Original Article

A study of compliance of directly observed short course therapy for tuberculosis at tertiary care hospital

Sanjay Dattu Mahajan[1*], Dipak Onkar Patil[2]

[1,2]Assistant Professor, Department of TB and Chest, Dr Ulhas Patil Medical College and Hospital, Jalgaon, Maharashtra, INDIA.
Email: drmahajansd@gmail.com

Abstract

Introduction: Tuberculosis (TB) has been declared a global public health emergence by the World Health Organization (WHO).The disease causes significant mortality and morbidity globally and with the advent of the human immune deficiency virus (HIV) epidemic, TB is regarded as a world-wide public health challenge. The rising incidence of TB due to the effect of HIV in both developed and developing countries is well recognized, besides well-known risk factors, the most important unresolved challenge in TB control is the treatment completion Aims and Objective: To study the Compliance of DOTs therapy and reasons of the non-compliance. **Methodology:** This is a cross-sectional, hospital based study of The all the patients taking treatment under Dots Centre of tertiary health care during March 2013 to March 2014. There were 220 patients of all category are taking treatment at this DOT Centre of tertiary health Centre. Based on above two definitions patients were divided into two groups Compliance and Non-compliance. All the necessary information was collected by pre-testes, semi-structtured questionnaire. Chi-square test used by statistical analysis calculated by Graph Pad Prism-5. **Result:** Out of the 220 patients 132 were non–compliant so, Overall Non-Compliance was 60.00%. Proportion of Non-Compliance was more in Male i.e. (67.90%) as compared to Female i.e. (37.93%) this observed difference was highly significant.($P<0.0001$, $X^2= 15.98$; Highly significant). Proportion of Non-Compliance was more in Poor Socio Economic Status, Middle Socio Economic Status as compared to Upper Socio Economic Status i.e. 67.00%, 35.00% and 30.00% respectively this observed difference was highly significant($P<0.0001$; X^2 for trend =16.76; highly Significant.). Most common reasons of the Non-compliance were H/O Side effects of DOTs therapy, On advise to stop by private physician, Dot Centre was not assessable to Patients, Relief from symptoms, Friends told to stop, Transfer for work to other place. **Conclusion:** The non-compliance in our study found to be 60% which is of much concern so the emphasis on the reasons of poor compliance; H/O Side effects of DOTs therapy, On advise to stop by private physician, Dot Centre was not assessable to Patients, Relief from symptoms, Friends told to stop, Transfer for work to other place should be noted to increase the compliance of the patient.

Keywords: Compliance, Non-Compliance, DOTs therapy.

[*]**Address for Correspondence:**
Dr. Sanjay Dattu Mahajan, Assistant Professor, Department of TB and Chest, Dr. Ulhas Patil Medical College & Hospital, N.H.No.6, Jalgaon-Bhusawal Road, Jalgaon, Khurd, Jalgaon-425309 Maharashtra, INDIA.
Email: drmahajansd@gmail.com
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INTRODUCTION

Tuberculosis (TB) has been declared a global public health emergence by the World Health Organization (WHO)[1]. The disease causes significant mortality and morbidity globally and with the advent of the human immune deficiency virus (HIV) epidemic, TB is regarded as a world-wide public health challenge (Kochi, 199; WHO, 1992)[1]. The rising incidence of TB due to the effect of HIV in both developed and developing countries is well recognized (Narain*et al*,1992)2 Besides well-known risk factors, the most important unresolved challenge in TB control is the treatment completion. Treatment will only be effective if the patient completes the regimen which includes a combination of drugs

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recommended by the physicians. Poor compliance contributes to the worsening of the TB situation by increasing incidence and initiating drug resistance. Resistance to anti-TB drugs has also emerged as an important obstacle in the control of the disease. World-wide patient compliance with anti-TB therapy, with an estimate of as low as 40% in developing countries, remains the principle cause of treatment failure (Fox,1983)[3]. MDR-TB is essentially man-made phenomenon and arises due to inadequate treatment of drug-sensitive TB[4]. The prevalence of MDR-TB mirrors the functional state and efficacy of tuberculosis control programmes in the country. Previous treatment for TB is the strongest risk factor for development of MDR-TB5Drug resistance is a major threat to tuberculosis (TB) control programs worldwide6. The criticalspect of management is ensuring compliance with a full course of chemotherapy (Cuneoand Snider, 1989)7. The World Health Organization recommends at least 85% cure rate of all diagnosed TB cases (WHO, 1992). Inorder to achieve this cure rate, compliance needs to be in the order of 85-90 % (Murrayetal, 1990)[8]

AIMS AND OBJECTIVE

To study the Compliance of DOTs therapy and reasons of the non-compliance.

MATERIAL AND METHODS

This is a cross-sectional, hospital based study of The all the patients taking treatment under Dots Centre of tertiary health care during March 2013 to March 2104. In this study the compliance a and non-compliance to treatment was studied. As per WHO and ministry of health and welfare; Compliance: was defined as completion of prescribed treatment or as missing less than 25% of treatment within the speci-fied duration. Non-compliance: was defined as missing more than 25% of treatment in a month i.e. missed more than one week injection (daily/intermittent) or missed more than one week for collection of oral drugs (known as defaulters) or defaulting for more than one month (known as abandoned treatment). The non-compliance group also included patients who defaulted the treatment and were later retrieved through any means i.e. home visits, letter, returned of own accord, etc (known as defaulter retrieval) or patients who abandoned treatment but were retrieved by bringing back or returned of his or her own accord for resumption of treatment (known as abandoned treatment retrieval). Non-compliance was identified by a registry, which was regularly updated and medical records were also checked for confirmation of non-compliance. There are 220 patients of all category are taking treatment at this DOT Centre of tertiary health Centre. Based on above two definitions patients were divided into two groups Compliance and Non-compliance. All the necessary information was collected by pre-testes, semi-structtured questionnaire. Chi-square test used by statistical analysis calculated by Graph Pad Prism-5.

RESULTS

Out of the 220 patients 132 were non–compliant so, Overall Non-Compliance was 60.00%

Table 1: Distribution of the compliance of Patients as per Sex

Sex	Non-Compliance	Compliance	Total
Male	110 (67.90%)	52(32.09%)	162(100%)
Female	22(37.93%)	36(62.07%)	58(100%)
Total	132 (60.00%)	88(40.00%)	220 (100%)

P<0.0001, X^2= 15.98; highly significant.

Propertion of Non-Compliance was more in Male i.e. (67.90%) as compared to Female i.e. (37.93%) this observed difference was highly significant.(P<0.0001, X2= 15.98; Highly significant)

Table 2: Distribution of the Compliance as per the Socio-Economic-Status of the patients

Socio Economic Status	Non-Compliance	Compliance	Total
Upper	3(30.00%)	7(70.00%)	10(100%)
Middle	14 (35.00%)	26 (65.00%)	40(100%)
Poor	115 (67.00%)	55(32.35%)	170(100%)
Total	132 (60.00%)	88(40.00%)	220(100%)

P<0.0001; X^2 for trend =16.76; highly Significant

Proportion of Non-Compliance was more in Poor Socio Economic Status, Middle Socio Economic Status as compared to Upper Socio Economic Status i.e.67.00%, 35.00% and 30.00% respectively this observed difference was highly significant (P<0.0001; X^2 for trend =16.76; highly Significant.)

DISCUSSION

Factors that have been reported as being associated with increased compliance by many studies were directly observed therapy (Feinstein *et al*, 1959; 1968 [9]; Jonson and Freeman, 1972[10]; Stradling and Poole, 1970; Strong, 1970; Chaulet[11] *et al*, 1967; Albert *et al*,1976[12]) and combined short-course regimen (WHO,1991). On the other hand, factors that were found as being associated with poor compliance were HIV infection, poverty, increasing immigration (Barnes and Barrows, 1993[13]; Drucker *et al* 1994; Cantwell *et al*, 1994[14]; Brudney and Dobkin; 1991[15]), intravenous drug user status, alcohol-ics, unemployment (Brudney and Dobkin, 1991 a, b[16]; Ferrer *et al*, 1991[17]; Crespo *et al*; 1992[18]). In our study we have observed that Out of the 220 patients 132 were non–compliant so, Overall Non-Compliance was 60.00%.

Proportion of Non-Compliance was more in Male i.e. (67.90%) as compared to Female i.e. (37.93%) this observed difference was highly significant. (P<0.0001, X2=15.98; Highly significant). Proportion of Non-Compliance was more in Poor Socio Economic Status, Middle Socio Economic Status as compared to Upper Socio Economic Status i.e.67.00%, 35.00% and 30.00% respectively this observed difference was highly significant(P<0.0001; X2 for trend =16.76; highly Significant.). Most common reasons of the Non-compliance were H/O Side effects of DOTs therapy, On advise to stop by private physician, Dot Centre was not assessable to Patients, Relief from symptoms, Friends told to stop, Transfer for work to other place. These are confirmative with Nyi Nyi Naing *et al* [19]

CONCLUSION

The non-compliance in our study found to be 60% which is of much concern so the emphasis on the reasons of poor compliance; H/O Side effects of DOTs therapy, On advise to stop by private physician, Dot Centre was not assessable to Patients, Relief from symptoms, Friends told to stop, Transfer for work to other place should be noted to increase the compliance of the patient.

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