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FREQUENCY OF ANXIETY AND DEPRESSION AMONG PATIENTS WITH PULMONARY TUBERCULOSIS

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ABSTRACT

Objective: To assess the frequency of anxiety and depression among patients of pulmonary tuberculosis. **Material and methods:** This was a cross-sectional, observational study conducted at Pulmonology department, Nishtar hospital Multan from March 2018 to May 2018 over the period of 3 months. Total 100 diagnosed cases of TB either male or female having age range from 20-60 years were included in this study and anxiety and depression was assessed in selected patients. **Results:** Total 130 patients of TB were selected and anxiety and depression was assessed. Mean age of the patients was 43.12 ± 12.009 years. Out of 130 patients, anxiety and depression was noted in 89 (68.5%) patients and 78 (60%) patients respectively. Out 130 TB patients, 40 (31%) patients were normal, mild anxiety was noted in 80 (61%) patients followed by moderate 4 (3%) patients and severe in 6 (5%) patients. Mild depression was found in 60 (46%) patients, moderate in 8 (6%) patients and severe in depression was noted in 8 (6%) patients. **Conclusion:** Results of present study showed a higher rate of anxiety and depress in TB patients. 41-60 years age group was the most common age group. But age of the TB patients was not significantly associated with development of anxiety and depression. Most of the TB patients were male. Area of residence was significantly associated with development of anxiety and depression.

KEYWORDS: Anxiety, depression, Psychiatric disorders, significant, TB.

INTRODUCTION

Tuberculosis (TB) is a major global public health problem mostly in developing and under developed countries. Globally it is responsible for more than three million deaths each year and one of the leading causes of mortality worldwide.[1] The world health organization (WHO) reported that one third of the world population that is approximately 2 billion people, is infected with Mycobacterium tuberculosis and there are about 8-10 million new active cases each year.[2]

Pakistan is among the fifth burdened country having tuberculosis so prevalent (approximately 61%). That's why National TB Program (NTP) has established many TB diagnostic and treatment centers all over the Pakistan for the early diagnosis and programmatic management of TB. People with tuberculosis (TB) are often suffer from depression.[3-4] The prevalence of depression among TB patients was reported variable from different studies.[5] Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration.[6] It is one of the leading causes of disease burden affecting 121 million people worldwide. Depression can lead to suicide. Suicide contributes for the loss of about 850,000 lives every year.[7] anxiety is a vague, subjective, non-specific feeling of uneasiness, apprehension, tension, (excessive nervousness) fears, and a sense of impending doom, irrational avoidance of objects or situation and anxiety attack.[7] Anxiety and depression are the most frequently occurring mental disorders in the general population.[8] Studies conducted in different countries on prevalence of depression and anxiety among TB patients shows that 46.3 % (anxiety), 47.2 % (depression) in Pakistan[9], 72.88 % (anxiety), 38.98 % (depression) in Romania[10], 40.67 % (anxiety), 9.93 % (depression) in Greece[11], 45 % (depression) in Nigeria[12] 61 % (depression in Kenya.[13] The studies indicate that there is high prevalence of depression and anxiety among TB patients compared to general population which is about 3–17 %[14], and 7 % to 82.3 %[15], respectively.

A study is planned to screen out the TB patients for anxiety and depression. Results of this study may help us to decrease this co-morbidity of the TB patients by early management of anxiety and depression.

MATERIAL AND METHODS

This was a cross-sectional, observational study conducted at Pulmonology department, Nishtar hospital Multan from March 2018 to May 2018 over the period of

3 months. Total 100 diagnosed cases of TB either male or female having age range from 20-60 years were included in this study. Patients with history of diabetes mellitus and hypertension were excluded from the study.

Ethical approval was obtained from the institutional review committee and written informed consent was taken from every patient.

Hospital Anxiety and Depression Scale (HADS) was used to assess anxiety and depression. Scores 8-15 were considered as mild anxiety or depression, 16-20 as moderate anxiety or depression and scores higher than 17 as severe. Patients with primary education were considered as illiterate and above middle education were considered as literate. All the collected data was entered into SPSS version 17 and analyzed. Mean and SD was calculated for numerical variables and frequencies and percentages were calculated for categorical variables. Chi-square test was used as test of association. P value ≤ 0.05 was considered as statistically significant.

RESULTS

Total 130 patients of TB were selected and anxiety and depression was assessed. Mean age of the patients was 43.12 ± 12.009 years. Out of 130 patients, anxiety and depression was noted in 89 (68.5%) patients and 78 (60%) patients respectively. (Table 1) Out 130 TB patients, 40 (31%) patients were normal, mild anxiety was noted in 80 (61%) patients followed by moderate 4 (3%) patients and severe in 6 (5%) patients. (Fig. 1) Mild depression was found in 60 (46%) patients, moderate in 8 (6%) patients and severe in depression was noted in 8 (6%) patients. (Fig. 2) Patients were divided into two equal age groups i.e. age group 20-40 years and age group 41-60 years. Total 55 (42.31%) patients belonged to age group 20-40 years and 75 (57.69%) belonged to age group 41-60 years. In age group 20-40 years, anxiety and depression was noted in 37 (67.27%) patients and 35 (63.64%) patients respectively. In age group 41-60 years, anxiety and depression was noted in 52 (69.33%) patients and 43 (57.33%) patients. Statistically insignificant association of anxiety and depression with age group was noted. (Table 2)

Male patients were 99 (76.15%) and female patients were 31 (23.85%). Anxiety was noted in 67 (67.68%) male patients and 22 (70.97%) female patients. But statistically insignificant between anxiety with gender was noted with p value 0.731. Depression was found in 64 (64.65%) male patients and 14 (45.16%) female patients. Depression was significantly associated with gender with p value 0.053. (Table 3). Total 74 (56.92%) patients belonged to rural area and 56 (43.08%) patients belonged to urban area. Anxiety was noted in 61 (82.43%) patients of rural area and in 28 (50%) patients of urban area. Statistically significant association between anxiety and area of residence was noted with p value 0.000. Depression was found in 50 (67.57%) patients of rural area and 28 (50%) in patients of urban area. Depression was significantly associated with area of residence with p value 0.043. (Table 4) Total 52 (40%) patients were literate and 78 (60%) patients were illiterate. Anxiety was noted in 38 (73.08%) Literate patients and in 51 (65.38%) illiterate patients. But the difference was statistically insignificant with p value 0.355. Depression was found in 30 (57.69%) literate patients and in 48 (61.54%) illiterate patients. Difference was not significant with p value 0.661. (Table 5)

Table 1: Frequencies for anxiety and depression in asthmatics.

Status	Anxiety N (%)	Depression N (%)
Yes	89 (68.5%)	78 (60%)
No	41 (31.5%)	52 (40%)
Total	130	130

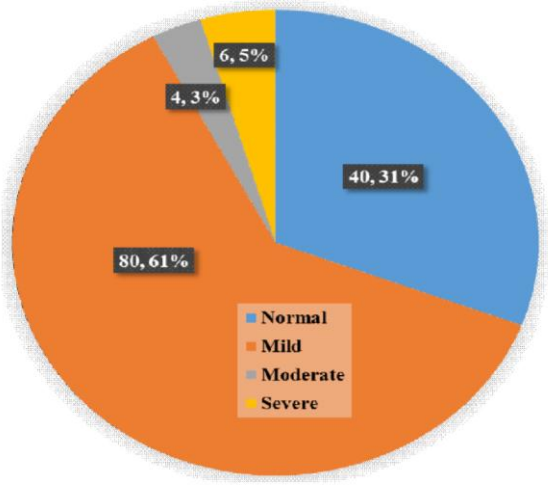

Fig. 1: Severity of anxiety.

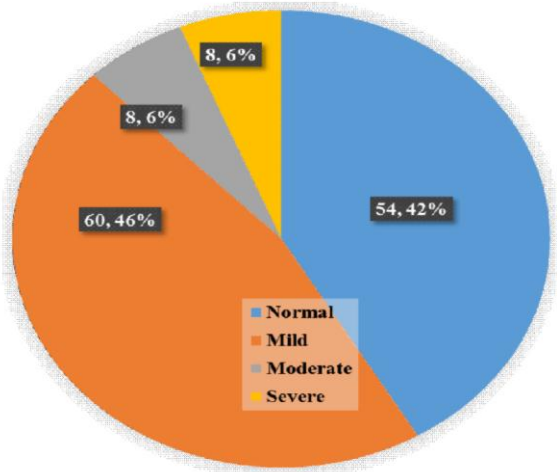

Fig. 2: Severity of Depression.

Table 2: Association of anxiety and depression with age.

Age group	Yes (%)	No (%)	Total
Association of gender with anxiety P. value = 0.803			
20-40 Years	37 (67.27%)	18 (32.73%)	55 (42.31%)
41-60 Years	52 (69.33%)	23 (30.67%)	75 (57.69%)
Total	89 (68.5%)	41 (31.54%)	130
Association of gender with depression P. value = 0.469			
20-40 Years	35 (63.64%)	20 (36.36%)	55 (42.31%)
41-60 Years	43 (57.33%)	32 (42.67%)	75 (57.69%)
Total	78 (60%)	52 (40%)	130

Table 3: Association of gender with depression and anxiety.

Gender	Yes (%)	No (%)	Total
Association of gender with anxiety P. value = 0.731			
Male	67 (67.68%)	32 (32.32%)	99 (76.15%)
Female	22 (70.97%)	9 (29.03%)	31 (23.85%)
Total	89 (68.5%)	41 (31.54%)	130 (%)
Association of gender with depression P. value = 0.053			
Male	64 (64.65%)	35 (35.35%)	99 (76.15%)
Female	14 (45.16%)	17 (54.84%)	31 (23.85%)
Total	78 (60%)	52 (40%)	130 (%)

Table 4: Association of anxiety and depression with area of residence.

Area of residence	Yes (%)	No (%)	Total
Association of area of residence with anxiety P. value = 0.000			
Rural	61 (82.43%)	13 (17.57%)	74 (56.92%)
Urban	28 (50%)	28 (50%)	56 (43.08%)
Total	89 (68.5%)	41 (31.54%)	130
Association of area of residence with depression P. value = 0.043			
Rural	50 (67.57%)	24 (32.43%)	74 (56.92%)
Urban	28 (50%)	28 (50%)	56 (43.08%)
Total	78 (60%)	52 (40%)	130

Table 5: Association of anxiety and depression with educational status.

Education Status	Yes (%)	No (%)	Total
Association of education status with anxiety P. value = 0.355			
Literate	38 (73.08%)	14 (26.92%)	52 (40%)
Illiterate	51 (65.38%)	27 (34.62%)	78 (60%)
Total	89 (68.5%)	41 (31.54%)	130
Association of education status with depression P. value = 0.661			
Literate	30 (57.69%)	22 (42.31%)	52 (40%)
Illiterate	48 (61.54%)	30 (38.46%)	78 (60%)
Total	78 (60%)	52 (40%)	130

DISCUSSION

Many psychiatric disorders are positively correlated with the high risk of tuberculosis and with poorer adherence to anti-TB treatment. There are various reasons like prolonged treatment, financial and work related problems, frequent visits to hospital, transportation, low socioeconomic status, slow progression of the disease and other illnesses, considered as barrier to treatment adherence.[16] However, diagnosis of tuberculosis increases the risk of psychiatric comorbidities and social isolation.[17] Many studies have indicated that patient with tuberculosis reports several psychiatric disorders like depression, anxiety, somatoform symptoms, frequent smoking and increased alcohol consumption.[16] Psychiatric co-morbidities seem to be an important factor in the treatment outcome of patients suffering from tuberculosis. Psychological reactions and complications are highly prevalent in tuberculosis patients. These

psychological complications are also seen as the adverse effect of anti-tubercular medications.[18] Side effects of certain anti tuberculosis drugs like isoniazid, Ethambutol and pyrazinamide included mood fluctuation, psychosis, seizures, confusion, dizziness, disorientation etc. Factors which contribute to the no adherence towards anti tubercular drugs are an important barrier to control TB in our society. The defaulters or treatment failure due to any reasons may lead to more severe and resistant disease and its relapse and increases its morbidities and mortality.[19] Mean age of the patients was 43.12 ± 12.009 years. Out of 130 patients, anxiety and depression was noted in 89 (68.5%) patients and 78 (60%) patients respectively. Out 130 TB patients, 40 (31%) patients were normal, mild anxiety was noted in 80 (61%) patients followed by moderate 4 (3%) patients and severe in 6 (5%) patients. Mild depression was found in 60 (46%) patients, moderate in 8 (6%) patients and severe in depression was noted in 8 (6%) patients. In one study, depression was present in about 80% of the hospitalized TB patient. It was more common in males about 86%, while in the females it was about 71%. According to age, young and elderly patients were found to be more affected. Majority of the TB patients had moderate depression.[20] In one study by Ige et al, depression was noted in 45.5% patients which was higher than our findings.[12]Aghanwa et al found 52.5% with depression.[21] One hundred black hospitalized tuberculosis (TB) patients (75 males and 25 females) were interviewed to ascertain levels of depression and self-esteem. This study reported depression in 68% patients.[22] However, in terms of severity, our findings contrast with those of Natani *et al* who found that only 8% of TB patients were severely depressed.[12] In an Indian study, A total of 106 patients participated in the study, of which 61 (57.5%) were males. The median age was 30 years (inter-quartile range 24-40 years). Depression was found to be present in 25 (23.6%) participants. A higher proportion of patients with depression were unemployed currently, and also belonged to middle or lower class ($P < 0.05$). Depression was not found to be associated with religion, gender, marital status, HIV status, presence of diabetes, DOTS category nor with the phase of treatment.[23]

CONCLUSION

Results of present study showed a higher rate of anxiety and depress in TB patients. 41-60 years age group was the most common age group. But age of the TB patients was not significantly associated with development of anxiety and depression. Most of the TB patients were male. Area of residence was significantly associated with development of anxiety and depression.

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