

Research Article

A study on Factors associated with non-adherence to ATT among pulmonary tuberculosis patients under RNTCP

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ABSTRACT:

INTRODUCTION- India is the second-most populous country in the world but unfortunately, one fourth of the global incident TB cases occur in India annually. Tuberculosis treatment need multi drug combination to eradicate tuberculosis bacteria. Inability to complete the prescribed regimen, is an important cause of treatment failure, relapse, acquired drug resistance and continuous transmission of infection.

OBJECTIVES -1. To study the sociodemographic characteristics of pulmonary tuberculosis patients under RNTCP.

2. To study the factors associated with non adherence to ATT among them.

MATERIALS AND METHODS -This study was a cross-sectional study, in which 93 patients of pulmonary tuberculosis who were non adherent to ATT were interviewed. Information regarding their personal and socio demographic data, treatment history and reasons for non adherence to ATT was obtained. Data was entered in Microsoft Excel and percentages were calculated.

RESULTS -In our study, majority of the non adherent patients were in the age group of 30-60 years, residents of rural area (72%), illiterate (76.3%) and from lower or upper lower socio-economic status (76.3%). Maximum patients (36.5%) stopped their ATT during 3rd month. adverse effects of ATT (54.8 %) was the most important reason followed by feeling of early improvement (32.8 %) and then family problem (31 %), loss of work (20.4 %), and stigma related (19.3%).

CONCLUSION -Various reasons given by patients as causes of non adherence, mostly reflected the influence of poor background coupled with illiteracy and ignorance.

Key Words: Non adherence, ATT, pulmonary tuberculosis.

INTRODUCTION

India is the second-most populous country in the world but unfortunately, one fourth of the global incident TB cases occur in India annually. As per WHO Global TB Report, 2015, out of the estimated global annual incidence of 9.6 million TB cases, 2.2 million were estimated to have occurred in India. As per WHO, In India mortality due to tuberculosis is 17 per lakh in 2012. In absolute numbers, mortality due to tuberculosis is 2.2 lakhs annually.¹ In India, the Revised National Tuberculosis Control Programme (RNTCP), using the globally recommended DOTS strategy, has been implemented in a phased manner since 1998 through the primary health care system.²

Tuberculosis treatment need more than one drug combination to eradicate tuberculosis bacteria. First line anti-tuberculosis drugs recommended by WHO are combination between isoniazid, rifampicin, pyrazinamide, ethambutol and streptomycin.³

Interruption in tuberculosis treatment still remains the major barrier to its control and is the most important challenge for control of TB. Inability to complete the prescribed regimen, is an important cause of treatment failure, relapse, acquired drug resistance and continuous transmission of infection.⁴

Adherence to the long course of TB treatment is a complex, dynamic phenomenon with a wide range of factors that affect the treatment taking behavior. To explore the reasons for non adherence to ATT (anti tubercular treatment), many studies have been conducted across the world and some are also reported from India (mostly done under RNTCP setting).⁵⁻¹⁰ Through this study we are trying to find out reasons for discontinuation of Anti-Tubercular Treatment (ATT) among pulmonary tuberculosis patients admitted.¹¹

OBJECTIVES

1. To study the sociodemographic characteristics of pulmonary tuberculosis patients under RNTCP.
2. To study the factors associated with non adherence to ATT among them.

MATERIALS AND METHODS

This study was a cross-sectional study, conducted in the department of pulmonary medicine SSMC Rewa, M.P. India. Total 93 patients of pulmonary tuberculosis who had past history of ATT for more than 1 month, and interrupted their treatment for 2 months or more were selected as study subjects. The patients were interviewed using a semi-

structured questionnaire after obtaining consent. Information regarding their personal and socio demographic data, treatment history and reasons for non adherence to ATT was obtained. Data was entered in Microsoft Excel and percentages were calculated.

TABLE-1 SHOWING SOCIO-DEMOGRAPHIC PROFILE

| Socio-Demographic Factor | No. of patients (n=93) | Frequency (%) |
|--------------------------------|------------------------|---------------|
| 1. Age | | |
| < 20 yrs | 03 | 3.3% |
| 21-30 yrs | 14 | 15% |
| 31-40 yrs | 21 | 22.5% |
| 41-50 yrs | 28 | 30% |
| 51-60 yrs | 20 | 21.5% |
| >60 yrs | 07 | 7.5% |
| 2. Sex | | |
| Male | 67 | 72% |
| Female | 26 | 28% |
| 3. Education | | |
| Literate | 22 | 23.6% |
| Illiterate | 71 | 76.3% |
| 4. Socioeconomic status | | |
| Lower class | 45 | 48.3% |
| Upper lower class | 22 | 23.6% |
| Lower middle class | 20 | 21.5% |
| Upper middle class | 06 | 6.5% |
| Upper class | 00 | 00 |
| 5. BMI | | |
| A. Underweight < 18.5 | 65 | 69.9% |
| B. normal 18.5-24.99 | 25 | 26.9% |
| C. over weight ≥ 25 | 03 | 3.2% |
| 6. Residence | | |
| Rural | 67 | 72% |
| Urban | 26 | 28% |
| 7. Addiction habits | | |
| Alcoholism | 24 | 26% |
| Smokers | 43 | 46% |
| 8. Marital history | | |
| Married | 68 | 73% |
| Unmarried | 25 | 27% |

GRAPH-1 SHOWING TIME OF TREATMENT INTERRUPTION

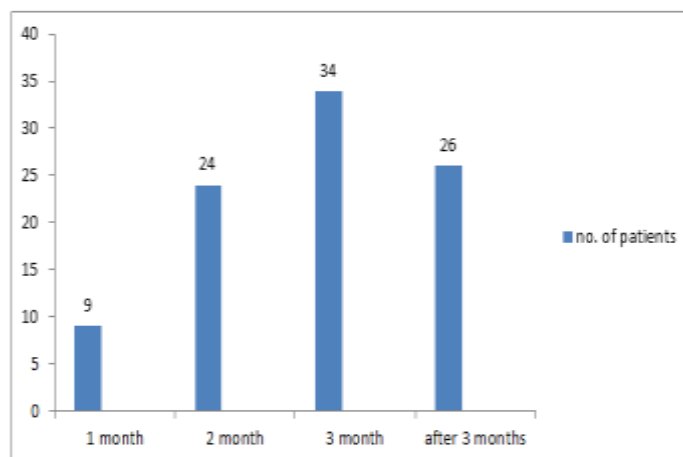
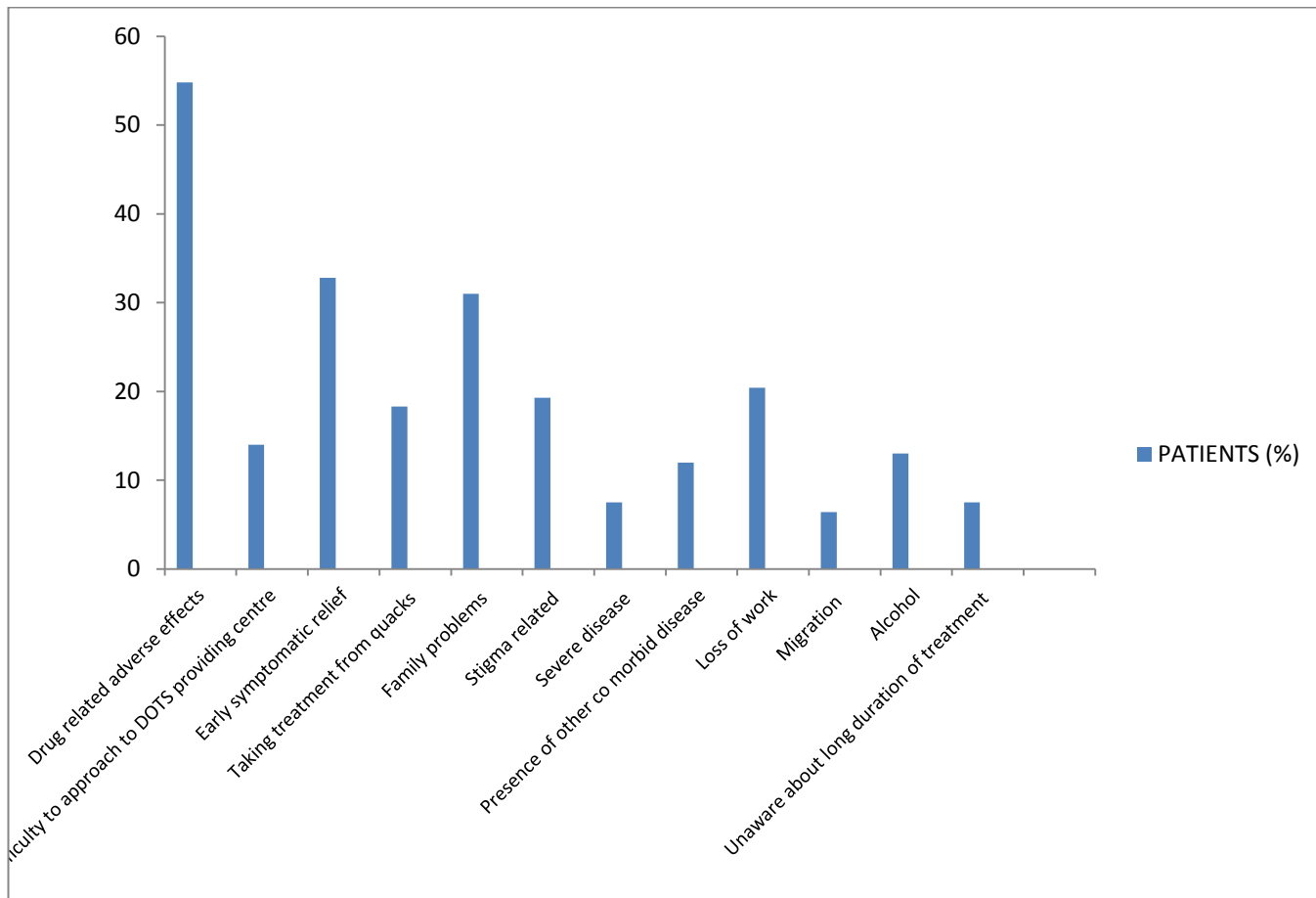


TABLE-2 REASONS FOR INTERRUPTING ATT BY TUBERCULOSIS PATIENTS REGISTERED UNDER RNTCP

| REASONS | No. of Patients | In percent |
|---|-----------------|------------|
| Drug related adverse effects | 51 | 54.8% |
| Difficulty to approach to DOTS providing centre | 13 | 14% |
| Early symptomatic relief | 30 | 32.8% |
| Taking treatment from quacks | 17 | 18.3% |
| Family problems | 29 | 31% |
| Stigma related | 18 | 19.3% |
| Severe disease | 07 | 7.5% |
| Presence of other co morbid disease | 11 | 12% |
| Loss of work | 19 | 20.4% |
| Migration | 06 | 6.4% |
| Alcohol | 12 | 13% |
| Unaware about long duration of treatment | 07 | 7.5% |

*Multiple reasons

GRAPH-2 SHOWING REASONS FOR NON ADHERENCE TO ATT



RESULTS

93 patients were interviewed to know their reasons for interrupting ATT, demography of studied patients is showing in table-1. Out of them 67 (72%) were males and 25 (28%) were females. Majority of the treatment interrupters were in the age group of 30-60 years, among whom 28(30%) patients were in age group 41-50 years, followed by 31-40 years (n= 21, 22.5%), and 51-60 years (n=20, 21.5%); while only 3 (3.2%) patients were below the age of 20 years. Of the 93 study patients, 67 (72%) patients were residents of rural area, while remaining 25 (28%) were from urban area. 65 (69.9%) patients were underweight and 3 (3.2%) patients were overweight. 67 (72%) patients belong to lower or upper lower socioeconomic class. 71 (76.3%) patients were illiterate. 68 patients were married. Maximum patients (n=34, 36.5%) stopped their ATT during 3rd month, followed by 26 after 3rd month and 24 during 2nd month (graph-1).

Reason for non adherence to ATT is showing in graph-2 and in table-2. Amongst various reasons for treatment interruption, adverse effects of ATT (54.8 %) was the most important reason reported. Next factor was feeling of early improvement (32.8 %) and followed by family problem (31 %), loss of work (20.4 %), stigma related (19.3%). Among various ATT induced adverse effects (n= 51), the most commonly reported side effect was nausea, vomiting, restlessness, and, abdominal

pain (n=32), followed by ATT-induced dermatological manifestations (n=12).

DISCUSSION

In our study, majority of the non adherent patients were in the age group of 30-60 years, residents of rural area, illiterate and from lower socio-economic status. Such patients have Poor knowledge of importance of regular treatment for TB cure. Similar findings were observed in study done by Kulkarni PY¹² et al where majority non adherent patients were males 15-49 years, and were from lower SES, migrants and people residing in unstable living conditions like cottage industry workers, FSWs. Another study done by Sing G et al¹³ found that People with predominant rural background and belonging to lower strata of society coupled with illiteracy were default the ATT. Study conducted by Tachfouti N et al,¹⁴ says that poor literacy level and lack of knowledge is one of the other factor for poor patient compliance..

In our study, 68 patients were married. Study done by Gorityala SB et al¹⁵ found that 85.98% of defaults were married. Similar studies conducted by Gupta et al⁴ and Mishra et al¹⁶ reported that most of the defaults among married patients.

Maximum patients (36.5%) stopped their ATT during 3rd month, followed by 28% after 3rd month and 26 % during 2nd

month which could be possibly due to a sense of relief from symptoms felt by the patients. Similar pattern of treatment interruption was reported by other studies as well. Gupta S et al⁴ noticed that 72% patients interrupted treatment by the end of third month; and maximum (30.28%) occurred between second and third month. Dodor et al¹⁷ determined the mean defaulting moment to be 3.4 months. Tekle et al¹⁸ found defaulting to be the highest (81%) during the continuation phase of treatment. While Chan- Yeung et al¹⁹ and Oliviera et al²⁰ from Brazil found that 45% and 43.3% of the defaulters, stopped treatment in the first two months of treatment respectively.

While assessing the reasons for treatment interruption, the most common reason was ATT induced adverse effects, reported by 54.8% patients. Similarly, Wares DF et al²¹ also found that adverse effects of ATT was most common reason for stopping treatment. N Jaggaraiamma K et al¹⁰ found that 42 % patients stopped the treatment because of ATT induced adverse effect.

In our study early improvement leading to treatment interruption was the second commonest reason, as reported by 32.8% patients. Kaona FA et al²¹ and Tissera²² found that 29.8 % and 13% of TB patients had stopped ATT when they feel improvement. A study by Demissie M et al²³ has found that feeling improvement were common reason to stop ATT.

We also observed that 14% patients interrupted treatment due to difficulty to approach their DOTS centre. In a study by Chatterjee C et al²⁴ the most common reason for treatment interruption was distance related difficulty to approach treatment centre. According to study done by Tachfouti N et al,¹⁴ distance from health facility (> 15 min walking) were apparent determinants of default and barriers in utilization of services.

13% patients reported alcohol use to be the reason for treatment default while in a study from the Russian Federation, Jakubowiak WM et al²⁵ have found alcohol use to be the second commonest reason (30%) for treatment default.

CONCLUSION

Various reasons given by patients as causes of non adherence, mostly reflected the influence of background. People with predominant rural background and belonging to lower strata of society coupled with illiteracy and ignorance, were probably much more bound by their traditional customs and cultures and therefore the drug intake becomes next priority for them under such circumstances, specially when the relief is fairly quick after initial antitubercular therapy. Drug induced adverse effects is also an important reason for non adherence. The importance of domestic problems and family issues as cause of non adherence has been reported by many patients.

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