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"SOCIODEMOGRAPHIC PROFILE AND PSYCHIATRIC MANIFESTATIONS AMONG TUBERCULOSIS PATIENTS DURING THE COURSE OF TREATMENT: AN OBSERVATIONAL CROSS-SECTIONAL STUDY"

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Abstract

Introduction- Despite the availability of treatment and a vaccine, tuberculosis continues to be a public health problem worldwide. Tuberculosis (TB) infection interferes with the health-related quality of life, including physical, social, mental, emotional and financial domains of individuals. Mental disorders might contribute to the burden of the disease and its outcome. The goal of this study is to assess the most frequent psychiatric issues encountered by TB patients. Our findings identify research gaps that could help bridge the overall treatment outcomes in the near future.
Objective- The objective of this study was to investigate and evaluate common psychiatric disorders among patients of tuberculosis.
Methods- The study was conducted on one hundred sixty patients developing psychiatric symptoms among patients suffering from tuberculosis. Detailed socio-demographic characteristics and psychiatric assessment were recorded in proforma specially designed for the study.
Results- Most of our tubercular patients with psychiatric symptoms 70 (43.75%) were in the age range of 31-50 years, on clinical parameters maximum subjects 62 (38.75%) developed depression followed by acute stress reaction 31(19.37%) and adjustment disorder 26(16.25%) respectively.
Conclusion- Our research results highlighted the need for mandatory screening of depression and various psychiatric manifestations among TB patients, especially the previously treated patients and newly diagnosed patients during the course of treatment, to improve medicine adherence and treatment outcomes. The existence of psychiatric associations may worsen TB case prognoses and increase obstacles to the disease's worldwide control.

Keywords- Tuberculosis, Depression, psychiatric disorders

INTRODUCTION- Despite the widespread use of a live attenuated vaccine and numerous other effective medications, tuberculosis (TB), the oldest human epidemic, continues to be the greatest

cause of mortality among infectious diseases[1]. Robert Koch first recognized Mycobacterium tuberculosis as a pathogen in 1882, and it is the cause of the disease when it enters the lungs through infection. Most occurrences of tuberculosis (TB) are lung-related, that is pulmonary TB. However, tuberculosis can spread to other organs such as lymph nodes, bone, and meninges, resulting in extra pulmonary disease[2]. At present more than 10 million people are suffering from tuberculosis and 1.2 million people died due to this disease and Global tuberculosis incidence has decreased more slowly than anticipated[3]. Additionally, 25% of the world's population has latent TB infection, which creates a significant reservoir for future cases of active TB[4]. These instances are primarily found in developing nations because of poverty, a lack of hygienic living conditions, and inadequate access to healthcare[5]. Behavioral changes among tubercular patients are another issue associated with poverty. The prevalence of mental illnesses is rising, with major negative effects on health as well as major social, human rights, and economic repercussions in every nation linked to higher rates of functional disability and mortality[6] The severity and number of reported symptoms, higher rates of using health services, treatment noncompliance, longer treatment durations, decreased disease control, and mortality are all strongly correlated with emotional distress, which is a significant aspect of tuberculosis[7]. Along with physical manifestations tuberculosis do create mental morbidity, both together hampers treatment outcome and prognosis. Psychiatric symptoms play an important role in overall disability and quality of life in tuberculosis[8]. Therefore, improved outcomes can be obtained by early detection of psychiatric illnesses during the course of tuberculosis.

METHOD: This observational study, with purposive sampling was carried out in the departments of psychiatry and respiratory medicine at GMC Vidisha (MP), included 160 patients who had been diagnosed using ICD-10 criteria and were presenting with psychiatric symptoms among tuberculosis patients. Inclusion criteria- Patients with definite history of recent diagnosis of tuberculosis, and gave informed consent were included in the study. Exclusion criteria- not giving consent, past history of psychiatric illness, severe medical illness, altered sensorium and major cognitive problems were eliminated. Using a semi-structured proforma, the full medical and psychiatric histories of 200 patients who were enrolled in the study were completed, but 40 patients were excluded due to fitting in exclusion criteria. The proforma had a number of characteristics that could potentially be significant and complicate the relationship between tuberculosis and mental disorders, including age, sex, Sociodemographic profile. The patients were evaluated for behavioral disturbances and interviewed for the diagnosis of psychiatric morbidity as per ICD-10 guidelines. Cognitive function was assessed by using Mini Mental Status Examination[9]. also used. The results were subjected to statistical analysis using student's t-test (continuous variables) and chi-squared test (categorical variables) to achieve significant of various clinical variable ($p = <0.05$). Study was analyzed by using SPSS v21 by appropriate statistical analysis.

RESULTS: In the above mentioned study, 160 diagnosed cases of tuberculosis following the inclusion criteria were enrolled in to the study. Patient's socio-demographic variables (age, sex, socio-economic status, occupation, domicile, family type, and education) were studied.

Table 1 shows most of our tubercular patients with psychiatric symptoms 70 (43.75%) was in the age range of 31-50 years. Most of the participants were married 100 (62.5%), Most participants educated up to the tenth grade of schooling 101 (63.3%). Most of patients 101 (63.3%) were hails in rural areas. Most of 60 (37.5%) patients were belonging to lower socio-economic status followed by upper lower 50 (31.5%). Majority of subjects 64 (40%) were unskilled worker followed by Shopowner/ clerical/ Farmer 34(21.25%).

Table 1: Socio-demographic variables in terms of frequency and percentage (N=160)

Variables	Patients (N=160) Number	%
Age (in years)		
10-30	19	11.87
31-50	70	43.75
51-70	50	31.25
>71	21	13.12
Gender		
Male	98	61.25
Female	62	38.75
Marital		
Married	100	62.5
Unmarried	57	35.6
Widowed	3	1.87
Socio economic Status		
Upper	0	0
Upper middle	15	9.37
Lower middle	35	21.87
Upper lower	50	31.25
Lower	60	37.5
Education		
Up to 5^{th}	30	18.75
6^{th} to 10	71	44.37
11^{th} to 12^{th}	40	25
Graduates/ Postgraduates	19	11.87
Total	160	100
Domicile		
Rural	101	63.3
Urban	59	36.8
Total	160	100
Occupation		
Unemployed	24	15
Skilled worker	29	18.1
Unskilled worker	64	40
Shop owner/ clerical/ Farmer	34	21.25
Professional	9	5.6
Total	160	100

In our study pulmonary TB accounts maximum numbers of 129(80.62%) patients while extra pulmonary were 31(19.37%) patients. (table no 2).

Table no 2- pulmonary TB vs. extra pulmonary TB

Tuberculosis type	No of patients (N=160)	Percentage (%)
Pulmonary TB	129	80.62
Extra pulmonary TB	31	19.37
Total	160	100

On clinical parameters maximum subjects 62(38.75%) developed depression followed by PTSD 31(19.37%) and adjustment disorder 26(16.25%) respectively. depression mixed with anxiety

23(14.37%). Rest of patients suffered from SSD 7(4.37%), psychosis 7(4.37%), and suicide in 4(2.5%) patients. shown in Table 3.

Table 3: Incidence of psychiatric manifestations among tuberculosis patients

Psychiatric manifestations	Number(N=60)	Percentage (%)
1. Depression	62	38.75%
2. Depression mixed with Anxiety	23	14.37%
3. Acute stress reaction	31	19.37%
4. Adjustment disorder	26	16.25%
5. Psychosis	7	4.37%
6. Somatic symptoms disorder (SSD)	7	4.37%
7. suicide attempts / suicidality	4	2.5%
Total	160	100%

DISCUSSION:

The current study was intended for hospitalized and OPD based patients in the department of respiratory medicine with consultation liaison with department of psychiatry of GMC Vidisha (MP). Finding the different psychiatric manifestations among patient of tuberculosis was the main goal. The results cannot be extrapolated to a broader population because the study was conducted in a hospital. Likewise other chronic diseases patients with tuberculosis had the higher incidence of psychiatric co-morbidities than in the general population, which is consistent with previous research[8].

SOCIO-DEMOGRAPHIC VARIABLES-

AGE- The majority of patients with psychiatric symptoms 70(43.75%) were in the age group of 31-50 years followed by above 51-70 years group 50(31.25%). 21(13.12%) patients developed psychiatric symptoms in more than 71 yrs of age group. Only 19(11.87%) patients were in the young age group. The present study supports the notion that tuberculosis is a disease of mainly middle age group and is well consistent with results of other researchers[5]. (table 1)

SEX- There was 98 (61.25%) males and 62 (38.75%) females. Previous research has indicated that prevalence of TB in male is more than female with strong evidence that men are disadvantaged in seeking and /or accessing TB care in many settings[10].

MARITAL STATUS- In our study Most of the participants were married 100(62.5%), while 57 (35.6%) patients were unmarried and 3(1.87%) patients was widow. This matched with findings of Solanki et al (2023)[11].

SOCIOECONOMIC STATUS- Most of 60(37.5%) patient was belonging to lower socio-economic status followed by upper lower 50(31.5%). Rest 35(21.87%) and 15(9.37%) belonged to lower-middle and upper middle class respectively[11] (table 1). This simply seems to be due to the socioeconomic structure of the community in this region and linked mostly to the lower to middle class.

EDUCATION- In our study most participants educated up to the tenth class 101(63.3%). While 40 (25%) patients educated up to 11-12th class and 19(11.87%) were graduates and postgraduates.

DOMICILE- The majority of our patients 101(63.3%) hailed from rural areas while 59 (36.8%) were from urban areas (table 1). This is due to rural dominance in this subcontinent and is a confounding variable to indicate a high incidence TB in rural areas[8].

OCCUPATION- Majority of subjects 64(40%) were unskilled worker followed by Shop owner/ clerical/ Farmer 34(21.25%). 29(18.1%) of patients were skilled and 24(15%) unemployed (table 1). The majority of males were unskilled while females were a housewife[11].

DEPRESSION- In the present study, the incidence of major depression among TB patients was 62(38.75%) (table 2). Gleide Santos et al (2014) also reported common mental disorders varies 20-30% among tuberculosis patients[5].
Depression is a mental disorder that manifests with depressed mood, loss of interest or pleasure, decreased energy, state of mind of guilt or low self-worth, disturbed sleep or appetite, and lousy concentration. The incidence of depression is high amongst people with chronic disease[12]. Marcus et al stated that depression accounts for 4.4% of total disability-adjusted life-years worldwide and is estimated to affect 350 million people[13]. Men in middle age group mostly have depression. Therefore, it can be said that men are more likely than women to experience sadness because of their higher responsibility for their families, their financial situation, and their increased awareness of their disabilities. Considering that there is no distinction in serious depression according to sex[8].

ADJUSTMENT DISORDER- In our study 26(16.25%) patients suffers from adjustment disorder. Other researchers also stated that, the psychological adjustments to illness by a patient are negatively influenced primarily by the negative perceptions that family members and other people within the society might hold about TB. And that impacts behavioral changes amongst patients who already suffering from chronic disease[14].

ACUTE STRESS REACTION -In our study 31 (19.37%) patients had acute stress reraction. Any time diagnosis of TB leads some stress reaction and causes psychological trauma to a patient. This further associated with poor outcomes. Karl et al also had similar findings and stated that some factors can predict PTSD like poverty, residing in urban areas, psychological distress, suicide attempts, alcohol/ substance use unprotected sex etc[15].

DEPRESSION MIXED WITH ANXIETY- In present study 23 (14.37%) patients had depression mixed with anxiety. depression frequently associates with anxiety symptoms. Anxiety is a broad, subjective, non-specific feeling of unease, tension, apprehension, fears, and an overwhelming sense of impending doom. It can also manifest as an anxiety attack, irrational avoidance of situations or items, and tension[16]. Additionally, anxiety can arise in the context of a medical condition and is linked to a lower quality of life and functioning. It is a common reaction that follows the onset or recurrence of respiratory illness[17]. But in low- and middle-income nations, the majority of people with mental health issues is not identified or receives inadequate treatment[18].
In our study 7(4.37%), patients suffered from somatic symptoms disorder (SSD).Neurotic anxiety reaction also explained by M B Pecyna et al (1989) among tuberculosis patients[19].
In present study 7(4.37%), patient had psychosis, this could be due to some medications during course of treatment or TB itself precipitates psychosis. Some anti-tubercular medicines like Isoniazid and ethambutol Cycloserine may cause psychosis also supported by many researchers[20].
In present study 4(2.5%) patients had suicidal/ suicidality, also matched with others researchers findings. One of the main causes of death in the world is suicide and suicidality. Suicidality is prevalent in both industrialized and developing nations, yet outside of mental health or psychiatric settings, it receives little attention. Remarkably little study has been done on the connection between TB and suicidality or suicide. In light of these circumstances, the article by Peltzer and Louw in this issue addresses a gap in the literature regarding the relationship between suicide[21, 22, 23.]

CONCLUSION-
Our research results highlighted the need for mandatory screening of depression and various psychiatric manifestations among TB patients, especially the previously treated patients and newly

diagnosed patients during the course of treatment, to improve medicine adherence and treatment outcomes. The existence of psychiatric association's may worsen TB case prognosis and increase obstacles to the disease's worldwide control. The integration of mental health programs within TB control initiatives is recommended, as is the endeavor to raise public knowledge of the significant prevalence of common mental health issues among TB patients and the potential consequences for treatment outcomes. Primary health units can use psychological morbidity screening programs. These investigations will clarify the implications for treatment compliance and offer suggestions for raising cure rates.

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