

A Study to Assess the Therapeutic Compliance and Associated Factors among Tuberculosis Patients in Selected DOTS Centres of City Ludhiana, Punjab

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ABSTRACT

Introduction: Tuberculosis is considered second most important cause of adult death worldwide due to infectious diseases after HIV/AIDS. According to WHO incidence rate of tuberculosis in India was 181 lakh people per year with mortality rate 24 lakh people per year. As per TB report 2012 new cases of TB fell at a rate of 2.2% as well as mortality rate decreased 41%. Despite of Government efforts through RNTCP along with strong implication of DOTS therapy yet the TB cases were high in number either due to non compliance or failure to respond treatment of tuberculosis drugs.

Materials and Methods: The present study was conducted in selected DOTS centers of City Ludhiana. Sample of study was (174) tuberculosis patients under DOTS therapy of Category I and II selected by purposive sampling technique. Patient's attendance record at DOTS centre was checked to assess their compliance with therapy and a checklist was used to assess associated factors related to therapeutic compliance among tuberculosis patients.

Results: Majority (91.96%) of tuberculosis patients were having therapeutic compliance and (8.04%) were non compliant with DOTS therapy. Among associated factors the most promoting factor was (98.12%) support and motivation from friend's /family/ health care workers for DOTS compliance and the most hindering factor for compliance of DOTS therapy was (65%) adverse effects of therapy on physical health.

Conclusion: Tuberculosis patient's compliance with DOTS therapy can be improved by counseling to patients about their queries related to their treatment and its effects or generalized changes which take place in body once they started their therapy, diet and preventive measures for minimizing the adverse effects of therapy. They also needed to be counseled about the adverse effects of DOTS therapy with live meeting with the patients of Tuberculosis suffering from MDR or XDR TB patients.

Keywords: Tuberculosis patients, DOTS, TB-Tuberculosis.

INTRODUCTION

Compliance to DOTS therapy plays an important role in outcome of tuberculosis treatment. Compliance is defined as the adherence to the treatment of tuberculosis along with other medical advices given by physician to tuberculosis patients. Non compliance may result in acquired drug resistance, which may lead the patient in

MDR or XDR TB that is requiring more prolonged treatment along with new line of drugs. ^[1] As per WHO India accounts for 26% of total global TB burden, in out of notified cases 53% were smear positive cases and 28% were smear negative cases, 19% were extra pulmonary cases. 2.1% were MDR TB cases and 6.1% cases were HIV positive TB patients. ^[2]

Tuberculosis is the second important cause of adult death worldwide due to infectious diseases after HIV/AIDS. The number of tuberculosis patients increases day by day despite of global efforts to control tuberculosis through DOTS as there are many reasons for this like lack of awareness of disease, fear of death due to adverse effects of TB drugs and most important factor is hiding the truth from society due to stigma attached with tuberculosis. [3] So, due to these reasons TB patients get delayed for their diagnosis, then for treatment and sometimes they themselves feel during treatment that they get cured and stopping their DOTS therapy in between and that later on lead them in category of drug resistance patients category or they want their treatment and identity should be kept confidential while they were taking treatment.

MATERIALS AND METHODS

The present exploratory study was conducted in selected four DOTS centre of Shimlapuri, Jodheawal Basti, ESI Dispensary, Janta Nagar of city Ludhiana. Sample of study was (174) tuberculosis patients under DOTS therapy of Category I and II selected by purposive sampling technique. Tuberculosis patients who were in second month of their intensive phase and TB patients in continuation phase of their DOTS therapy were included in study. Verbal informed consent was taken from each of study subject after explaining the purpose and nature of study. Privacy and confidentiality of personal information was maintained. Patient's attendance record at DOTS centre was checked to assess their compliance with therapy and a structured checklist was used to assess associated factors among tuberculosis patients. Data was analyzed by using descriptive and inferential statistics.

RESULTS

Table 1 As per the socio demographic characteristics (83.33%) tuberculosis patients were in age group (15-45 years),

(56.32%) were male patients, (54.60%) TB patients were migrant, (71.83%) were Hindu by religion, (77.59%) patients were literate, (55.74%) TB patients were working, (62.64%) patients were married. According to their socio economic status (63.76%) patients were having income (5,001-10,000).

Table 1 Frequency and percentage distribution of socio demographic characteristics of tuberculosis patients

Sociodemographic Characteristics		N=174
		f(%)
Age (Years)*		
15-45		145(83.33)
46-75		29(16.67)
Gender		
Male		98(56.32)
Female		76(43.68)
State of Origin		
Punjab		79(45.40)
Migrant**		95(54.60)
Religion		
Sikh		35(20.11)
Hindu		125(71.83)
Muslim		14(8.04)
Education		
Illiterate		39(22.41)
Literate		135(77.59)
Working Status		
Working		97(55.74)
Non working		76(43.26)
Marital Status		
Married		109(62.64)
Unmarried		65(37.36)
n=160		
Monthly Family Income (INR)		
≤5000		41(25.62)
5,001-10,000		102(63.76)
10,001-15000		11(6.88)
≥15,001		6(3.76)

*Mean Age±SD=25.85±27.75

**Migrant= Uttar Pradesh, Madhya Pradesh, Bihar, Uttarakhand

***Working= Laborer, Factory Worker

Table 2 Distribution of DOTS compliance tuberculosis patients according to their personal profile.

Personal Profile		n=160
		f(%)
TYPE OF PATIENT		
Category I		124(77.50)
Category II		36(22.50)
Phase		
Intensive		54(33.75)
Continuation		106(66.25)
Family History of tuberculosis		
Yes		30(18.75)
No		130(81.25)
Vaccinated with BCG		
Yes		83(51.88)
No		77(48.12)
Alcohol Consumption		
Yes		23(14.38)
No		137(85.62)
Tobacco Consumption		
Yes		18(11.25)
No		142(88.75)

Table 2 shows the personal profile of DOTS compliance TB patients, (77%) were Category I tuberculosis patients, (66%) were in continuation phase of their treatment and only (19%) patients were having family history of TB. (83%) TB patients were vaccinated with BCG, (23%) subjects were taking alcohol and (18%) were tobacco consumers.

Figure 1 shows that (92%) tuberculosis patients were having therapeutic compliance with DOTS only (8%) subjects were non compliant to the DOTS.

Percentage Distribution of tuberculosis patients as per compliance to DOTS therapy

8.04%

Figure 1: Percentage Distribution of Tuberculosis patients as per their compliance to DOTS therapy

Table 3 Rank order of promoting factors for DOTS therapeutic compliance

Factors Promoting Therapeutic Compliance	f(%)	n=160
		Rank Order
Supported and motivated from friends/family/health workers/ colleagues for treatment completion	157(98.12)	1
They Accept their diagnosis	154(96.25)	2
Health Care workers in DOTS centre had friendly attitude towards them	148(92.50)	3
Believe that tuberculosis can be fully cured with DOTS	147(91.87)	4
Discloses diagnosis to family/friends/colleagues	144(90.00)	5

Table 3 shows rank order of factors promoting therapeutic compliance among tuberculosis patients. The first most favoring factor for compliance of DOTS was (98%) support and motivation from friends, family, health workers or colleagues

for treatment completion, second was that (96%) were accepting their diagnosis and third factor was (93%) the friendly attitude shown by health professionals at DOTS centre.

Table 4 Rank order of hindering factors for DOTS therapeutic compliance among tuberculosis patients.

Factors Hindering Therapeutic Compliance	f(%)	n=160
		Rank Order
Adverse Effects of DOTS on their physical health	104(65.00)	1
Felt change in their life after disclosure of TB diagnosis	100(62.50)	2
Sitting and eating with friends/family/colleagues changed as like it was before diagnosis	91(56.87)	3
DOTS centre far away from their home	62(38.75)	4
Spend money from their own pocket on diagnosis and management of side effects of DOTS	56(35.00)	5

Table 4 shows the rank order of factors that may hinder the therapeutic compliance of TB patients, as per the data given by the study subjects (65%) said fear of adverse effects of DOTS on their physical health, secondly (62%) TB patients feels the change in their life after diagnosis of tuberculosis and (57%) study subjects realizes that they were not eating, sitting with family, friends and colleagues as it was before diagnosis disclosure.

DISCUSSION

In this study (92%) tuberculosis patients were having therapeutic compliance with DOTS only (8%) subjects were non compliant to the DOTS. The finding were similar to the study done by Pandit N., Choudhary K. S (2006) [4] that (93%) of study population was compliant to DOTS. The main risk factor for hindering compliance of DOTS was (65%) fear of adverse effects of DOTS on their physical health. The finding of study was contrary with the results of the study conducted by Sinha Teeku (2010) [5] on compliance and

associated factors among 695 patients of TB. The study finding shows that (20.26%) TB patients were non compliance to DOTS due to adverse effects of DOTS medicine. Another main risk factor responsible for non compliance of DOTS (57%) TB patients realize that they were discriminated (stigma) after their diagnosis disclosure with their family or friends. Similar finding were reported by R S Manjooran (2002) [6] that (29%) TB patient faced discrimination from family and friends after disclosure of their diagnosis.

CONCLUSION

Tuberculosis is dreadful communicable diseases if the patient will not adhere strictly to its treatment i.e. DOTS therapy for curing the disease. Then ultimately patient may develop the resistance against the drugs used for treatment in DOTS therapy. Though the diagnosis, treatment is given free of cost to the TB patients, still due to lack of awareness about these services people prefer to go to private practitioners or hiding their diagnosis due to stigmatization. So, they don't want that anybody will point out them or discriminate on the basis of their diagnosis which is specially identified when the patient is going specifically to DOTS for their treatment. There should be provision

of alternates to above said problems for TB patients and counseling services to patient family members, friends and colleagues to clear their doubts related to disease diagnosis, communicability, curability with DOTS therapy and importance of their cooperation and motivation towards the sufferer for completion of treatment instead of stigmatization.

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