

## ROLE OF SOCIAL & PSYCHOLOGICAL FACTORS IN DRUG DEFAULT IN PATIENTS OF PULMONARY TUBERCULOSIS

Rakesh Bhargava\*, Devendra K. Sharma \*\*, J.S. Chauhan\*\*, D.K. Pandey\*\*, R.K. Gaur\*\*\*

### ABSTRACT:

**Research Problem:** What is the influence of social and psychological factors on drug default in patients of pulmonary tuberculosis?

**Objective:** To assess the role of social and psychological factors in drug default in patients of pulmonary tuberculosis.

**Study Design:** Hospital - based study by questionnaire method.

**Setting and Participants:** Patients of pulmonary tuberculosis attending Out Patient Department of Tuberculosis and Respiratory Diseases, J.N. Medical College Hospital, A.M.U., Aligarh.

**Sample Size:** 136 defaulters and 86 treated cases of pulmonary tuberculosis.

**Study Variables:** Social factors, psychological factors, drug default and pulmonary tuberculosis.

**Outcome Variables:** Association of social and psychological factors with drug default in pulmonary tuberculosis patients.

**Statistical Analysis:** By chi - square test and significance at 5% level.

**Result:** Important social factors influencing drug default were joint family (74.27%), lack of money (22.06%) and uncooperative family (11.7%). Psychiatric morbidity among defaulters was significantly high (68.39%).

**Conclusion:** Patient compliance depends on many psychological (e.g. psychiatric morbidity, type of personality), and sociological factors (including economic status of patient, nature of family, its environment, interaction between patient and doctor and patient's own attitude and idea about his disease). Age, sex, residence, religion and education did not show any significant contribution towards drug default.

**Key Words:** Social factors, Psychological factors, Drug default, Pulmonary tuberculosis.

### INTRODUCTION:

The social attitude towards tuberculosis has survived from the age of Manu. According to the "Laws of Manu", the ancient Hindu law, "tuberculosis is unclean, incurable and an impediment to marriage". To a certain extent, opinions such as these still prevail among many, particularly, among the underprivileged sections of society. The tuberculosis patient is still a social 'untouchable'. The two curses "incurability and untouchability," together discourage the patients from continuing the treatment, apart from other factors, leading to drug default. The problem of drug default is as old as chemotherapy itself. It assumes a social significance in tuberculosis because it poses a threat not only to the patient himself, but also to the community he lives in, by spreading drug resistant organisms. It also seriously undermines the progress of the control programme in the community.

### MATERIAL AND METHOD:

This retrospective study was conducted in patients attending Out Patient Department of Tuberculosis and Respiratory Diseases, J.N. Medical College, A.M.U., Aligarh. The patients were selected consecutively and divided into three groups. **Group A:** Patients of pulmonary tuberculosis with drug default for 7 days or more against medical advice at any centre. **Group B:** Patients who were taking drugs intermittently and / or in inadequate doses, frequency and number of drugs. **Group C:** Control group, consisting of cases of pulmonary tuberculosis who had completed the treatment.

A questionnaire was read out to the patient preferably in presence of his / her attendant to assess the causes of default. Patients having other associated diseases except psychiatric illnesses were excluded. A complete psychiatric and mental status examination was done on defaulter and control group patients. Psychiatric morbidity was assessed by shortened Hindi version of Cornell Medical Index (C.M.I.). Personality was evaluated by using Eysenck's Personality Inventory (E.P.I.). The association of age, sex, education, marital status, etc. of defaulters and controls was carried out by X<sup>2</sup> test and significance was seen at 5% level.

\* Reader & Chairman, \*\* Lecturer, Dept. of Tuberculosis and Respiratory Diseases.

\*\*\* Reader, Dept. of Psychiatry, J.N. Medical College, A.M.U., Aligarh.

**OBSERVATIONS:**

Initially there were 153 patients and 91 controls but 17 defaulters and 5 controls were excluded because their "lie score" was above the cut off marks. Hence, there remained 136 defaulters (A-71, B-65) and 86 controls.

Defaulters and controls were equally distributed in various age groups. The maximum number of patients were in 20-40 years age group, followed by 40 to 60 years age group. Sex, education, residence and religion did not show any significant association with drug default, as all these factors had almost similar distribution in both study and control groups.

Married and unmarried persons were equally distributed among defaulters and controls but there were more widows, widowers and divorcees among drug defaulters. The distribution of latter was 26.47% in defaulters as compared to 12.08% in control ( $p < 0.05$ ). The type of family had a definite contribution in drug default. 74.27% of defaulters belonged to joint family as compared to 61.63% in the control group ( $p < 0.05$ ). The economic condition of the patients also contributed towards drug default. There were more defaulters in poorer classes (Table - I).

Important reasons of drug default as stated by the patients were: lack of money (22.06%), sense of well being (8.08%), drug did not appear to be effective (8.82%), uncooperative family (11.76%), motivation to stop medication by family, friends and quacks (5.88%), stressful life events (5.15%), social stigma of being tuberculous (5.88%), inadequate medical advice by physician (4.41%), and administrative & organisational problems (8.09%) (Table - II).

Psychiatric morbidity among defaulters was significantly high (68.38%) as compared to control group (33.72%). The prevalence of depression was 55.89% and anxiety 12.50% in defaulters. However, the proportion of depression to anxiety in controls was also almost similar (Table - III).

In terms of personality traits, the defaulters were significantly more neurotic ( $13.60 \pm 3.91$ ) than controls ( $11.56 \pm 2.91$ ) ( $p < 0.05$ ). In groupwise analysis, defaulters of groups B were more neurotic than controls and group A. ( $p < 0.01$ ) (Table - IV).

**DISCUSSION:**

Default in antituberculosis therapy is always likely to cause adverse effect on recovery and health of

patients, but this depends on the type of drug regimen, duration of default and the immunological status of defaulters.

Age and sex factors fail to contribute in any significant way towards drug default. This has been substantiated by various authors.<sup>1,2,3,4</sup> The finding that there was no clear association of being married or unmarried with default is also supported by Almeida<sup>1</sup>. However, in our study, the socially isolated, widow, widower and divorcee patients were found to neglect their treatment more, which is consistent with observations of various other authors<sup>3,5,6</sup>. Religion did not show any significant association with drug default which is also supported by the study of Singh et al<sup>4</sup>. Patients living in rural areas were in no way less regular in drug intake than those living in town. Almeida also found similar results<sup>1</sup>.

Among the various reasons for default, majority (50.73%) were attributed to patients unawareness about the disease followed by family and society related reasons (25.74%). Among the various patient related reasons, lack of money tops the list, being attributed by 22.06% defaulters as the leading cause. This is not comparable to other studies because this study was retrospective and majority of the patients had to buy the drugs from the market at various costs, while in other studies drugs were provided free of cost. The default in studies of various authors<sup>4,7</sup> ranged between 3% to 30.7%. Family and society - related factors included uncooperative family, social stigma of being tuberculous, stressful life events, marriage, births, deaths and motivation for stopping medication by family, friends and quacks. Various authors have given variable results in this context: Singh et al<sup>4</sup> - 49.3%, Khanna et al<sup>8</sup> - 15% and Srivastava et al<sup>9</sup> - 22.7%. Findings in our study are consistent with Srivastava et al<sup>9</sup>. The default was found to be more common in patients from joint families. It might be due to lack of individual care, and sharing of common economic source. Singh et al<sup>4</sup> also had similar observations.

High incidence of psychiatric morbidity in defaulters than control ( $p < 0.01$ ) implies that psychiatric illnesses, either before or during the treatment may be another very important factor for drug default. However, it cannot be said with certainty whether psychiatric illnesses are the cause or the result of drug default. Personality consideration showed that defaulters of group B were significantly more neurotic as compared to controls. It can be inferred that repeated drug interruption is a phenomenon seen in persons who are neurotic

right from the beginning. Therefore, they need a special kind of psychiatric handling prior to the start of treatment. Many authors had found that group therapy and psychotherapy was a useful adjunct for preventing drug default<sup>10,11,12</sup>.

**CONCLUSION:**

Drug default is mainly due to poverty, psychiatric morbidity, inadequate medical advice and multitude of social factors like motivation to stop medication by family, friends and others. Many of these can be minimised by providing free drugs to patients at their door step, improving socioeconomic conditions of the society, repeated motivation of patients and relatives and a long standing psychiatric help and care. Identification of psychiatric and social problems of patients at the start of treatment by specially devised short questionnaires can make a significant contribution towards preventing drug default.

**TABLE - I**

**SOCIAL FACTORS CONTRIBUTING TO DRUG DEFAULT**

Social factors	Defaulters (n=136)		Control (n=86)		Significance
	No.	%	No.	%	
<b>Family</b>					
Unitary	35	25.73	33	38.37	p<0.05
Joint	101	74.27	53	61.63	
<b>Marital Status</b>					
Married	72	52.95	58	67.44	p>0.05
Unmarried	28	20.58	17	19.76	p>0.05
Widow/ Widower and Divorcee	36	26.47	11	12.80	p<0.05
<b>Education</b>					
Below middle school	105	77.21	57	66.28	p>0.05
Middle school or above	31	22.79	29	33.72	
<b>Economic Status (Per capita)</b>					
> Rs.139	13	9.56	28	32.56	p<0.05
< Rs. 139	123	90.44	58	67.44	

(Age, Sex, Residence, Religion and Education were not significantly associated with drug default).

**TABLE - II**

**VARIOUS CAUSES OF DRUG DEFAULT**

Only one predominant cause per patient considered	No.	%
<b>A. Patient related</b>	69	50.73
*Lack of money	30	22.05
*Sense of well being	11	8.09
*Drugs did not appear to be effective	12	8.82
Carelessness & forgetfulness	3	2.21
Lack of time	2	1.47
Lack of faith in physician	3	2.21
Lack of awareness	3	2.21
Patient did not accept the diagnosis	3	2.21
Migration	2	1.47
<b>B. Family &amp; society related</b>	35	25.74
* Uncooperative family	16	11.76
* Social stigma	4	2.94
* Stressful life event	7	5.14
* Motivation for stopping treatment	8	5.88
<b>C. Others</b>	32	23.53
Long term treatment	3	2.21
* Adverse reaction	8	5.88
Long list of drugs	2	1.47
* Inadequate medical advice	6	4.41
Improper diagnosis	1	0.74
Influence of private physician	1	0.74
* Administrative & organisational	11	8.09
<b>TOTAL</b>	<b>136</b>	<b>100.00</b>

\* Leading causes of defaults (n=136)

**TABLE - III**

**PREVALENCE OF VARIOUS PSYCHIATRIC ILLNESSES IN DEFAULTERS AND CONTROL**

Psychiatric illness	Defaulters (n = 136)		Control (n = 86)	
	No.	%	No.	%
Anxiety state	17	12.50	05	5.81
Depression	76	55.89	24	33.72
<b>TOTAL</b>	<b>93</b>	<b>68.38</b>	<b>29</b>	<b>33.72</b>

Proportion of depression 0.81 0.82

TABLE-IV

**EYSENCK'S PERSONALTY INVENTORY (EPI)  
SCORES IN DEFAULTERS AND CONTROL**

Personality traits	Defaulters (n=136)			Control (n = 86)	Significance
	Group A	Group B	Total		
	(n=71)	(n=65)	(n=136)		
Neuroticism	11.85 ±1.72	13.58 ±4.08	13.60 ±3.91	11.56 ±2.91	p< 0.05
Extroversion	14.12 ±3.33	13.04 ±4.68	12.37 ±4.60	12.75 ±4.75	p> 0.05

**REFERENCES:**

1. Almeida, FDN., On the reason for irregular self administration of PAS, Tubercle 1962, 43: 367 - 374.
2. Maddock, RK., Patient cooperation in taking medicines, JAMA 1967, 199: 169 - 172.
3. Porter, AMW., Drug defaulting in general practice, Br. Med. J., 1969, 1: 218 -222.
4. Singh, G., Banerji, SC., and Mathur , SK, A study of defaulters in antituberculosis therapy, Ind. J. Tuber. 1976, 23: 98 - 102.
5. Park, CM, Brown, GW, and Monck, EM, General practitioner and the schizophrenic patient, Br. Med. J., 1962, 1: 972 - 976.
6. Berry, D., Ross, A., and Deuschine, K, Tuberculosis patients treated at home, Am Rev Dis, 1963, 88: 769 - 772.
7. Kashyap, Monkodi, Socio-cultural context of tuberculosis treatment: A case study of southern Gujarat, Ind J Tuber, 1982,, 29: 87 - 92.
8. Khanna, BK, Srivastava, AK. and AL, Mohd, Drug default in tuberculosis, Ind J Tuber, 1977, 24: 121 - 126.
9. Srivastava VK, Chandra, R., Jain, PC. and Bhatnagar, JK, A study of drug default in patients attending Tuberculosis Clinics in a rural area, Ind J Tuber, 1967, 28: 26 - 28.
10. Partt, L., Seligman, A. and Reader, G., Physician's view on the level of medical information among patients, Am. J. Pub. Hlth., 1957, 47: 1277 - 1283.
11. Weber, FJ., Mental hygiene in the prevention of irregular discharge of tuberculosis patients, Dis. Chest., 1953, 24 (1): 1 - 18.
12. Wilmer, HA., Group therapy in a country tuberculosis sanatorium, Dis. Chest., 1953, 24:19.

FOR :

**TYPE SETTING, PROJECT, DISSERTATION,**

**THESIS, DESIGNING, LOGO, DTP, ETC.**

**Contact:**

**ALASHYAHOOD,**

**D/29 (JUST BEHIND S.N. HALL),**

**MEDICAL COLONY,A.M.U.,ALIGARH-202002**

**Hello : (0571) 401549**

**BOOK REVIEW**  
**THE AIDS HANDBOOK**

**THE AIDS HANDBOOK. ED. JOHN HUBLEY, S. CHOWDHURY & V. CHANDRAMOULI.**  
**POPULAR PRAKASHAN PUBLISHERS, BOMBAY, 1995, PAGES 140.**

---

**\* Z. Khan**

---

**HIV** infection and AIDS is increasingly becoming a major public health problem in our country. Currently, the reported cases represent only the 'tip of the iceberg' of the problem. In view of the fact that no cure or vaccine for the disease has yet been found, spreading knowledge and removing misconceptions is about the only way that AIDS can be effectively tackled.

This handbook, developed by Prof. Shankar Chowdhury and associates, seeks to address all levels of medical and non-medical AIDS workers, as well as the layman. It deals with topics ranging from biology of the virus, symptoms and transmission of disease, to prevention, counselling for infected persons and action plan for AIDS education.

The biology of the virus and the immune system is described in simple terms, as well as methods of testing for HIV, and what these test results mean. The progression of disease in adults and children, development of symptoms, diagnostic criteria for AIDS, treatment and outcome of disease is dealt with. How AIDS spreads between people, and the health risk for health workers and families is examined. The various ways in which transmission of HIV can be prevented is looked at in detail, including public health measures, national and international action, and ethical and human rights issues involved.

Counselling is needed not only for patients and their family members, but also for health workers. An outline of Action Plan for AIDS education is dealt with in a practical and lucid manner.

This volume provides a simplified, straight forward view of the topic as well as many practical management strategies for health workers.

\* **Reader, Dept. of Community Medicine,  
J.N. Medical College, A.M.U., Aligarh.**