

## Original Research Article

# Adherence to anti-tuberculosis treatment among patients in urban field practice area of medical college, Davangere, Karnataka: a qualitative study

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## ABSTRACT

**Background:** Despite effective diagnosis and free treatment, prevalence of TB is still growing. DOTS was introduced by WHO in 1997, which is more than two decades ago. It's a known fact in TB that adherence is less due to long duration of treatment and stigma associated with it. This study was conducted with the objective of estimating and the reasons for the non-adherence to anti tuberculosis treatment in urban field practice area of SSIMS & RC, Davangere.

**Methods:** A qualitative method of study design was used. 20 TB patients who are on anti-tuberculosis treatment were interviewed with a structured questionnaire for adherence to treatment. Among them patients who were non adherent were further interviewed in depth to know the reasons for non-adherence.

**Results:** Data analysis resulted in extraction of five themes, which were side effects, financial burden and social support, duration of treatment, food insecurity, unawareness of consequences of non-adherence to treatment.

**Conclusions:** Patient adherence to treatment is multi-factorial and involves individual patient factors, provider factors, and community factors. Addressing issue of non-adherence to treatment requires enhanced efforts towards resolving medical problems like adverse drug effects, developing short duration treatment regimens, motivational counselling, social, family support for patients and improving awareness about disease.

**Keywords:** Tuberculosis treatment adherence, Side effects, Food insecurity

## INTRODUCTION

When it comes to eliminating certain diseases in the community which are of major public health importance. One such diseases which we are perturbed is Tuberculosis, which is the second major killer globally due to infectious disease trait.<sup>1</sup> Tuberculosis is also a leading preventable cause of death among people living with HIV. It's a usual phenomenon to forget taking prescribed medication sometimes. This fact is of utmost importance in Tuberculosis as the drugs are not taken as per schedule.

TB was declared as global health emergency in the year 1993.<sup>2</sup> Since then escalated efforts are being made to combat the disease worldwide. The therapeutic regimens under RNTCP (Revised National Tuberculosis Program) are effective in treating and despite effective diagnosis and free treatment, prevalence of TB is still growing and currently being 2.6 million nationwide. Persistence of large inequities in access to high-quality diagnostic and treatment services, widespread poverty, stigma, poor treatment adherence and food insecurity are some reasons for prevalence of TB in low and middle income countries.<sup>3,4</sup> Treatment adherence is crucial to ward off disease infectiousness, attain cure and circumvent

emergence of drug resistance which is 3% in newly diagnosed cases and 12 to 17% among previously diagnosed cases. Non-adherence to TB treatment is an important barrier and is one of the most significant obstacles to TB control globally and it has become a major contributing factor for treatment failure.<sup>5</sup> Non-adherence to tuberculosis (TB) treatment can result in an emergence of new strains which in turn may lead to drug resistant TB. India has vision for TB free India and goal for universal access to quality TB diagnosis and treatment. Despite these there is non-adherence due to stigma and long duration of treatment. Under SDG goals the target is to end TB by 95% by 2035. Thus, assessment of adherence to anti-TB treatment and identifying factors associated with non-adherence are vital for improving TB treatment adherence.

### Objectives

- To estimate the non- adherence among TB patients on Anti Tuberculosis Treatment in Urban field practice area of SSIMS & RC, Davangere.
- To study the reasons for non- adherence using qualitative methods.

### METHODS

A qualitative study was conducted in Bashanagar and Azadh nagar Diagnostic Microscopic Centre which is urban field practise area of SSIMS & RC, Davangere. Purposive Sampling method was adopted. (Details of the patients on anti TB treatment was collected from the register). Patients who had completed at least one month of anti-tuberculosis treatment were included in the study and not willing for the study were excluded. After taking an informed consent from the patients the study was conducted during January 2018 to April 2018.

### Data collection instruments and techniques

The questionnaire was developed and subsequently translated into local language. Open-ended questions were used to identify the potential factors that influence adherence to TB treatment. For better understanding of adherence in-depth interview was conducted, face to face. Interviews which took 30–45 min on average and were recorded.

### RESULTS

#### Knowledge about tuberculosis

In this study, the participants lacked knowledge regarding Tuberculosis. Most of the patients had no proper knowledge about the causative factors, the mode of transmission or length of treatment duration.

“Every day I wake up at 5 am to do household work, I wash utensils on the backyard of the house and it’s very

cold, which might have caused this disease”.....(respondent 4).

When respondents were asked how they felt once they were diagnosed of Tuberculosis, some thought it is a fatal disease like AIDS and there was no cure for the disease, Some thought it is passed on from generation to generation, few were scared about the social stigma.

“When doctor told me that I have TB, I was shocked and I thought I will die soon, I was also worried about how my family would treat me”..... (respondent 12).

“I did not have any sharp edged pricks or needle injury..... I don’t know how I got this disease”....(respondent 11).

**Table 1: Demographic profile of study participants.**

| Demographic              | Frequency |
|--------------------------|-----------|
| <b>Gender</b>            |           |
| Male                     | 12        |
| Female                   | 28        |
| Total                    | 40        |
| <b>Marital status</b>    |           |
| Married                  | 28        |
| Single                   | 10        |
| Widow                    | 2         |
| Total                    | 40        |
| <b>Educational level</b> |           |
| Illiterate               | 14        |
| School                   | 18        |
| Pre university           | 8         |
| Total                    | 40        |
| <b>Age (in years)</b>    |           |
| <25                      | 8         |
| 25-35                    | 6         |
| 35-45                    | 12        |
| 45-55                    | 8         |
| >55                      | 6         |
| Total                    | 40        |

**Table 2: Patient’s category of tuberculosis.**

| Category           | Frequency |
|--------------------|-----------|
| <b>Category I</b>  |           |
| Pulmonary          | 28        |
| Extra-pulmonary    | 8         |
| <b>Category II</b> |           |
| Pulmonary          | 4         |
| Total              | 40        |

**Table 3: Adherence.**

| Adherence           | Frequency |
|---------------------|-----------|
| <b>Adherent</b>     | 26        |
| <b>Non-Adherent</b> | 14        |

In depth interview for non-adherence resulted in four categories.

### ***Side effects***

Most of the study subjects complained of side effects being main reason for skipping the medications

“I feel nauseous, my urine turns red, I cannot eat food because of treatment, so I discontinued treatment for some time”....(respondent 4).

“There was bone pain and I felt weak”... (respondent 25).

“I felt hungry... but I was not able to take food because of vomiting sensation so I stopped treatment for few days”.... (respondent 24).

### ***Financial problems and family support***

Few of the patients could not go to work due to disease and had financial problems to run their family. They felt helpless and couldn't do anything about it and were sad. Even the family support was lacking.

“I used to work on daily wages now I cannot go to work as I have disease. I get financial support from my sisters”. (respondent 30).

“People just talk that I have disease and show sympathy..... Nobody helps when there is need for money”... (respondent 25).

### ***Duration of treatment and relief after few months of treatment***

Few patients felt that the duration of treatment was very long and they were worried that there would be damage to internal organs if they continued so long.

“I took treatment for two months, I felt fine hence stopped treatment, I don't want my kidney to be damaged as already there is blood in my urine (i.e reddish discolouration of urine)”....(respondent 11).

“Long duration of treatment, hence I took for 3 months regularly.

Now I take tablets when I feel sick” (respondent 30).

### ***Unawareness of consequences of non-adherence***

Some patients were unaware of consequences of non-adherence, they did not have knowledge of seriousness of the disease becoming drug resistant

“Once in a while if I forget taking tablets its ok, nothing will happen I feel, it's just cough no need to bother much”....(respondent 36)

“It is my fate getting the disease, so I take tablets but sometimes I miss when I am too busy with household work... Nothing will happen if I don't take tablets one or two days in a month”....(respondent 39)

### ***Lack of food: food insecurity***

“TB drugs increase my hunger, I feel hungry often and I am unable to get extra ration for my house due to financial problem”.... (respondent 34).

“I feel hungry most of the times, because of tablets, I am unable to afford even an extra meal”....(respondent 25)

The study analysed reasons of TB patients for Non-Adherence to ATT and it identified four major thematic areas emphasized by them.

## **DISCUSSION**

A baseline information was collected from the study participants residing in field practice area of SSIMS & RC, Davangere from January 2018 to April 2018, on determinants that influence TB treatment adherence and found that several aspects play a role as barriers to adherence. These were lack of basic knowledge regarding TB and consequences of non-adherence to treatment, stigma and lack of moral support from family members, drug side effects and long treatment duration. Majority of the respondents lacked adequate knowledge about TB as did not know the cause of disease, mode of transmission and treatment duration. Some patients believed TB as a hereditary and deadly disease which has no cure. A number of respondents did not know the conventional treatment period is 6 months and the risk they face if they stop the medication. Similar findings were seen in study from Pakistan.<sup>6</sup>

Our study showed lack of knowledge as one of the reasons for non-adherence to treatment regimen for tuberculosis. Other studies in developing countries have demonstrated misconceptions regarding TB among TB patients. In Pakistan, patients who had already visited healthcare providers and initiated their treatment showed lack of knowledge on their disease.<sup>7</sup>

Our study depicted that relief of symptoms after few days on treatment was the main reason for stopping of drugs. Similar findings were seen in study conducted by Esther et al “As TB patient feels better after few weeks of treatment initiation and may tend to leave the treatment as he assumes that TB is cured.”<sup>8</sup>

In the same way, Sophia et al, observed that knowledge about correct duration of treatment was significantly lower among non-adherent group.<sup>9</sup>

Correct knowledge about TB and its treatment improves adherence to ATT.<sup>10</sup> Defaulters are found to have less or

no knowledge about TB disease and its treatment, and non-adherent patients are potential defaulters.<sup>9</sup>

Education overall increases knowledge and health awareness and treatment seeking behavior of the individual.<sup>10</sup> Literate individuals are more likely to complete the treatment.<sup>9</sup>

Our present study depicted that patients had poor knowledge about duration of treatment and few complained about length of treatment saying its too long. Other studies carried out in Asia reported that the long treatment period was poorly understood by patients and lead to defaulter stage.<sup>11,12</sup>

A study conducted by Gebremariam et al reported adherence barriers were lack of food and economic constraint, the present study indicated that almost all the patients complained of financial stress they are going through and feeling of hunger and inability to spend more for extra meals.<sup>13</sup>

## CONCLUSION

The present study describes that there are many factors which are involved in TB treatment non-adherence. Hence corrective measures for each factors to be addressed may be by health education, nutritional supplementation to TB patients and counselling for side-effects related to drugs.

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