UNDERSTANDING TREATMENT COMPLIANCE AMONG PATIENTS ON DOTS UNDER RNTCP IN BELAGAVI: A QUALITATIVE STUDY

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INTRODUCTION

Tuberculosis was once called as emerging disease but now it is re-emerging and emerging both. Among the whole world’s population one fourth is suffering with Tuberculosis. It is reported that worldwide there are 1.3 million tuberculosis related death and 10 million became tuberculosis infected in 2017.1 

TB burden in India is highest in the world and it is estimated that India accounts 2.2 million TB infections out of 9.6 million cases globally.2 In Karnataka, Belagavi accounted for the highest incidence of tuberculosis i.e.217.3 

Compliance to treatment is important factor that has impact on outcome of treatment. Non compliance occurs when the patient fails to make themselves available for the administration of drug treatment. Most of the MDR-TB cases occur due to non compliance.4,5 

MDR-TB defined as “resistant to ionized and rifampicin” antimicrobial drugs. These two major drugs are taken as barriers for the eradication of TB globally, as there is resistance against these two drugs which has became challenge.6 

In recent years it is been observed that MDR-TB is a major focus in TB research. Five percentage of total global TB burden is mainly due to MDR-TB with 480000 new cases recorded in 2015. This is not only due to increase in MDR-TB but also poor compliance of treatment. According to World Health Organization (WHO) the goal to Tb eradication is to target 85% for drug sensitive TB but only 75% has been achieved in adherence of treatment.  

MDR-TB treatment is of long duration. Surveillance is critical as there are problems in monitoring MDR-TB due to loss to
follow up, treatment failure and death. Tuberculosis is a largely curable disease with swift and appropriate treatment, continues-to be a major health concern worldwide. Non adherence or non compliance to anti-TB treatment may result in emergence of multi-drug resistant TB (MDR-TB), prolonged infectiousness and poor TB treatment outcomes. To address this issue lack of TB treatment adherence among DOTS program participants needs to be explored and understood in depth. Hence this study will help to identify factors which influence treatment compliance.  

MATERIALS AND METHODS

The present study was undertaken to understand factors associated with compliance among patients on DOTS under in Belagavi. The detail research methodology adopted for the study including the methods, tools and techniques, study area and procedures followed in the selections of samples, collection of data analysis has been described in this chapter.

Study Design: Qualitative Study

Source of Data: Patients who are receiving treatment from DOTS centres of Belagavi.

Study Period: November 2018 to February 2020

Study Population: Patients who are receiving treatment from DOTS centres of Belagavi.

Sample Size: 20

Purposive sampling technique. Minimum 20 sample, till data saturation.

Sampling Technique

Purposive sampling technique.

Inclusion Criteria

Those who give informed consent and of age 20 years or above on MDR-TB treatment attending DOTS centres of Belagavi District.

Exclusion Criteria

Those who are bed ridden and those who are admitted (IPD Patients) in hospital.

Data Collection Tool

Semi-structured open ended questionnaire.

Study Procedure

The present study was a qualitative research conducted in DOTS centre of Belagavi over a period of 9 months from May 2019 to February 2020.

The data was collected by using semi-structured open ended questionnaire which included

a. Socio-demographic information (Age, Sex, Occupation, Education & Income)
b. Knowledge and Perception about tuberculosis disease and treatment
c. Perception about drugs which includes period of treatment, no. of drugs, follow up
d. Perception of patients towards DOTS services
e. Perception of drug compliance
f. Perception of peoples and family members includes stigma.

- All the participants was informed about the study objectives and written informed consent was obtained from the participants.
- In-depth interview was conducted and recorded.
- Data was further be transcribed, translated and then analyzed.

In-depth interview: 20 MDR-TB patients were interviewed. Interviews were recorded using voice recorder and the transcripts of that interview were done in local language and then were translated into English.

Ethical Consideration

Ethical Committee: Prior to data collection ethical clearance was obtained from ethical committee of J.N. Medical College, KAHER, Belagavi.

Informed Consent: written informed consent was obtained from each participant and explained to all about the study.

Confidentiality: Utmost care was taken to maintain privacy and confidentiality of the study participant.

Data Analysis

Thematically analysis of the participant’s responses. Thematic analysis, informed by In-depth Interview, was used in the analysis. The steps include one-to-one In-depth Interview probing the semi-structured open ended Questionnaire of all the Interviewee.

RESULTS

Majority of the patients below 30 years of age while very few patients were of age 50 and above. Almost equal participants was there from both gender. Most of them had their business as occupation and few were farmers. Few patients said that they consumes tobacco and alcohol.

Thematic Analysis

Table 1 After indepth interview data collected and analyzed under main themes mentioned in

<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub-themes</th>
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<tbody>
<tr>
<td>a. Knowledge about disease and treatment</td>
<td>• Tuberculosis occurrence and clinical features</td>
</tr>
<tr>
<td></td>
<td>• Tuberculosis treatment</td>
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<td></td>
<td>• Period of treatment</td>
</tr>
<tr>
<td>b. Perception about drugs</td>
<td>• Number of drugs taken</td>
</tr>
<tr>
<td></td>
<td>• Follow up</td>
</tr>
<tr>
<td>c. Perception of patients towards DOTS services</td>
<td>• Health care advice by provider</td>
</tr>
<tr>
<td>d. Perception of drug compliance</td>
<td>• Likes and dislikes about the process</td>
</tr>
<tr>
<td></td>
<td>• Missed dose</td>
</tr>
<tr>
<td>e. Perception of peoples and Family members towards Patients</td>
<td>• Distance and transportation</td>
</tr>
<tr>
<td></td>
<td>• Money (Expenditure on TB treatment)</td>
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<td>• Fear of taking medicines</td>
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<td></td>
<td>• Fear about Tuberculosis</td>
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<td>• Stigma related to tuberculosis</td>
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<td>• Behavior of family members towards MDR-TB patients</td>
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</table>
General observation: Out of 20 participants 16 were diagnosed as MDR-TB because of their previous history of TB and 4 of them discontinued treatment diagnosed as new MDR-TB without any history of TB.

Knowledge About Tuberculosis

Tuberculosis Occurrence and Clinical Features

Majority of the participants were aware about the term tuberculosis but they had no knowledge about its causative factor and clinical features.

“What is that I don’t know. I don’t have cough.”

Few people said that TB is harmful disease and can cause death. There was a participants who said that TB will occur due to improper intake of food and also poor quality of food. Only few participants said that TB spreads by cough hence cough is the reason for TB occurrence.

“I heard that this disease is harmful, it can cause death also.”

“Due to cough it spread. It is the most dangerous which can harm.”

There were few more participants who said smoking and tobacco chewing causes TB, as one of them was surprised that how he got this disease as he was non tobacco chewer and non smoker.

“I don’t know anything of this disease. I am surprised that I am diagnosed as TB patient. I was knowing only that TB causes because of habits like smoking, tobacco chewing etc. But why it occurred to me I don’t have any habit.”

Tuberculosis treatment

Subjects responded on the questions which were pertinent to their treatment of Tuberculosis, out of them very few subjects gave history that the treatment is very irritating to take and difficult to continue and few said that they had experienced many side effects throughout the treatment course.

“Treatment is very irritating. After taking medicine every time vomiting starts, burning pain in abdomen, difficulty in breathing occurs.”

“Treatment they are giving is good but it causes many side effects. And that effects what I suffered was horrible.”

While interviewing some more patients told that, the treatment is very good and were very happy with the treatment given to them.

“I felt everything is good.”

Perception about Drugs

Period of Treatment

Many of them said that the treatment was time consuming (longer period) and only one or two said that the treatment does not take too long. People were tired of taking medicines because of long duration of treatment.

“Nearly about 11 months I am on TB treatment. Treatment is of long duration. I don’t know when it will be stop.”

“I don’t think so that it is lengthy”

Number of drugs taken

Patients informed that they had fear of tablets as they were too many to take. Because of more quantity of drug, they felt that their health was getting deteriorated. Few even said that duration of treatment is not much but the no. of tablets were more and sometimes felt like vomiting.

“There are so many tablets; I got little tension of that”

“Using this tablet my health was decreased. Period of treatment is not more but quantity of drug is more.”

Nearly half of the patients gave history of side effects of tablets, while few of them felt trouble due to tablets itself. Some participants said that because of their occupation they were facing difficulty in taking too much tablets.

“Daily 8 tablets for 3 days for after 3 days 10 tab per day. During duty time we can’t manage, but we sit on bus and drive if they give leave, then only we can follow after having 10 tablets we can drive bus. Tablets create more trouble.”

“And there are side effects like I felt severe itchiness, throat pain, chest pain and pain in abdomen due to coughing.”

Follow up

Majority of participants said that they do regular follow ups every month as they want to get cured and did not miss any follow up till date, they do not miss any follow up every month.

“Monthly we come”

“We come monthly for checkup. We have to cure then we have to come regularly here.”

Some of them reported that the they come for follow up whenever the care givers called them. They also told that these care givers without fail call monthly.

“Whenever they call we came. If they send tablet to our place it is more easy because Monthly going is little bit difficult for us”

Some of them were tired of this i.e. they said that coming for follow up is so tiring. They felt it was waste of time. Only few didn’t feel the same as they lived nearby and remaining were suppose to travel.

“In every month I come here, it is so tiring, we waste our whole day. Whole day in a queue is so difficult.”

“After every 1 month I have come here for follow up, I don’t feel anything bad or time wasting like that.”

Perception of patients towards DOTS services

Health care advice by provider

Majority of patients felt that advice by the care giver was good and were happy with their services, like they always told that not to miss dose, take it properly etc., and they treated patients in well behaved manner. Few of them informed that the service was not good and satisfactory, as they did not give advice and explanation about the disease and treatment. The health care adviser just wrote and send the patient.

“Yes, they give right advice. Because they give normal advice like don’t miss the dosage, don’t take tension etc.”

“Here facilities are good, advice they give everything for our betterment.”

“They just write. They don’t tell anything to us.”
"If any problem creates I go somewhere else instead of these providers. Because they are not doctors they don’t know much."

**Likes and Dislikes about the process**

Most of them responded and also liked the care given by staff and care giver as the behavior of care givers and staff towards patients were good, they treat them in well manner.

“I felt everything is good. There is nothing that I don’t like”

“When we come the staff give better response. “

Few participants reported that waiting time and treatment period is long due to which they became weak. They felt that the process of distributing tablets and treatment for longer period was not good. Among them few reported that the quantity of tablets are more for intake. Hence, the participants suffered from many side effects.

“and the worst thing is, there should be only one medicine, but they give at a time 8 medicines. I am tired of all medicines.”

**Perception of drug compliance**

**Missed dose**

Most of them discontinued the treatment due to side effects of the drug such as vomiting, imbalance, weakness and breathlessness.

“only one month tablets are left after that I never missed, some time if I take tablet I get trouble like Vomiting misbalancing and feeling like stopping of respiration.”

“Now I left since one month, due to vomiting I left”

Few respondents agreed that they took tablets without skipping any dose as they thought if they will miss doses, they will get more side effects & more trouble. For the sake of getting cured they were taking medicines properly.

“Correctly taken no missed.”

Some of them left because of personal reason, not because of side effects of medicines.

“Some days I took and left. Because there was marriage of my daughter and construction of house and also admitted in kle, after that I left medicine. I tried 6 months but it is so affective therefore I left previous tablets.”

**Distance and Transportation**

Majority of them said that the entire day got wasted behind the process and inadequacy of travelling made to seek the care.

“Very short distance bus stand of BSTC to government hospital, We are poor peoples we always financial problem. For checkup we should come to this DOTS centre from our place. They give one month tablets. We do loan from others. Transportation is mandatory madam.”

Many of them reported that the distance from home to centre was very far and consumed more time. Very few had no issues regarding transportation and distance as they resided nearby.

“It is far away from 110 KM. It is more tiring after meals if you check.”

“It is 10 km, I don’t get any problem to come. But many people have the problem; we have to provide facility of money to travel. From our place we take medicine and from their I came to meet sir.”

**Money (Expenditure on TB)**

Most of them felt expenditure on tablets was high, as they were spending more amount of money on treatment beyond their affordability. Some of them told that they were poor and they took loan from others for treatment. Very few of them said felt that they had no problem with expenditure as the treatment its related expenditure was affordable. They did not face any problem especially with money.

“We are poor people’s we always have financial problem. We do loan from others.”

“NO, nothing as such financial problem”

**Fear of taking medicines**

Most of them were not afraid of medicines, as they were used to face side effects and they wanted to get cured, where as few were worried of side effects of medicines and they were scared of side effects.

“I don’t feel that I need to be scared.”

“First I afraid that what will happen. Now I don’t have fear.”

“Tablets are more therefore I am not taking it properly, I fear that if I take I will start vomiting. Some trouble, due to smell feeling to vomit.”

**Fear about tuberculosis**

As most of them were unaware about TB consequences, they did not have any fear about TB. And also were strong enough to face all consequences. Few were worried about its consequences, as they knew about all side effects and consequences.

“No fear, I don’t fear whatever the things to avoid that should be followed.”

“If we won’t take medicines definitely it increases and causes harm.”

“Disease means humans anytime he goes”.

“I can’t eat with my family, my utensils what I use they keep separately. They fear about infection, my children are going to school their friends are coming to home; therefore I won’t go even my house in day time. I just worried about my children and their marriage.”

“I don’t have any doubts already my age is over. Next 5 years may alive.”

**Perception of peoples and family members towards TB patients**

**Stigma related to tuberculosis**

Most of the patients said society’s attitude towards them was worst which caused emotional disturbances and made them depressed. Behavior of the society was the main factor for non compliance, because people hesitated to tell about their disease. Most of them hide their disease from people and colleagues as they feared about loosing their job, status in the society and weird behavior of people as TB is considered as most infectious disease in the society.
“They would under doubt they hesitate to come and go to our family. Some customers stop to come to my hotel when they heard that I have disease.”

“They hesitate and hate more. If anybody infected they avoid to sit with them. Avoid to use that glass. Near home not known about my TB. I feel very bad.”

Some didn’t communicate about their condition to the society and neighbours thinking that they may treat them in different manner.

“No one knows. Because if they know they treat not good they fear to infect to them.”

Some of them were not bothered about people’s thoughts, because the problem related to them and not to others.

“I don’t worry about them. By downing the head I go in front of them. I am not talking with others an I am not so close.”

“That I don’t know, their problem any meant for them and my problem for myself. I won’t worry about others.”

**Behavior of family members towards TB patients**

Majority of patients said that they were well supported by family and received good courage to take medicines. Only few experienced change in behavior of family members and relatives when they were informed.

“They support me with great affection, 100% they cooperate”

“No any change, I have not behaved like a patient.”

“They don’t care.”

“After TB they are not with me they afraid about my disease. They have not supported me. They keep utensils and water separately from me.”

**DISCUSSION**

The present study aimed to assess the treatment compliance among patients on DOTS under RNTCP.

**Knowledge on Tuberculosis**

In present study knowledge related information like meaning of tuberculosis, its causative factor, mode of transmission were assessed. Most of the patients knew it spreads by coughing. Few of them did not have idea about TB. Some of them knew that it is harmful disease & it can cause death.

A similar study was conducted in Asmara Eritrea, which showed that insufficient general knowledge on TB, lack of money, posed as barriers to treatment adherence.12

Most of the studies showed that participants were unaware about TB, its cause, occurrence and transmission. Participants were having very poor knowledge about TB.9,12,19,26.

**Loss to follow-up**

In present study factors assessed for loss to follow up (i.e. missed dose). Most of them said that it is because of side effects of medicines they left treatment, some of them said that because of quantity of drug. Some of them told that it is because of duration of treatment. Few of them left because of unawareness and other reasons.

A similar study conducted in Asmara Atria and Cape Town, South Africa showed that medication side effects and long treatment period was the major barriers to treatment adherence.9,12

**Social Stigma**

In this present study it is seen that stigma related TB is more. Majority of patients said TB treatment is affected due to the societal behavior and their attitude towards TB patient. Only few of them said that peoples behaviour is good and they support them.

A similar study was conducted in Asmara Eritrea and Cape Town, South Africa showed that stigma and lack of social support was the reason for non compliance to TB treatment.12

**Compliance rate**

In present study level of adherence is very less and the non compliance rate is more. A study conducted in Alma Ata, northeast Ethiopia showed high level of compliance .It was observed that level of compliance was high and treatment success rate was also high.9

Another similar study showed that adherence among migrants was high as compared to non migrants.1

Similar studies conducted in Northwest Ethiopia and China showed low compliance for treatment.19,27.

**Distance and Transportation**

In present study many patient expressed that the distance between residence and DOTS centre was more and this was one of the reason for non-compliance.

In a study conducted in Asmara Eritrea showed that the reasons for compliance was short distance to reached health facilities.12

**CONCLUSION**

Thus study concluded that there is less knowledge about TB, stigma and less social support, side effects of medicines and long treatment duration are the barriers of treatment adherence.

**Recommendation**

Hence health education should be focused not only on sign & symptoms but more emphasis on adherence & consequences of non-adherence for treatment.

Proper counseling about TB & its treatment and also about the societal attitude should be done at regular interval to reduce stigma.

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References


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