

A Study of Non Compliance By Patients of Tuberculosis To DOTS Therapy: How It Can Be Decreased?

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ABSTRACT:

Background:

Tuberculosis is a chronic communicable disease requiring prolonged treatment. The therapeutic regimens as recommended under Revised National Tuberculosis Programme (RNTCP) have been shown to be highly effective but poor adherence to medication is a major barrier to its global control.

Objectives:

To study the profile of TB patients. To study the reasons of non compliance to DOTS therapy among the Tuberculosis patients and to find a solution to it.

Materials and methods:

This cross sectional study was carried out at Navsari city of Gujarat. A total of 156 patients were included in this study, registered during the period from January – 2010 to December – 2010. A predesigned Performa was used to collect details of each patient. Patients who defaulted on treatment were further traced, telephonically and personally.

Results:

28 (17.9%) patients out of the total of 156 patients did not adhere to treatment. Non compliance to treatment was more among elderly patients (34.3%). Side effects following medication and lack of awareness were found to be the most common reasons (32.1%).

Conclusions:

Non compliance was found to be mainly due to side effects of medicine and lack of awareness. So educating the patient about various aspects of Tuberculosis and some measures to decrease side effects is of utmost importance

KEYWORDS:

Non compliance, Tuberculosis, Side Effects, RNTCP

INTRODUCTION:

One third of the world's population is thought to be infected with *M. tuberculosis*, and new infections occur at a rate of about one per second.[1] Currently, there are about 34,000 new cases of active tuberculosis in the India. [2]

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In India tuberculosis is mainly a disease of the elderly, the rural and urban poor, and people with AIDS. In 1962, National TB Program (NTP) was started in India. [3, 2] After review and recommendation Revised National Tuberculosis Control Program (RNTCP) was started in 1994 with objectives to achieve at least 85% cure rate for the newly diagnosed sputum smear positive TB patients and to detect at least 70% of the new smear-positive patients after the first goal is met. [2] The entire country was covered by RNTCP in year 2006. Directly Observed Treatment Short course (DOTS) is the heart of the RNTCP. It is mandatory for Tb patients to take Anti TB drugs in correct and complete form. Many a time long duration of treatment leads to non adherence (non compliance) to treatment resulting in drug resistance tuberculosis. Both patient and provider-related factors may affect compliance. Patient related factors include a lack of belief that the illness is significant and/or that treatment will have a beneficial effect; the existence of concomitant medical conditions (notably substance abuse); lack of social support; and poverty, with attendant joblessness and homelessness. Provider related factors that may promote compliance include the education and encouragement of patients, the offering of convenient clinic hours, and the provision of incentives and enablers such as meals and travel vouchers.

With this background this study is conducted.

OBJECTIVES:

To study the profile of TB patients and to study the reasons of non compliance to DOTS therapy.

METHODOLOGY:

This cross sectional study was conducted in Navsari city of Gujarat state. All the patients registered at three Designated Microscopy Centers (DMCs), coming under the sole Tuberculosis Unit (TU) of the Navsari city were included in the study. A total of 156 patients were included in this study. The study was conducted in August 2011 including all patients registered during the period from January – 2010 to December – 2011. A predesigned pro-forma was used to collect details of each patient. The treatment cards of these patients were obtained from the DMCs and all the required information was collected. Patients who defaulted on treatment were further traced, telephonically and personally. The information thus collected was computerized and the database so prepared was analyzed manually.

RESULTS:

Table – I shows that 28 (17.9%) patients out of the total of 156 patients, did not adhere to treatment. Defaulters were the highest (11, 34.3%) in the age group of more than 45 years, 25 (25.5%) patients belonged to the Hindu community, defaulted the treatment. Default rate was higher (5, 45.5%) among the unemployed patients. Default rate was 27.25 in new sputum positive cases as compared to 36 % in relapse cases. Out of 3 HIV positive patients 1(33.3%) didn't adhere to treatment.

Table – II shows that side effects following medication was found to be the most common reason (32.1%) for non compliance. The other reasons for non compliance were – lack of awareness (32.1%), no relief of symptoms (21.4%), improvement in the symptoms (14.2%) etc.

Table – I : Basic Profile of the study group

No.	Factors (n = 156)	Total Patients (%)	Non-Compliance (n=28) (%)
1	Age groups (in years)		
	<15	4(2.5)	0 (0)
	15-30	42 (26.9)	2 (4.7)
	31-45	78 (50.0)	15 (19.2)
	>45	32 (20.5)	11 (34.3)
2	Sex		
	Male	103 (66.0)	23 (22.3)
	Female	53 (33.9)	5 (9.4)
3	Religion		
	Hindu	98 (62.8)	25 (25.5)
	Muslim	42 (26.9)	2 (4.7)
	Other	16 (10.2)	1 (6.2)
4	Occupation		
	Service	29 (18.5)	7 (24.1)
	Laborer	79 (50.6)	11 (13.9)
	Housewife	18 (11.5)	4 (22.2)
	Retired	19 (12.1)	3 (15.7)
	Unemployed	11(7.0)	5 (45.4)
5	Type of Disease	153 (98.0)	28 (18.3)
	Pulmonary		
	Extra Pulmonary	3 (1.9)	0 (0)
6	Type of patients		
	New	33 (21.1)	9 (27.2)
	Treatment after default	81 (51.9)	7 (8.6)
	Failure	17 (10.9)	3 (17.6)
	Relapse	25 (16.0)	9 (36)
7	Category of Treatment		
	Category – 1	49 (31.4)	7 (14.2)
	Category – 2	93 (59.6)	20 (21.5)
	Category – 3	14 (8.9)	1 (7.1)
8	HIV Status		
	Unknown	74 (47.4)	8 (10.8)
	Positive	3 (1.9)	1 (33.3)
	Negative	79 (50.6)	9 (11.39)

Table – II : Most important reasons for Non Compliance

No.	Reasons (Multiple Response Allowed)	No. (n=28)	%
1	Side effects	9	32.1
2	No relief in symptoms	6	21.4
3	Improvement in symptoms	4	14.2
4	Expenses	0	0
5	Lack of awareness	9	32.1
6	Not satisfied with the service of DOTS provider	3	10.7
7	Others	5	17.8

DISCUSSION :

In the present study, 17.9% patients from the total of 156 patients, didn't adhere to treatment which is much higher than that is expected under RNTCP (i.e., <5%). In present study, default to treatment was 34.3% in age group more than 45 years. This may be due to self – neglect and neglect by family, while the development of more side effects was supposed to be another important reason, along with the reason of lack of awareness. Hindu are more non adherent to treatment than Muslim community. This needs further large scale study to get the correct reason behind.

The present study identifies the side effects following medication and lack of awareness as the most common reasons for non-compliance. Almost similar reasons of default were observed in other studies. [4, 5, 6] A study from Bihar and West Bengal reported that improvement in symptoms (40% and 56%); intolerance to drugs (20% and 9%) and other illnesses caused patients to default the treatment. [7] A study from Malaysia also reported similar findings. Some other important reasons were also observed, such as migration, [8] taking treatment from other sources, [9, 10] alcoholism, and going out of station; from other similar studies.

RECOMMENDATIONS :

Non compliance was found to be mainly due to side effects of medicines, lack of awareness, symptomatic relief / no relief for long time. This would mean initial counseling by the health personnel explaining the treatment plan before initiating the treatment, periodic motivation of the patients and prompt action to tackle any problem will surely enhance compliance. Thorough counseling at two specific junctures i.e. at the time of symptomatic relief and at the time when symptoms are not relieved after prolonged treatment is a need of time. Work should also be directed towards reduction of side effects of the anti TB drugs without adding to the pill burden.

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