Prevalence of Addiction among Tuberculosis Patients

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Abstract

Background : India accounts for about a quarter of the global TB burden. Worldwide India is the country with the highest burden of both TB and MDR TB. Smoking and alcohol use results in sub-optimal response to anti tuberculosis treatment as well as poor prognosis Alcoholism and Nicotine abuse contribute significantly to the development and treatment course of tuberculosis in patients. Aim of the Study: To assess the Prevalence of Nicotine and Alcohol Addiction among Tuberculosis Patients and to monitor the effect of Brief Counselling Sessions for the De-addiction of Alcohol and Nicotine in the management of Tuberculosis Patients. Material & Methods: We had taken the tuberculosis patients coming to the OPD of Medicine and Respiratory Medicine Departments of DrRMLIMS, Lucknow. We used questionnaires for assessing the Nicotine Dependence and Alcohol dependence among the tuberculosis patients (Fagerstrom Tolerance Questionnaire), The Alcohol use disorders Identification Test (AUDIT). Results: Prevalence of Addiction among tuberculosis patient-54 cases out of 447 total cases (April to October). In our study, we found addiction in 45 males and 9 females, Smoking addiction was seen in 13 tuberculosis patients, alcohol addiction was found in 17 tuberculosis patients, and both smoking and alcohol addiction was seen in 24 patients. Conclusion: Nicotine and Alcohol Addiction problem in Tuberculosis patients should be effectively assessed through the nicotine addiction and AUDIT scales and Brief Cognitive Therapy should be introduced along with regular ATT for effective management of such patients.

Keywords: *Fagerstrom Tolerance Questionnaire, The Alcohol use disorders Identification Test(AUDIT), Brief Cognitive Therapy.*

Introduction

Addictions for Alcohol and Nicotine are the major and significant culprits having a detrimental effect on the health and quality of life of young adults especially in a developing country like India, where the enormous number of young population constitutes as the major internal resource of the otherwise not so rich country. At the same time India accounts for about a quarter of the global TB burden. Worldwide India is the country with the highest burden of both TB and MDR TB. The various risk factors associated with development of tuberculosis include diabetes, smoking, alcohol use and other drugs abuse which result in sub-optimal response to anti tuberculosis treatment as well as poor prognosis with the development of complications leading to simultaneous co morbidities. Many factors contribute significantly to this problem of alcoholism and nicotine abuse among the tuberculosis patients. The inability of today's youth in handling the occupational and environmental stresses along with the social stressors of expectations for excellence in every examination, colleague competition, and emotional stressors caused due to insufficient time to fulfil family liabilities on every occasion creates a disturbed and evading personality. Consequently, alcohol and drugs appear as temporary stress relievers to help in escaping these challenges and simultaneously giving a false sense of well being. Unfortunately, the transition from being a user to an abuser is very gradual and subtle, thus leading to development of various addictions among them. Subsequently these addictions have a devastating effect on the already compromised health status of these patients. Therefore we need to introduce monitoring of extent of alcohol and nicotine addiction and its contributory factors leading to addiction development. This may help in prevention and early management and treatment of tuberculosis patient.

A number of studies have been done on tuberculosis

patients who have concurrent nicotine and alcohol abuse addiction 1. Babor et al., 2007; has emphasized on the alcohol screening, treatment and referral as a crucial part of primary health care in developed countries[2].

Excess alcohol use was common among patients with TB, and was associated with TB transmission, lower rates of sputum culture conversion, and greater mortality [3,4]. The primary objectives of our study were as follows-

1. To assess the Prevalence of Nicotine and Alcohol Addiction among Tuberculosis Patients

2. To monitor the effect of Brief Counselling Sessions for the De-addiction of Alcohol and Nicotine in the management of Tuberculosis Patients

The secondary objectives of our study were to cover the ethical issues in tuberculosis care5.

Material and Method

We had taken the tuberculosis patients coming to the OPD of Medicine and Respiratory Medicine Departments of Ram Manohar Lohia Institute of Medical Sciences, Lucknow. The recently diagnosed cases of tuberculosis as well as those patients who were undergoing treatment for tuberculosis were assessed in our study. We used questionnaires for assessing the Nicotine Dependence and Alcohol dependence among the tuberculosis patients. For the above purpose we used the following survey instruments for our research-

1. Nicotine Dependence Questionnaire (Modified Fagerstrom Tolerance Questionnaire)6

2. Smokeless Tobacco Dependence Scale

3. The Alcohol use disorders Identification Test(AUDIT)Interview version and

4. The Alcohol Use Disorders Identification Test (self report version).[7]

Only those patients who were willing to participate in the research voluntarily were included in our study. The willing patients were given 30 minutes to complete and return the questionnaire. We also noted the demographic data of the patients of our study including the Age, Sex, educational status, and occupation of tuberculosis patients.

. They were divided into three groups on the basis of their addictions-

- TB with smoking only
- TB with alcohol only
- TB with smoking and alcohol addiction

Tuberculosis patients with addictions for alcohol and nicotine were further divided into two categories on the basis of type of treatment given. Patients were given one of two randomized treatments:

1. Brief counselling intervention(BCI) + TB medication regime(TAU)

2. TB medication regime alone (TAU)

Brief counselling sessions of 10-15minutes for treatment of alcohol and nicotine addictions

We included all the newly diagnosed as well as old cases of pulmonary tuberculosis in the age range of 18-80 years which were having symptoms of PTB, Positive smear, Chest radiograph showing active disease, the patients who give their written consent for participation in the study

We excluded those patients who refused to participate in the study, those patients who are HIV +ve, those patients having cardiovascular disease, diabetes mellitus or any other severe disease, those patients who are taking immune suppressants, those patients who failed to complete the questionnaire or did not return the questionnaire on time, Pregnant females.

Observations

We came across 447 cases of tuberculosis during the six month period that is April 2019 to October 2019. Out of the detected tuberculosis patients, addiction was found positive among 54 patients.

Table-1: Prevalence of Addiction among tuberculosis patient-54 cases out of 447 total cases (April to October)

S.no	Addiction	Male	Female	N(%)
1	Addiction present	43	11	54
2	No Addiction	277	116	393
	Total	320	127	447

In our study, we found addiction in 45 males and 9 females

Table 2: TUBERCULOSIS WITH ADDICTION

S.NO	AGE GROUP	MALE	FEMALE	NUMBER(n)(%)
1	18-25 yrs	15	1	16
2	26-40 years	14	3	17
3	41-50 years	9	2	11
4	51-65 years	4	1	5
5	66 -80 years	2	1	3
6	>80 years	1	1	2
	Total	45	9	54

Smoking addiction was seen in 13 tuberculosis patients, alcohol addiction was found in 17 tuberculosis patients, and both smoking and alcohol was seen in 24 patients

Table -3: Type of Addiction in Tuberculosis Patients

S no.	Addiction	Male	Female	Number (%)
1	TB with smoking only	8	5	13
2	TB with alcohol only	15	2	17
3	TB with smoking and alcohol addiction	22	2	24
		45	9	54

Table-4: Education status of Tuberculosis patients with Addictions

S no	Education status	Male	Female	Number (%)
1	Illiterate	2	1	3
2	Read and write only	5	3	8
3	Eighth grade	14	3	17
4	Tenth grade	15	2	17
5	Twelfth grade	6	-	6
6	Graduate	3	-	3

	Total	45	9	54

Table -5: Occupation of Tuberculosis Patients with Addiction

S no.	Occupation	Male	Female	Number(n)%
1	Farmer	21	-	21
2	Govt job	5	-	5
3	Cook	10	1	11
4	Self employed	9	-	9
5	Homemaker	-	8	8
	Total	45	9	54

Discussion

We have studied 447 cases of tuberculosis during the 6 months period, out of which addiction was found in 54 cases (12.08%). About 12% cases reported history of addiction which is considerably less than the findings of Gegia M et al and Khan AH et al in their respective studies on smoking and treatment outcomes.[8,9].

Thomas B. in her study on association of smoking and alcohol use disorder with Tuberculosis treatment outcomes observed that 65% males were associated with smoking and AUD with Tuberculosis. In our study, there were 45 males (83.3%) and 9 females (16.6%) who had addiction of smoking and alcohol .This number is considerably higher than the findings of similar studies, the reason may be citied as underreporting of actual addiction status by the patients in the previous studies.[10,11,12]

Maximum cases were seen in the most productive age group that is18 to 40 years age group (61.1%),The mean age was found to be 22 years (IQR:18-40).It was followed by 41-50 group with 20.3% cases. Thomas B et al found the mean age to be 38 years 1 . Geriatrics group reported only 5 cases (9.25%).The possible reason could be restricted resources in the form of money and mobility leading to increasing dependency on others with age.

The most common addiction that we encountered in our research was a combination of smoking and alcohol with accounting to 44.44% cases. Smoking also included the smokeless tobacco consuming individuals, mainly in the form of Gutkha and Kheni. Basically the majority of the population that comes to a government hospital comprises of the rural strata where physical labour is the only way to earn a living. The reason behind chewing tobacco or smoking bidis could be somewhat linked to continuous pressure and hard ways of life with most of the hours being spent working in the fields in the hot weather. Alcohol use was fairly common in the tuberculosis with 31.48% cases admitting to alcohol only addiction. Only two females confessed about drinking alcohol that too occasionally. This could easily be understood as in our society there is huge stigma attached to alcohol consumption by the females. Both the females who admitted to alcohol consumption were widows and belonged to the geriatric age group. This could be attributed to the fact that increasing age with fewer family obligations makes a person more carefree, and ignorant to society norms of rights and wrongs.

The male patients who reported Alcohol consumption, admitted to taking around 2 drinks at a time. Soh AZ. et al observed that more than 2 drinks per day with were associated with a risk of development of active tuberculosis.13 Lewis JG et al and Brown KM et al also deduced the similar association of alcohol consumption and smoking habits in development risk of Tuberculosis.14,15 Silva D. et al found that alcohol consumption were associated with an increased risk of tuberculosis when accompanied by smoking which is another risk factor for the development of active tuberculosis.[16]

Nicotine addiction alone in the form of smoking as well as smokeless tobacco chewing was observed

in 24.07% cases with 8 males and 5 females. Among the females, 4 gave a history of chewing tobacco once or twice in a day whereas one confessed of smoking husband's bidi secretly, two three times a day. All the males who gave a positive nicotine addiction history admitted to taking cigarettes, bidis as well as tobacco chewing.

Hermosilla S. et al in their study on Risk factors of Tuberculosis found that Alcohol abuse influences the incidence, clinical evolution and outcome of Tuberculosis [17]. According to Fiske CT et al and Jakubowiak WM et al in their respective studies observed that such patients were not only more infectious but were often associated with higher rates of treatment default and relapse of disease [18,19].

We also tried to analyse the indirect factors such as education status and occupation link with Tuberculosis and addiction cases. However, no conclusive evidence in the form increased susceptibility could be derived from such findings.

Addictions were commonly seen in the eight pass and tenth pass group showing 31.4% of the patients. It declined with education, such that the Intermediate pass and the graduates showed 16.66% cases. Surprisingly, the illiterates and the read and write group also projected a lower incidence of addiction along with Tuberculosis.

Talking on the occupational front of our research sample, we found that majority of male patients were farmers. This again could be linked to the fact that mainly rural population visit the government hospitals in our country. The females were mainly homemakers. One alarming fact that needs to be specifically mentioned here is that there were 20.3 % patients whose primary occupation was being a cook. On a brighter side, these individuals responded positively to brief counselling sessions and were very much motivated for completing their Tuberculosis treatment regime. Only five patients were in government jobs, pointing towards the scarcity of government jobs in our society.

Conclusion

In our research we intended to find out the prevalence of Nicotine and Alcohol addiction among Tuberculosis patients. Though we were able to assess a sizable number of patients having addiction, we failed to assess the definitive role of Brief Cognitive Behavioural Therapy in the treatment course of Tuberculosis patients. Although we focused on the brief counselling sessions for de-addiction to nicotine and alcohol at our initial contact with the patient, we could not ascertain their effect due to poor compliance in follow ups by the patients.

However, we strongly believe and recommend intervention in the Tuberculosis management to introduce brief CBT along with ATT regime.

This would help to tackle the nicotine and alcohol use and thus help in treatment as well as prevent relapse and recurrence of the disease. The health care providers should be trained to assess and apply the nicotine addiction scale and AUDIT scale.

Ethical issues in the study and plans-None

Time line-The total duration of the study will be six months

Budget-Nil

Conflict of Interest- None

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