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TUBERCULOSIS;
DETERMINANTS OF TREATMENT NON-COMPLIANCE AMONG T.B. PATIENTS.

DR. ABDUL SALAM MALIK
MBBS, DCH, FCPS
Assistant Professor of Community Medicine
Q.A.M.C, Bahawalpur

DR. GULZAR AHMAD
MBBS, FCPS
Professor of Surgery
Q.A.M.C, Bahawalpur

ABSTRACT... Objective: To identify the factors responsible for noncompliance of Anti Tuberculous Treatment in TB patients. **Study Design:** Cross Sectional Descriptive Study. **Place & Duration:** The study was Carried out at Chest diseases and Tuberculosis unit Bahawal Victoria Hospital Bahawalpur from 15th May 2007 to 15th August 2007. **Subject & Method:** The tuberculous patients who abandoned anti-tuberculous treatment repeatedly were interviewed for determination of their reasons to be defaulter before completing therapy by questionnaire method. The patients were AFB positive on every non-compliance episodes. **Results:** The total number of 100 noncompliant patients were interviewed. It was noted that 63% were males and 37% were females among them. There were 72% married and 28% unmarried from total patients. The treatment source was asked and found that 92% used government health out let only and 8% used private services also from them. **Conclusion:** TB is curable disease so health education should be imparted through electronic media and committed field teams stressing to take regular and complete ATT according to the physician advice removing the social belief against TB drugs. Decentralized government and private sector coordination is essential to give treatment at doorstep to reduce dropout and defaulter tendency. Stigma of TB as a disease of the illiterate & poor still persists.

Key words: Tuberculosis, Antituberculous therapy, Health Education.

INTRODUCTION

TB remains a world wide public health problem from more than hundred years back despite effective drugs and vaccines availability. Treatment discontinuation is due to multiple reasons such as self abandon after feeling cured, financial constraints, prolonged period of therapy, illiteracy and social believes. The long distance from health out let, lower social class and prolonged waiting time with no health education at hospital further perpetuate dropout /defaulter tendency. The working age male patients are more defaulter than female.

The tuberculosis may be pulmonary or extra pulmonary. There is predominance of men aged 30 to 49 years in pulmonary form[1]. The patients performance status has strong association with treatment incompletion in elderly patients with pulmonary tuberculosis and is a useful clinical indicator[2]. Adherence to treatment requires active participation of the patient in self management of treatment and cooperation between patient and health care providers who don't tell the consequences of noncompliance[3-4].

The reason for poor adherence is multifactor and complex. These may be characteristics of individual patient, social and economic factors such as availability of drugs, communication between the patient and health care providers, duration and number of medications needed, side effects, cost of treatment, completing demands on time, contradictory norms or expectations of families and cultural groups and poor quality of TB control infrastructures. The unemployment, alcohol abuse and homelessness are associated with increased default outcome among TB patients while social support among them reduce the default[5-6].

The comprehensive hospital based tuberculosis control programme with health education of the patients about importance of DOTS in tuberculosis and making non-government DOTS center patients friendly and accessible can increase the treatment compliance[7-8].

The default associated with income per month and financial difficulty is the main reason for defaulting from treatment[9-10]. Stigma is perpetuated and reinforced by health staff, family neighbours and other groups.

Inadequate attitudes of health providers coupled with lack of attention and support to patients also accounts for noncompliance in many countries. The patients have unsatisfactory opinion about the attitude of health care workers[11]. Important risk factor associated with noncompliance is male sex. The male have higher risk of treatment default than females[12].

Political commitment of local administrator to control tuberculosis in conjunction with policy benefits and incentives to intensify motivation and counseling is essential for sustainability of the DOTS strategy to improve patients compliance and reduce default[13-14]. The default rate is higher among those who say they are uncertain that their treatment would work and among those who incur significant time due to inadequate office hours for receiving treatment or high money costs traveling to reach treatment outlet[15-16]. So the country specific cultural and behavioral factors contribute to noncompliance. The interventions to increase completion are focused and intensified specifically in early months

after initiation[17].

MATERIAL AND METHOD

The cross sectional descriptive study was conducted at Chest Diseases and Tuberculosis Department Bahawal Victoria Hospital Bahawalpur Pakistan from 15th April 2007 to 15th August 2007 by convenience sampling (non-probability) method taking one hundred adult patients who were noncompliant to ATT. These patients included both gender who did not adhere to the treatment schedule given to them after AFB Positive sputum and came back to the same health care out let once again. AFB Positive were taken as noncompliant tuberculous patients.

All patients who were serious, with carcinoma, thyrotoxicosis, in coma under emergency intensive care and newly diagnosed taking treatment first time were excluded. A questionnaire Performa was designed as given in Annexure-I using interview method from the non-compliant patients for collection of data.

Twelve variables were selected for study. The patients personal factors including age, sex, marital status, socio-economic class and literacy were studied. The services factors included were source of taking ATT, time consumption to take drugs and home distance. The belief / attitude to take ATT were studied. The factors including self reducing number of tablets per dose, self pause in treatment duration and belief in drug to be HOT were asked from these treatment abandoned patients. The data was computed by SPSS V.10 and graphical analysis by Microsoft Excel was done.

RESULTS

Total number of one hundred patients were studied for the determinants of noncompliance for taking ATT. It was noted that 63% were males and 37% were females among them. There were 72% married and 28% unmarried from total patients. The treatment source was noted and found that 92% non-compliant patients used government health out let and 8% patients used private services also.

Their belief about ATT was noted and found that 90% noncompliant patients believed in drugs to be " HOT"

while 10% accepted as good for them. Similarly, 88% believed to stop ATT very prematurely as soon as symptoms disappear while 12% believed to continue as per doctor advice.

Their attitude for 9 months long term treatment was noted and found that 93% noncompliant patients self terminated ATT many times to take pause but 7% believed to continue without pause. Their practice of self reducing number of tablets per dose daily was noted and found that 97% noncompliant patients were in habit of doing so and only 3% have taken full dose for certain period as shown in Table No. I.

Table-I. Belief / attitude of non-compliant patients for ATT		
Factors	Yes	No
A: Habit of self stopping treatment by feeling cured.	88%	12%
B: Habit of discontinuation to take pause due to long term treatment	93%	7%
C: Self perception of T.B. drugs to be hot	90%	10%
D: Habit of self reducing number of tablets per dose daily	97%	3%

According to educational status, 55% non-compliant were illiterate, 35% primary school pass , 7% secondary school pass and 3% were higher educated among them as shown by Fig No. 1

The socio-economic status was studied. It was noted that 67% non-compliant were from lower social class, 28% middle and 5% belong to higher class as shown by Fig No. 2.

The home distance from health outlet was noted. It was found that 5% non-compliant patients were local residents, 15% were living within< 5 Km, 23% within 6 to 10 km, 27% within 11 to 20 km, and 30% at more than 20 km as shown in Fig No. 3.

Fig-1. Educational status among noncompliant patients

Series 1

A: 55% Illiterate, B: 35% Primary School Pass
C: 7% Secondary School Pass,

Fig-2. Socio-economic status of noncompliant patients
A: 67% from lower classes, B: 28% from middle classes
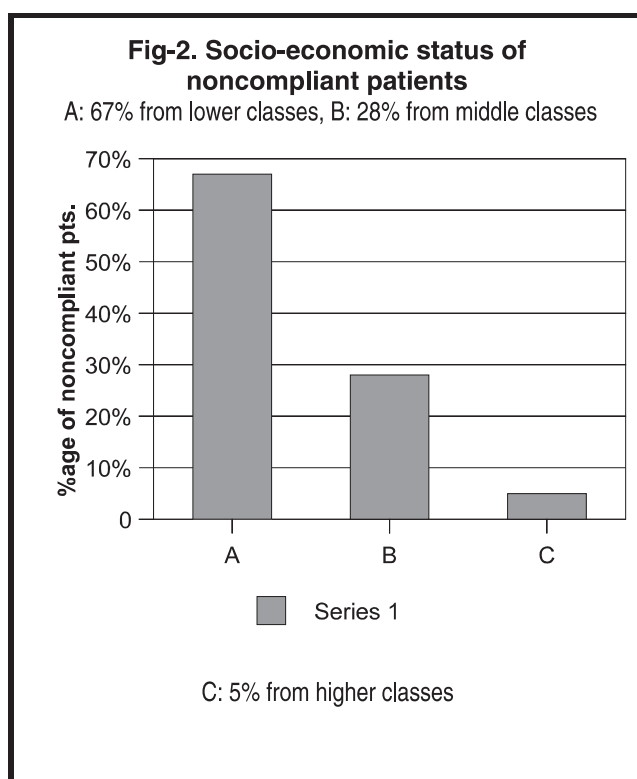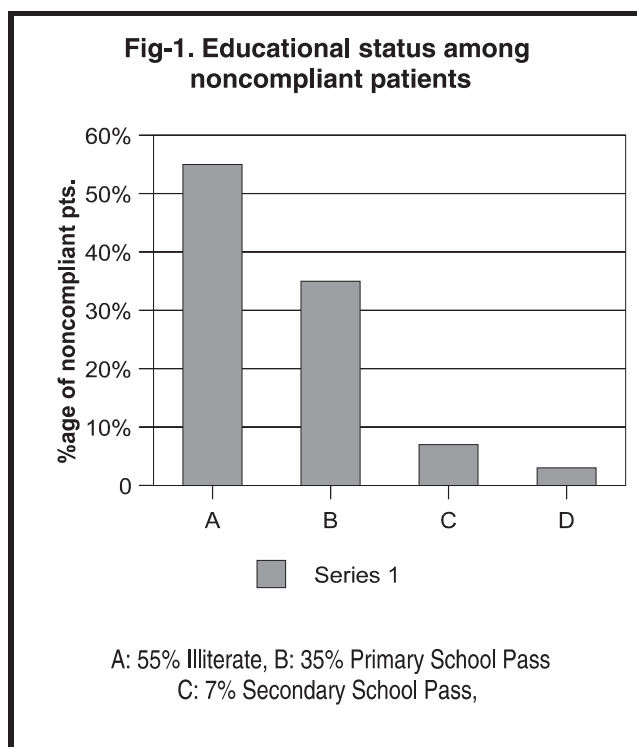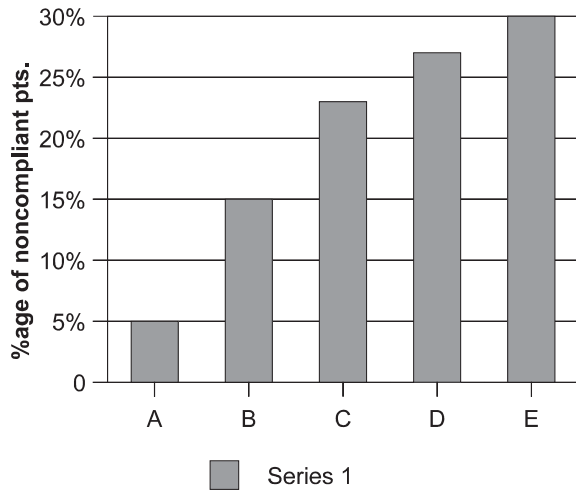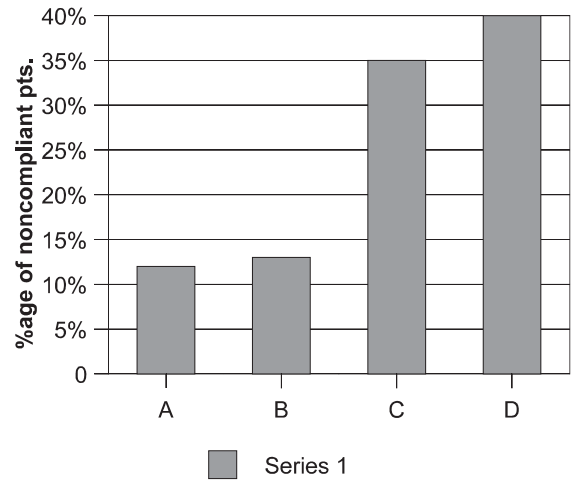
Series 1

C: 5% from higher classes

Fig-3. Home distance of noncompliant patients from health outlet

A: 5% Local residents, B: 15% Within <5km
C: 23% Within 6 - 10km, D: 27% Within 11 to 20km
E: 30% >20km
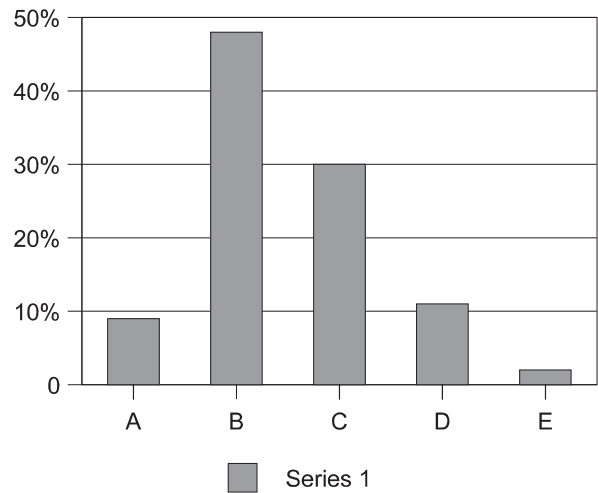
Fig-4. Time consumed by noncompliant patients at health outlet

A: 12% <1 hrs, B: 13% 1-2hrs,
C: 35% 2-4hrs, D: 40% More than 4hrs

Fig-5. Distribution of noncompliance patients according to age

A: 9% were less than 20 yrs old, B: 48% from 21-40 yrs
C: 30% from 41-60yrs, D: 11% from 61-80yrs

The time consumption at health outlet was asked from these patients. It was found that 12% non-compliant patients consumed <1 Hour, 13% consumed 1- 2 Hours, 35% consumed 2- 4 Hours and 40% described to consume more than 4 Hours as shown by Fig. No. 4

The age of non-compliant patients was asked. It was noted that 9% who abandoned treatment were less than 20 years old, 48% were 21 –40 years, 30% were 41– 60 years of age, 11% were 61- 80 years old and 2% were more than 80 years of age as shown in Fig. No. 5

DISCUSSION

It was found that location of health outlet at 20 kilometer or more causes increase in noncompliance due to traveling constraints which is also described by Hill PC and Stevens W[15] as well. The study revealed that male gender have more noncompliance tendency as compared to female as found by Daniel OJ and Oladapo OT[12] also.

The age of noncompliant patients was studied and found that majority of treatment defaulters were from 21 to 60 years which is also described by Paixao LM and Gontijo ED[1]. The illiteracy plays vital roll for default behavior of patients. It was noted that treatment non-adherence among illiterate was maximum as found by Gopi PG and Vasantha M[7] also.

The majority of noncompliance patient were using government health outlet which require decentralization to reduce treatment default, which is same as described by Wares DF and Singh S[4]. It was noted that these defaulter patients believed in medicines to be hot which is the same as found by Parsyan AE and Saukkonen J[17] that cultural behavioral factor contribute to complete TB treatment.

We have found that poor socio-economic condition was one of the major factors for treatment non-compliance which has been pointed out by Dodor EA and Afenyadu GY[9] also as a contributory factor for nonadherence. The majority of non-compliant patients replied that long term treatment for many months was difficult to maintain so they became defaulter which has been described by Driver CR and Matus SP[6] also that dropped out tendency is due to prolonged treatment course.

The patients in our study abandoned treatment due to premature self judgment to be cured on disappearance of symptoms after a few days which is the same as described by Schluger N and Ciotoli C[8] also.

The devoted hospital based comprehensive tuberculosis control programme decentralized with good incentives and intensive health education is required to reduce treatment noncompliance episodes among tuberculosis patients.

CONCLUSION

The TB is treated and controlled by complete treatment for the recommended period. The noncompliance means non adherent to that regime becoming AFB Positive again. Self stopping treatment due to feeling cured, unaffordable cost, long term treatment, drugs believed to be HOT, large number of tablets per dose, long distance travel and illiteracy are most important factors which require removal to reduce ATT noncompliance. Married males have noncompliance practice due to socioeconomic stress that can be removed by better job employment. Comprehensive health education for maximum TB treatment compliance through mass media and health care provider workers at grass root level is required.
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