

Comparative Evaluation of Contributing Factors, Variety and Severity of Symptoms Associated with Major Depressive Illness in Classified Zones of Khyber Pakhtunkhwa, Pakistan

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Abstract

Depression is one of the major psychological disorders in Pakistani population. It is characterized by loss of interest in daily activities, lack of sleep, consistent feelings of guilt and poor concentration. This study aimed for determination and evaluation of depression patients in various geographical zones of the Khyber Pakhtunkhwa province of Pakistan. The correlations of disease severity, symptoms variability with various contributing factors in respective zonal region were evaluated. This multicenter, randomized, cross sectional study was conducted in psychiatry wards at various tertiary care hospitals of Peshawar. For the purpose of the study, the province was divided into four geographical zones. Areas with similar life styles, quality of life and relative vicinity were grouped together. A total of 200 patients belong to the above stated classified zones, with positive diagnosis of depression by DSM-IV criteria, presented continuously for minimum two weeks tenure were included in this study. Their severity of symptoms and level of depression was categorized into mild, moderate and severe depression using the internationally recognized rating

scale i-e; Hamilton Depression Rating Scale-17. Exclusion criteria for the patients involved subjects with severe comorbidities, drug induced depression and postpartum depression. In all 4 zones, the prevalence of depression was higher in females than that of males. Similarly, distribution based on severity level showed that majority female patients were moderately depressed. Age wise severity levels showed that in patients aging 17-40 year, majority of the patients were suffering from moderate depression. In contrast, patients aging >40 years, majority of them were diagnosed with severe depression. Among various considered and assessed factors, social factor had the most significant contribution in the development of this illness. The overall prevalence of depression in females was higher as compared to males. Social issues were the highest contributors toward depression in all four zones. The highest percentage of severe depression was found in age group above 40 years in all 4 zones. Similarly, the overall percentages of severe cases were higher in female patients than its counterpart.

Keywords

Depression; Socioeconomic status; Internally Displaced People; Women; Khyber Pakhtunkhwa

I. INTRODUCTION

Depression is one of the most prevalent mental disorders of our age. Over the course of many years, it has become a chronic and lifelong disorder. It usually presents itself with loss of pleasure/interest, abnormal sleep and appetite, feeling of tiredness and poor concentration [1,2]. Depression manifests itself in people with various backgrounds such as physical, sexual, and emotional abuse, medications (Accutane, interferon-alpha, corticosteroids) [3-5], adversities during childhood and adolescence, parents with depressive illness especially mother, genetic (traits inheritance), pessimistic perspective of life, fear of rejection and excessive need for people reassurance [6]. These may also be caused due to decreased or altered sensitivity to Norepinephrine, serotonin or dopamine. The prevalence of depression is higher in mid 20s and at peaks in women of 35-45 years of age [7]. The prevalence of depression in Pakistan is consistently increasing. A study conducted on 259 individuals a rural area of the country suggested that the prevalence of depressive illness in Pakistani population might be greater than other developing countries due to excessive social adversities in all stages of life [8].

Socioeconomic status (SES) of the patients strongly correlates with depression. Low SES slightly increases the risk of depression. A study conducted among 10800 individuals in Poland, Finland and Spain revealed that chances of depression are reduced with improvement in SES [9]. Another study was conducted in 1998 first time in pregnant women during their third trimester. The

II. MATERIAL AND METHODS

This multicenter, randomized, cross sectional study was conducted in psychiatry wards at tertiary care hospitals (Lady Reading Hospital and Khyber Teaching Hospital), MTI, Peshawar, Khyber Pakhtunkhwa. The province of Khyber Pakhtunkhwa was divided into four geographical zones. Patients belong to the respective zones as stated above were assessed and then compared for variety of symptoms, contributing factors/causes and severity of depression. The division into 4 zones was based on similarities regarding their life style, quality of life, income sources and literacy rates. These 4 zones were Zone-1 (Bajaur, North & South Waziristan, Khyber and Kuram agency), Zone-2 (Peshawar, Charsadda, Swabi, Nowshera and Mardan), Zone-3 (Swat, Buner, Dir, Shangla and Malakand) and Zone-4 (D.I Khan, Tank, Bannu, Kohat and Lakki Marwat).

A total of 200 patients with mild, moderate and severe depression were assessed for the required parametric values. Depression patients with severe comorbidities,

women were analyzed for depression with center for epidemiological studies-depression. Analysis showed that women with low SES especially those who are uneducated, unmarried mothers, unemployed or low income had 11 times greater propensity to develop higher depression scores [10].

In war torn countries, internally displaced people (IDPs) have high prevalence of psychological disturbances and thus high risk for depression. These people face food scarcity, barely sufficient economic resources, inability to access quality health care services especially for children and women contribute to developing of depressive illness [11]. Depression is also a common and potentially dangerous repercussion of traumatic events [12]. Environmental stresses such as mass calamities may contribute to high prevalence of depression in the effected population [13]. Mostly women were affected by familial depression by developing depressive signs & symptoms at early age as compared to those who do not share such familial history of depression [14]. Similarly, depression in rural areas is difficult to handle due to lack of competent physicians and experts [15].

This study aimed for determination and evaluation of depression patients in various geographical zones of the Khyber Pakhtunkhwa province of Pakistan. The correlations of disease severity, symptoms variability with various contributing factors in respective zonal region were evaluated.

highly aggressive behavior, and medication associated depression and post-partum depression were excluded in this study. However, depression patients of both genders, ages ranging between 16-60 years, depressed secondary to war, local conflicts, internal displacement, socioeconomic adversity, environmental and work related problems, were included in the study. For positive diagnosis, five of the following nine DSM-IV symptoms must be present continuously for a minimum two weeks tenured: (i) depressed mood; (ii) loss of interest or pleasure; (iii) considerable weight or appetite alteration; (iv) insomnia or hypsomnia; (v) psychomotor agitation or retardation; (vi) fatigue or loss of energy; (vii) feelings of worthlessness; (viii) diminished ability to think or concentrate or indecisiveness; and (ix) suicidal ideation. The Hamilton Depression Rating Scale-17 (HDRS-17) was used for the determination of severity in depression diagnosed patients. It's a 17-item psychological evaluation tool, designed to measure frequency and intensity of depressive symptoms in patients with major

depressive disorder. Ratings were made using either a 5 or a 3-point scale, yielding total scores from zero to 61. Conventional clinical cutoff scores range from 14 to 20,

III. RESULTS

Based on aforementioned diagnosing criteria of DSM-IV and assessment through HDRS-17 scale, results obtained from the patients with depressive illness of zone-1 (n=50 cases) revealed that the prevalence of the said disease was significantly higher in females (72 %) than that of males (28 %), as shown in table-1(A). Similarly, distribution based on severity level showed that out of 36 (72 %) female patients, mild were 7.14 %, moderate were 35 % and severe were 57.14 % while out of 14 (28 %) male patients, 22.5 % were mild, 44.04 % were moderate and 50 % were severely depressed, as shown in table-1(B). Age wise severity levels (table-2) showed that in patients having age grouping 17-25 year, 20 % had mild, 60 % had moderate and 20 % had severe depressive illness. Similarly, in patients aging 25-40 years, 53 % were moderate while 46.93 % severe. Similarly, in patients aging >40 years, 30.8 % were moderate and 69.2% were severe. Factors that contributed to the depression showed that 54 % illness was due to social causes in which mild, moderate and severe patients were 7.14 %, 53.5 % and 39.2 %, respectively. Similarly, economic, familial, IDPs and health factors contributed to 8 % (50 % moderate and 50 % severe), 6 % (33.33 % moderate and 66.66 % severe), 28 % (7.69 % mild, 30.7 % moderate and 61.53 % severe) and 4 % (100 % severe), respectively (details of the data can be seen in table-3).

Furthermore, the data obtained from the included patients of zone-2 (n=50 cases) showed that the prevalence of depression was same as that of zone-1 and was higher in females (72 %) than that of males (28 %), shown in table-1(A). Distribution based on severity level showed that out of 36 (72 %) female patients, mild were 7.7 %, moderate were 46 % and severe were 46 % while out of 14 (28 %) male patients, 2.8% were mild, 37.8 % were moderate and 59.4% were severe, as shown in table-1(B). Age wise severity levels (table-2) showed that in patients aging 17-25 year, 9.09 % were mild, 54.54 % were moderate and 36.3% were severe. In patients aging 25-40 years, 4.17 % were mild, 45.9 % were moderate while 50 % severe. Similarly, in patients aging >40 years, 21.42 % were moderate while 78.5 % were severe. Factors that contributed to the depression (table-3) showed that 68% depression was due to the social causes in which 3.1% mild, 37.5 % moderate and 59.3 % were severe patients, similarly, economic, familial and health factors contributed to 10 % (33.33 % moderate and 66.66 % severe), 6 % (66.66 % moderate and 33.33 % severe) and 16 % (11.1 % mild, 44.4 % moderate and 44.4 % severe) in respective group of patients.

with 17 being the most common in pharmacological research. It has proven reliability, validity, and efficiency in the assessment of concerned patients.

The data of patients belongs to zone-3 (n=50 cases) showed that the prevalence of depression was again higher in females (62 %) than that of males (38 %), shown in table-1(A). Distribution based on severity level showed that out of 31 (62 %) female patients, mild were 5 %, moderate were 55 % and severe were 40 % while out of 19 (38 %) male patients, 13.3 % were mild, 36.66 % were moderate and 50% were severe, as shown in table 1(B). Age wise severity levels (table-2) showed that in patients aging 17-25 years, 66.7 % were moderate while 33.3 % were severe. In patients aging 25-40 years, 13.8 % were mild, 44.8 % were moderate while 41.4 % severe. Similarly, in patients aging >40 years, 33.3 % were moderate while 66.7 % were severe. Factors that contributed to the depression (table-3) showed that 66 % depression was caused by social factors in which 12.12 % mild, 36.36 % moderate and 51.51 % were severe patients, similarly, economic, familial and health factors contributed to 16% (33.75 % moderate while 25 % severe), 4 % (50 % moderate and 50 % severe) and 14 % (14.28 % mild, 42.85 % moderate and 42.85 % severe) distributed among these patients, respectively.

Nevertheless, the outcomes of the data extracted from the patients of zone-4 (n=50 cases) exhibited that the prevalence of depression was higher in females (68 %) than that of males (32 %), shown in table-1(A). Distribution based on severity level showed that out of 34 (68 %) female patients, mild were 11.8 %, moderate were 50 % and severe were 38.23 % while out of 16 (32 %) male patients, mild were 31.25 %, moderate were 31.25 % and severe were 37.5 %, as shown in table-1(B). Age wise severity levels (table-2) showed that in patients aging 17-25 years, 36.36 % were mild, 54.54 % were moderate while 9.09 % were severe. In patients aging 25-40 years, 11.11 % were mild, 48.14% were moderate while 40.74 % severe. Similarly, in patients aging >40 years, 16.66 % were mild, 25 % were moderate while 58.33 % were severe. Factors that contributed to the depression (table-3) showed that 68 % depression was caused by social factors in which 8.82 % mild, 52.94 % moderate and 38.23 % were severe patients, similarly, economic, familial and health factors contributed to 16 % (50 % mild, 12.5% moderate, while 37.5 % severe), 2 % (100 % mild) and 14 % (14.28 % mild, 42.85 % moderate and 42.85 % severe), respectively.

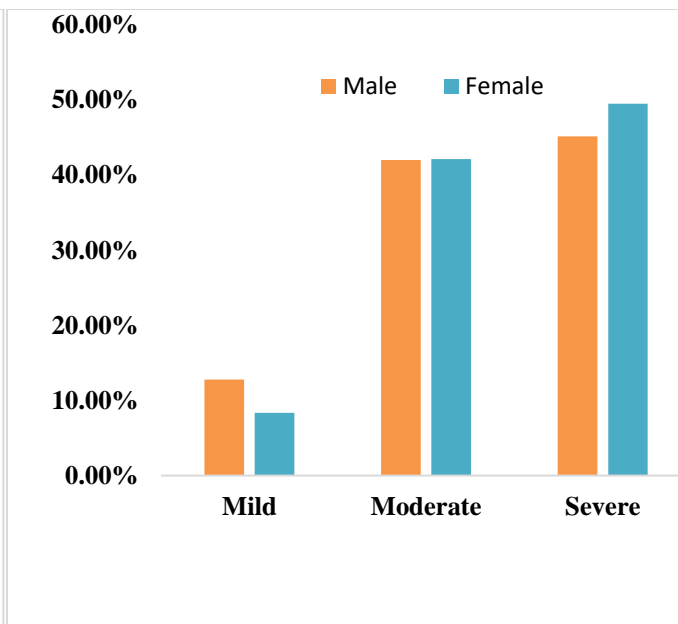
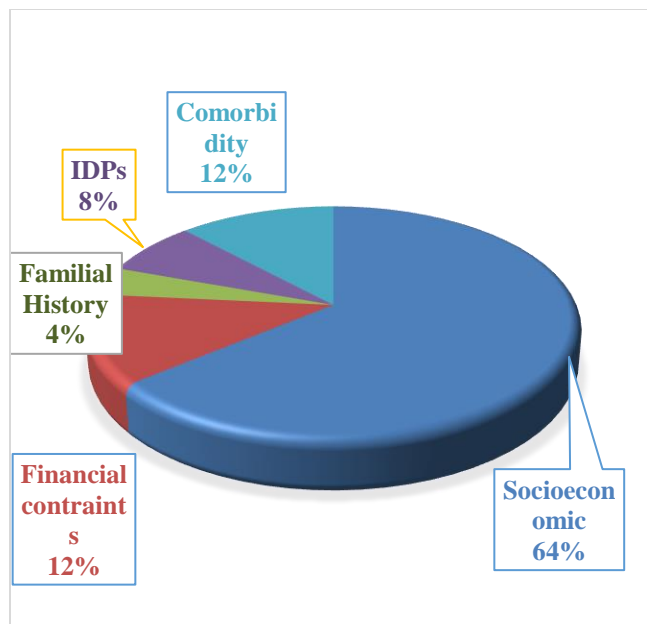


Figure 1: Percentage wise distribution of the contributing factors for major depressive illness in all 4-Zone of Khyber Pakhtunkhwa, Pakistan.

Figure 2: Severity based ranking of depression (assessed by HRDS-17) in respective genders of the patients.

Table 1: a) Gender-wise & b) Severity based distribution of the patients with major depressive illness (n=200).

| A: GENDER WISE DISTRIBUTION OF THE PATIENTS WITH DEPRESSION | | | | | | | | |
|---|--------|--|--------|--|--------|--|--------|--|
| Gender | Zone-1 | | Zone-2 | | Zone-3 | | Zone-4 | |
| Male (%) | 72 | | 72 | | 62 | | 32 | |
| Female (%) | 28 | | 28 | | 38 | | 68 | |

| B: SEVERITY WISE DISTRIBUTION OF THE PATIENTS WITH MAJOR DEPRESSIVE ILLNESS. Data Presented as (%) Prevalence. | | | | | | | | |
|--|--------|--------|--------|--------|--------|--------|--------|--------|
| Severity level of Depression | Zone-1 | | Zone-2 | | Zone-3 | | Zone-4 | |
| | Male | Female | Male | Female | Male | Female | Male | Female |
| Mild | 7.14 | 5.5 | 7.7 | 2.8 | 5 | 13.3 | 31.25 | 11.8 |
| Moderate | 35 | 44.04 | 46 | 37.8 | 55 | 36.66 | 31.25 | 50 |
| Severe | 57.14 | 50 | 46 | 59.4 | 40 | 50 | 37.5 | 38.23 |

Table 2: Prevalence of the Patients (In Percentage) in Different Age Groups Suffering With Mild, Moderate And Severe Depression (n=200).

| Age In Years | Severity Level of Depression | Zone-1 | Zone-2 | Zone-3 | Zone-4 |
|--------------|------------------------------|--------|--------|--------|--------|
| 17-25 | Mild | 20 | 9.09 | 0 | 36.36 |
| | Moderate | 60 | 54.54 | 66.7 | 54.54 |
| | Severe | 20 | 36.3 | 33.3 | 9.09 |
| 25-40 | Mild | Nil | 4.17 | 13.8 | 11.11 |
| | Moderate | 53 | 45.9 | 44.8 | 48.14 |
| | Severe | 46.93 | 50 | 41.4 | 40.74 |
| >40 | Mild | Nil | Nil | Nil | 16.66 |
| | Moderate | 30.8 | 21.42 | 33.3 | 25 |
| | Severe | 69.2 | 78.5 | 66.7 | 58.33 |

Table 3: Percentage Wise Distribution of the Contributing Factors For Major Depression In All 4 Zones.

| Zone | Contributing Factor | Overall Prevalence (in %) | Severity of Depression in percent prevalence | | |
|--------|---------------------|---------------------------|--|----------|--------|
| | | | Mild | Moderate | Severe |
| Zone-1 | Social | 54 | 7.14 | 53.5 | 39.2 |
| | Economic | 8 | Nil | 50 | 50 |
| | Familial | 6 | Nil | 33.33 | 66.66 |
| | IDPs | 28 | 7.69 | 30.7 | 61.53 |
| | Health | 4 | Nil | Nil | 100 |
| | Social | 68 | 3.1 | 37.5 | 59.3 |
| Zone-2 | Economic | 10 | Nil | 33.3 | 66.7 |
| | Familial | 6 | Nil | 66.7 | 33.33 |
| | IDPs | 0 | Nil | Nil | Nil |
| | Health | 16 | 11.1 | 44.4 | 44.4 |
| | Social | 66 | 12.12 | 36.36 | 51.51 |
| Zone-3 | Economic | 16 | Nil | 75 | 25 |
| | Familial | 4 | Nil | 50 | 50 |
| | IDPs | 0 | Nil | Nil | Nil |
| | Health | 14 | 21.14 | 42.85 | 42.85 |
| | Social | 68 | 8.82 | 52.94 | 38.23 |
| Zone-4 | Economic | 16 | 50 | 12.5 | 37.5 |
| | Familial | 0 | 100 | Nil | Nil |
| | IDPs | 2 | Nil | Nil | Nil |
| | Health | 14 | 14.28 | 42.85 | 42.85 |

IV. DISCUSSION

In all 4 zones, the prevalence of depression was higher in females than males, which was due to the variety of challenges faced by females such as work overload, family conflicts and poor socioeconomic status. This finding was in accordance with studies of Lorant et al [16] and Hashim et al [17] conducted in this regard. The prevalence of severe depression in male patients were higher in zone-1 which was mainly because of severe economic losses, and internal displacement. People of the said zone were badly affected due to which they had lost their jobs, business, crops and other sources of financial income. They were displaced to other area along with their families. Their children schooling and health were also adversely affected. All these challenges had to be faced and cope up with by the men (as head of the family concerned). While the prevalence of severe depression in female patients were higher in zone-2 and zone-3, this was due to social, health and economic factors which lead to severe depression. Finally, the severe depression was almost similar in males and females of zone-4, which was due to the economic factors faced by males while the social challenges faced by females. These results were similar to the findings of Lorant et al [16], Akhonzada et al [18] and Robert et al [11]. This study also shows that most of the patients above 40 years of age suffers from severe depression also supported the study of Kilkkinen et al [19].

Social factors were the major contributors toward depression in all of the 4 zones which was due to poverty, property disputes, conflicts and familial animosity, this result was also justified by Culpin et al [20]. IDPs factor

contributed mainly to zone-1, resulted into psychological disturbances which was not addressed properly and hence resulted into depression. The average severity profiles of 4 zones also shows that patients belonging to zone-1 suffers from more severe familial depression followed by severe depression caused by social problems in zone-2, zone-3 and zone-4. Findings of this study were found to be in support to the previously reported research outcomes stating that more than 350 million people of all ages suffer from depression throughout the world. As quoted in the report by The World Mental Health Survey performed in 17 different countries found that 1 in 17 people suffered with at least one episode of depression in the previous year. The estimated global point prevalence of MDD as presented by Ferrari and colleagues was 4.7% (4.4–5.0 %) and the pooled annual incidence as 3.0 % (2.4–3.8 %). Results of different studies also revealed that depression often starts at adolescent or young adult age, and it generally affects women more than men, with women of child bearing age worst affected due to 10–20% of women experiencing post-partum depression. Noticeably, depending on the severity of the disease, depression significantly affects both the physical health and the quality of life of the patients concerned. This disease also adversely results in undesirable impacts on physical functioning such that affected individuals are unable to effectively fulfil their social functions and family functions. Studies have also shown that, up to 80% of these depressed people have some form of impairment in their daily functioning [21].

V. CONCLUSION

It was concluded that in all four zones, the prevalence of depression in females was higher as compared to males. It was also evident that social issues were the highest contributors toward depression in all four zones. The highest percentage of severe depression was found in age group above 40 years in all four zones. The percentage of severe cases was higher in male patients of zone-1 in contrast to the rest of the three zones. However, the percentage of severe cases was higher for female patients.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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