DIAGNOSTIC DELAY AND HEALTH SEEKING BEHAVIOUR AMONG TUBERCULOSIS PATIENTS UNDER REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME IN KOTTAYAM, KERALA

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ABSTRACT: Diagnostic delay and health seeking behaviour among Tuberculosis patients under Revised National Tuberculosis Control Programme were assessed in Kottayam district of Kerala.

METHODOLOGY: Study design: - cross sectional study .Study settings – District Tuberculosis Centre, Kottayam. RNTCP Centre, Medical College, Kottayam. Primary Health Centre, Ettumanoor. Primary Health Centre, Athirampuzha. Primary Health Centre, Kumarakom. Primary Health Centre, Kuddaloor. Data were collected by a pretested structured questionnaire and analyzed by SPSS 16.

RESULTS: Maximum number of study subjects had one month delay (36.6%).26.2% of patients had up to 2 months of delay in their diagnosis. A considerable number of patients 9.1 % had a delay of 6 months or more. Mean delay – 73.98 Days (Standard Deviation – 73.88 Days) (Range 1day to 365 Days). Median Delay – 45 Days. Mean delay in diagnosis across the three treatment categories are significantly different with each other when analyzed by an one way Analysis of variance (ANOVA) Maximum mean delay in diagnosis was in category III patients.

KEY WORDS: Diagnostic Delay, Health seeking Behaviour, Revised National Tuberculosis Control Programme (RNTCP)

INTRODUCTION: The Directly Observed Treatment Short Course (DOTS) strategy has been recognized as the most cost effective and successful strategy tested worldwide and provides the guidelines for the role of the care providers for tuberculosis control.

Behaviour of care seekers is largely a neglected area in TB Research particularly in India. That is why "Health seeking behaviour and reasons for delay in diagnosis of TB patients" is listed as one of the priority research areas in RNTCP under Research agenda for RNTCP Phase II – Oct 2005 to Sept 2010.

Studies carried out throughout the globe regarding TB now focuses a great deal on delay in diagnosis of TB and associated health seeking behaviour of them.

Health seeking behaviour covers the whole range of behaviour of a chest symptomatic like the pre disease knowledge of the patients about the disease, promptness of the patients to seek advice from a health care staff, their attitude towards private or the public health care sectors, perception and confidence towards the diagnostic facilities and treatment facilities given under a programme.

Ever since the full fledged implementation of DOTS in India although the treatment success rate is somewhere near the set target of 85% but the case detection rate has remained well below the target level of 70% for years (RNTCP Performance Report, India Fourth Quarter, 2006). If we look for the same parameters in the state of Kerala we find that although the treatment success rate

is just below the target level of 85% but the new case detection rate is very low i.e. near 40%. Health seeking behaviour and factors associated with delay in diagnosis among TB patients receiving DOTS from some selected centres in this district can throw considerable light in the reasons for this target lag. Health Seeking Behaviour in the chest symptomatic or among the TB patients can point towards the factors associated with the delay in TB diagnosis. The present study was conducted to explore the diagnostic delay and health seeking behaviour among the TB patients in Kottayam district Kerala.

MATERIALS AND METHODS:

Objectives:

1. To find out average time taken in diagnosis of tuberculosis patients under RNTCP from the onset of their specific symptoms.
2. To bring out the health seeking behaviour of tuberculosis patients under RNTCP.
3. To identify the factors associated with delay in diagnosis

Study Setting: The study was conducted in the following six RNTCP centres:

District Tuberculosis Centre, Kottayam. RNTCP Centre, Medical College, Kottayam. Primary Health Centre, Ettumanoor. Primary Health Centre, Athirampuzha. Primary Health Centre, Kumarakom. Primary Health Centre, Kuddaloor. All patients registered under RNTCP in the above mentioned centres during 1 year period were personally contacted and interviewed.

Study Design: Cross sectional study

Study Period: June 2006 - June 2007

Study population and Sampling Method: All the patients registered during the period of one year (June 2006 - June 2007) and getting DOTS in the above mentioned six RNTCP Centres were studied.

Inclusion criteria: A person diagnosed as a TB patient, duly registered under RNTCP in the above mentioned centres and getting treatment in the form of DOTS.

Exclusion Criteria: A person fulfilling above criteria but too ill to cooperate or not willing to give the consent was excluded.

Method of data collection: A pre-tested structured interview schedule was used to collect the data. Laboratory register, treatment register, treatment card, patient's identity card were looked into for rechecking and verifying diagnosis, categorization, date of start of treatment and site of disease.

RESULTS:

1. Total no of study subjects ---- 164
2. Mean age of the study subjects were 42.79 years. Range 5 to 96 years Standard deviation: 16.78. Among them 121(73.8%) were males and 43(26.2%) were females.
3. According to Kuppaswamy Socio economic status classification 117 (72%) were from upper lower Socio economic class. 34(21%) were from lower middle class. 9 (5%) were from upper middle class and 4 (2%) were from lower class.

4. Categories of disease among study subjects

Fig - 1

Maximum number of study subjects belonged to category I (109, 66.5%), followed by Category III (31, 14.6%) and Category II (24, 18.9%).

5. Types of TB disease among the study population

Fig - 2

Figure -2 shows the distribution of the study subjects according to the type of TB disease. 136(82.9%) patients were pulmonary TB patients, followed by lymph node TB (17, 10.4%) and TB of other organs (11, 6.7%).

6. Delay in diagnosis of TB under RNTCP among the study population

Table – 1

Delay in diagnosis	Number	Percentage	Cumulative percentage
Up to 1 month	60	36.6	36.6
1 month to 2 month	43	26.2	62.8
2 month to 3month	24	14.6	77.4
3 month to 4 month	6	3.7	81.1
4 month to 5 month	6	3.7	84.8
5 month to 6 month	10	6.1	90.9
6 month and above	15	9.1	100
Total	164	100	

Table -1 shows the delay in diagnosis among the study subjects. Maximum number of study subjects had one month delay (36.6%). 26.2% of patients had up to 2 months of delay in their diagnosis. A considerable number of patients 9.1 % had a delay of 6 months or more. Mean delay – 73.98 Days (Standard Deviation – 73.88 Days). (Range 1day to 365 Days). Median Delay – 45 Days.

7. Health Seeking Behaviour among the study population

a. Awareness about the symptoms during disease onset among the study population

Table – 2

Patient knew that the symptoms could be due to TB	Number	Percentage
Yes	21	12.8
No	143	87.2
Total	164	100

Only 12.8 % of study subjects knew that the symptoms at the onset of their disease could be due to TB. This data leads us to presume that lack of awareness regarding the initial symptoms of TB has contributed to the large amount of delay associated with diagnosis.

b. Source of information about RNTCP to the patients

Table - 3

Source of information	Number	Percentage
Private health sector	25	15.2
Govt. health sector	112	68.3
Others (Mass media, Friend, Relative)	27	16.5
Total	164	100

Most of the patients got (68.3%) to know about RNTCP from government Health sector. Mass media contributed only 16.5% of patient's information.

8. Perception by study subjects regarding Chest X-Ray as a diagnostic tool used under RNTCP

Table - 4

Statement regarding Chest X-Ray	Number	Percentage
Every TB patient should undergo a chest X-Ray examination	90	54.9
Chest X-Ray is not always necessary to Diagnose TB	50	30.5
Cannot give an opinion	24	14.6
Total	164	100

54.9 % of patients wrongly responded that Every TB patient should undergo a chest X-Ray examination. 14.6% did not give an opinion and only 30.5 % had correctly said that Chest X-Ray is not always necessary to diagnose TB.

9. Factors associated with delayed diagnosis of TB under RNTCP

A. Category of patients and delay in diagnosis

Table - 5

Category of the patient	Number	Mean delay in diagnosis(Days)
Category - I	109	65.28
Category - II	24	71.04
Category - III	31	106.81
Total	164	73.98

Mean delay in diagnosis across the three treatment categories are significantly different with each other when analyzed by a one way. Analysis of variance (ANOVA) with the following statistics F-value - 3.974 df-2 P-value - 0.021 Post-Hoc Turkey's HSD 1-3(P - 0.014).

10. Consultation with system of medicine other than Modern medicine and Delay in diagnosis

Table - 6

Consulted system of medicine other than modern medicine	Number	Mean delay in diagnosis(Days)
Yes	40	150.20
No	124	49.39
Total	164	73.98

t value - 9.248 P value - 0.000

Patients who consulted system of medicine other than modern medicine has almost 100 days of more mean delay in diagnosis which is also statistically significant.

DISCUSSION: The present study was conducted to explore the diagnostic delay and health seeking behaviour among the TB patients in Kottayam district Kerala. 46% of study subjects took treatment from District TB Centre, 41% took treatment from 4 selected PHCs and 13% from RNTCP Centre

Medical college, Kottayam. Maximum number of study subjects belonged to category I (109) followed by Category III (31) and Category II (24). Maximum number of study subjects had one month delay (36.6%). 26.2% of patients had up to 2 months of delay in their diagnosis. A considerable number of patients 9.1 % had a delay of 6 months or more. Mean delay – 73.98 Days (Standard Deviation – 73.88 Days) (Range 1day to 365 Days). Median Delay – 45 Days. This finding was similar to the results obtained by Ashoo Grover, Rajesh Kumar et al in PGI Chandigarh where they have found a mean delay of 56.6 days (SD 23.5) in diagnosis of TB with arrange of 7 to 365 days. Only 12.8 % of study subjects knew that the symptoms at the onset of their disease could be due to TB. Less than 50% (48.2%) of study subjects were aware that government runs a well organized TB control programme RNTCP. Although maximum patients (69.5%) first went to a government health facility for seeking care but still a considerable number of patients (30.5%) went to private health facilities to seek care. 24.4% of patients consulted systems of medicine other than modern medicine (Homeopathy, Ayurveda). 16.5% of patients tried a home remedy before proper care seeking in the form of cough syrup, antibiotics and other over the counter drugs. Most of the patients got (68.3%) to know about RNTCP from government health sector. Mass media contributed only 16.5% of patient's information. Although not in the diagnostic algorithm of RNTCP still in 20.7 % of patients underwent TC/DC/ESR examination and 1.2 % of patients Underwent Mantoux test. 54.9 % of patients wrongly responded that Every TB patient should undergo a chest X- Ray examination. 14.6% did not give an opinion and only 30.5 % had correctly said that Chest X-Ray is not always necessary to diagnose TB.

Mean delay in diagnosis across the three treatment categories are significantly different with each other when analyzed by an one way Analysis of variance (ANOVA) Maximum mean delay in diagnosis was in category III patients. Nguyen Phuong Hoa et al while conducting their research among TB patients in a similar setting in Vietnam found that the most common reason for not taking action was that the disease symptoms were not considered serious.

REFERENCES:

1. TB India 2007, RNTCP status report, TB Anywhere is TB Everywhere – Stop TB Now, Central TB division, www.tbcindia.org, searched on 21 may 2007.
2. RNTCP Performance Report, India Fourth Quarter, 2006. Central TB Division, Directorate General of Health Services Ministry of Health and Family Welfare, Nirman Bhavan, New Delhi 110011 <http://www.tbcindia.org>, searched on 21 may 2007.
3. K.Park, Park's Text book of Preventive and Social Medicine(19th edition Feb 2007) 149-166
4. WHO (2006), Global Tuberculosis Control, Surveillance, Planning Financing WHO Report 2006.
5. Ashoo Grover, Rajesh Kumar et al. TREATMENT SEEKING BEHAVIOUR OF CHEST SYMPTOMATICS; Ind J Tub, 2003, 50, 87.
6. Nguyen Phuong Hoa, Anna E K Thorson, Nguyen Hoang Long, and Vinod K Diwan; Knowledge of tuberculosis and associated health-seeking behaviour among rural Vietnamese adults with a cough for at least three weeks; Scand J Public Health 2003; 31(Suppl. 62): 59–65.

ORIGINAL ARTICLE

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