tehsil Hala, Sindh province in Pakistan, using the Aga Khan University Anxiety and Depression Scale Urdu Version. **Results:** Out of a total of 260 people interviewed, 112 people (43.1%) were screened to have anxiety and depression. Depression and anxiety were strongly associated with female gender, family dynamics, child environment, unsuccessful love affairs and among those with medical chronic disorders. A gradual decreasing incidence of depression and anxiety was noted with increasing level of education. A significantly strong association was noted between child mortality and maternal depression while no such association was found in males. There is a significant difference in the age of depressed and normal individuals. There was significant correlation between unhappy childhood and unsatisfying family relationships. However, no relationships were found between depression & anxiety and martial status, presence or number of children, absence of male offspring, living in joint family system, financial problems and any deficiencies that the respondents felt that he might have. **Conclusion:** This study suggests that anxiety and depression is a common psychiatric disorder even in remote village areas and contradicts the common belief that people those who live in the remote rural areas lead stress-free lives or have low rates of psychiatric morbidity.

Keywords: Prevalence, Depression, Anxiety, Rural, Sindh

INTRODUCTION

According to World Health Organization (WHO), depression is the leading cause of disability as measured by years lost due to disability (YLDs) and the 4th leading contributor to the global burden of disease as calculated by Disability Adjusted Life Years (DALYs) in 2000. By the year 2020, depression is projected to reach 2nd place of the ranking of DALYs calculated for all ages, and among both sexes. Today, depression is already the 2nd cause of DALYs in the age category 15–44 years for both sexes combined.[1]

More than 150 million suffer from depression at any point in time and nearly one million commit suicides every year.[2]

In developing countries 10–44% suffers from depression and anxiety disorders (D&A), less than 35% receive medical care and according to an estimate 50.8 million people suffer from major depression.[3]

Pakistan–Background information and statistics:
Pakistan is the 9th most populous country in the world, though area wise it ranks thirty-fourth among the thirty-seven low-income countries. It has total population of about 160 million. The total number of psychiatrists for such a large population is only 250.[2]

Available evidence suggests social problems as a major cause for anxiety and depressive disorders in Pakistan, and it has an overall prevalence of 34%.[4]

Studies carried out in urban and rural areas yield different results. A study carried out to find the prevalence of anxiety and depression in an urban squatter settlement of Karachi, the capital of Sindh stated the overall prevalence of anxiety and depression to be about 30.4%,[5] in addition, another study stated that the prevalence of anxiety and depression among women in a lower middle class semi-urban community of Karachi was 30%.[6]

Despite immense diversity in the socio-cultural environments in Pakistan, there is an overall very high prevalence of anxiety and depression in rural Pakistan. A study carried out in rural Punjab to find stress and psychiatric disorder in rural Punjab estimated that 66% of women and 25% of men suffered from anxiety and depressive disorders.[7] This study in rural Punjab mimics the findings of a previous study in Chitral, northern Pakistan, of high levels of emotional distress and psychiatric morbidity among women in rural areas of Pakistan.[8] Another research carried out in Gilgit, in the Northern Areas of Pakistan found that 50% of the women had anxiety and/or depression.[9] A recent study in a village in Federally Administered Tribal Area (FATA) which in some aspects resembles our rural setting showed that 60% of women and 45% of men scored 9 or more on the Self Reporting Questionnaire (SRQ).[10]

It is evident that depression is causing an enormous burden in Pakistan where the health budget is less than 1% of Gross national product (GNP) of which only 0.4% is allocated for mental health [11] which is a meagre amount compared to the enormity of the situation.

A lot of research has been done about depression and anxiety in Pakistan but not much authentic work has been done in rural Sindh. Hence

data about the true status of mental health of the people in this province is lacking.

The study will highlight this topic and may help in identifying major risk factors for depression and hence a better understanding of this region.

MATERIALS AND METHODS

It was a cross-sectional study carried out on January 2007 in a geographically designated area called the Ansari Para on the outskirts of Hala (Sindh province). Aga Khan University Anxiety and Depression Scale (AKU ADS), an indigenously developed previously validated Self-reporting questionnaire was used as a screening instrument. We conducted a house-to-house survey in a village with a population of about 1100 inhabitants with the adult population (age 18 years or more) being about 38% out of the total. Sindhi is the local language of the area and people follow Sindhi culture and traditions. Ethnically, the locals trace their roots back to the Ansars of Madina.

The topography of the area where the study was carried out is semi-arid and rocky. The majority of men earn their living by working away from home and commuting to larger cities while the women earn by sewing and stitching at home, with a small fraction of women working as primary school teachers outside the area.

To commute people use public transport and this is available on the main road 1.5 km from the study area. There are no proper markets and residents shop at the main Bara Bazaar located 3 Km away. There are no post offices or banks and the nearest health facility is only available in the Hala city.

The villagers follow a regional law system implemented by the Government of Sindh under the ordinance 2001. There are no primary and secondary schools in the area. Despite this fact there is a 75% literacy rate as the locals have to resort to seek education from local mosques and nearby larger towns. This is a conservative society, with a 'joint family' system consisting of 2 to 3 families per household.

We were able to conduct this survey because one of the author's father was born there and was well known in the community. A local female school teacher who was well acquainted with the area helped in the accumulation of families data. A research assistant who was a local resident of the area and well versed in the two most commonly used languages, Urdu and Sindhi was selected. She was given one day training about the survey and the questionnaires being used. The trained teacher along with the author was sent to different areas of the village to account for the differences in the socio-economic conditions prevalent within a settlement. The personnel were instructed to go to every alternate house in the selected area and dictate the questionnaire. The research team visited many houses on more than one occasion (up to 3 visits) to complete the questionnaires. This was done to reduce errors due to low literacy rates in the population.

The surveyors, introduced the study, explained its objectives and implications, answered queries and dispelled any apprehensions. After obtaining verbal consent, the research assistants administered the questionnaires to each person aged 18 to 65 years. Children as well as resident who had migrated to the area in the last one month were excluded from the study.

Uniform predetermined phrases were used while administrating the questionnaire to reduce bias. Some degree of privacy was attempted while administering the questionnaires; however there were obstacles in obtaining the information, as the participants were not interviewed by a research assistant of the same gender. An explanation of the project was read to each participant, who then gave verbal and written consent. The questionnaire used consisted of two parts. The first part comprised the instrument to assess the anxiety and depression levels. The second part of the questionnaire was self-constructed and related to possible identifiable risk factors such as economic situation, education level, current illness, past and present family dynamics etc. It also contained a consent form which was properly explained to the people before beginning. The AKUADS, was adopted which is designed to be self-administered, but the research assistants had to read out the questions to most of the villagers and recorded the replies without giving any explanations.

The instrument used in our study was the AKUADS Urdu version. The questionnaire has 25 items, 13 psychological and 12 somatic. This increases its reliability for use as a screening instrument because most of the available instruments comprise of either psychological or somatic items. At a score of 20 it has a sensitivity of 66%, a specificity of 79%, a positive predictive value of 83 and a negative predictive value of 60, [12] which is higher than other available scales like the self reporting questionnaire (SRQ). It also has high internal consistency as all its stems are significantly related to each other and the same is true for the stems of somatic manifestations.[13] These are desirable attributes of this indigenously prepared and tested questionnaire, which make it especially reliable and valid in our loco-regional scenario.

The data was entered using EpiData 3.1 and then transferred to SPSS 13.0 for analysis. The AKUADS part of the questionnaire was scored as per its guidelines, whilst the self-constructed risk factors part of questionnaire was coded according to a pre-decided marking scheme. The results were cross tabulated to identify possible relationships.

RESULTS

Out of a total of 260 people interviewed, 112 people (43%) were screened to have anxiety and depression. There were 116 (44.7%) male respondents 144 (55.3%) female respondents in the study. The mean age of the respondents and SD was 33.3±12.3 yrs. The number of respondents who were married were 179 (68.7%), while 4 (1.7%) were divorced. The education level of the respondents showed that 14 (5.4%) were illiterate, 22 (8.5%) had primary education, 47 (18.1%) had their secondary school certification, Intermediate level education 66 (25.5%), graduates 62 (23.9%) and 48 (18.5%) of the respondents had a post graduate degree. There were 127 (49%) respondents who wanted to continue further studies but stated distance 43 (34%) or family reasons 36 (28%) as a preventing factor. Joint family system was the predominant family structure with 151 (58%) respondents living in such a joint family system. Financial situation was a concern for 76 (29.2%) respondents. Most of the respondents had a good relationship with other family members 181 (69.8%), although 67 (25.6%) of the respondents had a mediocre relationship and 12 (4.7 %) felt that they had a bad relationship with their family members. Childhood environment was considered to be harmonious by 218 (84%) respondents, 8 (3.1%) felt it was awful and 34 (12.9%) were indifferent about It. When asked whether the respondents felt they had any psychiatric issues 218 (84%) respondents thought they had no such problems, but our study found 88 (40.1%) of them were depressed with no insight to their ailment. Out of the respondents that sought help for their symptoms, 27 (79.4%) chose medical professionals for their problems, 6 (17.6%) went to religious personals and 1 (3.0%) chose a practitioner of Herbal Medicine (*Hakeem*). One Hundred and fifty-eight (60.9%) of the respondents thought they were deficient in some aspects. The majority of them 78 (49.4%) felt they were deficient in Intelligence, 45 (28.6%) in beauty, 26 (16.2%) in personality; other responses included money, health and power.

Depression and anxiety were strongly associated with female sex ($p<0.01$), family dynamics ($p<0.006$), child environment ($p<0.03$), unsuccessful love affairs ($p<0.001$) and respondents with chronic disease ($p<0.001$). A gradual decreasing incidence of depression and anxiety was noted with increasing level of education ($p<0.001$), with the highest noted in illiterates and respondents with only primary education. A significantly strong association was noted between child mortality and maternal depression ($p<0.01$) while no such association was found in males. No relationships were found between D and A and martial status, presence or number of children, absence of male offspring, living in joint family system, financial problems and any deficiencies that the respondents feels that he might have.

Table-1: Cross tabulation of various variables with anxiety and depression

	Anxiety And Depression	*p*-value
Total	112 (43.1%)	
Sex		
Males	33 (28.7%)	>0.001
Females	78 (54.2%)	
Marital Status		
Single	28 (35.1%)	0.079
Married	81 (45.5%)	
Education Level		
Illiterate	10 (71.4%)	>0.001
Primary	16 (72.7%)	
Matriculation	21 (44.7%)	
Intermediate	30 (45.5%)	
Graduate	16 (25.8%)	
Postgraduate	18 (37.5%)	
Family relationships		
Good	70 (38.3%)	0.006
Mediocre	32 (48.5%)	
Bad	10 (83.3%)	
Childhood Environment		
Harmonious	89 (40.9%)	0.031
Indifferent	15 (45.5%)	
Awful	7 (87.5%)	
Addictions		
Present	4 (44.4%)	0.59
None	105 (42.9%)	
Deficiencies		
Present	68 (42.7%)	0.495
None	44 (43.5%)	
Unsuccessful Love Affairs		
Yes	30 (61.2%)	>0.001
No	20 (30.3%)	
Frequently	29 (70.7%)	

Figure-1: Location of Hala, the city on the outskirts of which Ansari Para is located[16]

DISCUSSION

The prevalence of D&A in the village was found to be 43.1% in contrast to the prevalence of D&A found in other areas of Pakistan which was around 34% as stated by a previous study.[4] This study confirmed the

findings of previous studies[7,8,10] which stated that depression was more strongly associated with females. A high rate of depression was found in people who did not have a calm childhood atmosphere and an even stronger association in those who still did not have good relations with their families. This supports the finding of a study[14] which stated that depression was more frequent in members of dysfunctional families.

D&A was also observed to be in people suffering from chronic diseases, which is expected as their long duration of illness may cause them to suffer considerable tension because of ill health and also due to the financial problems they may face due to their long ill health.

An interesting observation was the strong association between D&A and problems associated with the respondent's love life. There was a strong association between D&A and such people which shows it to be an important social factor in this rural and conservative setting.

Higher levels of literacy was associated with decreasing levels of D&A as was seen in previous studies[6–,10] but the level of D&A was about the same in illiterate and those people who had acquired only primary education. This shows that acquiring only primary education may not be enough to satisfy the person intellectually or it may not give the person enough edge over the illiterates regarding employment and job prospects.

A disturbing and preventable cause of D&A was child mortality which was an important cause of D&A in females. Women were more affected by child mortality than men as there was no association between child death and D&A in males. On asking the local people and NGOs it was noticed that the main cause of infant mortality was observed to be Rhesus incompatibility, birth asphyxia and malnourishment. It is apparent that all these conditions are easily preventable and if better health service and delivery facilities are available then not only the child's life but the mother's mental health may be improved dramatically. Psychological support should also be offered to women who have lost their children to help cope up with the loss and thus decrease the high level of D&A in women.

Eighty-four percent of the respondents thought they had no psychiatric issues, but 40.1% of them were depressed and had no insight to their problems. This may be due to the lack of awareness of this condition among the people or may be the embarrassment of admitting it.

Unlike some previous studies no relationship was found between depression and age[6,7] and marriage status.[15] Social disadvantage causing financial problems was not associated with D&A contrary to what was found in a study.[7]

Our study also confirms findings by a previous study that living in a joint family system has no relation with depression.[8]

Our study is a cross-sectional study of a small village of Sindh and may not be representative of all scenario of the province. The inherent problem with our data remains the fact that it is a cross-sectional survey using self-administered questionnaires, and we cannot confirm the anticipated causality of social stress leading to depressive symptoms and subsequent disability. Ideally it would have been better to confirm the diagnosis of depressed patients by getting them evaluated by a psychiatrist. A prospective cohort study would be desirable but is currently not possible for us to achieve. However, we feel that similar research needs to be conducted in other regions of the province to get an over all understanding of the prevalence of depression. There were some houses that we were not able to interview in spite of visiting them three times which may cause some bias associated with the results.

This study highlights the graveness of the situation and the need for training of all health professional to recognize and appropriately treat this disease. It is impossible for our current hand full of about 250[2] trained psychiatrists to deal unaided with this enormous disease burden.

CONCLUSION

This study supports the previous studies of stress in remote areas and also contradicts the common belief that people who live in the remote rural areas lead stress-free lives or have low rates of psychiatric morbidity.[9] It also sheds light on the factors of depression in this community and just by focusing on these important aspects the prevalence of D&A can be brought down.

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REFERENCES

1. World Health Organization. [Homepage of the World Health Organization]: Mental health [online] [Cited 2007 July 16] Available from: URL:http://www.who.int/mental_health/management/depression/definition/en/
2. The World Health Report: 2001: Mental health: New Understanding, New Hope. World Health Organization 2001 [Online] [cited 2001] Available from URL: http://www.who.int/whr/2001/en/whr01_en.pdf

3. Muhammad Gadit AA, Mugford G. Prevalence of Depression among Households in Three Capital Cities of Pakistan: Need to Revise the Mental Health Policy. PLoS ONE 2007;14;2:e209
4. Mirza I, Jenkins R. Risk factors, prevalence, and treatment of anxiety and depressive disorders in Pakistan: systemic review BMJ 2004;328:794.
5. Ali BS, Amanullah S. Prevalence of anxiety and depression in an urban squatter settlement of Karachi. J Coll Physicians Surg Pak 2000;10:4–6.
6. Ali BS, Rahbar MH, Naeem S, Tareen AL, Gul A, Samad L. Prevalence of and factors associated with anxiety and depression among women in a lower middle class semi-urban community of Karachi, Pakistan. J Pak Med Assoc 2002;52:513–7.
7. Mumford DB, Saeed K, Ahmad I, Latif S, Mubbashar MH. Stress and psychiatric disorder in rural Punjab. A community survey. Br J Psychiatry 1997;170:473–8.
8. 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 Psychiatry 1996;168:299–307.
9. 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.
10. Husain N, Chaudhry IB, Afridi MA, Tomenson B, Creed F. Life stress and depression in a tribal area of Pakistan. Br J Psychiatry 2007;190:36–41.
11. Gadit AA. Economic burden of Depression in in Pakistan. J Pak Med Assoc 2004;54:43–4.
12. Ali B, Reza H, Khan M, Jehan I. Development of an indigenous screening instrument in Pakistan: the Aga Khan University Anxiety and Depression Scale. J Pak Med Assoc 1998;48:261–5.
13. Inam SN, Saqib A, Alam E. Prevalence of anxiety and depression among medical students of private university. J Pak Med Assoc 2003;53:44–7.
14. Quijada ER, Montoya CM, Laserna PA, Toledo AP, Marco EM, Rabadan FE. Depression prevalence in adolescents. Actas Esp Psiquiatr 2005;33:298–302.
15. Nisar N, Billoo N, Gadit AA. Prevalence of depression and the associated risks factors among adult women in a fishing community. J Pak Med Assoc 2004;54:519–25.
16. Google Maps. [online] [Website franchise of the Google Inc.][Cited 1st Jan 2008] Available from URL: http://www.maps.google.com

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