

Prevalence of Depression and Anxiety among Patients of Pulmonary Tuberculosis in Outpatient TB Clinic of Bahawalpur Medical and Dental College, Bahawalpur

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ABSTRACT

Objective: The objective of this study is to assess the prevalence of anxiety and depression among patients of pulmonary TB in Bahawalpur City, Punjab, Pakistan where such a study has not been done previously and may prove advantageous in constructing strategies to ensure coordination between physicians, psychiatrists and psychologists in managing both physical and psychological aspects of pulmonary TB leading to overall improved quality of life.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the Outpatient TB Clinic of Bahawalpur Medical and Dental Hospital, Bahawalpur, Pakistan for a period of 10 months from 1st December, 2021 to 30th August, 2022.

Materials and Methods: Patients aged 18 to 60 years with lab diagnosed primary pulmonary TB receiving anti-TB treatment for less than 3 months were included. Depression and anxiety were assessed by HADS scoring (Hospital Anxiety and Depression Scoring). A cut-off score of 11 or greater was considered clinically significant depression and anxiety. Data analysis was done by Statistical Packages for Social Sciences (SPSS) version 22.0. The frequencies of patients were noted and chi square test was applied.

Results: The relative frequencies of depression and anxiety are 240 (60%) and 224 (56%). Depression was present in 137 (62.2%) males and 117 (65%) females with a p – value of 0.537. Anxiety was found in 128 (58.2%) males and 115 (63.8%) in females with a p- value of 0.2449.

Conclusion: Depression and anxiety are quite prevalent among patients with TB, irrespective of gender.

Key Words: Pulmonary Tuberculosis, Depression, Anxiety, Gender, Prevalence

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INTRODUCTION

Tuberculosis is a chronic Mycobacterial infection which causes a multitude of pulmonary and extra pulmonary symptoms. It is associated with considerable morbidity and deterioration of quality of life. In terms of mortality from infectious diseases, TB is second only to HIV/AIDS worldwide. [1]

TB is highly prevalent in Pakistan owing to poor sanitation, overpopulation, immunosuppression with concomitant HIV/AIDS, rising multidrug resistance and hindrance to timely diagnosis and proper treatment.

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Data from the WHO reveals an estimated 510,000 new cases of TB are recorded annually, ranking Pakistan fifth among high burden countries worldwide. [2]

Among psychiatric disorders, depression has a prevalence of 2.3% to 4.9% among general population throughout the world. [3] Being the largest contributor to non-fatal health loss, the incidence of depression and anxiety increases significantly in patients living with chronic diseases. [4] The severity and chronicity of the illness as well as the debility associated with it are notable determining factors of depression and anxiety among such patients in addition to social stigma and discrimination experienced in society [5]. This is further compounded by the financial and socioeconomic burden of frequent hospitalizations and relapsing and recurring symptoms of the disease.

Patients with TB, in particular, are prone to developing depression and anxiety owing to the naturally debilitating chronicity of the disease, prolonged isolation and undesirable adverse effects of anti-TB drugs. If not adequately managed, it may ultimately result in non-adherence to therapy and worsening prognosis. [6] The bidirectional association between depression and TB is evident by the fact that

inflammatory mediators and disturbance of hypothalamic-pituitary-axis associated with the disease process can further worsen depression and anxiety.^[7] With an incidence of 56% in Pakistan^[8], 74% in Utar Pardesh, India^[9], 41.1% in Nigeria and 61.1% in Cameron^[8], the concomitant diagnosis and appropriate management of anxiety and depressive disorders is of utmost importance in patients of TB. Multidisciplinary approach to develop collaboration between physician, psychiatrists and psychologists can prove beneficial in managing depression and anxiety as comorbidities in patients of TB as well as improving the overall quality of life.^[8]

MATERIALS AND METHODS

A cross sectional study was carried out at the outpatient TB clinic of Bahawalpur Medical and Dental Hospital, Bahawalpur, Pakistan from 1st December, 2021 to 30th August, 2022. The sample size was 400, taking frequency as 56% based on a previous study conducted at Pir Syed Abdul Qadir Shah Jeelani Institute of Medical Sciences, GAMBAT, kairpur, mirs, Sindh, Pakistan. P-value was 56% +/- 5 with an absolute precision of 5%. Permission was taken from the Ethical Review Committee of the institute before the start of study.

Informed consent was taken from patients before enrollment. All the patients of both genders aged 18 to 60 years having lab diagnosed primary pulmonary TB receiving anti-TB treatment for less than 3 months were included. Unwilling patients, patients with comorbidities such as Diabetes, Hypertension, malignancy, relapsed or remittent cases and patients receiving anti-TB treatment for 3 months or more were excluded from the study. Uneducated patients included those who didn't qualify primary education. Depression and anxiety were assessed by HADS scoring (Hospital Anxiety and Depression Scoring) which uses a questionnaire having 7 components each for anxiety and depression and a total score of 21. A cut-off score of 11 or greater was considered clinically significant for depression and anxiety. Data analysis was done by Statistical Packages for Social Sciences (SPSS) version 22.0. The frequencies of patients were noted and chi square test was applied to the data. A P value of less than 0.05 was considered significant.

RESULTS

Out of the 400 participants, 220 (55%) were males and 180 (45%) were females. The relative population of married and unmarried were 207 (51.75%) and 193 (48.25%). The majority of patients (296) were uneducated with a percentage of 74%, while 104 (26%) were educated. A significant population (145) was unemployed with a percentage of 36.25%, while 56 (14%) were employees, 84 (21%) were farmers, 58

(14.5%) were businessmen and 57 (14.2%) were students as show in Table 1.

As shown in bar graph 2, the relative frequencies of depression and anxiety are 240 (60%) and 224 (56%). Table 3 shows the incidence of depression and anxiety among males and females. Among males, depression was present in 137 (62.2%) patients and anxiety was found in 128 (58.2%).

Table No.1: Demographic characteristics

Demographic Data	N (%)
Gender	
Male	220 (55%)
Female	180 (45%)
Marital Status	
Married	207 (51.75%)
Unmarried	193 (48.25%)
Education	
Educated	104 (26%)
Uneducated	296 (74%)
Occupation	
Employed	56 (14%)
Unemployed	145 (36.25%)
Farmer	84 (21%)
Businessman	58 (14.5%)
Student	57 (14.2%)

Table No.2: Frequency of depression and anxiety among patients of primary pulmonary TB based on HADS scoring

Depression/Anxiety	Present	Absent	Total
Depression	240 (60%)	160 (40%)	400
Anxiety	224 (56%)	176 (44%)	400

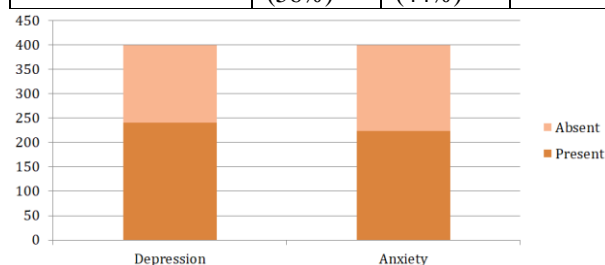


Figure No.1: Frequency of depression and anxiety.

Table No.3: Bar graph showing relative frequencies of depression and anxiety in patients of pulmonary TB based on HADS scoring

Psychological Factor	Males		Females		p - Value
	Present	Absent	Present	Absent	
Depression	137	83	117	63	0.5730
Anxiety	128	92	115	65	0.2449

In females, the relative frequencies of depression and anxiety were 117 (65%) and 115 (63.8%) respectively.

For depression, chi squared equals 0.318 with 1 degree of freedom and a p value of 0.537, thus the relation is non-significant. For anxiety, chi squared equals 1.352 with 1 degree of freedom and a p value of 0.2449 which is also non-significant.

DISCUSSION

In this study, the frequency of depression and anxiety is 60% and 56% which is very close to a previous study conducted in Pakistan in 2021^[8] where the frequencies were 62% and 59% respectively and also similar to a study conducted in Southwest Ethiopia in 2020 where the relative frequencies were 55.9% and 54.6% respectively.^[10] However, this prevalence is higher than another study done in Pakistan in 2008 where the frequencies of depression and anxiety were 46.3% and 47.2%^[11] and a study conducted in Romania in 2021 where the prevalence of anxiety and depression in patients suffering from rifampicin-resistant TB was 46% and 43% at baseline and 50% and 39% at follow up.^[12] The prevalence was lower than in a study conducted in Utar Pardesh, India in 2016 where 74% patients suffered from psychiatric symptoms.^[9] This shows a considerable rise in psychiatric morbidity associated with pulmonary tuberculosis in the past decade owing to the mounting socioeconomic and population burden along with more focus on psychological illnesses as consequential comorbidity associated with chronic illnesses. A similar study conducted in Brazil showed the prevalence of depression 60.5%, similar to our study; however, the incidence of anxiety was 26% which is much lower than the level observed in our study.^[13]

This study shows that there is no statistically significant difference in the incidence of psychiatric comorbidities among male and female patients. This observation was also seen in a study conducted in Ethiopia where the incidence of anxiety among TB patients was almost comparable.^[1] However, this is in contrast to the study conducted in Utar Pardesh India where males had a much higher incidence of psychiatric symptoms than females^[9]. Females were more affected than males in a study conducted in Peshawar, Pakistan^[14] and it was also found to be highly prevalent in female TB patients in a study conducted in China.^[15]

CONCLUSION

Depression and anxiety are quite prevalent among patients of TB irrespective of gender.

Recommendations: As depression and anxiety are extremely common in TB patients, we should evaluate them during the initial appointments and refer them to psychologists as necessary. Since financial hardship and isolation are the main causes, actions should be taken to assist the patient financially and offer social support through support groups. Psychological issues

should be addressed because they might cause non-compliance, which is one of the main causes of relapse.

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