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Emotional Disturbances among Patients with Pulmonary Tuberculosis

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ABSTRACT

Background: India is unfortunately the tuberculosis capital of the world. Although efforts have been made to eliminate tuberculosis, it still persists giving enormous psychosocial stress to the individuals and their family. Early identification of the emotional distress and the vulnerable individuals will improve the drug compliance and outcome.

Aim: To know the emotional disturbances in pulmonary tuberculosis patients and the factors related to the distress and the appropriate tool to screen such patients.

Materials and Method: In this study of emotional disturbances in pulmonary tuberculosis, fifty pulmonary tuberculosis patients were taken randomly on the basis of their willingness to participate in the study and screened with three tools after the initial pilot study. Raw scores were used to analyze the data and statistical significance was investigated using 't' tests, ANOVA and correlation methods.

Results: There is increased psychological morbidity in the pulmonary tuberculosis individuals affecting their vocational, personal and social life requiring early intervention.

Conclusion: Personal stress and distress, social stigma and resultant psychiatric morbidity needs early recognition and management in pulmonary tuberculosis.

Keyword: *Emotional disturbance, pulmonary tuberculosis, distressed population.*

INTRODUCTION

All physical illnesses are attended by emotional consequences more so if the illness is chronic, disabling, disfiguring and stigmatizing. With about 2.8 million cases, India is unfortunately the tuberculosis capital of the world. Tuberculosis contributes to all different types of stresses to the sufferer. Physical symptoms, side effects of drugs, socio-vocational limitations and cultural misperceptions contributed to the multi-dimensional stress for the patient. India has the highest social stigma and about 100000 Indian women are asked to leave their homes every year after being diagnosed with TB. In fact, the stigma is so severe that many TB treatment centres camouflage like medical centres. TB becomes a death sentence for many as India has the highest overall stigma index. The fear of contagion was built into the patient's psyche and formed the nidus for self-doubts[1]. Social rejection was more injurious than physical problems.

Emotional disturbances lead not only to a poor quality of life, but also to maladaptive health-behaviour patterns, resulting in non-compliance, chronic disability and personal and family disorganization. Ramakrishnan (1989) reported that only about two thirds of the urban patients and one third from rural areas completed the treatment and that causes of non-compliance were essentially psychological[2]. Forgetfulness, rebellion, denial, rejection of advice, etc., were common reasons.

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Loss of work, depleted income and non-acceptance by the family and community indirectly increases the emotional distress. Management of the emotional disturbances often reversed these mal-adaptations[3]. The initial screening could identify the emotionally disturbed patients in need of combined drug and psychosocial management.

The present study aims to study the nature and extent of psychopathology among patients with pulmonary tuberculosis, their socio-demographic and clinical determinants and the usefulness of three of the common screening devises.

MATERIALS AND METHOD

The study was conducted in fifty patients who satisfied the following criteria were randomly chosen from among the outpatient population:

Patient should be an adult attending the clinic regularly at least for a month.

Patients suffering from active pulmonary tuberculosis alone were chosen. Those with extra-pulmonary manifestations were excluded.

Very sick patients were excluded.

Patient should not be suffering from other co-morbid illnesses such as diabetes, HIV and others.

Patient should be willing to participate in the study.

No other member in the family should be suffering from any significant illness, including tuberculosis.

Patients were chosen from among the outpatients randomly by the clinician and the screening was done blindly by the author. Usually two to three patients were screened everyday and all the instruments were administered during a single session. The following tools were used in the study:

Pro-forma to collect socio-demographic and illness related physical and psychological variables. Physical symptoms and psychosocial stressors were recorded independently by the clinician.

General Health Questionnaire (GHQ): This questionnaire has been used extensively for detection of non-psychotic psychiatric illness. The 20-item version has been used[4].

Hospital Anxiety Depression Scale (HADS): The scale was devised to overcome the problem of contamination by illness related physical symptoms. The scale gives an independent measure of the levels of anxiety and depression reliably[5].

Cornell Medical Index (CMI): The M-R section has been used to screen the population for medically significant emotional disturbances. The tool has been used both in the community surveys[6] and among patient populations[7].

During the pilot study, details of the illness, the commonest symptoms, psychological stressors and the prevalent psychopathology were observed and significant factors were identified. Commonest symptoms were cough, breathlessness and fatigue and the most prevalent psychological stressors were fear of death and fear of being a source of contagion to close family members.

Raw scores were used in the analysis of the data. Statistical significance was investigated using 't' tests, ANOVA and correlation methods.

RESULTS

The total of 50 patients included 26 men and 24 women. Among them 14 were aged below 30 years, 14 between 30 and 45 years and the rest above 45 years. Seven of them were unmarried and 42 hailed from nuclear families. Fourteen patients were from urban domicile. Even with the minimum conditions of operational definition, 21 patients were illiterates. Thirty-five of the patients were suffering from the illness for less than one year and all of them were on treatment for the first time. Persistent cough and fatigue were experienced as distressing by 35 and 33 patients, respectively and 15 patients described breathlessness as distressing. Fear of contaminating family members disturbed 23 patients and 20 patients experienced fear of death frequently. Majority of them were vocationally disturbed, with only eight of them maintaining their pre-morbid level of functions.

Raw scores of the patients in all three instruments in comparison to their respective norms showed that majority of the patients had scored above the cut-off marks. Mean scores of patients in all three scales indicated the extent and intensity of emotional disturbances (Table 1).

Significance of socio-demographic variables was investigated using raw scores in all three methods (Table 2). Women were found to be emotionally more disturbed than men. They scored more than men in all the instruments, but the difference was statistically significant only in HADS and CMI. Similarly, patients from urban area registered a higher mean score in all three methods, but were significantly so only in HADS. None of the other variables such as age, education, marital status, family typology or income exerted any significant influence on emotional disturbances.

Relevance of clinical and psychosocial outcome measures on emotional disturbances was analyzed. Fear of death was the only variable associated with significant emotional disturbances in all three instruments. Breathlessness was associated with higher scores in GHQ, and not in others. HADS scores were significantly higher among those with longer duration of illness and among those with vocational de-compensation (Table 3).

Inter-correlations between scores in all three instruments revealed significant association between all the three (Table 4).

Table 1. Extent of emotional disturbances among patients with pulmonary tuberculosis:

Instrument used	Cut-off score	Patients above cut-off score		Mean (S.D.)
		No	%	
GHQ	7	38	76	12.16(6.9)
HADS **Anxiety** **Depression** **Total**	 7 8 16	 34 28 30	 68 56 60	 9.42(4.9) 8.78(4.4) 18.20(6.5)
CMI	10	38	76	16.38(l.7)

Total number of patients 50.

Table 2. Socio-demographic variables and emotional disturbances:

	GHQ Mean (S.D.)	HADS Mean (S.D.)	CMI Mean (S.D.)
Sex: Men (n=l4)	10.38 (6.8)	**15.6l (8.0)**	**13.26 (7.6)**
Women (n=24)	14.03 (6.8)	**21.00 (8.2)**	**19.83 (8.5)**
Age: Below 30 (n=14)	6.03 (6.3)	15.50 (10.0)	13.93 (9.0)
30 to 45 (n=14)	12.35 (7.3)	15.98 (6.3)	18.21 (9.9)
Above 45 (n=22)	13.77 (6.9)	18.68 (8.6)	16.77 (7.7)
Domicile: Rural (n=36)	11.13 (7.6)	**16.61 (8.3)**	14.91 (8.3)
Urban (n=14)	14.78 (6.3)	**22.28 (7.7)**	20.14 (8.9)
Education: Literate(n=29)	11.72 (7.3)	18.44 (9.2)	15.34 (9.1)
Illiterate (n=21)	12.76 (7.3)	17.85 (7.5)	17.80 (8.2)
Marital Status: Married (n=43)	12.44 (7.1)	17.62 (8.5)	16.60 (8.9)
Single (n=7)	10.43 (6.8)	21.71 (7.9)	15.00 (7.4)
Type of Family: Joint (n=8)	11.00 (5.3)	15.62 (8.7)	18.50 (9.4)
Nuclear (n=42)	12.38 (7.3)	18.69 (8.4)	15.98 (8.6)
Income: Below700 (n=30)	12.17 (7.4)	18.67 (8.6)	15.97 (9.5)
Above 700 (n=20)	12.15 (6.3)	18.40 (8.5)	17.00 (7.6)

Mean (S.D.) values given in bold letters evince statistically significant difference

Table 3. Clinical variables and emotional disturbances:

		GHQ Mean (S.D)	HADS Mean (S.D.)	CMI Mean (S.D.)
Duration of Illness	> one yr.(n=35) >one yr. (n=15)	11.57 (7.3) 13.53 (5.9)	**16.60 (9.l)** **21.73 (5.5)**	15.97 (9.4) 17.33 (6.9)
Chronic **Cough**	Present (n=35) Absent (n=15)	12.09 (6.7) 12.33 (7.4)	17.83 (8.2) 19.07 (9.4)	15.77 (7.8) 17.80 (10.6)
Chronic Breathlessness	Present (n=15) Absent (n=35)	**15.13 (5.6)** **10.89 (7.1)**	17.73 (8.3) 18.40 (8.7)	19.47 (7.2) 15.06 (9.0)
Chronic Fatigue	Present (n=33) Absent (n=17)	12.48 (7.0) 11.53 (6.8**)**	19.00 (7.9) 16.65 (9.5)	16.69 (8.7) 15.59 (9.0)
Fear of Contagion	Present (n=23) Absent (n=27)	13.87 (6.9) 10.70 (6.6)	20.17 (8.8) 16.52 (9.5)	17.87 (9.1) 15.11 (8.3)
Fear of Death	Present (n=20) Absent (n=30)	**16.20 (6.1)** **9.47 (6.1)**	**22.45 (7.8)** **15.37 (8.1)**	**20.30 (7.7)** **13.77 (8.5)**
Vocational Disturbances	Present (n=42) Absent (n =8)	12.88 (7.0) 8.38 (5.6)	**19.50 (7.9)** **11.38 (8.5)**	16.89 (8.1) 13.75 (9.8)

Values given in bold letters show statistically significant difference.

Table 4. Inter-correlations between scores in three instruments:

	GHQ	HADS	CMI
GHQ	1.00	**0.80**	**0.66**
HADS		1.00	**0.51**
CMI			1.00

All inter-correlations are statistically significant.

DISCUSSION

Results of the study emphasized on the prevalence of psychological morbidity among patients with pulmonary tuberculosis. In all the measures, majority of the patients have scored above the respective cut-off scores and the mean scores in all three instruments were more than the cut-off levels. A prevalence rate of anxiety of 6 to 14 percent and of depression of 20 percent has been described for the general population[8,9]. Lung disease could limit employment, physical independence, self-esteem, sexual potency and social interactions and result in loss of perception of self-worth[10]. Agle and Baum in a study of small group (n=21) of patients with COPD found a high prevalence of anxiety, depression and undue somatic pre-occupation[11]. Similarly, McSweeny

et al made out that only 15 per cent of their study group could be classified as entirely normal[12]. Enormity of the emotional disturbances in the present study indicated that factors other than physical symptoms contributed enormously to the emotional distress.

Among the socio-demographic variables, which contributed to the emotional distress, sex of the patient was the most prominent. Women were found to be more vulnerable than men. Tuberculosis accentuated their innate sense of insecurity. Fear of contagion resulted in an approach-avoidance conflict towards other members of the family, where her role had been traditionally central. Age, education, marital status, family typology and economic status did not discriminate, indicating that the stress due to tuberculosis was equally disturbing to all. Education did not provide a superior coping mechanism and though unmarried patients were parent-dependent, the same did not protect them against emotional consequences. Joint family provided a large and closely-knit kinship system that allowed considerable social, economic and financial support, but it did not contribute to better adaptation[6]. Social support has been the single most important prognostic factor in determining the patients' ability to adjust adequately while maintaining the quality of life[3]. De Araujo et al reported that among chronic asthmatic patients, those with very few social supports required daily doses of prednisolone three times greater than those with abundant social supports[13]. Results in the present study indicated that fear of contagion and stigma of tuberculosis more than nullified the positive effects of the available support systems for these patients.

Among the disease-related variables, duration of the illness was significantly contributory. Chronicity resulted in an intense multidimensional de-compensation because of the persistent stress. Though persistence of any symptom was associated with emotional consequences, breathlessness was experienced as significantly more disturbing. Make observed that the sensation of shortness of breath could lead to anxiety and panic, with fear of death, avoidance of activities that provoked dyspnoea and pre-occupation with bodily complaints[10]. The associated sympathetic outflow caused increased respiratory rate and minute ventilation, setting up a spiral aggravation of the symptom. Dudley et al concluded that both activating (anger-anxiety) and non-activating (depression-withdrawal) emotions triggered, intensified and extended dyspnoea[14]. The importance of physical symptoms in contributing significantly to emotional distress has been known. Listig et al had shown that pulmonary rehabilitation produced greater psychological improvement than psychotherapy[15].

Fears about contagion and about death could be both causative as well as symptomatic of anxiety. Though both were associated with emotional disturbances, fear of death caused a statistically significant de-compensation. Fear of death emanated from either subjective experiencing of the symptoms or from external observations and health-beliefs. Though hemoptysis was not the prevalent symptom in the present study, it was the most dreaded complication, even in its mildest form. Hemoptysis, breathlessness, anergia and loss of appetite in that order were believed as potentially lethal. Vocational restitution indicated a measure of tertiary level of outcome, reflecting a complex derivative of biological restoration, psychological adaptation and socio-cultural acceptance. Only about one sixth of the patients continued to function at the pre-morbid level and emotional disturbances were evident in the higher mean scores of the un-restored patients in all three instruments. Rutter emphasized that psychological variables accounted prognostically for rehabilitation outcome[16]. Attitude about return to work and beliefs about the nature of the disease were the most discriminating factors. Even more striking, total time-off from work could be predicted by psychosocial measures, but not from physiological and clinical assessments.

Inter-correlations between raw scores of all three instruments revealed a statistically significant association in measuring a common attribute. Square of 'r' between HADS and GHQ was 0.64, between GHQ and CMI 0.44 and between CMI and HADS 0.26. Though prevalently used, CMI has been criticized for its difficulty in differentiating between traits and symptoms, it's loading with hypochondriacal items and the possibility of positional responses[4]. Because of a smaller number of items, ease of application, suitability among medically ill and the possibility of scoring anxiety and depression separately, HADS appeared to be a better instrument among the three. The unaccounted variance between the scales could be related to certain disease-specific variables.

The study underlines the prevalence, intensity and importance of emotional consequences among patients with pulmonary tuberculosis; identifies the vulnerable population in need of additional psychosocial supportive

care; and singles out HADS as a practical screening devise. Like in other chronic illnesses, emotional consequences and cognitive distortions resulted in psychological morbidity of not only the patients, but also their support-group. Management of the disease as well as the diseased could be done only in an integrated approach (individual and group therapy, including educative measures).

CONCLUSION

The study aims to investigate the occurrence of emotional disturbances among patients with pulmonary tuberculosis; the socio-demographic and disease-related determinants of such emotional disturbances; and the appropriate tool to screen such patients. Fifty patients were studied using three instruments (GHQ, HADS, CMI) for screening for non-psychotic psychiatric disturbances. Majority of the patients were found to be emotionally disturbed. Being a woman and hailing from urban domicile adversely affected their mental health. Among the disease-related variables causing emotional disturbances were long duration of the illness, frequent breathlessness, fear of death and vocational non-restitution. Among the screening instruments, significant degree of correlation of the scores was made out. The significance of the findings in formulating an integrated approach to the problem and in identifying the needy population is discussed.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Since this study is only an observational study and also there is no active or passive interventions with the treatment in the studied individuals, no ethical clearance is required for this simple observational study.

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