Why do tuberculosis suspects bypass local services to attend tuberculosis sanatorium?

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ABSTRACT

Background: The Government Hospital of Thoracic Medicine (GHTM), Tambaram, in Kanchipuram district (formerly known as tuberculosis [TB] sanatorium), Tamil Nadu, draws patients from all over India although RNTCP services have been in place country-wide for a number of years. Objective: To document the reasons for patients with chest symptoms attending GHTM, Tambaram. Materials and Methods: In a prospective observational study, on a simple random sample basis, TB suspects attending the out-patient department of GHTM during the period January-March, 2006, were interviewed using a semi-structured interview schedule. Information on demographic, socio-economic characteristics and reasons for attending GHTM for health care was collected. Results: A total of 2,023 respondents attended GHTM during the study period; 56% were males, 67% were aged <45 years, 63% were literates and the average annual family income was Rs 25,000. Multiple reasons for attending GHTM were given: popularity of the centre (82%), perceived availability of good treatment (52%), referral by earlier treated patients (36%), expectation of specialized care (22%), referred by treating physicians (13%), and came for inpatient care (11%). Conclusion: Despite the availability of local RNTCP health services, many patients with chest symptoms made use of GHTM services due to the reputation of the former “TB sanatorium” in the community. The findings suggest that there is a need to improve community awareness of the availability of free diagnostic and treatment facilities locally under RNTCP.

KEY WORDS: DOTS, India, RNTCP, sanatorium, tuberculosis, utilization

INTRODUCTION

The Government of India’s Revised National Tuberculosis Control Program (RNTCP), based on the internationally recommended Directly Observed Treatment Short-course (DOTS) strategy, is an effective public health strategy for the control of tuberculosis (TB) in India. In terms of the over 1.5 million patients it treats per year, RNTCP is the largest such program in the world. The RNTCP services provided are integrated with the nationwide primary healthcare services and widely involve the community. RNTCP’s diagnostic and treatment services are decentralized and widely available through more than 12,500 designated microscopy centers and hundreds of thousands of treatment centers based both in health facilities and in the community. Thus, all TB suspects and patients via RNTCP services have ready access to a universal standard of TB care.[1]
Is this due to a lack of awareness or non-acceptability amongst patients of the RNTCP diagnostic and treatment facilities available locally and/or referral of patients to GHTM by practitioners?

To answer these questions, a study was undertaken to assess the reasons given by patients for attending GHTM, and to describe the socio-economic profile of these patients.

MATERIALS AND METHODS

Study area
A prospective study was conducted in GHTM in the Kanchipuram district of Tamil Nadu, situated 20 kms south of the state capital, Chennai.

Study population
From among the patients attending the out-patient department of the GHTM during the period January to March 2006, 20 male and 20 female patients on each working day were selected on a simple random sample basis. Patients were grouped depending on their place of residence. Group I included those symptomatics from Kanchipuram district itself, adjacent Tiruvallur district and Chennai city. Patients from this group had to travel a distance of 1-50 kms to reach GHTM. Group II included symptomatics from other districts of Tamil Nadu and from Chittoor district of Andhra Pradesh. These patients had to travel a distance of more than 30 kms to reach GHTM.

Data collection
Trained Health Visitors (HVs) conducted the interviews after establishing a rapport with the TB suspects at GHTM’s out-patient department. Patients were informed in their mother tongue or a language that they understood, about the purpose of the study. Patients were told about the confidentiality of the data collected and also of their right to withdraw from the study at any time. A semi structured pre-coded interview schedule was used to collect reasons for attending GHTM. In addition, the demographic, socio-economic profile comprising education, occupation, income and information about the housing were collected.

Data management
After scrutiny, the data were computerized and to ensure accuracy all records were keyed in twice by two independent data entry operators. Data were checked for errors and analyzed using the SPSS (8.0 version SPSS Inc, Chicago, IL) package. In univariate analysis, the Chi square test was used to compare the demographic, socio economic characteristics of patients from different districts. A P-value <0.05 was considered statistically significant.

RESULTS
A total of 2,023 patients (TB suspects) attending GHTM for healthcare were interviewed. Group I included 1,625 (80%) and Group II 398 (20%). The socio-demographic profile of patients of both the groups was similar [Table 1]. Of the 2,023 patients, 1,358 (67%) were aged <45 years, 1,280 (63%) were married, 1,298 (64%) lived in a nuclear family, 1,459 (72%) lived with family size >3, and 1,273 (63%) were literate.

Table 2 describes the economic characteristics of respondents attending GHTM for health care. Of the 2,023 patients, 1,285 (64%) were employed, 1,705 (84%) were landless, 834 (41%) lived in kutch homes (made from mud, thatch or other low-quality materials) and 757 (37%) in semi-pucca houses. There were 1,229 (61%) patients who lived with only one earning member in the family, 680 (34%) lived in rented house, and 1,107 (55%) had only one person in the household who had studied more than 8th standard. The average (median) annual family income was Rs 25,000.

Table 3 describes reasons why respondents had come to GHTM and the reasons given were multiple. Majority (1,652; 82%) of them came to GHTM due to the popularity of the centre. This popularity was significantly higher among Group I patients than Group-II (84% vs. 74%; $p<0.001$). The perception of going to get ‘good treatment’ was given by 1,047 (52%) patients (46% in Gp I vs. 75% in Gp II; $p<0.001$). A significant number (36%) of patients were referred by old patients of GHTM (Gp I 33% vs. Gp II 50%; $p<0.001$) and 28% by relatives (Gp I 27% vs. Gp II 33%; $P<0.05$). Neighbors referred 506 (25%) and 257 (13%) were referred by their treating physician. Other reasons given were the expectation of receiving specialized care by 440 (22%) patients and inpatient care by 229 (11%).

| Table 1: Socio-demographic characteristics of study population |
|--------------------------------------------------------------|
| **Group I (n 1625)** | **Group II (n 398)** | **Total (n 2023)** |
|--------------------|----------------------|--------------------|
| **Sex**            |                      |                    |
| Male               | 902 56               | 222 56             | 1124 56             |
| Female             | 724 44               | 176 44             | 899 44              |
| **Age**            |                      |                    |
| <45 years          | 1091 67             | 267 67             | 1358 67             |
| ≥45 years          | 534 33              | 131 33             | 665 33              |
| **Marital status** |                      |                    |
| Unmarried          | 428 26              | 98 25              | 526 26              |
| Married            | 1024 63             | 256 64             | 1280 63             |
| Widow/Separated    | 173 11              | 44 11              | 217 11              |
| **Type of family** |                      |                    |
| Joint              | 620 38              | 105 26             | 725 36              |
| Nuclear            | 1005 62             | 293 74             | 1298 64             |
| **Family size**    |                      |                    |
| ≤3                 | 459 28              | 105 26             | 564 28              |
| >3                 | 1166 72             | 293 74             | 1459 72             |
| **Education**      |                      |                    |
| Illiterate         | 584 36              | 166 42             | 750 37              |
| Literate           | 1041 64             | 232 58             | 1273 63             |

Group I: Patients from adjacent districts, Group II: Patients from other districts.
DISCUSSION

Our study showed that patients used the services of GHTM mainly due to its popularity as a TB sanatorium (82%) and referrals by previously treated patients at GHTM, relatives and neighbors. Similar observations were reported from other parts of India and elsewhere, where popularity and perception of getting good treatment appeared to be the motivating factors for higher utilization of sanatoria-like health care services. A recent study reported that 25-41% of the annual case detection in Bangalore district came from TB sanatoria alone since the majority of chest symptomatics approached the sanatoria for TB care. TB sanatoria were established earlier in India in several places, mainly in major cities, as an important part of the national infrastructure for TB control activities. These centers provide free TB diagnostic and treatment services in a hospital based in-patient setting. Their specialized nature still attracts large numbers of respiratory symptomatics. TB patients who visit these centers are not only from the districts in which they are located, but also from neighboring districts and states. The popularity of the GHTM was more among patients living in and around the centre, and this may be due to the proximity and easy accessibility.

During the study period, a total of 16,330 chest symptomatics attended various RNTCP health facilities across the district for diagnosis, and of them 1,625 (10%) attended GHTM. The reason for bypassing the locally available decentralized health services was mainly on the popularity of the sanatorium and the perception of patients of the availability of good quality care and environment like adequate rest, diet, close observation and cooperation like adequate rest, diet, close observation and cooperation at GHTM. This highlights the continued need to improve community awareness of the availability of quality and free diagnostic and treatment services at their local health facilities under RNTCP. The community needs also to be aware of the need to take timely action if they are ill with chest symptoms suggestive of TB disease.

The present study showed that among the referrals to GHTM the proportion of referrals by treating physicians was small (13%). In general, patients referred by physicians were either chronically ill or seriously ill and required either inpatient care and/or special investigations.

Data shows that the patients who attend government health services are generally from the low socio-economic segment of the population. Our study also showed that most of the chest symptomatics attending GHTM were from the poorer sections of the community, with 84% being landless and 41% living in kutcha houses. For households with a low standard of living, the public sector is a crucial source of healthcare. An earlier study found that 64% of 864 patients notified to the RNTCP, were from section of the population with a low standard of living index (SLI), 32% from medium SLI and only 4% from the high SLI groups. One of the goals of RNTCP is that the patient should not lose wages or incur expenditure for travel. Extra efforts have, therefore, been made to provide decentralized services for diagnosis and treatment as close as operationally possible to patient’s residence. The present study showed that patients, even from the poorer sections of the community, continue to travel long distance to GHTM. This again emphasizes the need to create greater awareness in the community of the availability of quality and free services close to their residences.

Table 2: Economic profile of study population

| Group I (n 1625) | Group II (n 398) | Total (n 2023) |
|----------------|------------------|---------------|
| Occupation     |                  |               |
| Employed       | 1031 (63)        | 254 (64)      | 1285 (64)      |
| Unemployed     | 594 (37)         | 144 (36)      | 738 (36)       |
| Ownership of land |                |               |
| Land less      | 1366 (84)        | 339 (85)      | 1705 (84)      |
| 1-2 acres      | 200 (12)         | 45 (11)       | 245 (12)       |
| >2 acres       | 59 (4)           | 14 (4)        | 73 (4)         |
| House type*    |                  |               |
| Kutcha         | 668 (41)         | 166 (42)      | 834 (41)       |
| Semi pucca     | 614 (38)         | 143 (36)      | 757 (37)       |
| Pucca          | 343 (21)         | 89 (22)       | 432 (21)       |
| Earning members |                  |               |
| 1              | 992 (61)         | 237 (60)      | 1229 (61)      |
| 2              | 477 (29)         | 132 (33)      | 609 (30)       |
| ≥3             | 156 (10)         | 29 (7)        | 185 (9)        |
| Ownership of house |              |               |
| Rent           | 539 (33)         | 141 (35)      | 680 (34)       |
| Own            | 1086 (67)        | 275 (65)      | 1343 (66)      |
| No studied >8th std |        |               |
| 1              | 893 (55)         | 214 (54)      | 1107 (55)      |
| 2              | 399 (25)         | 115 (29)      | 514 (25)       |
| ≥3             | 333 (20)         | 69 (17)       | 402 (20)       |
| Median annual family income (Rs) | 24000 | 26300 | 25000 |

Table 3: Reasons for coming to Tambaram

| Group I (n 1625) | Group II (n 398) | Total (n 2023) |
|----------------|------------------|---------------|
| Popularity of sanatorium | 1357 (84) | 295 (74) | 1652 (82) |
| Perception on good treatment | 749 (46) | 298 (75) | 1047 (52) |
| Referred by patients treated at GHTM | 540 (33) | 198 (50) | 738 (36) |
| Suggested by relatives | 442 (27) | 132 (33) | 574 (28) |
| Suggested by neighbor | 400 (25) | 106 (27) | 506 (25) |
| Expecting specialized care | 352 (22) | 88 (22) | 440 (22) |
| Referred by treating physician | 213 (13) | 44 (11) | 257 (13) |
| For inpatient care | 190 (12) | 39 (10) | 229 (11) |
| Availability of medical Officers round-the-clock | 10 (1) | 9 (2) | 19 (1) |
Limitations of the study
Before considering the implications of the study, it is important to note the study’s limitations. Firstly it was not possible for the sampling of respondents to be selected on a probabilistic basis from a defined population; hence a convenient sample of 40 consecutive outpatients was interviewed each day. The awareness of locally available RNTCP services and the reason of “bypassing” them were not directly questioned of the interviewees. This study focused on perceptions towards services and service utilization with respect to a single nominated illness episode.

CONCLUSION

The main reasons for seeking care at the ‘TB sanatorium’ were popularity of the center and the perception of the availability of “good treatment” at the hospital. This suggests that awareness of the availability of decentralized quality free diagnostic and treatment services all across the country, has not yet penetrated into the wider society. Policy makers can utilize the study findings to develop strategies towards better education and for planning of wider community involvement in TB control activities. There is a need for future studies to see whether there is any change in this situation over time.

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