INTRODUCTION

Observations of behaviour of tuberculous patients has been subject of study by many tuberculous physicians from the time that the disease had been discovered. Both laymen as well as physicians have been struck with the relationship between emotions and tuberculosis, which has resulted in number of authors using tuberculosis as an expression of dejection in love in their novels and plays. The earlier works reported have been primarily based on observations of physicians. Later when psychology came up as an established system the psychologists teamed up with the physicians to study the problems scientifically using controlled observations and at times psychological tests. The role of emotional factors prior to the advent of precise antitubercular drugs was thus considered very significant. However, discovery of the anti-tubercular drugs sharply reduced the failure rate, thus reducing the significance of role of emotions in tuberculosis. But, failure of the physicians in arresting the disease in certain cases, where biological reasons were not found, led them to look into the psychological factors that might be interfering with the process of recovery. Hence we find number of studies on psychological aspects of disease done during the post chemotherapy period. However, almost total eradication of tuberculosis in the west, has brought down the number of research studies in the area in the recent years.
But the story in the Indian scene is different. In India, we find striking absence of research on the subject before sixties. Tuberculosis as a national problem was enthusiastically recognized by the free India only, focusing the attention of researchers on the subject. Due to this delayed interest in the subject the few Indian studies done are more recent. In this chapter we first present the Western Studies and later the Indian Studies.

PSYCHOLOGY OF THE TUBERCULOUS

Psychology of the tuberculous has been a subject of research by many eminent medical and non-medical researchers.

One of the earliest summary of literature on the subject was made by Wolepar in 1929. The general hypothesis about the psychology of tuberculous patients was that such patients are neurotic, frequently neurosthenic or have psychic tendencies. Wolepar on the basis of a survey of 100 hospitalized tuberculous patients found that the typical patient manifested symptoms of neuresthenia. He further believed that tuberculosis influenced inherent tendencies.

Weiss and English (1943) found a strong need for love and protection to be present in some of the cases studied. Merrill in 1944, thought this was an outstanding trait in their obsessive compulsive personality.
The most important thoroughgoing study (1949, 1952, 1955) on the psychology of tuberculosis has been made by Wittkower, as a research project under the auspices of the National Association for the prevention of tuberculosis of Great Britain published in three stages. Interviews were conducted with 785 patients over two and a half year period. Each patient was interviewed for at least two hours. The interview included a clinical history, an assessment of patient reaction to his illness and its concomitants, and an assessment of his previous history and life situation at the onset of tuberculosis. The report of the study is in three parts: (1) The behaviour of the tuberculous patients, (2) the factors determining the behaviour and (3) relevance of emotional factors in the etiology and course of illness. A special subsidiary research project, using 300 patients, was conducted in relation to the role of emotional factors in tuberculosis.

Regarding behaviour of the patients, Wittkower reported that nervous symptoms are common during prodormal phase of tuberculosis. He found that patients rationalized the seriousness of their condition and suppressed their suspicion that they had tuberculosis. The reaction to diagnosis was one of shock, with the degree and nature of the reaction being somewhat influenced by the manner in which they had been informed about the diagnosis. Most tuberculous patients became depressive and anxious. Their
thoughts and feelings were primarily related to their physical condition and to repercussions of their illness. But interestingly enough, out of 308 patients 41 patients showed psychological defences of defiance, ultracheerfulness, resentment and apathy. Regarding psycho-pathology Wittkower explained that the outstanding premorbid feature was an inordinate need for affection. He suggested that persons who developed tuberculosis were unable to deal with their aggressive impulses and were apt to turn them against themselves with tuberculosis as an outcome of their self destructive trends. Wittkower was able to construct five type of premerbid personalities amongst his patients. The overtly insecure, self asserters, rebellious, selfdrivers and conflict harassed.

The value of this work, however, was greatly impaired for lack of control series and absence of psychological tests. Halliday (1948) had criticised this study saying that since every one had need for affection it was difficult to know when the need is inordinate. He also criticised the reconstruction of premorbid personality from post morbid state.

In a later study by Durost and Laing (1955) 40 patients with a favourable course were compared with 40 patients with unfavourable course. On the whole patients who acknowledge and enjoyed their dependence did well and those with concealed it behind hostility did badly. Regarding precipitating factors, 1 out of 14 with an unfavourable course, in the overtly insecure group,
had the onset preceded by loss or permanent separation from supporting figure, period of over work, preceded the onset among self drivers and threat to financial and social security preceded the onset among self asserters. They concluded that personality by influencing the physical behaviour contributes to the onset and influences the course of the illness.

Pasche (1951) investigated 150 sanatorium patients and concluded that there were three type of premorbid personality similar to Wittkower's. These are (1) over dependence, (2) self drivers (3) passive disposition. They found adverse childhood in 30% of the patients. The study was handicapped by the following facts: One quarter of these patients were referred for psychiatric reasons, and a large number volunteered for the investigation. Only 50 respondents were regular arrivals. Hence the patients for study represented a biased selection.

Hartz (1954) in his study dealt with the problem of those who did not do well under treatment. He found in his patients a history of disturbed relationship in childhood mainly with the mother resulting in a strong need for affection. About one third of his patients had the onset or course of the disease determined by emotional factors. The problem of accepting the passive dependent role by the patient of allowing himself to be looked after over a long period, created difficulties in treatment.
Saul and Lyons (1954) confirm Wittkower's findings that basic features of tuberculous patients are a great degree of dependence and difficulty in handling hostile situation. Their impressions as a result of psychoanalytic study of the patients appear to be that the main factors in the dependance is that it takes the intrauterine form, a wish to return to a state in which the respiratory apparatus is not used for breathing, the related emotions like frustrations anger and guilt are acted out over this pathway of respiration.

STUDIES RELATING TO INTRA-PSYCHICAL CONFLICTS

A number of writers have suggested that tuberculosis develops as a result of severe intra psychical conflicts and unsatisfactory attempts at their solution.

Pearson (1946) expressed the view that in some cases the disease is a means of escape subconsciously, which allows the patient time to adjust himself to unpleasant and difficult situations, which if they persist or recur may delay healing or cause relapse.

Day (1946, 1951) has observed that tuberculosis provides means for a flight from frustrations, for self punishment. Many of his subjects developed pulmonary tuberculosis in the absence of the typical known physical environmental causes and he considered they did so because of disease in their environment.
Similarly he considered that the conscious state of mind influenced the course of illness and referred to the exacerbations that sometimes preceded the proposed return of the patients to a home with an adverse psychological background. Similarly, patients with subconscious conflict and anxiety were adversely affected.

Hartz (1944), (1954) says that in some cases sanatorium acts as a peaceful refuge from pressure of work or unbearable situation, specially in obsessive personalities. In some the illness is regarded as a gradual suicide and they have no incentive to get well. Hartz gives this as the reason for rarity of suicide amongst tuberculous patients. In others, the illness is felt as a major psychological crisis of their lives, Hartz was of the opinion that until satisfaction was attained recurrent relapses occurred or they became confirmed chronics.

Groen (1953) reports an investigation by a team consisting of general physicians, a chest physician, two psychiatrists and one psychologist who studied group of tuberculous patients in an Amsterdam sanatorium. The study consisted of 20 men and 20 women suffering from long standing pulmonary tuberculosis. The following conclusions were reached: (1) an unsolved severe inner conflict lowers resistance against tuberculous infection; (2) successful psychotherapy may favourably influence the course
of the disease. The type of emotional conflict is not mentioned in the review and the information is too scanty for proper assessment of the value of the work.

STUDIES RELATING TO PRE-MORBID PERSONALITY

Munro (1926) expressed the view (unsupported by scientific evidence) that there may be purely psychological elements not only in the etiology of tuberculosis but in the patients reaction to it.

Muhul and Wolepar (1929) studied the premorbid personality. Muhul's contention that personalities of patients suffering from tuberculosis have certain common features. Wolepar studied 400 sanatorium patients. He concluded that there was no specific tuberculous personality, that phthisis did not alter the personality of the patients but influences inherent tendencies and exposes the dormant tendencies in patients. He described five main personality groups: the rebellious, the phlegmatic, the pessimistic, the optimistic and the restless apprehensive types.

Pearson (1946) while discussing personality referred to the popular association of genius with phthisis—mentioning among others Schiller, Keats, Elizabeth Browning, R.L. Stevenson, Anton Chekhov, D.H. Lawrence, and considered they were all rebels. He thought, however, the trait was secondary to the disease.
Friedman, et al (1946) studied 100 consecutive, Army cases within a few months of the onset and early in the course of the disease. They concluded on the basis of psycho-somatic approach to the etiology of tuberculosis that their personalities show obsessive compulsive traits but the stress of war and army life were not significant factors. They found negligible family history of neuro psychiatric affection and negligible family psycho-somatic history. The above information was obtained through written questionnaires.

Benjamin, et al (1948) studied 16 cases of pulmonary tuberculosis, and focussed on the premorbid personality and preceding emotional situations. For studying personality they used medical students and other hospital staff as control group. The control group was not strictly unselected. They found no specific premorbid personality. But in a majority of cases the presence of dependency, conflict and striving were found. In 50% of their cases, severe emotional conflict precipitated by actual life situations were present before onset. They felt that inhibition of conscious hostility exerted an unfavourable influence.

Daniels and Dividoff (1950) reported a personality study of 20 patients in a veteran's hospital in 1947-48. One patient was found to be psychotic, three had schizoid personalities, two had long standing psycho-neurosis and two were almost
psycho-pathic. Reconstruction of the premorbid personality revealed a tendency towards swings in moods, with depressive reactions being more common. They maintained that behaviour in hospital was a reflection of earlier behaviour patterns and emphasized the importance of taking good history because of the therapeutic effect in some cases.

Fantl (1951) maintained that no proof had been found of a specific premorbid personality. Betz (1951) and Kursteiner (1952) could find no evidence of tuberculous personality. Prout (1953) also ruled out the presence of any specific tuberculous personality. He felt that emotional stress by lowering resistance to infection, could occur in variety of personality types. His observations were impressionistic and largely based on observation of others.

Stern (1952) reviewed the psychic causes of tuberculosis and concluded that there was no specific premorbid personality and specific precipitating life situations. He accepted the importance of precipitating emotional situations, which he thought varied greatly in objective intensity. He stressed the importance of deprivation of affection in childhood in predisposing the individual to tuberculosis.

Lovett Doust (1952) investigated 200 mental hospital patients using 354 healthy comparable controls. He wanted to find out if personality factors play a part in determining resistance
of the individuals to disease in general. He found that certain particular mental conditions tended to be associated with disorders showing particular body symptoms, e.g. depressions were associated with gastrointestinal disorders, and schizophrenia with locomotor and cardiovascular disease. There was no significant finding for tuberculosis.

Knobel (1954) described the tuberculous as having a schizothymic constitution showing paranoid trends, having an apparent hypoaffectivity, poor self assertion, and being resentful showing a persistence of primary narcissism.

Derner (1953) reviewed the literature and concluded that there was no unique personality type. Varied emotional disturbances were found, basic anxiety being common in all the patients. The same researcher also investigated 32 sanatorium patients using comparable controls, and concluded that there was no unique personality but there was a wide variety of disturbed behaviour. Common emotions were fear, apprehension and depression. He suggested that there was a basic relationship between emotional difficulties and onset of tuberculosis and relapse.

A personality study done by Pinter, et al. (1941) using the Wadsworth temperament scale showed that the average tuberculous patient's temperament is less balanced than that of a normal person; he has a tendency to be antisocial and is decidedly cycloid in temperament. Albee using M.M.P.I. for his study
indicated higher scores on the hypomania and femininity scales when compared with other chronically ill patients. Ellis used Rorschach on 13 patients with good prognosis and 13 patients with poor prognosis and sustained the hypothesis that mental and emotional factors are related to recovery. Page administered M.M.P.I. to a group of hospitalized tuberculous patients. In comparison with normal control group these patients scored generally higher on the neurotic scale with lesser elevation on the psychotic scale when compared with patients hospitalized for other than tuberculosis. Their profile showed the same general trend but the elevations of non tuberculous were not so high. Item analysis of the M.M.P.I. contrasted with normal control revealed that tuberculous patients were more worried, had many health complaints and suffered more from feelings of inadequacy, dependency and social ineptness than did normal controls.

STUDIES RELATING TO EMOTIONAL FACTORS AND ONSET OF TUBERCULOSIS

Wayback in (1935) Breuer studied 100 consecutive sanatorium patients. He found that psychic factors were a cause in 34% of them. The psychic disturbances were: Occupational maladjustment, constitutional; parental mishandling in early life and mental difficulties. There were 4 psychotics.
Schulz (1942) in a study of emotions in tuberculosis patients concluded that tuberculosis accentuates the emotional maladjustment that were present prior to the disease, and that these maladjustments were determined by childhood and adolescent circumstances and habit formation.

Pearson (1946) mentions the strong impressions of one of his colleagues that a recent broken engagement or unsatisfactory marriage often preceded the illness. He also felt that frustrations and disappointments or discouragement were apt to precipitate the disease.

Day (1946, 1951) was also struck by number of broken marriages and romances preceding the onset. Unhappiness caused by an uncongenial job or deadening family life were other preceding life situations. He noted that young adulthood, the time at which tuberculosis is commonest while being the time of strongest physique is also the period of greatest emotional stress. He observed that one third of his sanatorium patients were sick in mind as well as in body. He also found higher incidence of obsessive-compulsive traits as compared to general population. He however, mainted that these observations were difficult to prove by controlled investigations. He postulated the presence of the pneuma—the spirit as the reasons for the immunity against tuberculosis. He put forward the indivisible triad—neuma, psyche, and soma (spirit mind and body). Day's observations
are interesting and based on illustrations. But they are impressionistic and lack controlled investigation.

Galpin (1948) found that 90 out of 200 tuberculous patients gave history of worry and discouragement prior to the onset. Among 100 women patients between 15 to 20 years of age were found to have experienced bereavement, work discouragement, examination difficulties and accident as preceding events to the onset. He noted high incidence of certain nervous traits among his patients, e.g. stammering, nail biting, bed wetting, worrying, mother's darling, retiring nature and considered their personalities to be obsessive compulsive type.

Cohen (1950) in a short study emphasised the lack of proof of the relationship between emotional disturbances and acute exacerbations of the disease, a relationship that many researchers believe to exist. Todd (1951) also thought that conclusive evidence in favour of emotional factors precipitating tuberculosis was not easy to find. Westernman (1951) investigated 300 female tuberculous patients for studying the role of emotional trauma in tuberculosis.

In only 16 cases he could relate psychological trauma to unexpected deterioration. In 5 cases such a trauma was followed by improvement and in 11 cases it had no influence on the course of the illness. He concluded that psychological trauma only affected those with unstable personality.
Rosenbluth and Bowlby (1955) inquired into the social and psychological background of tuberculous children. In many of the families of these patients they found a tremendous need to talk about their anxieties, their problems and the complexity of the feelings and attitudes aroused due to having a tuberculous child in the family. The impact of the disease on a member of a family thus may act as a psychological trauma to others in the family.

Derner (1953) on the basis of his investigation on sanatorium patients suggested that there is wide variety of disturbed behaviour, common emotions were fear, apprehension and depression. He suggested that there was a basic interrelationship between emotional difficulties and onset of tuberculosis and relapse.

Kissen (1955) on the basis of his study using controls concluded that the outstanding personality trait common to all tuberculous patients was an inordinate need for affection. Typical life situation involving the break or threatened break in love link predisposes to tuberculosis in those who have the susceptible personality traits. That other psychological and social features may well play an important part is not denied, maintains the author.

Morland (1938) was impressed with number of broken engagements that preceded the onset of tuberculosis.
Hawkins, et al (1957) in a study at Firland sanatorium compared tuberculous patients who were sanatorium employees with matched group of healthy employees regarding age, sex, race, marital status, education job satisfaction, income and lung health. He found that the ill employees had experienced a concentration of disturbances, such as domestic strife, residential and occupational changes and personal crisis during the two years preceding the onset. The tuberculous group had also evidenced a significant degree of psycho-neurotic pathology and did not recognize or could not admit their personality deficit on questions, during the interview.

Kuhus (1972) studied 100 tuberculous patients from sanatorium and 50 comparable healthy persons and examined them on various psychosomatic factors regarding age, sex, rural, urban character. The findings reveal that in 80% of the patient's psychic and social stress were perceptible whereas only in 38% of the control group the psychic and social stress was perceptible. He further reported an inclination to depression accompanying the stress factors in the tuberculous patients, which the author suggests might be having a bearing on the onset.

STUDIES RELATING TO BEHAVIOUR THAT PRECIPITATES TUBERCULOSIS

Weiss and English (1943) considered the loss of appetite leading to under-nourishment favoured the onset of tuberculosis resulted
from some emotional states. They also suggested that anxiety by preventing adequate sleep and rest could predispose to the disease; and that shallow respiratory excursions which occur in certain type of neurosis may play a part in the onset.

Galpin (1948) observed that the existence of food fads and aversions could lead to a temperament predisposing to tuberculosis. He found aversion to fats and green vegetables in a compulsive obsessional type to be an outstanding feature of the tuberculous patients.

Fantl (1950) also suggested that personality traits could predispose to tuberculosis in the following ways—some individuals react to stress by not eating or sleeping and becoming overactive; others by overeating, fatigue and a tendency to sleep, sometimes culminating in catatonic factors, which no doubt, lowers resistance.

Emotional factors lowering resistance to tuberculosis was discussed by Merrill (1952) who put forward following theories. (a) Theory of energy balance: people with neurotic tendencies use an excessive amount of energy; resistances to tuberculosis depends upon the total amount of available energy to the organism and channelling of that energy into healing process; (b) anxiety, which by preventing adequate sleep and rest is expressed through
the autonomic nervous system, has been shown by Cannon (1953) to have an effect on bacterial resistance (c) the Cardio Vascular Theory: being over worked persons rest insufficiently and use the upright posture excessively, which by reducing the blood flow to the upper parts of the lungs, favours the onset of the tuberculosis.

Wittkower (1948) thinks that self drivers who allowed themselves to be driven into overactivity pre-disposed them to the onset, by going back to work too soon after recovery and working too hard which could bring about relapse. Leaving hospital without medical consent before proper recovery on account of home worries, guilt at in-activity, need for love and affection or just because of rebelliousness, can cause relapse.

STUDIES RELATING TO MANAGEMENT AND TREATMENT

Inspite of lack of convincing proof of the importance of aetiological factors, many authors have stressed the importance of psychosomatic approach to the treatment and rehabilitation of tuberculous patients. Most writers on the psychosomatic aspect agree that as an adjunct psychological treatment has a definite place in the treatment of tuberculosis.

Day (1946, 51, 53) and Hartz (1944, 50, 55) in descriptive case histories have illustrated the significance of psychiatric
help in treatment, and have indicated the psychological cause of failure of what should have been successful orthodox treatment.

Hartz (1950) in a study of patients' reaction to illness has stressed the necessity of adequate personality investigation of the patients in sanatorium with special reference to such factors as life situation at the onset of the disease, the factors of personal strain, the reaction in the past to threatening illness, the family's attitude towards tuberculosis etc.

Wittkower (1955) put a strong case for consideration of psychological factors in after-care of the tuberculous patient. Coburn (1955) revealed that 35 to 50% of tuberculous patients do not complete institutional treatment and he believed this to be due to a failure to handle emotional problems.

Galpin (1948) stressed the importance of psychological and psychiatric assessment of the patient with regard to discouragement at the onset, the personality and the attitude of the patients to the disease.

Daniels and Davidoff (1950) thought the actual taking of the personal history had a psychotherapeutic effect in certain cases, an observation previously noted by Halliday (1938) in some cases of bronchial asthma.
Berle (1948) was sufficiently impressed of emotional factors to suggest that the chest physician's training should include training in psychology, a view echoed by Anderson (1951) and Hendricks (1951).

Hurst, et al. (1950) made some recommendations for the handling of a chronic illness like tuberculosis. These include: (1) Orientation of the patients to his illness, (2) evaluation of organic and psychological factors and their interaction (3) a plan for treatment to include organic and psycho-social factors; (4) a phase of social readaptation for psychosocial as well organ limitations. Similar observations for rehabilitation have been put forward by Coleman, Hurst, and Hornbein (1947).

Derner (1953) has suggested thorough history taking and psychotherapy as an adjunct to the present prescribed methods of treatment.

Kissen (1955) also recommend psychological help during treatment plan saying that psychological help is not a substitute for modern treatment but as an addition, to the treatment.

STUDIES RELATING TO BEHAVIOUR OF PATIENTS DURING TREATMENT

Rorabaugh and Guthrie (1953) refer to a study where a small group of tuberculous patients who left hospital against medical advice is compared with another group who left with medical
consent. No significant difference was found between the two
groups of male population tested on the standardized scales
of M.M.P.I. Females who left against advice, however scored
significantly higher on the hypochondriac scale. Their own
study using M.M.P.I. scales on group of tuberculous patients
in the ward and the total group who left the hospital either
with or without consent indicated that time spent in the hos-
pital had little effect on the way the two groups responded
to the items on M.M.P.I. However, their study comparing the
patients with discharge against advice and discharge with medical
consent using M.M.P.I. showed that patients who left against
advice were high strung, hostile, insecure, non-conforming
and individualistic. In contrast patients who left with consent
were conforming, secure, cautious, and placid individuals.

Further it revealed that patients with irregular discharge
were irresponsible, rebellious and psychopathic. There was
no evidence however, that irregular discharge group showed
a better response to treatment.

Calder, et al (1956) devised a psychological scale to aid the
prediction of the irregularity of treatment or premature dis-
charge from hospital. The result of the test show significant
difference in attitudes between the two group; patients with
unsanctioned discharge are more inclined to underestimate,
show less concern for and in some cases even deny the existence of the disease. This is contrary to the general assumption that all tuberculous patients are highly fearful of their disease and are strongly motivated towards cure.

Pauleen (1957) studied the relationship between personality and behaviour in hospitalized tuberculous patients and found that patients with good behaviour were more dependent and less self assertive than patients displaying poor ward behaviour. The good behaviour patients perceived their environment to be more friendly and permissive. It was also found that patients who did not satisfactorily respond to medical treatment were significantly higher on over-reaction and lower on normal reaction than patients who made satisfactory medical progress.

Norman (1960) conducted a study on 60 patients from three wards of a North Carolina Tuberculosis Hospital using Moreno's sociometry to establish relationship between adjustment to long term hospitalization and adequacy of interpersonal relationship. He found that in comparison with well adjusted patients, poorly adjusted patients showed, a lower socio-metric status, fewer mutual choices, and less tenency to join ward group.

Ecley and Draper (1960) studied the personality of 100 tuberculous patients and found only 24% to be having normal personalities. They found that 50% of the group were abnormal subjects.
They found that the normal group was comparable with general hospital population regarding their personalities. The study further reveals that of the normal group of patients only 17% left hospital against medical consent. They also found higher percentage of single persons in the abnormal group in comparison with the normal group. They concluded that dependency and passivity were ill owmen in the prognosis of the disease.

Hochstrasser and Larner (1965) made a comparative study of hospitalized and non-hospitalized tuberculous patients, and found that unsupervised patients had less awareness about tuberculosis and their own disease than the supervised patients.

Vandiviere, et al (1970) interviewed sanatorium patients of Kentucky to determine the degree of understanding of the patients about their disease and its implications. They found 80% of the patients knew about their diagnosis, 56% recognized tuberculosis as a contagious disease and 50% of the patients showed deficiency in their knowledge about medicines. They further found that only 25% of the patients knew the criteria of discharge. Amongst other factors only age appeared to influence the knowledge level. They concluded that positive efforts must be made to educate the patients for adequate ambulant or home treatment.
Nortowska (1973) reported on a study done to establish relationship between failure of chemotherapy and personality traits in 52 sputum positive pulmonary tuberculous patients. The results show an intensification of the anxiety-depressive states, especially hypochondriasis in 48%. Prognosis in this group was most unfavorable. Psycho-pathic tendencies were found in 29% of the patients, while only 23% were within normal limits. The results also indicated lack of perseverance and gratitude as well as indolence and carelessness in 46% of the group.

**PSYCHOTHERAPY IN TUBERCULOUS PATIENTS**

Kervran (1957) maintained that the success of sanatorium treatment of tuberculous patients lies in the opportunity for rest of body and mind. The treatment should aim at reducing overpassivity and eliminating states of tension by psychotherapy, physiotherapy and relaxing drugs.

Maas (1957) reports that emotional conflicts in professional social and homelife may hinder response to chemotherapy, and these must be resolved. Thereafter group psycho-therapy has been used by the author to encourage healthy attitude of mind with success.
Wilmer (1953) discovered a unique method using poems and drawings on the basis of weekly discussions with the patients. Patients could take part in the play reading. Suitable poetry provided a tranquilizing effect in this group therapy. One act plays, depicting 16 problems situations commonly encountered in the hospital were also used successfully.

Day (1953) suggested that effective therapy should include group activities which the patient enjoys, when spirits would rise in the patient fulfilling spiritual strength of patient's personality, group support, and loyalties will heal patients, and prevent others from getting it.

Pratt and Barnes (1957) reported the utility of psychological support, counselling and personality make up of the patients as helping factors in therapeutic plan.

SOCIAL FACTORS AND TUBERCULOSIS

Ole Horwitz (1971) studied the tuberculous population in Denmark from 1962 to 1968. He reported that amongst married men the incidence of tuberculosis for all age groups was twice as high as among single and widowed men, and four times higher among divorced men.
Benjamin and Nash (1950) studied tuberculous female patients and comparable normal women at work. He reports that employed married women have a higher incidence of tuberculosis than single women.

Procour (1959) in a careful enquiry into how sanatorium patients, regarded their illness, found among them marked changes from former cultural attitudes. He observed that tuberculosis which was formerly a grave and a frightening illness is now thought benign and is no longer an obstacle to marriage and child bearing. He also noted a remarkable change of attitude about contagiousness. Only 20% of the sputum positive patients considered this possibility of contagiousness. Resentment was found in the area of professional advancement due to absence from the job situation.

Above has been account of studies done in the Western Countries. Account of Studies done in India is presented next.
Since tuberculosis has been conquered in the Western countries for quite some time, the foreign studies reported are not very recent. On the other hand the few Indian studies reported are more recent, which is due to the research orientation in the field of health acquired after independence. Although the problem of tuberculosis has always been there, but the psycho-somatic approach and scientific enquiry was built up recently giving rise to study of psychological aspects of tuberculosis.

Presented below is the account of the few studies done in India.

Mahal (1964) studied the reactions of tuberculous patients under following heads: - reactions before seeking help, reactions to diagnosis, reaction to illness and premorbid personality. He maintained that reaction to diagnosis depends partly on patient's personality and partly on the way information is imparted. In reaction to illness some patients presented psychological reaction of dependency, regression, ego-centricity and hypochondriasis, need for affection and felling of Ostracism. Mood disturbances were expressed as anxiety, depression, defiance and ultra cheerfulness, resentment and apathy. He concluded that patients with asthenic
build are more prone to tuberculosis and psychological stress which is commonly seen in these patients before onset. Exaggerated need for affection and frustration is suggested to be the general characteristic of tuberculous patients.

Arora and Aggarwal (1977) studied 50 cases of tuberculous patients attending Bokaro Steel Plant General Hospital. The study included one group of patients taking drugs regularly and a second group taking drugs irregularly. With the help of Cattell's 16 PF test the author found that the age, sex, extent of disease did not contribute to the irregularity. The personality profile of those defaulting on drugs were found to be outgoing, less intelligent, venturesome, tough-minded, shrewd, characterized by internal self conflicts. They also suggest that the casual motivation given by the hospital to the irregular patient is not effective in these cases and they recommend psychotherapy by psychiatrists in such cases.

Pathak (1978) found that the major factors responsible for irregularity of 450 patients taking treatment in New Delhi T.B. Centre are: clash of clinic and patients' work timings, belief that they were not suffering from tuberculosis, or that the disease had been cured, and medicines were unsuitable, long period of waiting involved at the centre, etc. The other
reasons given by the patients were dissatisfaction with the treatment, cost of travelling to the Centre, and domestic responsibilities of the patients.

A sociological survey was done by the National Tuberculosis Institute Bangalore to evaluate what tuberculosis meant to its victims, and it was discovered that about 50% of the patients had tried to seek treatment from institutions of modern medicines. Another 25% were much worried about their physical symptoms caused by tuberculosis but were not sufficiently motivated to seek treatment. The remaining 25% neither took active action nor were sufficiently worried, but were only conscious of the presence of the symptoms.

Another investigation reported by D. Banerjee (1964) revealed that the services offered by existing medical institutions in the community and general health services are grossly inadequate to meet even the needs of 50% of the sufferers, who seek treatment of their own initiative.

A research project done under the joint auspices of ICMR, Medical Research Council of Great Britain, WHO, and the Madras Government (1959) found that the results of domiciliary chemotherapy, where the patients stayed at home and took treatment were quite similar to those receiving sanatorium treatment establishing thereby that domiciliary treatment was as effective as the sanatorium treatment.
G. Banerjee (1968) strongly advocated a psychosomatic approach to the understanding of total tuberculous patient. She divided the various psycho-social factors as personal and environmental. By personal factors she meant intelligence, constitutional and emotional make up. By environmental factors are meant, social relationships, housing conditions, economic background etc. According to her, these factors provided the soil in the individual, for the seed (i.e. the tubercle bacilli) to develop. She arrived at the above observations after studying the tuberculous patients at Bombay hospital.

Maudgil and Prasad (1974) studied 25 male and 25 female patients using T.A.T. and Horschach as psychological tests. The results showed that while 72% of the female subjects had experienced rejection in childhood only 45% of the males had such experiences. The TAT results revealed that 68% of the females and 60% of the males showed fear of being cast out of their social sphere. Lack of emotional control, insecurity, anxiety, sexual tension and depressive features were found in 60% of the cases.

PSYCHOLOGICAL STUDY OF HOSPITAL T.B. PATIENTS

K.C. Mathur et al (1977). He reports and study 124 male patients were interviewed by a psychiatrist and were also given an independent personality test by a clinical psychiatrist.
Results show that 27% of patients gave emotional response of depression, 5% each had schizophrenia and anxiety neurosis. About 7% had other minor disturbances and 56% showed no evidence of psychological disorder. The study also indicated that 70% of patients first consulted general practitioner and 30% consulted chest specialist to begin with.

ROLE OF PSYCHOSOMATIC FACTORS IN PULMONARY TUBERCULOSIS

C.C. Mukho-Padhya and B. Rao (1980) Life histories of 30 bacteriologically proved cases of pulmonary tuberculosis were studied in depth with psychosomatic approach and special attention to life situations preceding the one set of disease. 30 healthy controls were also studied. Adverse life situation conducive to mental trauma operated significantly more in the patients than in the control group. Break in family link, deprivation of love and affection were more often found in tuberculous cases than the control subjects. Dependency, depression, sexual neurosis, guilt reaction, anxiety etc. were more often associated with disease.

PSYCHIATRIC MORBIDITY IN PULMONARY TUBERCULOSIS

B.S. Yadav, et al studied 272 patients of pulmonary tuberculosis at the T.B. demonstration and training Centre-cum-chest institute, Agra. The subjects were selected through a specified sampling procedure and were subjected to detailed psychiatric
screening. (Those suspected to be suffering from a psychiatric condition were assessed by a second psychiatrist for diagnosis reliability). Eighty persons were found to be suffering from a psychiatric condition in addition to pulmonary tuberculosis, giving a psychiatric morbidity rate of 29 per thousand which is much higher than the rate in general population of comparable age group as found in various studied. Psychiatric break down was more frequent among those patients who had concomittant physical illness, special strains and severe anxieties and were housewives than their counterparts.

PSYCHOLOGICAL STUDY OF TUBERCULOSIS PATIENTS

A.K. Tandon, et al (1980) The study describes demographic, social and psychological characteristics of 100 tuberculous patients. The subjects were studied using Hamilton rating scale for depression and semistructured proforma to record historical, socio-demographic and clinical parameters. Depression was observed in 32% of experimental subjects in comparison to 7% of controls. Test results also indicated significantly high scores on Hamilton rating scale for depression among experimental subjects.

Purihit, et al (1978) conducted a study on 96 male hospitalized tuberculous patients by using depression scale (SDS) of Jurg. The findings revealed depression in 54.17% of the
cases which is higher than incidence of depression found in psychiatric department of R.N.T. medical college Udaipur. The study also revealed greater incidence of depression amongst patients who are having the disease for the period of one and half year or more. Incidence of depression was also found higher in patients with advanced disease.

The studies presented above succeed to emphasize the role of psycho-social factors in onset, course and outcome of tuberculosis. In some studies psychological tests have been used and in others detailed interviewing has been used to elicit the depthful responses of the patients.

The studies point to the absence of any consistent premorbid personality prone to tuberculosis. However, the studies point to the presence of emotional stress prior to onset in most cases. Studies also point to lack of consistent personality traits for tuberculosis.

The studies presented lack the comprehensive, and global approach. Certain aspects have been emphasized in some cases while certain other aspects have been emphasized in other studies.
In the present study we propose to study the problem of tuberculosis from psychosocial, emotional, behavioural and medical point of view and determine their relative influences in tuberculosis. In this study we are using the indepth, case study approach, supplementing it with objective test where ever possible.