Original Research Article

NON COMPLIANCE TO TUBERCULOSIS THERAPY: A CROSS SCETIONAL STUDY

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ABSTRACT

Objective: Thestudy objective was to find out the cause of non-compliance towards tuberculosis therapy in patients.

Method: A self-designed questionnaire containing all the anticipated causes of non-compliance with anti-TB therapy and demographic information (age, gender) was prepared as study tool and tested by interviewing the patients.

Results: The major cause of non-compliance towards DOTS is less awareness that adherence with therapy is very important for complete cure (34.38%). Other causes in descending order are as follows: big size of tablets (31.25 %), side effects of the drugs (18.75 %), and use of complementary and alternative medicines (15.62 %).

Conclusion: Lack of patient's awareness regarding complete adherence with DOTS therapy is one of the major cause of failure of giving T.B. free zone to the population. It is concluded that patients education regarding strict adherence with therapy is compulsory in order to control the epidemic of tuberculosis.

Key Words: non-compliance, tuberculosis, global epidemic

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INTRODUCTION

Tuberculosis (TB) is one of the most serious health issues worldwide, almost one third of the population has been infected with Mycobacterium tuberculosis (Marinac *et al.*, 1998). Pakistan ranks 6th globally among 22 high burden Tuberculosis (TB) countries in the world and harbors 63 % of Tuberculosis burden in the Eastern Mediterranean Region of WHO (WHO, 2012). In Pakistan 420,000 new TB cases reported annually. Government of Pakistan endorsed the Directly Observed Treatment, Short course (DOTS) strategy, following WHO's declaration of TB, as a global emergency and adopted DOTS strategy in 1995(WHO, 2012).

Patients compliance with therapy depends on many psychological and sociological factor including age, patients own idea regarding disease and level of education (Bakke *et al.*, 1995). Patient compliance is one of the most important factors that affect the outcome of the therapy. Compliance can be defined as the extent to which the patient obeys the medical advice. Tuberculosis treatment comprised of three to four tablets. Non-compliance to the self- administration of these drugs is the main cause of initial therapy failure, development of multi drug resistance and relapses (Globe *et al.*, 1993). Poor patients' compliance with TB treatment is one of the main difficulties to get the goals of National TB Control Program (Riley *et al.*, 1989).

To understand various causes of non-compliance with anti-TB therapy, we conducted cross sectional study among pulmonary TB patients under treatment.

MATERIALS AND METHODS

This cross sectional study was conducted in anti-tuberculosis unit in Independent medical university teaching hospital; Faisalabad. 80 patients (study subjects) aged 15-60 currently under treatment in the hospital were included in this study. Patients were interviewed in the hospital at the time of receiving anti-TB medicines from the hospital. A written consent was taken from all patients included in the study. A self-designed questionnaire containing all the anticipated causes of non-compliance with anti-TB therapy and demographic information (age, gender) was prepared as study tool and tested. Each interview lasted for about 30 minutes. Results were presented as frequency and percentage.

RESULTS

In this study 29 females and 51 males participated (Table 1). 40% (n=32) of the under study subjects showed non-compliance with therapy (Table 2). Highest percentage (62.5%) of non-compliant cases was noted in the first month of therapy and 94% non-compliant cases were appeared in first three months of therapy (Table 3). Different causes of non-compliance were discussed with the patients, Out of 32 non-compliant cases, 11 (34.38%) patients didn't adhere with therapy due to less awareness that how important it is to take drug on daily basis for nine months. 31.25% showed non-compliance due to big size of tablets, 18.75% gave gap in taking drug due to side effects on skin, eyes, liver and kidney, and 15.62% stop taking allopathic medicine because of use of complementary and alternative medicines but they have to revisit allopathic TB center to get relief from TB symptoms (Table 4).

Table 1: Age and Sex distribution of the study

Age (Years)	Gender	Subjects (n)
Less than 20	Male	5
	Female	2
20 – 40	Male	30
	Female	10
40 - 60	Male	16
	Female	17

Table 2: Subjects showed non-compliance with DOTS

Total number of Subjects	Non- compliant Subjects	% age
80	32	40

Table 3: Duration after which Patients showed non-compliance

Duration	Frequency	% age	% age
< 1 month	20	62.5	62.5
1-3 months	10	31.25	93.75
> 3 months	02	6.25	100
	32	100	100

Table 4: Causes for non-compliance among TB Patients

Causes	Frequency	% age
Big size of tablets	10	31.25
Less awareness that adherence with therapy is very important for complete cure	11	34.38
Side Effects of the drugs	06	18.75
Use of complementary and alternative medicines(from natural source)	05	15.62
	32	100

DISCUSSION

Tuberculosis was declared as global emergency epidemic in 1993 by WHO (Pio*et al.,* 1998). Imran *et al.,* (2009) had discussed few reasons of patient noncompliance with anti TB therapy in Pakistan.This study explained some other causes of patients non-compliance with anti TB therapy non-compliance was maximum within first three months due to less awareness that adherence with therapy is very important for complete cure (38.34%), big size of tablets (31.25%), side effects of the drug (18.75%), use of complementary and alternative medicines (15.62%). Ali *et al.*(2003) study is consistent with our study that the biggest cause of non-compliance in patience is lack of knowledge and awareness regarding disease and it treatment protocol. Outcome of anti-tuberculosis therapy depends on patient compliance (Globe *et al.,* 1993). Non-compliance to therapy can cause drug resistance and relapse of disease (Weis *et al.,* 1994) and this leads to raise the burden of tuberculosis globally.

CONCLUSION

Less awareness about adherence with therapy is very important for complete cure is the major cause of non-compliance to tuberculosis therapy in this cross sectional study. So, Patients' education and awareness relating to side effects of therapy and importance of completeadherence with therapy is mandatory to get TB free zone nationally.

REFERENCES

1   Ali SS, Rabbani S, Siddiqui UN, Zaidi AH, Sophie A, Virani SJ (2007). Tuberculosis: do we know enough? A study of patients andtheir families in an out'patient hospital setting in Karachi, Pakistan.*Int J Tuberc Lung Dis.*7, 1052-1058.

2   Bakke PS, Honoa R, Culsuik A (1995). Educational level and obstructive lung disease, given smoking habits and occupational airborne exposure: A Norwegian Community Study. *Am. J. Epidemiol.*1080, 141.

3   Imran AS, Umer N, Samad R, Asas AK (2009). Prime reasons for premature discontinuation of anti-tuberculosis therapy: at Mayo hospital, Lahore. *Pakistan. Biomedical.* 25, 133-135.

4   Marian G, Michael DI, Lorie AM, Dennis W, Lynn A, Robert HJr (1993). Treatment of 171patients with pulmonary tuberculosis resistance to isoniazid and rifampicin.*N England J Med.* 328, 527-32.

5   Riley LW, Arathoon E, Loverde VD (1989).The epidemiologicpatterns of drug-resistant Mycobacterium tuberculosisinfections.*Am Rev Respir Dis.* 139,1282-1285.

6   WHO, Pakistan, tuberculosis programme.Accessed on 11th march 2012.www.whopak.org/index.