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Original Research Article

Prevalence of depression among tuberculosis patients

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Abstract: When the TB and depression coexist, the risk for developing co-morbidities, suffering of patients and associated costs escalates. Aim of this study was to determine the prevalence of and risk factors for depression among TB patients. A semi-structured, pre-designed questionnaire were used to assess socio- demographic profile of study subjects, using Beck's Depression Inventory assessed controls and prevalence of depression. Patient who did not give consent and patients who were already diagnosed as case of depression and were undergoing treatment for depression prior to onset of TB were excluded. Prevalence of depression among tuberculosis patients was found to be 50%. Majority (85.9%) of patients had pulmonary TB. Treatment category I was prescribed for 70% of patients. The study highlighted older age, extensive pathology, unmarried status and lack of social support as risk factors for depression in patients. Findings are similar to those reported in other studies. In conclusion, depression is highly prevalent among patients in treatment for TB, most particularly among elderly, those with extensive disease, those from nuclear family and those who are unmarried.
Keywords: Depression, Tuberculosis (TB), Directly Observed Treatment Short Course (DOTS).

INTRODUCTION

Chronic infections and psychological problems have a complex relationship. Tuberculosis (TB) is chronic disease and there are very high chances of existence of various psychological problems in TB patients [1]. Tuberculosis is a specific infectious disease caused by M. tuberculosis. The disease primarily affects lungs and causes pulmonary tuberculosis. It can also affect intestine, meninges, bones and joints, lymph glands, skin and other tissues of the body. The disease is usually chronic with varying clinical manifestations [2, 3].

India accounts for nearly one-third of global burden of tuberculosis. Every year, approximately 1.8 million persons develop tuberculosis of which about 0.8 million are new smear positive highly infectious cases and about 4.17 lakh people die of TB every year, one person dies every minute, and about 1000 people die every day [4, 5]. Tuberculosis (TB) remains a leading cause of morbidity and mortality throughout the world. India produces maximum new cases of TB each year than any other country in the world and accounts for one-fourth of global TB burden. Annual risk of TB infection in northern part of India is 1.9%. It corresponds to 258 cases of TB per lac population. As with psychiatric illness, tuberculosis also carries social stigma in India. Few sections of society consider it to be incurable and the patient is subjected to psychological trauma once he or she is diagnosed to be a TB patient. It is highly likely that this trauma may predispose them to higher risk of developing psychiatric illnesses. There are high chances of psychological problems in patients of tuberculosis [6].

Anxiety and depression are the most frequently occurring psychiatric disorders in general population. Depression, among the other psychiatric morbidities, has a lifetime prevalence of 10% [7, 8]. It has point prevalence of 2.3% to 4.9% in the general population. A

disease condition increases the possibility of depression in a patient. It is estimated that 20% of patients with somatic disease suffer from major depression [9]. Chronic disease including tuberculosis increases comorbidity with mood and/or anxiety disorders. Usually, the more serious the somatic disease is, the more probable it will be accompanied by mood and/or anxiety symptoms of variable severity. Failure to manage such mental health problems increases the patients' probability of suffering from complications, even lethal. The lifetime prevalence of mood disorder in patients with chronic disease is 8.9% to 12.9%, with a 6-month prevalence of 5.8% to 9.4% [10].

According to Global Burden of Disease (GBD) study, depression is the fourth most important cause of global disability- adjusted life years (DALY) [11]. It is predicted to advance to second most important cause by year 2020 [12]. Many a times, it is associated with other medical conditions, which may worsen if the patient is depressed, and risk of suicide exists [13]. When the TB and depression coexist, the risk for developing co-morbidities, suffering of patients and associated costs escalates. Therefore, it is relevant to establish prevalence of depression in tuberculosis patients.

OBJECTIVE

To assess the prevalence of depression in tuberculosis patients registered in DOTS centers.

MATERIALS & METHODS

Research Design: - Descriptive study.

Sample: - Patients with TB were attending DOTS centers.

Inclusion Criteria: - All TB patients attending DOTS centers who consented for study

Exclusion Criteria: -Patient who did not give consent and patients who were already diagnosed as case of depression and were undergoing treatment for depression prior to onset of TB.

Sample Size: - 106 TB patients. Sample size calculated by assuming percentage of depression in TB patients to be 48%, absolute error of 10% and taking 10% as non-response rate.

Tools: - A semi-structured, pre- designed questionnaire were used to assess socio- demographic profile of study subjects, controls and prevalence of depression will be assessed by using Beck's Depression Inventory.

Statistics: - Appropriate statistical package was used for analysis of data.

RESULTS AND DISCUSSION

One hundred six TB patients were included in study. Majority (49.1 %) falls in age group of more than 40 Years and majority (79.2 %) were male patients. About 67 % were married and majority (57.5 %) resides in rural area. A large proportion (72.6 %) belongs to joint family (Table 1).

Table 1: Correlation of depression with general profile of patient

Sr. No	Variable	Category	Number of TB Patients	No. Depressed	Percentage
1.	Age (Years)	15-25	17	8	15.1
		26-40	37	12	22.6
		>40	52	33	62.3
2.	Sex	Male	84	36	67.9
		Female	22	17	32.1
3.	Marital status	Married	67	22	41.5
		Unmarried	39	31	58.5
4.	Residence	Urban	45	30	56.6
		Rural	61	23	43.4
5.	Caste	SC	23	14	26.4
		OBC	31	15	28.3
		GC	52	24	45.3
6.	Type of family	Joint	77	41	77.3
		Nuclear	29	12	22.7
7.	Income	<3000	55	26	49.0
		3000-10000	27	13	24.5
		>10000	24	14	26.5

Majority (85.9 %) of patients had pulmonary TB. Treatment category I was prescribed for 70 % of patients (Table 2)

Table 2: Correlation of depression with duration and severity of illness

Sr. No	Variable	Category	Number of TB Patients	No Depressed	Percentage
1.	Type of TB	Pulmonary Sputum Positive	46	27	51.0
		Pulmonary Sputum Negative	45	19	35.8
		Extra Pulmonary	15	7	13.2
2.	Category of TB	Cat I	72	28	52.8
		Cat II	25	18	34.0
		MDR	9	7	13.2
3.	Duration of Treatment	<2 Months	33	19	35.8
		2-4 Months	49	18	34.0
		>4 Months	24	16	30.2

Depression was observed in 50 % of patients more among elderly (62.4 %), males (67.9%) and those from poor strata living in rural areas (Table 1). Depression was also found to be more (86.8 %) in patients with pulmonary TB (Table 2). This study, which was aimed at determining the prevalence of and risk factors for depression among TB patients and reported a prevalence of 50 % among patients. The study also highlighted older age, extensive pathology, unmarried status and lack of social support as risk factors for depression in patients. Findings are similar to those reported in other studies.

This study has a number of limitations, which must be addressed. A regression analysis was not carried out. Some of the factors associated with depression in TB patients such as unmarried status and older age are also associated with depression in non-TB patients, thus interpretation of the finding from this study needs great caution. Future studies needs to take these confounding factors into consideration.

CONCLUSION:

In conclusion, depression is highly prevalent among patients in treatment for TB, most particularly among elderly, those with extensive disease, those from nuclear family and those who are unmarried.

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