Epilepsy, like most chronic conditions, can cause disability and prevent patients from participating in normal social and working activities, and interfere even with their everyday activities. In the life history of epileptics one sees that the disability often stems from the unpredictability of the seizure disorder. Epilepsy has got the potential to disrupt the normal social and working activities and to produce greater psychological disturbance as a forerunner of these eventualities. Though there are enough drugs to affect a significant cure rate among these patients, there are many problems related to life and adjustment of the patient, needing additional management. Unlike the head injury, where there is a gradual recovery with the time, in epilepsy the continued recurrence of the seizures over increasing periods often is pathogenic. When the seizures are under control there is generally less marked impact on other activities, whereas continued seizure activities increasingly create problems.

Management of epilepsy consists of much more than control of the seizure phenomena. Impact of this 'mysterious' malady on the patient and social environment adversely affect his total sense of well-being (Virmani and Sawhney, 1966; Virmani and Singh, 1969; Agnihotri et al 1972; Rodin et al 1972; Virmani et al 1973).

It requires a study in the background of the patient's psychological and social environment to understand the full impact of the illness. Even a single fit might produce lots
of psychological trauma among these patients particularly as it is considered to be 'god's possession'. And in turn it might adversely affect the frequency of seizures. It is considered that psychological and social adjustment might influence the drug therapy also. Though at individual level most patients can have productive careers and can engage in routine activities such as good education and normal marital life, they are very often handicapped by the social stigma attached to the epilepsy and the lack of understanding which exists not only among the people in general but also in relation to various restrictive legal and social practices. This is what has led Banay (1961) to equate epilepsy as a persistent enigma of medicine like schizophrenia in psychiatry. It is also mentioned that there is a marked diversity in the various clinical parameters in patients with epilepsy and it is rather difficult to predict precisely the influence of epilepsy in an individual patient's psychological and social spheres.

Epileptics have been studied from different points of view. Few decades back much emphasis was given to the study of the personality of the epileptics. Many people have been trying to establish a concept 'Epileptic Personality' or 'Epileptic character' without fruition. A second major attempt was made on the rehabilitation of the epileptics. Hence occupational capacities, replacement of
them in a suitable occupation, marriage and social acceptability have been studied in detail. Many countries have laws to protect the epileptics from social injustice. Marriageability of the epileptics has also been studied.

The different studies with respect to the changes in the individual psychological traits are as follows:

The existence of epileptic personality cannot be taken as proved, though many agree that epileptics do possess certain peculiar personality traits. Brandley (1947), Ounsted (1955) and Halstead (1957) mention the following traits which they feel are present singly or in combination in epileptics. They are "irritability, distractability, disturbance in reasoning, selective difficulties in mathematics, problem solving or memorizing a short span of attention, slowness in thinking, disturbances in immediate memory, manual dexterity, speech and writing". These traits along with the disease per se create special educational and vocational problems in epileptics.

Bumka (1924) mentioned that many epileptics are by nature simple, good-natured, conscientious though limited folks and show in fact a personality deviation of a non-psychopathic kind.
Mayer-Gross (1962) mentions that personality changes do occur definitely at least in a minority of these patients. A great majority of them can live a useful and tolerably well adopted life without any gross mental abnormalities. He quotes various possible causes for the mental changes. Anti-convulsant medications though often accused of being responsible for the change are not accepted as causative. The changes are possibly attributed to the ill effects of fits themselves. Often it is those who have a greater number of convulsions who show such personality changes. Penfield and Jasper (1954) point out that extensive epileptogenic lesions are particularly liable to be associated with intellectual and personality deterioration. Removal of the damaged regions frequently leads on to an improvement both in intelligence and in personality. Thus the clinical and experimental illnesses probably point to the relation between the severity of the epilepsy and the possible damage which may underlie the personality changes.

Psychological and emotional disturbances have their impact on the social aspects of the life of epileptics. The social implication of epilepsy with reference to education and work areas were explored in a major project at Bangalore (collaborative study on Epilepsy in India Report of the Bangalore Centre, 1971). It was observed that 80% of
epileptics reported that there was no change in the regularity or progress of their studies due to epilepsy; 64% reported about their deterioration in their scholastic performance and in about 1.3% epilepsy came in the way of joining school or college. In the occupational area 85.5% of epileptics claimed that there was no change in their regularity in attending to their work. Work efficiency was considered as normal in about 80% and 76.5% had reported that their work prospects were not affected by epilepsy. But epilepsy was attributed as the cause for decreased efficiency in work in 19.3% leading to reduced monthly income in 16.5%, irregularity in work in 10.3%, losing job in 2.7% and affecting promotion in 1.4% of cases.

The early onset of epilepsy is not necessarily a bad prognosis for frequency of seizures but it is related to a poorer prognosis for intellectual development (Rodin, 1968), thus limiting the educational and professional level of epileptics. Almost 87% of the cases in the series of Juul-Jensen (1964) have completed elementary education only.

Lennox and Mohr (1950) studied the social and work adjustment in patients with epilepsy. Medical and psychological factors of adjustability of 22 unselected male epileptic patients, aged 20 to 50 were studied in reference to Social, Work, School and marital adjustment. Eleven patients had grandmal convulsions and 11 psychomotor
seizures primarily. It is confirmed that patients with epilepsy can make an adequate work and social adjustment. Greater difficulties existed in education and marriage adjustment. Here external factors outweigh the patients’ own efforts for social adaptation. In general, patients with the more severe medical handicaps attained better work adjustment. Internal adjustment to illness must precede work activities. With strong motivation the patients’ adaptation can be excellent in either or both work and social spheres. Patients were more likely to accept their illness than were their families and family influence weakens the patients’ performance abilities. It is not the seizures alone the authors hold, (as this is a transitory phenomenon) but the social connotation which has been attached to the disorder and the individual which must be understood and treated as the total maladjustment.

The problems of emotional adjustment among epileptics, as brought out in these studies, may be of interest from the point of view of psychological and social implications of epilepsy. The literature bears sufficient evidence as to the role of emotional factors in epilepsy (Jensen, 1947). Emotional problems could arise either as a reaction to seizures or could act as a precipitant to seizures.
Maithraye (1967) and Lakshminarayana (1967) reported that emotional disturbances were present in 87.5% and 81% of their epileptics respectively. These consisted of feelings of inadequacy, depression, anxiety, sensitivity, tension and anger.

Virmani et al (1975) have conducted a study on 560 epileptic subjects aged 15-40 years on psycho-social aspects of epilepsy. The results of the study are:

1) 48% had a normal attitude
2) Deterioration in work efficiency was experienced by 35% of the employed epileptics. This was more common in the class I and II whose nature of the job was usually more demanding.
3) While the disease had some detrimental effect on patients' personal, social and vocational life, the marital adjustment was not adversely affected, if one of the partners developed fits. On the contrary, there was improvement in the harmonious marital relationships, epilepsy, notwithstanding. This was significantly marked in the higher social strata. Only 2 out of 68 patients were deserted by their spouses.
4) Deterioration in personal, social and occupational adjustment was more marked in the middle social strata, who have high level of expectation and relatively limited resources.
The affect of the society on the epileptic is manifold. Initially the values and the attitudes of the society very often tend to have an impact on the psychological development of the epileptic. Later the general attitude of the society towards the epileptic very often determines the nature of the work and the opportunities open to him in the occupational/social life. There are multiple cultural variations in different countries as to how they view and support the epileptic.

In many countries, an epileptic is an outcast, as described by Giel's (1968) writings about Ethiopians. Epileptics are shunned at work and in school. An adult epileptic may find difficulty in becoming employed or may lose his job if he develops a seizure at work. He may find it difficult to marry, may lose a spouse, and may be tormented and shunned by friends and relatives (Osuntokun, 1979).

Farago (1972) mentions that despite differences in different countries most legislation does not take into consideration all social aspects of epileptics viz. upbringing, school, family life, marriage, integration into society etc.

Thus the impact of the societal attitudes on the opportunities for normal social adjustment were viewed as significant in the ultimate outcome. The ultimate
outcome in social adjustment is the result of interaction between the societal values and personal adjustmental and ability of the person to meet up to the challenges of the society.

Rangaswami (1971) in his study of 40 epileptics with 30 normal control subjects, using, Bell Adjustment Inventory, reported significant differences between the two groups, not only in the overall adjustment but also in the areas of health and emotional adjustment in that epileptics had greater problems of adjustment as compared to the normal controls.

Another problem relates to the difficulties of the epileptic child in going to school, very often child has in adequate schooling and suffers from failure to achieve the much needed social skills. The inability of the school mates and at times the teacher to understand these difficulties and their negative attitude toward epileptics and hence to the epileptic child have a distressing effect.

Academic and social underachievement in epileptic children reported by Green and Hartage (1971) may be attributed, atleast in part, to inappropriate dependency. There has been an impression shared by many professionals that epileptic children are typically more dependent than children with other types of disability, even some of the other disabilities were experienced as more handicapping than epilepsy (Barsch, 1968).
Bridge (1947) made a follow-up of 472 epileptic children. Among many objectives of the study was a desire to know how many of them had been able to maintain a satisfactory place in society and in what measure personality maladjustments accounted for the failures. It was found some were able to continue their work, adjust well with others. 9% of the patients studied had serious personality disorders. It appeared that in the much larger group of epileptics lesser grades of maladjustments are not given to the benefit of expert care, the psychological problems tend to mount and eventually become the most serious handicap to normal living.

There are a number of studies on social and occupational adjustment of epileptics. The importance of adjustment of epileptics have been long felt in these areas. Muller (1964) in his study of the epileptic and his milieu states that consideration of the relation of the epileptic to his environment, which may be complicated by many circumstances may help to show that changes of characters are not merely a direct consequence of the disease but latter as a result of much more complicated process. Thus, a false attitude in mother towards her epileptic child may prevent or handicap its development as an independent personality as well as the formation of genuine bonds of 'affection'. In adults, personality traits which are usually viewed as being typical of the so called epileptic personality change, may also be interpreted as having the expression of the patients' tendency of self assertion.
His problems are mostly due to the prejudice, fear, discrimination and ignorance on the part of the public with whom he comes into contact whether at home, at school or at work even the law discriminates against him.

Social reintegration of epileptic is the ultimate goal of the treatment. If the epileptic has no employment his social status is unbearable and this affects his health by a circular vitiosus, as stressed by Janz (1969, a, b) and his school (Hoefer, 1969, 1970) and Kronenberg (1970).

It may be said that in general only few occupations are contraindicated for the epileptics. The difficulty most often arising from the unpredictable occurrence of the seizures. The work records of many patients often indicate that they are seldom involved in industrial accidents. Even driving an automobile may not be contraindicated when the person is seizure free for considerable time. Though the potentials of the epileptics can be very well utilised, the employers seldom choose them for their work because they view the other side of the coin in the frequent episodes, possible psychological consequences, and their adverse effect on social life and work capacity are considered as severely handicapping. Among the epileptics the nature and effects of underlying disability vary greatly and their response to treatment also varies.
It is not possible to generalise to the same extent about the employment of epileptics as one can about other groups of handicapped persons such as blind, deaf and paraplegics.

Among epileptics the nature and effects of the underlying disability vary greatly in each individual case, as do the response of the disability even to adequate therapy. Moreover, the aspect of employment is linked inseparably with such other variable factors as the temperament of the individual, his home background, his social adaptation, and his complete medical assessment and supervision.

For several reasons, the capabilities of epileptics and their achievement in employment is difficult to obtain and assess. Unlike the blind or the physically handicapped person, the disability of the submerged epileptic is not evident, and consequently the general public are unaware of his achievements and do not realize that the majority of epileptics can, as the Cohen Report (1956) said, 'Live a normal, satisfying and useful personal and community life'.

There must be restriction of employment for certain jobs for epileptics but it must be appreciated that if there is an associated disability present the limitations due to this may be greater than those caused by the seizure per se. One must always be quite realistic in fitting the task to the patients' capabilities - job fitness and
Job placement must go hand in hand.

The difficulties faced by an epileptic when seeking employment are whether he should disclose the fact of his disability to a prospective employer, whether the supervisor and fellow-employees should be informed; and what the attitude of the workers to him will be.

In the series (Samant et al., 1973) of the 77 cases where the question of concealment was applicable, 54 (70.1%) had concealed their illness from their employers. However, after gaining employment by concealing their illness, if they pass the probationary period without any seizure at work, the labour laws protect them and it is then very difficult to retrench them.

There have been no large studies in India to indicate employers' attitudes. Surveys conducted in USA (Caveness et al., 1969) show that there is a distinct improvement over the years in the knowledge about the disease and the attitude towards epilepsy and epileptics. Yet others have pointed out that attitude towards epilepsy depend upon the individuals' own experience with known epileptics, as in the case of employers, physicians, teachers, etc.

Rodin et al. (1972) conducted a study to elicit factors which are associated with an epileptic patients' gaining and keeping employment. Eighty-seven employed patients were compared with 90 unemployed patients on a
wide variety of variables. It was found that the employed patients had higher intelligence, less impairment on neuro-psychological tests, less neurological and electroencephalographic abnormalities, and their work history was considerably better than that of unemployed group. A step-wise discriminant function analysis revealed that the most powerful predictors for employment success were: high motivation for work, good verbal I.Q., a self confidence, etc., and the patients' present level of socialization.

Dennerll (1970) has attempted to develop a useful classification to identify the factors affecting employability in individual epileptics. He has found that employability of epileptics is "multidimensional in nature, involving neurological, personality, intellectual, vocational and environmental dimensions". Neurological deficit or organic brain syndrome, as well as an individual's personal work adjustment, motivation and attitude towards his work, appeared to be the most important from employment prognosis.

Pond and Bidwell (1959) studied epileptics in general practice and arrived at certain interesting findings. The population of study consisted of 245 epileptics of both sexes treated either as out patients or inpatients. Among the patients of employable age one half of them had job
difficulties. This difficulty was found more frequently among those who belong to the younger group, lower social class, and had mental backwardness and/or psychological difficulties among with fits. Nearly 10% of them were unemployable as they had multiple difficulties. They also found educational difficulties and psychological difficulties of various types among one third of the total population.

Goodglass et al (1965) studied 119 male epileptics aged from 20 to 50 years in order to evaluate their vocational adjustment since the onset of their seizures. The frequency and severity of the seizures were the prime determinant in occupational adjustment of epileptics. The most severely handicapped had an unemployment rate of about 50% those in the middle category had a similar rate but showed a 46% decline in work efficiency, as compared with 25% in the group with the mildest handicap. Some with apparently equally severe medical handicaps achieved strikingly different level of adequacy in occupational adaptation. It is concluded that epileptics with infrequent seizures present no significant employment problem and for the middle grade of severity, retraining for a suitable occupation appeared to be the solution. Those who had a fortunate circumstance not primarily of their own making was able to continue in work.
In another study of Rosciszewska and Ciesielski (1966) observations on the adjustment to work which was examined in 1962 were reassessed. Five patients had left their employment in the first stage of the study. Three out of 24 remaining patients ceased working because of their temporal lobe seizure because more frequent attacks were accompanied by more severe behavioural changes. Out of 19 patients working, only 2 have changed employers, 3 have been working continuously at the same place for over 20 years and 7 for over 10 years. Fifteen persons (51%) could be recognised as well adjusted to their work.

Thus over-all adjustment of the individual patient were studied in individual compartments work in unison in the normal social setting. Thus the psychological adjustment within the self, with the immediate neighbours, the society at large and vocational adjustment in particular ultimately contribute to the total prognostigation of the life problems.

Wilson et al (1959) studied the socio-economic effects of Epilepsy. A detailed note of the study is worth mentioning as it covers marital and sexual adjustment, work adjustment, religious inherent etc.
Forty-two male patients who had experienced the onset of epilepsy after the age of 22 years were studied. Data were accumulated relating to the effect of medical treatment on the patient's seizures, the frequency of major and minor seizures, the use of alcohol, the marital, work and social adjustments of the individual libido, potency, religious interest, educational level achieved, intelligence quotient, psychological evidence of organic mental impairment, clinical evidence of psychopathology and appearance of brain waves.

Alcohol in one form or other was used by a rather high percentage of patients. Sixty-six percent admitted to occasional, moderate, heavy or chronic use of alcohol, and 34% of the patients use no alcohol. Following the onset of their seizures, of twenty-eight patients who used alcohol, 46% reported no change in consumption, 7% stopped drinking, 32% decreased their consumption and 11% increased their consumption. Among 20 patients on whom data were available, 14 reported that alcohol had no effect on the frequency of their seizures and 6 reported an increase in the frequency of their seizures with the use of alcohol. No patient felt, nor did other data suggest, that his seizures were helped by the use of alcohol.
Marital and Sexual Adjustment:

Twenty two of the patients were married prior to the onset of their seizures. Fifty-nine percent of the 22 made a good marital adjustment. Following the onset of their seizures, approximately 50% of the patients in the same group had no change in their marital adjustment. However, of the 10 patients who did not show a change, 9 suffered deterioration in marital adjustment, whereas one patient had an improvement. In the group of patients who were married after the onset of seizures (12 patients), 7 made a good marital adjustment, 3 made a fair adjustment and 2 made a poor adjustment. Eight of the patients were single, separated or divorced at the time of the onset of their seizures, and had not married or lived with their wives since the development of their seizures. Prior to the onset of the seizures more than 45% of the patients had averaged having sexual relations more than twice a week; following the development of seizures only 29% still maintained this frequency. Data were available on the change of potential in 37 patients. Twenty-seven or 73% reported no change following the onset of seizures, whereas 10, or 27% reported a decrease in potential.

Work adjustment: It was the purpose of this study to attempt to assess the longitudinal work adjustment of the patient rather to limit the assessment to the time during the study was carried out. This made possible appraisal of overall work adjustment for the entire group both before and after the onset of seizures.
Twenty-two patients had a poor work adjustment as previously defined. This accounted for approximately one-half, or 52% of the patients. Four or 10%, had a fair work adjustment, 6 or 14%, had a good adjustment, 10 or 24%, had an excellent work adjustment. However, in comparison to their sibling, 43% of the patients had a much poorer work adjustment, 26% had an equal work adjustment and 10% had a better adjustment.

Religious interest: In 50% of the patients there was no change in the usual church attendance and interest in religion. In 26% there was a decrease. Most of these patients stated that they felt they preferred not to go to church because of the possibility of a seizure.

This study would seem to indicate the epileptic patient is often severely handicapped by factors other than the prevailing social attitudes toward his disease.
HEAD INJURY:

Head injury constitutes a major health problem in both developed and developing countries. This is invariably attributed to the immense technological advances, the mechanisation of the traffic, and increase in the traffic in general etc.,. It is reported 60% of all accidents have been associated with head injuries. Among the various consequences of the head injury, one has to study not only that of the injured but also of those who are close to him and have to bear the major responsibility of looking after him. The sequelae may widely range from minor injuries to death where patients do not even consult doctors. In general death occurs more often in the elderly. In a study of 2190 cases of head injury in Willington Hospital, pathak et al (1971) found that head injury is more common in 0-20 age group and males out numbered females in the ratio 3:2:1. Head injuries in children and elderly persons were mainly due to falls at home. This study indicates the gravity of the problem. The young people with head injury survive to the possibility of the chronic maladies of head injury. They run the possibility of various neurological, psychiatric and social handicaps. And in our patriarchial society the social consequences of the morbidity in major bread-winner is understandable. Quite apart from the physical sequelae, the psychiatric consequences and their social repercussions may be judged to be significant in upwards of a quarter of patients who survive. Social incapacity
generally is in terms of strain thrown on the families of the head injured patients. Studies have shown that the extent of psychiatric disability after head injury is often related to psychological and social factors rather than the severity of the injury.

Thus apart from the medical consequences i.e. mainly neurological consequences of head injury the psychological consequences have been studied in detail by many workers. The importance of these studies can be made out by the fact that these consequences at the individual level magnified to mountaneous proportions when projected into national figures in terms of loss of man hours, the quantum of health care in terms of money and health services to the patient and the responsibility the society owes to these patients. The chronic sequelae continue to remain a serious challenge to the medical care and communal resources. Rational plans for dealing with this condition can not be made nationally, regionally or in single hospital unless information is elicited about the level of risk in different population, when and where injuries mostly occur, its severity and how often they occur. Improvements in medical care have made it increasingly likely, that patients with severe blunt injuries will survive. However, a considerable number will remain handicapped and place a burden on their families and demand on rehabilitation services (Bond, 1975; Bond and Brooks 1976; Brooks and Aughton, 1979).
Thus, viewed from the social level of health care one finds that our health care systems do not meet the entire demands of the single individual who suffers from injury to the head or brain. We find many studies covering the medical aspects, the deterioration the patient shows in his behaviour as a social animal i.e. his adjustment with the fellow human beings in the family, with the friends and at workspot and sometimes the consequences of such changes as suffered by the "significant relatives". In the coming sections some of the studies will be reviewed.

The head injury is unlike injuries to other organs because it produces certain changes not only in the body but also in the mind. "Many patients now survive illness which would previously have proved fatal, especially those associated with acute failure in one bodily system or another. In most systems survival is followed by good recovery, and, even if functional reserve is followed by good recovery and, even if functional reserve is subsequently diminished, the patient can usually accommodate to this. But when the brain is the organ affected, the persisting disability usually comprises both mental and physical handicaps which can seriously impair the quality of life. Thus brain being not only the centre for computing the physical activities but also the anatomical substratum of the mind disability expresses, itself in both the spheres. Changes in the psychological functioning is not only a handicap per se but also is fundamental to the serious consequences in interpersonal relations and occupational adjustments. In a study by Thomsen (1974) no relative
complained of problems arising from locomotor disorder, whereas behaviour changes were experienced as a much heavier burden. For example pathological laughter was found to be a particularly embarrassing and troublesome complaint. Panting and Merry (1972) found that emotional disturbances caused much more distress to the relatives, especially as they tended to persist longer than physical disabilities.

Bond (1975) in a study of 56 patients with severe head injury found that mental rather than physical disability was associated with lack of family cohesion.

Fowler and Fordyce (1972) describes frequently patients who have experienced recent brain damage show partial loss of control over their emotional expressions. They may for example, switch from tears to laughter or anger in an unpredictable manner. Typically, however, the problem is one of frequent crying. Sometimes the crying is due to depression, a natural response to loss of ability or to a abrupt change in life. Often however, the problem is due to loss of control over emotional expressions from brain damage. This problem is referred to as 'organic effective lability'.

Close kin of the patients who are markedly changed by brain injury may experience some frustrations and bewilderment, but usually learn to accommodate to or compensate for minor characterological alterations. However, even mild irritability or a just noticeable diminution in drive can
have stressful repercussions on family patterns geared to the patient's premorbid personality (Lezak, 1976, Malone, 1977). D'Afflitti and Weitz (1977) similarly stressed that any noticeable change is apt to leave family members feeling a little cheated or annoyed or impatient, and a little guilty about these feelings.

The problem that immediately concerns our area of study is the general change in the behaviour following head injury. The works of Goldstein (1930 and 1942) are fundamental to the understanding of the same. He describes two types of attitudes. One is a relatively primitive and concrete attitude in which thinking is determined by and cannot proceed beyond some immediate experience, object or stimulus. The other is the abstract attitude which involves a relative detachment from the given experience. Thought and action are directed by some general concept that embraces the immediate situation as one of the certain classes of phenomena.

The brain injured individual has difficulty in assuming the abstract attitude and cannot shift from one attitude to the other. These patients often fail whenever there is a need for them to detach from the concrete experience. And these attitudes will have their say in the routine running of the day.
The impact of brain injured person on family members is even more distressing. When the patient's characterological change is extensive and renders him dependent, demanding, irresponsible, foolish, ill-mannered, or frankly dangerous, all close members of the family are likely to suffer emotionally. The problems endured by the family are usually experienced most poignantly by the family members who undertake the care of the patient.

The family members are likely to feel isolated (Bardach, 1969). Some patients may embarrass the family in public, get lost or frightened in unfamiliar places, or get upset with strangers. Their families soon find it preferable to stay home and not mix with others. Once sociable families stop having guests when jealous, irritable, demanding or 'funny' patients make entertaining unpleasant. Even family members who maintain their social contacts may feel alone since so few people understand their plight well enough to communicate empathy.

Characterological defects secondary to brain injury tend to disturb normal family patterns and create adjustmental problems for the patients' close family members. Social and psychological ties, expectations, and vulnerabilities make care taking spouses and dependent children particularly susceptible to emotional stresses. The influence of psycho-social factors on recovery of the brain-injured, especially in the presence of established mental and physical deficits, was stressed by Bond and Brooks (1976) in a comparative review of 719 patients.
Malone (1977) mentions that the young children often bear the brunt of the family's troubles. They may be ignored by the brain injured patient and inadvertently neglected by the healthy parent who is trying to keep the family going, single handed. Older children may suffer less because they can avoid the disabled parent more readily. Children in the upper grades and teenagers tend to act out the family's distress by school truancy and failure, delinquency and prematurely leaving home.

Panting and Merry (1972) in a study of 31 severe head injured patients admitted to a rehabilitation centre found that the disturbances are severe enough to warrant the use of tranquilizers or sleeping tablets in almost two thirds of the relatives. More than half of them felt that the support provided had been inadequate, usually because they had been given insufficient information regarding prognosis and difficulties which might be encountered. Thomsen (1974) also found that complaints about lack of information were common particularly among working class relatives. Both Thomsen (1974) and Panting and Merry (1972) showed the severity of the problem as reflected in the marital relationships which tended to be less stable under stress than parent-child relationship. Among the 10 married patients studied by Panting and Merry, 3 were divorced and one separated at the follow-up, 2 to 7 years after injury. A number of explanation have been advanced for this. Firstly, married patients tend to be older and therefore, because of the inverse relationship between age
and speed of recovery, may be more severely handicapped. Secondly, almost entire responsibility of care falls on the spouse, whereas in the case of single patients both the parents are likely to share the burden. Thirdly, parents may be readier to accept a dependent role on the part of the patient since it echoes an earlier phase of their relationships. Among paraplegics, the divorce rate reported in the literature ranges from 7% to 39% (Guttmann, 1973). However, divorce rate are not only the indicators of satisfaction in married life. It is very probable that many wives of severe by disabled persons do not seek divorce because of economic and social reasons. Walker (1972) surveyed the marital status of 146 men who had sustained brain injuries during the World War II and found that only 11% of them sought divorce. These figures are highly problematic because they were based on a sample that was highly heterogeneous, as far as severity of the injury was concerned.

Adjustment with a head injured patient is really a difficult task for the family members, particularly the spouse. The spouse and the dependent children may be abused by the patient. Many patients, frustrated by their condition, feel that they are unworthy burden, demeaned by the care they need and panicked by fear of losing it. As ever present reminders of their dependency and incompetency care takers tend to become the focus of their patient's bitterness and humiliation. Attacks on the care taker commonly take the form of belittling, accusations of
faithlessness, rejection and hostility, and an unending flow of complaints and demands. Many caretakers report one or several incidents in which the patient threatened physical violence. Violence directed at persons, however, seems to be relatively rare. Yet petty acts of physical abuse - walking with a cane, tripping with a crutch, pushing or slapping probably occur more frequently than occasional complaints might suggest (Lishman, 1973).

Rosenbaum and Najenson (1976) conducted a systematic study to assess the impact of patient's disability on various family members. The study focused on the wives, one year after their spouses' injury.

One year following the injury, the women were compared to the wives of paraplegics of one year and to wives of normal men. The subjects were 30 Israeli women, 16 of whose spouses had sustained severe injuries 12 months previously. Ten were married to brain injured men, 6 were married to paraplegics, and the remaining 14 subjects were women whose husbands had fought in the war but had not sustained injuries. The wives' mean age was 26, and they had been married a mean of 4.5 years.

There were two major findings in the present study. First, one year following their husband's injuries, wives of the severely brain injured men were found to have experienced drastic and disturbing changes in their lives. Second, these changes were closely related to various symptoms of depression reported by the wives. The changes
were most pronounced in the wives' interpersonal relationships with their husbands, in-laws and friends.

Brain injured husbands described by their spouses as being more self-oriented and exhibiting more child-like dependency than were paraplegic husbands. Paraplegic husbands were reported to exhibit such behaviours to a more significant extent than were normal husbands. The frequency of contacts, the nature of relationship with their in-laws was different in the brain-injured and the paraplegic groups.

A number of wives of brain-injured reported tense relationship between themselves and their husbands' parents. The tensions were often aroused by the in-laws' over-protective attitude towards their son.

Compared with the wives of paraplegics and those in the control group the wives of brain injured reported that they had been meeting less frequently with their friends since their husbands' disability was a social handicap. When compared with normal persons, both the brain injured and paraplegics were reported to play a lesser role in raising their children, whereas among these two the brain-injured husbands were found to share with their wives fewer responsibilities for raising their children when compared to paraplegics.
More wives of brain-injured than wives of paraplegics felt that they had to assume the man's role in the family. They had a more independent role than wives of paraplegics in terms of making decisions concerning everyday expenses, a fact they found to be quite disturbing. Wives of brain-injured engage in very few pleasant activities either at home or outside.

A drastic reduction in sexual relations with their husbands was reported by both the groups though there is no clear cut relationship between sexual relations and injury in the case of brain-injured husbands.

In another important study by Romano (1974) on 13 cases of head injury found a marked tendency for relatives to deny disability and to imagine measurable improvement to have occurred when in fact it had not. Such denial may be seen as a part of the adjustment process, since it will take time to produce a realistic change of attitude. Since drastic progress does in fact occur as the patient comes out of a coma, it is not difficult to understand why relatives should be beguiled into false optimism unless they are repeatedly warned to expect slower progress thereafter.

Another pioneering study on social aspects of head injury was conducted by Oddy et al (1978). Fifty four patients aged 16–39 years with closed head injury leading to PTA of more than 24 hours, a control group of 35 patients who had suffered traumatic limb fractures but without injury to the head were studied.
Of the 50 head injured followed up, 24 had a PTA of between one and seven days, and 26 had a PTA of more than seven days. A semi-structured interview adapted from that of Weissman and Paykel, was used to assess the social adjustment during the two months before the accident. The Katz Adjustment Scale, a task distribution check list and the Wakefield Depression Inventory were also administered.

Social Recovery was assessed based on the terms: return to work, contact with friends, leisure activities, family life, marital relationship, parental behaviour and financial situation.

Work: Of the 45 patients who had been working full time before their injury, only 22 had returned to work full time for the period four to six months after the injury. Sixteen had not worked at all since their injury, and 7 had worked either part-time for all of this period or full-time for part of it. Of those who returned to work all were able to resume at the same level if not in the same job. The less severely injured group enjoyed a clear advantage in speed of return to work. Other indices of the severity of the head injury in the acute phase failed to show any effects on the time taken to return to work. However, among the control group there was a tendency for relatives to report patients to have less job satisfaction on their return after lengthy period of sick leave. However, it must be noted that the sample of Oddy & al was young
(80% under 25 years of age), with more cases from the upper than lower social strata and that half the cases had PTA of seven days or less, all of which make a good outcome more likely.

Social contact: There was no evidence of any diminution in the number of friends or acquaintances for either the control group or the head injury group as a whole. However, for the very severely injured among the latter there was a significant fall in the number of close friends reported by relatives at the sixth month follow-up. Again only in the very severe group was there evidence of a lower exchange of visits with friends as compared with the situation before the accident, which in some cases had led to social isolation.

Family Relationships: There was no change in either the frequency of contact or level of friction between married patients and their parents or in-laws. There was no significant changes in the amount of friction between single patients and their parents or siblings. However, there was a non-significant tendency towards more friction in both head injured and control families.

Marital Relations: Only 12 head injured and 6 control patients were married. Only one of the 12 head injured cases was the relationship reported to be appreciably worse. No spouses reported any sexual problems persisting into the fifth and sixth months, and an increase in frequency of intercourse was reported as often as a decrease.
That the final outcome of rehabilitation depends on factors other than that of the spouse and their perseverance is easily evident because it is almost impossible for a single person to look after the head injured unaided. Bond (1975), in a study of 56 patients with severe head injury, found that mental rather than physical disability was associated with lack of family cohesion. It is often noted that at the time of head injury when the actual crisis strikes upon the family there is more family cohesion enabling a concerted effort in facing the problem. With the slow progress of the patient, the hope for a complete recovery diminishes and the relatives and friends are found to be gradually withdrawing. They could not be depended upon for long and were not dependable for a long period, as they were in the beginning.

Jennett (1975) mentions that the patient suffers from a combination of mental and physical handicaps, which combine to make considerable difficulties, not only for the patient but also for his family and for those assisting in his recovery. The overall social handicap is due to mental features which are more consistent and more persistent than physical disabilities. In course of time, the surgeon overlooks the family disorganisation due to patient's head injury problem.
Buchanan (1976) notes the negative role of outside relatives who maintain interest in the patient's welfare but do not assume responsibility of his care. Without day-to-day experience of the patient's irresponsibility, impulsiveness or foolishness, or of the onerous duties, vigilance, and sacrifices, undertaken by the caretaker, they can easily misperceive the caretaker as being too protective or restrictive, too neglectful or uncaring. The only relatives who have experienced the caretaker's burdens are likely to be genuinely grateful and emotionally supportive. Thus the relatives in general appear to play a very important role in the early phases in lending support to the patient and emotionally supporting the caretaker of the patient. It is important to note that their role in the latter periods may not be as much supportive and may even be disruptive and thus sometimes leading on to a family disorganisation, which is not conducive to the psychological welfare of both the patient and his close relatives. It is imperative that a wider network of relatives and friends be taken into consideration in evolving a programme for long term rehabilitation of the patients.

In monitoring the degree of social recovery the important factor taken into consideration is the ability to go back to the work which denotes the patient's economic autonomy and the relative lack of neurological, psychological and behavioural handicaps, which is an important factor before
the patient is able to occupationally recover. Return to work has been a dominant theme in studies of social recovery after head injury. Other aspect of life, which is equally important to the patient have been relatively neglected in the literature. Resuming normal work is an important factor, especially among youth which is the bulk group involved. The findings from most studies on resumption of work have given grounds for optimism, with the figures typically in the 80-90% range except where there is a history of prolonged coma (Rowbotham et al 1954; Carlsson et al 1968; Steadman and Graham, 1970). Even among patients who have been unconscious for more than a month the chances of return to work may be at least 50% (Lewin, 1968; Lequere et al 1971).

Dresser et al (1973) found a similar percentage (70-90%) of people who sustained head injuries and were gainfully employed when followed-up a number of years later. Severe neurological symptoms from the head injury and prolonged impairment of consciousness, implicating severe diffuse brain damage, were associated with a poorer prognosis for gainful employment. After a head injury, young people with higher premorbid intelligence and greater adaptability to life stress did better than old people with lower intelligence and less adaptability.
Miller and Stern (1965) studied 100 consecutive patients in whom head injury had been associated with PTA of more than 24 hours duration had been seen and subsequently 92 survivors were re-examined. This second examination was to determine the symptomatic prognosis, the outcome of focal brain damage and initial intellectual impairment, and finally (and most importantly) the degree of social and occupational incapacity, which persisted after a mean interval of 11 years, when disablement might reasonably be regarded as static. The information was collected from relatives, medical attendents, lawyers, and employers.

Regarding the occupational prognosis, 32/92 patients were earning more than before their accident. Twenty-eight stated that their earnings were unchanged and 15 that their incomes were reduced. The nature of employment and the occupational status are more reliable guides to functional recovery, that is, earning capacity. All the children had recovered completely, three were still at school and four were fully and appropriately employed. Fourteen women were fully employed, 10 outside the home, 3 had relinquished part-time outside employment, in all cases because of epilepsy.

Out of 68 men who were followed up 58 were fully employed, 36 in their previous trade. Of these, 8 continued in their previous capacities, or had been promoted and 10 had suffered a permanent loss of status as a result of their injuries. Their accidents had led to changes of
employment in the other 22 men, in 14 this was mainly
due to a resulting impairment of efficiency, in 3 to
epilepsy and in 5 to personal inclination. Ten men were
permanently incapacitated and unemployed, 8 by direct
results of brain damage, one by epilepsy, and one by
hysteria.

In brief, 10 of the 85 adult patients must be
regarded as totally disabled from the occupational point
of view and 30 had been downgraded, including 6 because of
epilepsy. Despite the severity of the original injuries,
45 had escaped any loss of occupational status.

In general the outcome in these cases of severe head
injury has proved to be much more favourable than was
expected or predicted. This study shows that the handicap
is not very severe and rarely disabling as it is normally
expected to be.

Conclusion: Thus the above studies indicate the difficulties
in the rehabilitation of Neuro-psychiatrically afflicted
individuals, which is still nacent. The studies
often confine themselves to the physiological or psycho-
logical changes brought about by the morbidity. Head Injury
and Epilepsy are relatively well understood among the neuro-
psychiatric problems and they are the most common and
better studied among the lot. The various studies, from
different countries discussed above, point out the
difficulties in programming at national level. National
figures relating to the difficulties may not be applicable to an individual case and the basic unit of family with a deficient individual asserts itself as mandatory in further studies. This problem is further complicated by the changing variability of the deficiencies involved and the socio-cultural nexus where it happens. For example a close knit family system very often outbalances even severe deficits. Here again studies in our own environment will be more reliable than studies elsewhere.

Though there are a few studies along these lines in the Indian setting (which eventually constitute a necessary link), they have been meagre, and the comparative scantiness of study in this respect is the guiding factor for the understanding of the present study.