



FACTORS RESPONSIBLE FOR DELAYS IN SEEKING DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS IN A TERTIARY CARE HOSPITAL OF DEHRADUN- A CROSS SECTIONAL STUDY

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ABSTRACT Tuberculosis (TB) is an infectious disease, in which Mycobacterium tuberculosis is the causative agent. When a person progresses from infection to disease, they may not experience obvious symptoms for a long time, (e.g cough, fever, hemoptysis, weight loss etc). This might lead to delay in diagnosis and treatment seeking. One of the components of timely diagnosis and treatment of tuberculosis is estimating the delay in diagnosis of TB and assessing the factors contributing to the delay. **Aim and Objectives:** To describe the delays in the diagnosis and treatment of pulmonary Tuberculosis and to study the socio demographic determinants responsible for the same. **Methodology:** A time bound institution based study was conducted in a tertiary care hospital in department of pulmonary medicine. A total of 50 patients were included in the study by means of total enumeration. **Result:** diagnostic and consultation delays were the most common cause of delays in seeking diagnosis and treatment of Pulmonary Tuberculosis.

KEYWORDS : tuberculosis, diagnostic delay, consultation delay, treatment delay

INTRODUCTION

Tuberculosis (TB) is an infectious disease, in which Mycobacterium tuberculosis is the causative agent. The mode of transmission is predominantly droplet infection. When an untreated, person sneezes or coughs, droplet nuclei are discharged and inhalation of such droplet nuclei leads to infection of other individuals. Tubercle bacilli affecting the lungs is pulmonary tuberculosis. Infection of an individual does not necessarily lead to the disease. Progression from infection to disease is determined by a number of additional factors including HIV co-infection, diabetes mellitus, substance abuse, and malnutrition. When a person progresses from infection to disease, they may not experience obvious symptoms for a long time, (e.g cough, fever, hemoptysis, weight loss etc). This might lead to delay in diagnosis and treatment seeking. Without proper treatment, around 45% of the HIV negative individuals with TB and almost all of the HIV/TB co-infected will die². One of the components of timely diagnosis and treatment of tuberculosis is estimating the delay in diagnosis of TB and assessing the factors contributing to the delay. This study seeks to address the above issue.

Aim and Objectives:

1. To describe the delays in the diagnosis and treatment of pulmonary Tuberculosis.
2. To study the socio demographic determinants responsible for the same.

MATERIAL AND METHODS:

Study Design: Institution based cross sectional study.

Study Setting: Out-patient clinic of Pulmonary Medicine Department of SGRRIM&HS.

Sampling Technique: SMIH, Dehradun was selected by purposive sampling technique. A total of 50 patients attending the Pulmonary Medicine OPD were included in the study by total enumeration method.

Study Period: One month (1st August to 31st August 2021)

Study Population: All the patients attending the Pulmonary Medicine OPD during the study period.

Sample Population:

Appropriate new cases of smear positive pulmonary tuberculosis attending OPD during the study period.

Exclusion Criteria:

The study participants who are not willing to give consent for the study & old cases of pulmonary tuberculosis who are coming for follow-up.

Study Tools: Pre -tested and pre designed proforma based on tools used in previous relevant studies

Study Variables: Socio-demographic variables and questions relevant to aim and objectives of the study.

Statistical Analysis:

The data collected in the questionnaire was refined, compiled and tabulated using Microsoft Excel. The data was further analyzed using Epi info software and latest version of SPSS.

Results are presented in percentages, proportions mean & Standard Deviation etc.

Ethical Clearance:

Informed verbal consent was obtained from all the study subjects after explaining the aim of the study. Personal information was preserved securely and confidentiality was maintained

RESULT:

Table 1 shows socio-demographic profile of the study population, in which maximum participants are male (68%) whereas 32% are female. Maximum number of participants are literate (76%) majority were unskilled workers (36%). Maximum respondents belonged to lower middle class (32%) , followed by upper middle class (26%) according to BG Prasad classification on socioeconomic status. 54% of the study participants are unmarried and 62% of the population reside in rural areas.

Table 2 shows different types of delays. In these maximum participants had diagnostic delay (60%) followed by consultation delay (20%) and in 20% of the respondents there was no delay.

Table 3 documents various reasons of delay. In this maximum respondents had lack of knowledge of tuberculosis (66%) followed by over burdened system (58%) and lack of satisfaction in health system (30%).

In table 4 we compared socio-demographic profile of the participants with the reasons for delay, using chi square test. None of the parameters were found statistically significant

Table 1: Socio-demographic Profile Of The Participants (n=50)

Characteristics	Frequency	Percentage
Gender		
Male	34	68%
Female	16	32%

Education		
Higher secondary/	11	22%
Primary/ middle/ high	27	54%
Illiterate	12	24%
Occupation		
Skilled	1	2%
Semi-skilled	6	12%
Unskilled	18	36%
Student	4	8%
Unemployed	9	18%
Home maker	12	24%
Socio-economic status (B G Prasad Classification, 2020)		
Upper class	3	6%
Upper middle class	13	26%
Middle class	12	24%
Lower middle class	16	32%
Lower class	6	12%
Marital status		
Married	27	54%
Single	7	14%
Divorced /Separated	2	4%
Widowed	14	28%
Residence		
Urban	19	38%
Rural	31	62%

Table.2 showing Types of delay

Types of delay	Frequency (N=50)	Percentage (%)
Consultation Delay	10	20
Diagnostic Delay	30	60
Treatment Delay	0	0
No delay	10	20
Total	50	100

Table 3. showing Frequency distribution for Reasons of delay

REASONS FOR DELAY	Frequency (N=50)	Percentage (%)
Poor accessibility	11	22
Lack of satisfaction in health system	15	30
Poor availability of health services	4	8
Over burdened system	29	58
Inappropriate behaviour of HCP	1	2
Fear of diagnosis	0	0
Stigma / Shame	3	6
Lack of knowledge of TB	33	66
Poor quality of services	6	12
Cost factor	8	16

CONCLUSION

This study demonstrates that patient delay is the major contributor to the total delay in the diagnosis and treatment of pulmonary tuberculosis patients. Despite the current recommendations stating that cough > 2 weeks necessitates consulting a health care facility, majority of the chest symptomatics still delay seeking health care.

Most of them seek health care only with the onset of acute symptoms such as chest pain and haemoptysis. Factors such as easy availability of

over the counter medications add to the delay. Due to temporary relief of cough symptoms, patients delay seeking health care still longer. In addition, though patients are aware that tuberculosis is a curable illness, the element of stigma attached to it remains still. This in turn, to some extent, contributes to delay in seeking care.

To conclude, there is an unacceptable delay on the part of the TB patients in seeking health care. Such gaps need to be addressed if the case detection rates are to be improved.

Table.4 Showing Socio-demographic characteristics VS Reasons for delay			
Reason 8: Knowledge of TB & its Management(n = 33)			
	Chi square(X ²) value	P value	Statistical Significance
Age	0.63	0.42	>0.05
Gender	1.4	0.22	>0.05
Education	0.95	0.32	>0.05
SES	0.002	0.96	>0.05
Reason 4: Over Burdened system (n = 29)			
Age	0.83	0.36	>0.05
Gender	0.13	0.71	>0.05
Education	0.41	0.51	>0.05
SES	0.05	0.82	>0.05
Reason 2: Lack of Satisfaction in the Health Care System (n=15)			
Age	0.09	0.07	>0.05
Gender	0.83	0.36	>0.05
Education	0.28	0.59	>0.05
SES	1.4	0.23	>0.05

Recommendation

At present, individuals who are HIV positive, diabetics, and contacts of known TB cases etc. are at an increased suspicion for TB when they experience chest symptoms. Activities such as health education, 'fast tracking' i.e early referral in case of chest symptoms improve the case detection rates in such groups. Further, reduction in over the counter supply of drugs through stringent monitoring may also be undertaken as an additional activity to facilitate earlier health care seeking by chest symptomatics. Such measures which reduce the patient delay are expected to improve the case detection rates, thus helping to further the efforts towards achieving 'End TB'.

DISCUSSION

Mesfin et al (2009)³ in his study in 10 DOTS district of Ethiopia reported highest number of respondents residing in rural areas (49%) ,similarly In this study maximum respondents were from rural areas (62%). In our study maximum respondents were males (68%) which is similar to the study conducted by Mesfin et al ³. Study by hamza et al(2016)⁷, Basnet et al (2009)⁶and Osei (2015)⁸ et al reported that there was consultation delay in addition to diagnostic delay, these findings are in coherence with the findings of our study. In our study no treatment delay was observed this finding may be due to the fact that our study was conducted in a tertiary care hospital which have all the specialist and doctors available round the clock. Studies conducted by Mesfin et al³, Biya et al ⁴and Storla et al (2008)⁵documented lack of knowledge of TB was one of the major cause of delay in seeking care similar findings were also reported in the present study (statistically non-significant). In contrast with the studies by Mesfin et al³, Biya et al (2014)⁴ and Osei et al (2015)⁸, our study did not have much association between stigma regarding tuberculosis and delay in seeking care.

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