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Socio demographic determinants of health care seeking behaviour among tuberculosis patients admitted in the isolation ward of tertiary care hospital: a health belief model

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ABSTRACT

Background: Health care seeking behavior explains that people differ in their willingness to seek help from health care services. It is difficult to identify which determinants are most influential in the decision to utilize health care. The health belief model proposes that a person's health-related behaviour depends on the person's perception in critical areas. The aims and objectives of the study was planned to determine the socio demographic factors of sputum positive tuberculosis patients and to assess the health care seeking behaviour of patients by health belief model.

Methods: Cross sectional descriptive study was conducted on sputum positive tuberculosis patients above 15 years in Tuberculosis wards of Rajiv Gandhi Institute of Medical Sciences, Ongole from April to September 2014.

Results: Mean age group of the 100 participants was 48.89±5.93 years, 92% were males and 49.5% were labourers. Accessibility of the health care services was good in 95% of the cases, diagnostic tests and ATT treatment were accepting in good way by 71% of cases. In first contact, 36% of the cases contacted rural RMPs and 39% of the patients visited private practitioners. Symptoms of the tuberculosis were recognized by 20% of the patients and only 22% of them were perceived about the signs and symptoms. Significant association observed between the recognition of severity of symptoms and awareness on threat of tuberculosis among Tuberculosis patients (p<0.5).

Conclusions: Heath education can be done by using the results of health belief model to increase awareness on perception, susceptibility, threat and understanding about the tuberculosis, there by patient's intake of the drugs will be increased so that we can prevent chances of transmission of the disease.

Keywords: Health belief model, Anti tubercular treatment, Multi drug resistant, Acid fast bacilli, Rural nonqualified medical practitioners

INTRODUCTION

Health care seeking behaviour is defined as a seeking and acceptance by patients of health services. Health care seeking behavior is a particular aspect of help seeking behavior and it explains that people differ in their willingness to seek help from health care services. Some people go readily for treatment, others only when there

was too much in difficulty and in advanced and final stages of ill health. It is difficult to identify which determinants are most influential in the decision to utilize health care. Culture, economics, access, perceptions, knowledge, belief in efficacy, age, gender roles, and social roles are all among the extensive list of factors influencing both the choice to seek health care and the assessment of which health care option to utilize for prevention and treatment of illness.²

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The importance of why people seek medical care is undoubtedly critical in health policy planning, and A study by Grover et al, 2006 on health-care seeking behavior revealed that more urban people compared to rural take self-action for relief of symptoms and more often people in 46-65 years age group compared to younger persons decide to seek help from health care providing source.³ The average prevalence of all forms of tuberculosis in India is estimated to be 5.05 per thousand, prevalence of smear-positive cases 2.27 per thousand and average annual incidence of smear-positive cases at 84 per 1,00,000 annually.⁴

According to the World Health Organization (WHO), India is home to 73,000 patients with MDR-TB. One in three people in the world is infected with the TB bacteria. Bacteria become active as a result of anything that can reduce the person's immunity, such as HIV, advancing age or medical conditions. As access to TB care has expanded substantially, the number of people with TB, or the TB prevalence rate, has also declined in the South East Asia Region compared with 1990. More than 90% of global TB cases and deaths occur in the developing world, where 75% of cases are in the most economically productive age group (15-54 years).

The health belief model (HBM) is one of the first theories of health behaviour and it addresses problem behaviours that evoke health concerns. The health belief model proposes that a person's health-related behaviour depends on the person's perception of four critical areas: the severity of a potential illness, the person's susceptibility to that illness, the benefits of taking a preventive action, and the barriers to taking that action. This model explains the relationship between a personal beliefs and behaviours. It provides a way to understanding and predicting how patients will behave in relation with their health and how will they complies with health care therapies.^{7-10.}

This study was planned to determine the various socio demographic factors of sputum positive tuberculosis patients and to assess the health care seeking behaviour of these patients by health belief model and also to ascertain whether there are socio-economic differences in the occurrence of Tuberculosis cases.

METHODS

Study design and setting

A cross sectional descriptive study was conducted on sputum positive tuberculosis patients above 15 years age group in isolation Tuberculosis ward of Rajiv Gandhi Institute of Medical Sciences over a period of six months from April to September 2014. Permission for the conduction of the study was taken from the Director of the institute and consent of the patient was taken in standard structured format before starting of the study. Approval for this research had been taken by the ethical

committee of the Rajiv Gandhi Institute of Medical Sciences and also official letters of request to conduct the study were communicated to respective Departmental heads in this institute.

Sample size

Taking in to consideration prevalence of 75% among the most economically productive age group (15-54 years) with power of 90%, and allowable error of 0.0225, the sample size of 134 sputum positive pulmonary tuberculosis cases were estimated for this study. But due to paucity of the patients a total of 100 were surveyed for the purpose of the study.

Data collection

Specific planned interviews were conducted for good recall by using pre-tested detailed questionnaires. Particular emphasis was given to support the patients in their recall efforts. This questionnaire consists of 7 sections.

- Socio demographic factors like age, sex, marital status, position in household, formal education, occupation, resources (land, cash, etc.), family income, interaction with family and community, residents expenditure on first consultation, expenditure on second consultation expenditure of all other actions and Consultations were asked.
- 2. Disease symptoms and characteristics like dyspnoea, chest pain, treatment history, cough duration, haemoptysis, fever duration, distance from hospital, chronic or acute severe or expected benefits from treatment, psychosomatic causes.
 - A pulmonary TB suspect is defined as an individual having cough of 2 weeks or more/Contacts of smearpositive TB patients having cough of any duration/suspected/confirmed extra-pulmonary TB having cough of any duration/HIV positive patient having cough of any duration. A pulmonary TB case was defined as an individual newly diagnosed of pulmonary TB, initiated on anti-tuberculosis treatment for less than two months and recorded in the routine clinic TB register.
- 3. Service characteristics like accessibility, appeal (opinions and attitudes towards traditional and modern healers), acceptability, quality, communication, cost, patient delay and health system delay for taking treatment.
- 4. Choice of health care resources like traditional healer, modern healer Drug, seller, self-treatment at home, no treatment, private clinic, patent medicine dealer, community health worker, sub centre, primary health centre, general hospital, first choice of care, second choice of care, third choice of care, health care providers drug-sellers, village health volunteers.

- **5.** Various tests and medication like chest radiograph, sputum test, PCR, culture, reported treatments, antibiotics, anti-tuberculosis medication. Intravenous fluid herbal/traditional remedies, prayer.
- 6. Operational problems like lack of drugs, too far, poor staff attitude, unaffordable cost, long waiting time, lack of doctor, delay in taking treatment, stopping the treatment. Whether patient sought treatment good services and available drugs near the homes. Affordable services, lack of money, lack of help/support pressure of work.
- 7. Health belief model: The important questions for any investigation to cover include the recognition of particular symptoms; the perception of those symptoms and the threat of disease; the extent to which symptoms disrupt family, work and other social activities; availability of treatment resources, physical proximity, psychological and monetary costs of taking action (including costs, time, money, effort, stigma, social distance, feeling of humiliation and the like); beliefs in the efficiency of recommended health care (Figure 1).

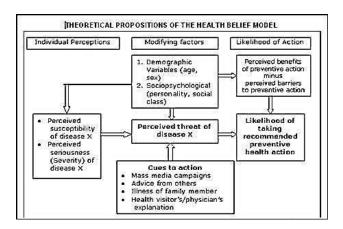


Figure 1: Theoretical propositions of health belief model (HBM).

Data management and analysis

Frequency distributions with 95% confidence intervals, and descriptive statistics - including mean/median were analyzed and calculated. Group comparisons were made by using the, χ^2 test for proportions. The details which was gathered through the proforma cum questionnaire was entered in a data entry sheet after assigning the names to the variables. SPSS and EPI-INFO-7 statistical software was used for the data analysis. P value <0.05 was considered as significant.

RESULTS

Mean age group of the 100 participants was 48.89±5.93 years and ninety two percent were males, Hindus were 69%, and Christians were 25%. It was noticed that 51.5% were illiterate and 4 7.5% were studied up to high school. It was also observed that 49. 5% of the patients were

labourers, 14% of the patients were involved in the driving of autos, tractors and trucks and 13% of the patients were involved in the farming work. Among the patients 57% were belonging to joint families. In 66% of the cases, surrounding of the houses was poorly maintained and sanitary conditions inside the houses (49%) were poor. Eighty five percent of their fathers were also illiterate, 17% of them were died by this time and about 78% of them not involved in any type of work. (Table 1).

Table 1: Socio and demographic factors of tuberculosis patients.

| S.no | Variables | N=100 |
|------|------------------------------|-------------|
| 1 | Males | 92% |
| 2 | Mean age | 48.89±5.93 |
| 3 | Illiterates | 51.50% |
| 4 | High school | 47.50% |
| 5 | Farmer | 13.90% |
| 6 | Labourers | 49.50% |
| 7 | Truck, taxi, bus drivers | 13.90% |
| 8 | Hindu/Christian | 68.3%/24.8% |
| 9 | Lower middle | 24% |
| 10 | Upper middle | 54% |
| 11 | Poor surroundings | 69% |
| 12 | Poor condition inside houses | 49% |

Accessibility of the health care services were good in 95% of the cases, diagnostic tests and ATT drugs treatment were accepting in good way in 71% of cases. Patients were having a feeling that qualities of the services were good in 16% of the cases and they are getting average level of the services in 80% of the cases. Communication and rising of health awareness about the Tuberculosis and complications was not good (35%) from health services and they have created average level of the awareness in 56% of cases (Table 2).

Table 2: Service characteristics for the tuberculosis cases.

| S.no | Service | Good | Average | Poor |
|------|---------------|------|---------|------|
| 1 | Accessibility | 95% | 4% | 1% |
| 2 | Acceptability | 71% | 24% | 5% |
| 3 | Quality | 16% | 80% | 4% |
| 4 | Communication | 35% | 56% | 9% |

Government sector was involved in a big way in provision of the health care services, drugs in general hospital (99%), primary health centres (29%) and subcentres (6%). Community health workers were also involved in the provision of the drugs in 15% of the cases and community health volunteers (25%) were also acting as good health care resources (Figure 2).

Before landing up in the Government health sector 36% of the cases contacted rural non-qualified medical

practitioners in their first contact and 39% of the patients visited private practitioners in the in the same contact. Only 6% of the patients visited Government hospital in

their first contact and 19% of them got treatment from RIMS Medical College.

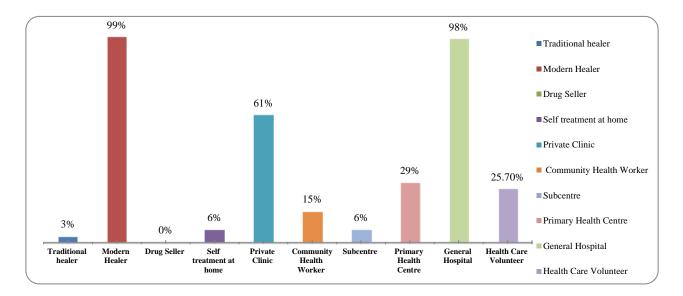


Figure 2: Choice of the health care resources among tuberculosis patients.

Table 3: Choice of the health care services among tuberculosis patients.

| Choice of health care | RMP | Govt. hospital | Medical college | Private clinic | No contact |
|-----------------------|-----|----------------|-----------------|----------------|------------|
| First | 36% | 6% | 19% | 39% | 0 |
| Second | 0 | 18% | 51% | 19% | 11% |
| Third | 0 | 4 | 60% | 0 | 36% |

Tables 4: Operational problems in tuberculosis patients management.

| S.No | Problems | N=100 |
|------|--|-------|
| 1 | Lack of drugs | 37% |
| 2 | Too far hospital | 84% |
| 3 | Poor staff attitude | 16% |
| 4 | Unaffordable drugs from hospital | 2% |
| 5 | Long waiting time | 1% |
| 6 | Lack of doctor | 4% |
| 7 | Delay in taking treatment | 24% |
| 8 | Stopping the treatment in between | 25% |
| 9 | Patient sought good treatment and services | 87% |
| 10 | Available drugs near the home | 50% |
| 11 | Lack of money | 67% |
| 12 | Lack of help and support | 13% |
| 13 | Pressure of work | 18% |
| 14 | Lack of transport facilities | 4% |

In their second contact none of them were contacted the RMPS, and 19% of them were contacted the private clinics. In this visit patients towards Government sector id increasing 51% are received the treatment from RIMS medical college and 18% were opted the treatment from Other Government hospitals at rural level. It was also noticed that 11% patients did not have the second health

contact history. In their third contact none of them visited the either rural medical practitioners or the private clinic. About 36% of the patients did not do not have any contact history. This is good to observe that 60% of the patients were opted RIMS Medical College and only 4% of the patients were received the services from the Government hospital (Table 3).

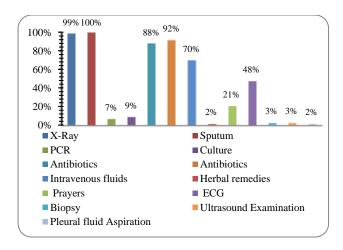


Figure 3: Various diagnostic tests among tuberculosis patients.

It was observed that tuberculosis patients were tested for various diagnostic tests like sputum for AFB (100%), Xray (99%), and culture test for the tuberculosis in 9% of the cases and also PCR was carried out in the 7%. Ant tubercular treatment was provided to 92% of the cases, antibiotics were given to 88% of the cases and Intravenous fluids were administered in 70% of the cases. This is the practice prevalent prayers were conducted in 21% of the cases to early and easy recovery and herbal remedies were used for management in 2% of the patients. Other required and necessary investigations were conducted for the patients those are like ECG in 48% of the cases, biopsy was done in 3% of the cases, ultrasound examination was done in 3% of the cases and pleural fluid aspiration was done in the 2% of the patients (Figure 3).

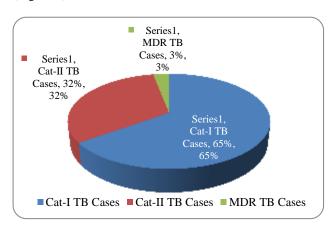


Figure 4: Different categories' of tuberculosis patients.

Sputum positive category –I cases were found to be 55% cases, sputum negative, category –I cases were found to be 10%. Rests of the cases were (35%) were Category –II cases and MDR-TB Cases (Figure 4).

Patients were faced so many operational problems during the course of the treatment like lack of drug supply (37%), far away hospital (84%), poor staff attitude (16%), unaffordable drugs from the hospital (2%), long waiting time (1%), non-availability of doctors (4%), dealay in taking treatment (24%). It was noticed that 25% of patients were stopped the treatment in between the course of the management. It was told that 4% of the patients don't have proper transport facilities to reach the hospital (Table 4).

Table 5: Concept on health belief model about tuberculosis.

| S.no | Characteristics | % |
|------|--|----|
| 1 | Recognition of particular symptoms | 20 |
| 2 | Perception of those symptoms | 22 |
| 3 | Awareness about threat of the disease | 19 |
| 4 | The extent to which symptoms disrupted the family | 92 |
| 5 | Extent to which symptoms work and other social activities | 81 |
| 6 | Availability of treatment resources and physical proximity | 66 |
| 7 | Psychological action of stigma | 30 |
| 8 | Psychological action of the effort | 90 |
| 9 | Psychological action of the social distance | 32 |
| 10 | Psychological action of feeling of Humiliation | 86 |
| 11 | Beliefs in the efficiency of recommended health care | 87 |

Symptoms of the tuberculosis were recognized by 20% of the patients and only 22% of them were perceived about the signs and symptoms. Severity and complications were known to the 19% and 92% them were expressing the problems that because of this disease their family has been disturbed in a great manner. Even with this disease 81% of the patients were involved in the household work and other social activities. Treatment resources were available to the 66% of patients in physical proximity of their households. Stigma was faced by 30% of the patients and in 90% of the cases their efforts were decreased drastically in comparison with the nondiseased states. In 32% of the cases they were marinating distance from their relatives and in 86% of the cases patients were felt about humiliation. Patients have good faith and belief about existing health care system, 87% of them were saying that Government has been providing a good health care (Table 5).

Significant association observed between the perception of susceptibility of symptoms and awareness on threat of tuberculosis among Tuberculosis patients (p<0.5) (Table 6).

Significant association observed between the recognition of severity of symptoms and awareness on threat of tuberculosis among tuberculosis patients (p<0.5) (Table 7).

Table 6: Perception of susceptibility of symptoms and awareness on threat of tuberculosis.

| | Perception of susceptibility of symptoms Y N | | — Total | |
|--|--|----|---------|-------|
| | | | N | Total |
| A-monomore on throat of the consultation | Y | 19 | 2 | 21 |
| Awareness on threat of tuberculosis | N | 3 | 76 | 79 |
| Total | | 22 | 78 | 100 |

Chi- square test value=4.2; df= 1; p<0.05.

Table 7: Recognition of symptoms and awareness on threat of tuberculosis.

| | | Recognition | Recognition of severity of symptoms | |
|-------------------------------------|---|-------------|-------------------------------------|-------|
| | | Y | N | Total |
| A | Y | 19 | 1 | 20 |
| Awareness on threat of tuberculosis | N | 1 | 79 | 80 |
| Total | | 20 | 81 | 100 |

Chi- square test value =4.2 df=1; p<0.05.

DISCUSSION

In our study the mean age group of the 100 participants was 43.31±1.39 years, minimal age was 16 years and maximum was 80 years and 52% were illiterate. A study conducted by Sidiqi et al revealed that most of the patients (78%) were below the age of 46 years. This finding is consistent with the earlier WHO statement and most of the TB cases are in the age group of 15 to 50 years in developing countries. 11 Information on health seeking behaviour and health care utilization has important policy implications in health systems development.¹² Purpose of this study was to determine the health seeking behaviour of the patients and of the health care providers in diagnosis and treatment of tuberculosis. Health behaviour includes all those behaviours associated with establishing and retaining a healthy state.13

As per our study Government sector was involved in a big way in provision of the health care services, drugs in general hospital (99%), primary health centres (29%) and subcentres (6%). Shaikh et al revealed that private hospitals are the most preferred health facility for care. The study conducted in Pakistan where 34% of the patients preferred private hospitals for children emergencies compared to 25% who preferred public hospitals. ¹⁴ Our results are different from the situation reported in Germany where less than 8% of the population preferred using private health facilities. ¹⁵

Parakoyi et al found that the choice of health care is limited by factors such as availability, accessibility, affordability of services of the health facilities, cultural beliefs, the situation per time and whether the kinds of services provided meet need of the user. ¹⁶ Before landing up in the Government health sector, in our study 36% of the cases contacted rural non-qualified medical doctors in their first contact and 39% of the patients visited qualified private practitioners. In their second contact

none of them were contacted the RMPS, and 19% of them were contacted the private clinics. Olugbemiga et al in their study revealed that the preferred health facility for medical care was private hospitals (35.2%) followed by pharmaceutical store (27.9%) and 17.0% for general/teaching hospitals and only 12.3% for primary health care (PHC) and this is consistent with our study. ¹⁷

Karkee et al observed that among the respondents who used public facilities, 64.0% (174/272) said that their choice was due to financial accessibility and physical accessibility. Only 8.8% (24/272) of these respondents chose the public health facilities because of health personnel practices and conduct. By contrast, resources, health-care delivery and respect in private facilities were generally perceived as adequate as and better than in public facilities. Higher perceived quality of private facilities has also been reported from India and Kenya. 19,20

In their third contact in our study, none of them visited the either rural Medical Practitioners or the Private clinic. About 36% of the patients did not have any contact history. This is good to observe that 60% of the patients were Opted RIMS Medical College. In India, private facilities are chosen based on the severity of illness and reputation of the facility. Most of the patients (96%) consulted at least one health care provider prior to attending TB Center. This finding is conforming with the earlier finding of Marsh and Uplekar but contrary to Krishna Swamay. Lielboghe et al revealed that pattern of seeking care remains the same for first and second consultations but for third contact seek services from the homeopaths and dispensers.

Patients were faced so many operational problems during the course of the treatment like lack of drug supply (37%), far away hospital (84%), poor staff attitude (16%), unaffordable drugs from the hospital (2%), long waiting time (1%). Murray et al in his study found that quick service was the commonest reason given by 82.8% of all respondents and this was followed by availability of drugs (78.1%). As per Benjamin et al the pattern of care seeking among the socio-economic groups indicated that the least poor population groups have a higher probability of seeking treatment care at the health centers, hospitals, and private clinics and in using laboratory procedures.²⁵

According to the HBM, the likelihood that someone will take action to prevent illness depends upon the individual's perception, personally vulnerable to the condition; the consequences of the condition would be serious; the precautionary behavior effectively prevents the condition; and the benefits of reducing the threat of the condition exceed the costs of taking action. Redding et al reviewed that the health belief model (HBM) has the longest history of all the theories and it was first conceived by social psychologists in the public health as a method of predicting who would utilize screening tests and vaccinations.²⁶ Becker et al found that the HBM has been used for intervening with health screening, illness, sick role, and precautionary behaviors.²⁷

In this study symptoms of the tuberculosis were recognized by 20% of the patients and only 22% of them were perceived about the signs and symptoms. Even with this disease 81% of the patients were involved in the household work and other social activities. As per Weinstein et al study according to view of HBM, individuals concerned about being healthy in general are more likely to exercise regularly than individuals who place little value on health. Significant association observed between the recognition of severity of symptoms and awareness on threat of tuberculosis among tuberculosis patients.

CONCLUSION

The hospital based study conducted in RIMS Medical college Ongole, category –I cases were found to be 65% and most of the patients were illiterate and mostly involved in the labour work, parents of these diseased patients were not doing any type of work and they were burden on them. The accessibility of the services to these patients was 95% and acceptability of the services 75% and preferred choice of health care initially for Private sector, than Government. In this study it was observed by health belief model that severity and complications were known to the 19% and 92% of the patients still they were expressing the problems that because of this disease their family has been disturbed in a great manner

There may be market competition between public and private facilities but poor people of India should not suffer. Heath awareness and education can be done by using the results of health belief model to increase the perception, susceptibility, threat and understanding of about the tuberculosis, there by patients intake of the drugs will be increased so that we can prevent chances of transmission of the disease. Specific approaches should be planned to prevent stigma and humiliation among

tuberculosis patients and proper monitoring system has to be planned to maintain very good quality of services in RNTCP.

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Institutional Ethics Committee

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