



CONGRUENCE OF RECORD KEEPING OF TUBERCULOSIS PATIENTS BY FIELD INTERVIEWS IN A COMMUNITY BLOCK OF DISTRICT AMRITSAR

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INTRODUCTION

Data recording and reporting is necessary to monitor trends in the TB epidemic. Building on the success of national model programmes established in southern and east Africa in the 1980s, a standardized system for paper-based recording and reporting of the number of cases diagnosed with TB and their treatment outcomes was rolled out worldwide from the mid-1990s as one of the five elements of the World Health Organization's (WHO) DOTS strategy.¹

ABSTRACT

Introduction: Good recording practices are necessary for effective patient management. When high-quality data are available, success can be documented and corrective actions taken to address problems that are identified.

Objective: To assess the accuracy of record keeping of TB patients by field interviews

Methods: The study was conducted on a total of 326 patients residing in the area of PHC Verka and registered with District Tuberculosis Centre, Amritsar. House to house visits were done. Outcome of the patient according to the TB register and according to interview were compared.

Results: According to record out of 228 patients, the outcome of 105(46.10%), patients was cured, 105(46.10%) patients had completed their treatment, 10(4.40%) had defaulted, 6(2.6%) were failure and 2(0.9%) had transferred out. On interviewing the patients the outcome of 98(43%) was cured, 95(41.70%) were treatment completed, 29(12.70%), defaulted and 6(2.6%) were failure. Discrepancies were found between outcome recorded on TB register and as obtained on interviewing the patient. The treatment outcome according to record and outcome according to interview, was found to be statistically significant ($p=0.005$)

Conclusion: Present study reveals that there is an urgent need to strengthen performance of the programme by proper record-keeping and efficient supervision by district health officials.

Key words: Recording and reporting system, Treatment outcome, DOTS

This paper-based system includes a laboratory register that contain a log of all chest symptomatic and patients who had a smear test done; treatment cards, which contains patient information, identification particulars, name of contact person, type of disease, name of the treatment centre, the category of treatment, detail of regular intake of medication, details of sputum examination and the treatment outcome. The health worker uses the treatment card for recording the progress of treatment and for follow up. The information contained in the treatment card helps in management of the TB case. The TB register which lists patients starting

on treatment is maintained at the Tuberculosis Unit (TU) level under RNTCP. The Senior Treatment Supervisor (STS) in RNTCP is mainly responsible for the maintenance and timely updation of this register. The TB register is updated periodically on the basis of information contained in the treatment cards. The information contained in the register is the TB number of the patient, the patient details viz., date of registration, name, gender and address, name of treatment centre, date of starting treatment, treatment regimen, disease classification, type of patient, details of sputum examination and treatment outcome. Information in the TB register helps in monitoring activities as well as in preparing the quarterly reports of the TU/district.

A health worker is responsible for supervising each administrative area or institution in the district and uses quarterly reporting forms for sending summaries of aggregated data on notifications and treatment outcomes for all cases within a particular geographical area to higher administrative levels. This provides the district or local health chief with rapid feedback on programme performance in the district and allow for monitoring of the epidemic overall. Recording and reporting system allows for targeted, individualized follow up to help patients who may not be making satisfactory progress and rapid management assessment of the overall performance of each institution, district, state and nation.² The programme is accountable for the outcome of every patient treated. This is done using standard recording and reporting system. The cure rate and other key indicators are monitored at every level of the health system, and if any area is not meeting expectations, supervision is intensified. The RNTCP shifts the responsibility for cure from the patient to the health system. There is a strong system of accountability and checks and balances that make false reporting of data difficult.¹ In spite of this fact the results of few studies have shown concern regarding the accuracy and completeness of tuberculosis recording and reporting data.^{3,4} A study in S Africa showed a discrepancy in entry of sputum positive patients in laboratory register and TB register.⁵ No such study has been conducted in state of Punjab. With this aim the present study was planned.

MATERIAL AND METHODS

The study was conducted in the area of Primary Health Centre (PHC) Verka which is the field practice area of department of Community Medicine, Government Medical College, Amritsar.

Study Subjects: All the patients belonging to the area falling under PHC Verka and registered with District Tuberculosis Centre, Amritsar from 1st

April 2010 to 31st March 2011 were included in the study keeping in view the time period of treatment of category I & II which is six and eight months respectively. Patients of category III were also included because at time of registration (2010) there were three categories.

Following information was collected from District Tuberculosis Officer:

- List of patients suffering from tuberculosis and their complete address who were residing in the area of PHC Verka.
- Treatment record of these patients of TB.

Data collected from the district tuberculosis center included demographic information, patient's address, treatment information including dates of tuberculosis registration, treatment initiation, treatment category, pre treatment sputum result and record of follow up sputum examinations. Patients once started on treatment were included in the study.

Houses of all the patients were located using information available from the tuberculosis register, DOT provider or staff who knew the patients. If the patient was not available in the first visit, then every effort was made to contact the patient by subsequent visits as per convenience and suitability to the patient. Maximum five visits were made to trace the patients. In the event a patient no longer lived at a specific address, help of local neighbours and guides was taken to trace the patients. Patients who had migrated to another district were excluded from the study.

The patients who were below 14 years of age, the adult family member who accompanied the patient to the DOT centre were interviewed and the consent of the parent/ guardian was taken. Informed consent was taken from each study subject in their own vernacular language.

Inclusion Criteria: Patients on DOTS therapy were only included.

The information regarding name, age, sex was obtained personally by interviewing the patient. The information was recorded on a pretested and preformed questionnaire evolved for the study.

Information regarding follow up sputum examination was obtained from the patient's treatment card. In about 37 patients the information regarding sputum follow up was not available from the treatment card, then an attempt was made to crosscheck the record from District Tuberculosis Centre, Amritsar.

Criteria for sputum grading was done according to RNTCP guidelines.⁶ Criteria for patient treatment outcome was determined according to RNTCP

guidelines.⁶ Treatment outcome of cases was stated as cured, treatment completed, failure, default, transferred out and died.

Approval of college ethical committee was granted at the time of submission of the plan of the study.

Statistics-All the information so collected was compiled, analysed statistically with help of Epi info version 3.5.3. Chi-square test was used to evaluate differences in categorical variables and valid conclusions were drawn.

RESULTS

The present study to assess the accuracy of record keeping of was carried out on a total of 326 patients registered with District Tuberculosis Centre, Amritsar, only 228 (69.94%) patients were interviewed. 59 (18.10%) patients could not be traced as most of them had migrated to new place and some of them could not be traced due to their incomplete

or wrong addresses. By the time of interview 36 (11.04%) had died and 3 (0.92%) patients did not give consent for interview.

Table 1: Distribution of patients according to age and sex

Age Group (years)	Male (n=132) (%)	Female (n=96) (%)	Total N=228
1-14	9 (42.9)	12 (57.1)	21
15-29	55 (55.6)	44 (44.4)	99
30-44	36 (65.5)	19 (34.5)	55
45-59	24 (60)	16 (40)	21
60-74	8 (61.5)	5 (38.5)	99

Table 1 shows distribution of patients according to age and sex. Among the 228 patients studied, 132 (57.90%) were males and 96 (42.10%) were females. Majority 99(43.40%) patients belonged to 15-29 yrs of age.

Table 2: Distribution of patients showing outcome according to category of treatment during interview

Category Of Treatment	Outcome According To Interview				Total
	Cured (%)	Treatment completed (%)	Defaulted (%)	Failure (%)	
I	75 (46.58)	65 (40.37)	18 (11.18)	3 (1.86)	161
II	23 (46.93)	16 (32.65)	8 (16.32)	2 (4.08)	49
III	0 (0)	14 (77.77)	3 (16.66)	1 (5.55)	18
Total	98 (42.98)	95 (41.66)	29 (12.71)	6 (2.63)	228

Table 3: Outcome of cases according to record and according to interview

Outcome according to	Record (%)	Interview (%)
Cured	105 (46.1)	98 (43)
Treatment completed	105 (46.1)	95 (41.7)
Defaulted	10 (4.4)	29 (12.7)
Failure	6 (2.6)	6 (2.6)
Transferred out	2 (0.9)	Nil (Nil)
Total	228 (100)	228 (100)

$\chi^2 = 7.787$ df=1 p=0.005

*For statistical analysis, outcomes were divided in two categories: Favourable Outcome - include cured and treatment completed & Unfavourable Outcome - include failure, defaulted, transferred out

Table 2 shows that in Category I, 75(46.58%) patients were cured, 65 (40.37%) patients completed their treatment, 18(11.18%) patients defaulted and in 3(1.86%) cases it was failure. In category II, 23(46.93%) patients were cured, 16(32.65%) patients completed their treatment, 8(16.32%) patients defaulted and in 2(4.08%) cases it was failure. In Category III, 14(77.77%) patients completed their treatment, 3(16.66%) defaulted and in 1(5.55%) it was failure.

Table 3 shows that according to record from the TB register, out of 228 patients, the outcome of 105(46.10%), patients was reported as cured,

105(46.10%) patients were documented as treatment completed , 10(4.40%) were reported as defaulted , 6(2.6%) were reported as treatment failure and 2(0.9%) were transferred out to another health institution. On interviewing the patients the outcome of 98(43%) was cured, 95(41.70%) were treatment completed, 29(12.70%), had defaulted and 6(2.6%) were failure. Among 2 transferred out patients (according to record), 1 had defaulted and the other had completed his treatment according to interview.

The treatment outcome was categorized as favourable (cured and treatment completed) and unfavourable (failure, default and transfer out). A significant difference of outcome was observed according to records in TB register and according to interview taken by the researcher. The percentage of defaulters on interview were more(12.70%) as compared to percentage of defaulters (4.40%) according to records (p=0.005).

DISCUSSION

In the present study, male to female ratio was 1.37:1 approximately. This is in accordance with WHO global TB report 2014, the male: female ratio was 1.6 globally, ranging from 0.7 to 2.9 among

high burden countries.⁷ More prevalence of Tuberculosis among males may be because of the fact that males have more exposure because of outgoing habits or health of males is given more preference. In some societies social stigma may preclude women from attending tuberculosis clinics.

Present study showed that 87.2% males and 82.3% females belonged to 15-59 years age group. According to TB India 2012 report, tuberculosis primarily affects people in their most productive years of life. Almost 70% of TB patients are between 15-54 yrs of age.⁸

Study conducted by Mohrana et al (2009) showed that 91.4% cases belonged to economically productive age group 15-59 years.⁹ In study by Pandit N. and Choudhary SK (2006) 85% of patients were of 15-55 age group.¹⁰

Table II illustrates, in Category I ,140(87.0%) patients were cured and treatment completed (favourable outcome) while 21(13.0%) patients belonged to defaulted and failure group (unfavourable outcome). In category II, 39(79.6%) patients were cured and treatment completed. 10(20.4%) patients belonged to defaulted and failure group. In Category III, 14(77.80%) patients were cured and treatment completed while 4(22.3%) patients belonged to defaulted and failure group.

A study conducted by Mittal and Gupta (2011) in Agra city showed, 45.4% patients completed the treatment, 26.2% were cured, 15.1% defaulted, 5.9% died, 2.0% failed on treatment while 5.3% were transferred out to other centers.¹¹ Chennaveerappa et al (2011) in, South India. showed 84.2% cured, 2% treatment failures, 6% died and 8% defaulters.¹²

A perusal of table III shows that discrepancy has been observed in the outcome of patients as documented in the TB register and according to interview of the patient. The results of this study indicates a casual attitude by some RNTCP workers in record keeping resulting in such discrepancies. In a study conducted at district Jamnagar ,Gujrat, inconsistency of sputum smear results were found between laboratory register, treatment cards and TB register in 5.4% of the patients.³ In an internal evaluation of Junagadh and Porbandar districts done by WHO in collaboration with Government of Gujarat, during 2006, inconsistency of sputum smear results was also observed between laboratory register, treatment cards and TB register.⁴ A study conducted in Cape Town, South Africa to determine the accuracy and completeness of the data, showed discrepancy between the TB treatment registers and laboratory register.⁵

CONCLUSION AND RECOMMENDATIONS

This study identified discrepancies in the outcome of TB patients as documented in TB register and as obtained on interviewing the patient. Hence, it is recommended to investigate the cause for the observed difference. Continuous follow-up of patients with frequent supportive supervision by district health officials during the course of treatment is required. Effective and accurate recording and reporting systems are essential to ensure high-quality care of TB patients and to ensure accurate sharing of information. Further large scale studies are required to find out the reasons for the same so that such discrepancies can be rectified.

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