

Reasons of TB Treatment Non Compliance

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Abstract

Objective: To assess the prevalence and reasons of non compliance to treatment of tuberculosis among the patients of Sharif medical city Hospital Lahore.

Method: 150 patients of tuberculosis were taken as a sample based upon non-probability convenient sampling. The data was collected by the investigators themselves with the use of semi-structured questionnaire that was finalized after pre-testing.

Results: The data was analysed by putting into IBM statistics SPSS software. All the respondents(100%) have already heard about tuberculosis. The pooled prevalence of non compliance to TB is 44.4%.

Conclusions: Overall level of knowledge about tuberculosis and its practices among the patients of tuberculosis attending Sharif medical city hospital Lahore was found satisfactory (40%). The majority of respondents are not taking medicine because of side effects of drugs (41.3%), fear of drugs (40%), long duration of TB treatment (62.7%) and TB clinic is far from home (66.7%).

Key words: Tuberculosis, Drug resistance, Patient education, infectious disease, Respiratory infections.

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Introduction

Tuberculosis (TB) continues to be a significant global health challenge, affecting millions of people each year. Despite the availability of effective treatment options, the successful management of TB heavily relies on patients completing their prescribed treatment regimen. However, a persistent problem in TB control programs is the non-compliance of patients with their treatment plans, leading to unfavourable outcomes such as treatment failure, relapse, and the emergence of drug-resistant strains. To address this issue, it is crucial to delve into the underlying reasons for TB treatment non-compliance.

Noncompliance to TB treatment was found to be mainly due to side effects of medicines, lack of time, and unawareness.⁵ So educating the patient about various aspects of tuberculosis and some measures to decrease side effects are of utmost importance. Main risk factors for its spread include overcrowding, malnutrition, alcoholism, diabetes mellitus¹ certain medication and genetic susceptibility² increase the risk of TB. Multi drugs resistance TB(MDR)³ is caused by⁴ resistance of at least two of isoniazid, rifampicin, ethambutol, pyrazinamide and XDR by resistance of 2nd line drugs like fluoroquinolones etc. Tuberculosis continues to be a worldwide pandemic, with half of all new cases reported from six asian countries. Pakistan with a population of over 230 million, ranks 5th in the estimated global TB burden list with an incidence rate of 275/100 000 and a prevalence rate of 342/100 000⁶ population. It is estimated that 51% of cases are concentrated in the Province of Punjab, followed by 23% in Sindh, 15% in the North West Frontier (NWFP), and 3.59% in Baluchistan, with the remainder being distributed within the northern areas and in Azad Kashmir.

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Objectives

- **Identify Sociodemographic Factors:** Investigate the influence of sociodemographic factors such as age, gender, education level, income and occupation on TB treatment non-compliance
- **Assess Healthcare Access and Utilization:** Examine the role of healthcare access and utilization in TB treatment non-compliance. Explore factors such as distance to healthcare facilities, proper counselling of patient about TB and its treatment
- **Examine Treatment Regimen Complexity:** Investigate the impact of treatment regimen complexity on non-compliance. Analyse factors such as the number of medications, frequency of dosing, duration of treatment, potential side effects and fear of drugs on non compliance to treatment.

Material and Methods

It was a cross sectional epidemiological descriptive study. The study was conducted at Sharif medical city hospital Lahore. It is a tertiary care hospital which is located in Jati Umra Raiwind road, Lahore, Punjab Pakistan. The duration of the study was one month after approval of synopsis. Sample size calculated as one hundred and fifty (150) keeping confidence level 95% calculated by using openepi.com taking reference value (9% prevalence of TB treatment non compliance²¹) The convenient, non-probability sampling technique was used to select the required number of sample size. A semi structured questionnaire was designed by researchers to obtain relevant data about knowledge and practices of non-compliance of Tuberculosis. The questionnaire was finalized after pre-testing. The patients were interviewed by the researchers themselves and corresponding responses were entered in the questionnaire. All the patients attending OPD of Sharif medical city hospital were included in the study. The patients attending other hospitals and unwilling respondents were excluded from the study. The data was entered, clean, and analysed using statistical package for social sciences. Frequency tables were generated for all possible variables. Means were calculated for continuous data. Formal consent and permission was taken from Sharif medical city hospital to conduct the study. Verbal consent was taken from the responders. Privacy and confidentiality of data was ensured to the responders.

Results

Result showed that patients with age group 1-30 years were 42(27.8%) and with age group 31-50 years were 64(42.6%) and with age group 51-80 years were 44(29.2%), 82(54.6%) were male and 68(44.3%) were female, 60(40%) of TB patients were employed and 90(60%) of TB patients were unemployed, 32(22.7%) of TB patients have income less than 15000 and 68(45.3%) of TB patients have income more than 15000 and 48(32%) of TB patients have income more than 30000, 116(77.3%) of TB patients were living in rural areas and 34(22.7%) were living in urban areas.

Result showed that 62(41.3%) of TB patients are not taking medicine due to side effect of drugs, 70(46.7%) of TB patients are not taking medicine due to high price of drugs, 66(44%) of TB patients are not taking medicine due to other illness or taking other drugs, 54(36%) of TB patients are not taking medicine due to visiting quacks, 70(46.7%) of TB patients are not taking medicine because they forget to take medicine, 74(49.3%) of TB patients are not taking medicine because they are busy in other work or out of home, 84(56%) of TB patients are not taking medicine due to lack of knowledge about TB or its treatment, 94(62.7%) of TB patients not taking medicine due to long duration of TB treatment, 60(40%) of TB patients are not taking medicine due to fear of taking medicine, 50(33.3%) of TB patients are not taking medicine due to poor communication between doctor and patient, 100(66.7%) of TB patients are not medicine because TB clinic is far from home, 46(30.7%) of TB patients are not taking medicine because they think symptoms are relieved and it is not necessary to take medicine,

Age Group:		
1-30 years:		27.8%
31-50 years:		42.6%
51-80 years:		29.2%
Gender:		
Male:		54.6%
Female:		44.3%
Employment Status:		
Employed:		40%
Unemployed:		60%
Income:		
Less than 15000:		22.7%
15000-30000:		45.3%
30000 or more:		32%
Residential Area:		
Rural:		77.3%
Urban:		22.7%
REASON FOR NOT TAKING TB MEDICINE:		
Due to Side Effects:	62 (41.3%)	
Due to High Price:	70 (46.7%)	
Due to Other Illness/Taking Other Drugs:	66 (44%)	
Due to Visiting Quacks/using homeopathic medicine:	54 (36%)	

Because they Forget to take medicine:	70 (46.7%)
Busy with Other Work/Out of Home:	74 (49.3%)
Lack of Knowledge About TB and its treatment:	84 (56%)
Long Duration of TB Treatment:	94 (62.7%)
Because they have Fear of Taking Medicine:	60 (40%)
Poor Communication between doctor and patient:	50 (33.3%)
TB Clinic is far from home:	100 (66.7%)
Symptoms relieved and it is not necessary to take medicine:	46 (30.7%)
Symptoms not relieved and drugs seems Ineffective:	26 (17.3%)

26(17.3%) of TB patients are not taking medicine because they think symptoms are not alleviated and drugs seem ineffective.

Demographic Information:

Discussion

The results of the study provide insights into various factors influencing medication adherence among tuberculosis (TB) patients. The demographic analysis revealed that the majority of the patients in the study were between the ages of 31 and 50 years (42.6%), followed by those in the age group of 1-30 years (27.8%) and 51-80 years (29.2%). This distribution suggests that TB affects individuals across different age groups, emphasizing the need for adherence interventions targeted at various age segments.

Regarding gender, the study found that there were more male TB patients (54.6%) than female patients (44.3%). This disparity could be attributed to several factors, including differences in healthcare-seeking behaviour, occupational exposure, and biological factors. Further research is needed to explore the underlying causes of this gender imbalance in TB incidence and adherence. Employment status was found to have an impact on medication adherence, with 60% of TB patients being unemployed. This finding implies that socio-economic factors, such as financial constraints and access to healthcare, can influence adherence behaviour. Additionally, income levels revealed that a significant proportion of TB patients (45.3%) had an income above 15,000, indicating that financial challenges may not be the sole determinant of non-adherence. Geographical location also played a role, as the majority of TB patients (77.3%) were living in rural areas. Rural areas often face unique challenges in terms of healthcare infrastructure, access to services, and health literacy. These factors can contribute to poor medication adherence rates among rural TB patients.

Reasons for non-adherence were explored, and several prominent factors were identified. Side effects of drugs were the most commonly cited reason (41.3%), followed by the high price of drugs (46.7%) and other illness or concomitant medication use (44%). These findings highlight the importance of addressing drug side effects, affordability, and the need for comprehensive patient education to mitigate these barriers. Other reasons for non-adherence included visiting quacks (36%), forgetting to take medicine (46.7%), being busy with other work or being away from home (49.3%), lack of knowledge about TB and its treatment (56%), long duration of treatment (62.7%), fear of taking medicine (40%), poor communication between doctors and patients (33.3%), distance to the TB clinic (66.7%), and perceptions of symptom relief or ineffectiveness of drugs (30.7%). These results emphasize the multifactorial nature of non-adherence and underscore the importance of addressing patient education, healthcare infrastructure, and support systems to improve adherence rates.

Conclusion

The findings of this study shed light on the factors influencing medication adherence among TB patients. Addressing these factors is crucial to improve treatment outcomes, reduce the spread of TB, and minimize the development of drug resistance. Interventions should focus on addressing drug side effects, improving affordability and accessibility of medications, enhancing patient education and health literacy, ensuring effective doctor-patient communication, and providing support for patients in rural areas. Implementing comprehensive strategies that target these factors can contribute to better adherence rates and ultimately enhance the effectiveness of TB treatment programs.

Conflict of Interest

None

Funding Source

None

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Authors Contribution

KIA: Conceptualization of Project

S: Data Collection

MAR: Literature Search

ZE: Statistical Analysis