Original Article

Causes of Default amongst Tuberculosis patients under RNTCP: A Retrospective Analysis of 1745 Tuberculosis Patients

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Abstract

Introduction

The World Health Organization (WHO) declared tuberculosis (TB) a global public health emergency in 1993 and since then intensified its efforts to control the disease world wide. Poor compliance with tuberculosis (TB) treatment has reportedly been cited as one of the major obstacles which have led to spread of TB and development of multi-drug resistant and chronic TB. The objective is to investigate factors contributing to treatment non-adherence among patients on TB treatment, the results of which might help us to design intervention, that would promote compliance.

Material & Methods:

All TB patients admitted to the Institute were interviewed regarding the past history of ATT. As per the RNTCP guidelines, we defined defaulter as patient who had interrupted ATT for more than 2 months.All the interviewed patients had taken ATT at RNTCP DOT sites. Patient taken ATT from private institute were excluded.All the defaulted patients were then interviewed in details In addition to the personal and socio-demographic data, treatment history was recorded in details along with reasons for stopping treatment.

Results:

Among 1745 TB patients, 135(7.7 %) were found to have a past history of ATT interruption. The highest number of treatment interrupters were in the age group 21 to 50 years(n.=103), constituting nearly 76.29% of all the patients studied. The most common reason stated was ATT-induced side effects (42.2%) a feeling of early improvement (33.3%) and followed by Migration for work (9.6%).

Conclusions:

we conclude that the most common cause of defaulters amongst tuberculosis patients are adverse effects, feeling of early improvement and migration.

Keywords: Poor-compliance, tuberculosis, default ATT

Introduction

India is the highest TB burden country accounting for one fifth (21%) of the global incidence (Global annual incidence estimate is 9.4 million cases out of which it is estimated that 2 million cases are from India). India is 17th among 22 High Burden Countries in terms of TB incidence rate[1]. It remains a major public health problem in the world with approximately 9.27 million new cases reported in 2007 and around 1.7 million deaths occurring each year[2]. The World Health Organization (WHO) declared tuberculosis (TB) a global public health emergency in 1993 and since then intensified its efforts to control the disease world wide[3]. The therapeutic regimens given under direct observation as recommended by WHO have been shown to be highly effective for both preventing and treating TB[2] but poor adherence to anti-tuberculosis medication is a major barrier to global control. TB is a communicable disease requiring prolonged treatment, and poor adherence to a prescribed treatment increases the risk of morbidity, mortality and spread of disease in the community.

Factors associated with patients for poor compliance reported in the pre-DOTS (Directly

Observed Treatment Short-course) era were relief from symptoms, adverse reactions to drugs, domestic and work-related problems[4].Adherence to the long course of TB treatment is a complex, dynamic phenomenon with a wide range of factors impacting on treatment taking behaviour. Many studies have been conducted across the world to study the reasons for default from ATT[5,6], and some are also reported from India (mostly done under RNTCP setting)[7-10]. So the present study was conducted to identify the reasons for discontinuation of Anti-Tubercular Treatment (ATT) among patients admitted in an Institute catering to a heterogeneous population.

Material & Methods

All the indoor TB patients apart from Dept. of TB/Medicine from Govt. Medical College, Yavatmal during September 2010 to August 2012 were interviewed regarding the past history of ATT and whether they had ever interrupted their treatment for two months or more anytime. For the purpose of this study, any patient

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suffering from TB (PTB/EPTB) at the time of interview, and also with a past history of treatment default was said to have interrupted treatment, which was defined as ATT intake of more than a month, with a gap of more than two months between two courses of ATT. Patients who gave a history of treatment interruption as defined above were enrolled for the study. All these patients were then interviewed in detail. In addition to the personal and socio-demographic data, treatment history was recorded in details along with reasons for stopping treatment.

Results

Among these 1745 TB patients, 135(7.7 %) were found to have a past history of ATT interruption and were included in the study. Among total 135 interviewed patients, 122 (90.9%) were males and 13 (9.1%) were females. The highest number of treatment interrupters were in the age group 21 to 50 years (n=103), constituting nearly 76.29% of all the patients studied, while only 4.44% were below the age of 21 years. Of the 315 patients interviewed, 107 patients were residents of 78.51 % Urban area, while remaining were from rural area. 13 cases suffered from HIV, 6 cases were of extra-pulmonary Tuberculosis (EPTB) pleural effusion; while one had military tuberculosis as well as HIV. Sputum microscopy for acid fast bacilli was positive in 83 (61.5 %) cases while 52 (38.5%) cases had negative results**. (Table1)**

Table No. 1: Characteristics of Defaulters (n=135)

Characteristics of Defaulters		No.	Percentage (%)
Age group (years)	<20	6	4.5
	21-30	35	25.9
	31-40	35	25.9
	41-50	33	24.4
	51-60	17	12.6
	61-70	9	6.7
Gender	Male	122	90.9
	Female	13	9.1
Residence	Urban	106	78.5
	Rural	29	21.5
Diagnosis	PTB	113	83.7
	PTB+ICH	13	9.7
	Miliary TB+ICH	2	1.5
	TB Pleural Effusion	6	4.4
	PTB+HPNTH	1	0.7
Sputum Examination	Positive	83	38.7
	Negative	52	61.3
HIV Stauts	Positive	15	11.2
	Negative	114	84.4
	Not available	6	4.4
Category	I	123	89.8
	II	12	8.8

Amongst various reasons for treatment interruption, ATT-induced side effects (42.2%) was the most important reason reported. Next factor was feeling of early improvement (33.3%) and followed by migration for work (9.6%). **(Table 2).** Among the various ATT-induced side effects (n=47), the most commonly reported side effect was gastritis (39.2%), ATT-induced skin rash and seizures (5.9%)

DOTS related reasons for treatment interruption were also reported by few number of patients **(Table 2).** On an average, most of the patients defaulted 3-4 months of starting ATT.

Table No. 2: Reasons for interruption of treatment (n=135)

Reasons for treatment interruption	Number of cases	Percentage (%)
ATT Induced side-effects	57	42.2
Feel Better	45	33.3
Migration for work	13	9.6
Other Medical Conditions	4	3.4
Unaware about long duration of treatment	1	0.7
Alcoholism	3	2.2
No improvement	1	0.7
DOT Related reasons		
Long Distance travel to centre	1	0.7
Dot provider not available	1	0.7
DOT provider not co-operative	3	2.2
Transfer of DOTS provider	1	0.7
Due to neglect of DOT provider	1	0.77
High cost of treatment	3	2.2
Other	1	0.7
Total	135	100

Discussion

When trying to assess the reasons for treatment interruption, the most common reason was ATT-induced side effects stated by 57 (42.2%) patients. A study from Tiruvallur district, South India, Jaggarajamma *et al* [11] have found drug related problems to be the leading cause of treatment interruption in 42% patients. Similarly, Wares et al [12] found the most common reason for stopping treatment being the adverse effects of ATT.

A feeling of early improvement leading to treatment interruption ranked as the second commonest reason, as stated by 45 (33.3%) patients. Kaona *et al* [13] also found that 29.8% of TB patients failed to comply with ATT once they started feeling better.

Social problems and feeling of improvement were the top two reasons for patients to default in study by Demissie *et al*[14]. In another survey by Tissera[15] at Colombo Chest Clinic, relief from symptoms (13%) emerged as the most common reason for treatment interruption. However, in a study by Jaggarajamma *et al*[11], relief from symptoms in (20%) cases. was found as reason for discontinuation of treatment

The next most common reason was the migration for work

cited by 13 (9.6%) of the patients.

Among DOTS related reasons,1patient interrupted treatment due to long distance of travel to their DOTS centre & 3 patients(2.2%) had interrupted the treatment due to high cost of tharapy. In a study by Chatterjee *et al*[16], the most common reason for treatment interruption was distance from the treatment centre. Many studies have demonstrated the indirect costs of treatment to be responsible for treatment interruption. Similarly, Mishra *et al*[17] reported that the risk of non-adherence to treatment was significantly associated with cost of travel to the TB treatment facility. In a study by O'Boyle *et al*[18], cost of transport was the reason most frequently given for non-attendance at DOTS centre. Hill *et al*[19] have reported a higher default rate among those who incurred significant time or money costs travelling to receive treatment.

3 (2.2%) patients blamed alcoholism as the reason for their treatment interruption. In a study from the Russian Federation, Jakubowiak *et al* (2007)[20] have found alcohol use to be the second commonest reason (30%) for treatment default.

One (0.7%) patient gave the reason for interrupted treatment as unawareness about the long duration of treatment. In a study by Bam *et al*[21] from Kathmandu, 61% non-adherent patients claimed insufficient knowledge about the need to continue treatment, especially after they felt better. One (0.7%) patient stopped taking their drugs as there was no significant improvement. One (0.7%) patient cited other reason as riots to be responsible for their treatment interruption.

Conclusions

We conclude that the most common cause of defaulters amongst tuberculosis patients are adverse effects, feeling of early improvement and migration. Proper counseling of the patients prior starting ATT, proper knowledge regarding duration of treatment, regular follow up of the patients clinically and biochemically as an when required, will not only limit these problems of defaulters but also increases the success of RNTCP programme.

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