Review of Literature
REVIEW OF LITERATURE

THE REVIEW OF LITERATURE ON THIS SECTION HAS BEEN CATEGORIZED UNDER FOLLOWING SUBHEADINGS

- CONCEPT OF FAMILY BURDEN
- THEORETICAL MODELS OF PARENTAL STRESS
- MEANING OF FAMILY BURDEN
- DEFINING FAMILY BURDEN
- FACTORS INFLUENCING CAREGIVING BURDEN
- INSTRUMENTS USED TO EVALUATE FAMILY BURDEN
- GENDER AND FAMILY CAREGIVING
- THE FAMILY BURDEN OF CARE IN DIFFERENT MENTAL DISORDERS
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- LITERATURE ON FAMILY BURDEN IN AFFECTIVE DISORDERS
- LITERATURE ON FAMILY BURDEN IN SCHIZOPHRENIA AND AFFECTIVE DISORDERS
- COPING STRATEGIES AND THERAPEUTIC TECHNIQUES TO REDUCE FAMILY BURDEN IN KEY CAREGIVERS
- NEGATIVE FACTORS ASSOCIATED WITH CAREGIVER BURDEN
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The Family Burden of Care for Patients with Schizophrenia and Depression

Caregivers play a vital role in supporting family members who are sick, infirm or disabled (Singleton et al. 2002). Caregivers provide assistance with activities of daily living, emotional support to the patient and dealing with incontinence, feeding, and mobility. Families not only provide practical help and personal care but also give emotional support to their relatives with mental disorders. Therefore the affected person is dependent on the care givers, and their well-being is directly related to the nature and quality of the care provided by the care givers. Due to high burden and responsibilities, caregivers experience poorer self-reported health, engage in fewer health’s promotion actions than non-caregivers, and report lower life satisfaction (Amirkhanyan and Wolf 2003; Danhauer et al. 2004).

Reports indicate that depressive symptoms are twice more common among caregivers than non-caregivers (Canadian Study of Health and Aging Working Group 1994a). Family caregivers who have significantly depressed mood may be adversely affected in their ability to perform desirable health-maintenance or self-care behaviours (Yvonne and Mary 2005). Family caregivers experience more physical and mental distress than non-caregivers in the same age group (Amirkhanyan and Wolf 2003). Several studies suggest that many caregivers are at risk of experiencing clinical depression (Gallant and Connel 1997). Nearly half of the caregivers in some studies were reported to meet the diagnostic criteria for depression when structured clinical interviews were used (Gallagher and Mechanic 1996). There is also some evidence to suggest that a diagnosis of depression can be causally related to the caregiving situation. Dura et al. (1991) found that nearly one quarter of caregivers met the criteria for depression whilst in the care-giving role, although they had never been diagnosed with depression prior to their assumption of this role. It has been proven that if the problem behaviours and the functional impairment in the care recipients is worse, the strain score is higher and the carer is more likely to be depressed (Molyneux et al. 2008). Undoubtedly, the recent trend of deinstitutionalization, creation of managed health care and pharmaceutical treatment focus in mental-health care have shifted responsibility of care into community settings, even for those affected with the very serious mental illness. Schene et al. (1994) documented that
treatment of a mentally ill person in the least restrictive environment has made social functioning and social performance important aspects for families, especially those in caretaker roles. The responsibility has presented families with overwhelming challenges, as much of the research (Papolos 2002; Pollio et al. 2005; Pollio et al. 2006) revealed an excess of literature documenting the high levels of caregiver stress, family burden, and social stigma associated with caring for a relative with a mental illness.

The effort to explain caregiving outcomes generally has been framed in terms of stress coping paradigm. Caregiving is seen as the stressor and burden and diminished subjective well being are seen as negative consequences (Biegel et al. 1991).

This adverse consequences of psychiatric disorders of patients on family and caregivers known widely as family or caregiver burden has a history that began soon after the Second World War. Studies on burden thus dated back to the 1950s and were done for different reasons. At first, such studies were to determine the feasibility of discharging the patients into the community and later to refine the concept of caregiving, its extent and its underlying structure and most recently, to measure burden as an outcome variable in programme evaluation and controlled clinical trials (Schene et al. 1994).

Behavior of patients suffering from mental illness can cause burden to family in particular and society in general. With the advent of community care, mental health professionals have recognized the effects the patients can have on their caregivers. Despite this recognition, there has been a little research in this area. The care-giver often has additional responsibilities in the family and many of the ill recipients do not acknowledge or even recognize the assistance and help they are receiving. The care is given because of emotional bonding, duty, guilt and/or the lack of other available services in the community. The experiences of care giving have been loosely linked together by the rather ill-defined concept of family burden. Burden has been seen as indicative of the breakdown of reciprocal arrangements that people maintain in their relationship, such that one person is doing more than their 'fair share' (Shah et al. 2010).
Concept of family burden

This concept shares characteristics with that of social performance, for one person’s poor social performance is another person’s burden. Both concepts are related to social expectations which are likely to be variable. The existence of burden indicates the breakdown of reciprocal arrangements that people maintain in their relationships. This may merely result in another person taking on a greater proportion of a number of shared tasks. It may also restrict their activities outside the relationship (Fadden et al. 1987a).

The existence of a burden indicates the breakdown of the reciprocal arrangements that people maintain in their relationships, such that one person is doing more than his/her fair share. This may result in that person taking on a greater proportion or a greater number of shared tasks or it may also restrict that person’s activities outside the relationship. This change in pattern is often accompanied by subjective dissatisfaction. At a given level of objective burden, individual levels of distress show considerable variation (Platt 1985).

The examination of the concept of burden based on the effects on the performance of various roles carried out by the patient’s relatives was an approach first used by Mills (1962). Grad and Sainsbury (1963) advanced the measurement of burden by using a 3-point scale rather than the descriptive sketches given by their predecessors. Hoenig and Hamilton (1966) made the important distinction between ‘objective’ burdens and ‘subjective’ burdens. Objective burdens refer to the reality demands of coping with the mental illness and its practical problems that go far beyond mere caregiving responsibilities. They include:

- The patient’s economic dependency and inability to fulfill the expected role
- Disruption of household routines and family relationships
- Caregivers’ investment of time and energy to help seeking for treatment for the patient
- Confusing and sometimes humiliating interactions with the service providers
- Financial costs of the illness,
- Caregivers’ constraints in social, leisure and work activities
• Isolation and impaired relations with the outside world
• Inability to find alternatives to hospitalization or facilities for residential placement outside the home when it is no longer possible to keep the mentally ill person at home.

Frequent conflicts arise out of poor management of already scarce financial resources as in the mindless squandering tendency of the patient. Normal routines give way to the haphazardness that invade the household and often cause rifts among the family members. Caregivers having to ensure that the patients receive treatment and more importantly that they remain compliant with the treatment will have to invest much time and energy. Seeking treatment and sourcing for other services may be frustrating for the caregivers when service providers are not able to meet the expectations of the patients and/or caregivers. Treatment may be expensive and unaffordable and the loss of earnings through the illness by the patient and the caregiver add to the financial cost of the illness. It is inevitable that with so much time invested in the patients, the caregivers give up social and leisure activities, tilting the balance of reciprocity in roles (Schene et al. 1998). The fear of leaving the patient alone and the stigma of the illness keep the caregiver at home most of the time and isolate him/her from the outside world. There is always a scarcity of residential resources available for the patients and this can be a heavy objective burden for the caregiver who finds that it has become difficult to have the patient remain at home (Bassuk and Lamb 1986).

Subjective burden describes the personal sufferings as a result of the illness that is the psychological reactions that the family members experience. They include feelings of loss, mourning for the person who was before the illness, one who has the right to promise and hope and the loss of the person who might have been. There are stressful effects on the caregivers’ own mental and physical health, like the feelings of stigmatization, inability to make or fulfill personal plans, empathic suffering for the pain of the ill member, worries for the ill member's future, especially if he/she is young. Guilt has one of the greatest tolls on the caregivers. Guilt that not enough has been done for the sick member or that the caregiver himself/herself has contributed to the illness.
The behaviours of the patients and their management are issues that create ongoing tensions between the patients and their families (Biegel and Milligen 1992). Caregivers frequently have to tolerate abusive or assaultative behaviours, mood swings, unpredictability, socially offensive or embarrassing situations. Negative symptoms of amotivation, apathy or anhedonia, often leave the caregivers in despair. Equally distressful for the caregivers is when the patients develop traits like collecting and hoarding rubbish leading to poor home sanitation, excessive and indiscriminate smoking causing fire hazards and the reversal of sleep patterns. Such reversal of sleeping patterns often resulted in the patients turning day into night and night into day, affecting the caregivers’ need for rest and normality of their lives (Hatfield et al. 1994).

A multivariate model was adapted by Vitaliano et al. (1991) to conceptualize and measure the predictors of burden and physiological dysregulation. In this model, subjective burden and distress are assumed to result from three independent sources: stressors, vulnerabilities and resources. The model is represented by the following expression-

\[
\text{Burden} = (\text{Exposure to Stress} \times \text{Vulnerability}) \div (\text{Psychological and Social resources})
\]

The predictors in this model are exposure to stressors (care recipient characteristics and level of positive and negative symptoms), vulnerability (Anger and passive coping: wishful thinking, avoidance and self blame) and resources (Active coping: problem focused, seeking support and religiosity).

Several systematic efforts to assess the extent and nature of burden experienced by the families of the mentally ill have been extensively reviewed (Platt 1985). In his critical review of instruments measuring burden, Platt (1985) while differentiating between objective and subjective burden noted that one aspect of objective burden was based on subjective feelings of the respondent which were judged better by investigators. Objective burden refers to the effect caring has on the household, whereas subjective burden describes the interviewer’s perception as to whether the household is experiencing a burden. Objective caregivers burden refers to
the practical problems associated with care giving (e.g., difficulties with neighbors and police, disrupted family relationships). Subjective caregivers burden refers to the caregiver’s emotional reactions (e.g., reduced morale, anxiety and depression). The demands of caring for a mentally ill relative have both an emotional and practical impact on the caregivers, which have been defined and quantified by concepts of subjective and objective burden (Chakarborti et al. 1995)

The first formal recognition of the importance of the family as part of organized mental health care in India can be traced back to the work of Prof. Vidyasagar in the early periods of post independent India. He had observed that patients were brought for admission only when mental illness was already long standing and when their relativities has despaired of their ever recovery. Relatives often made a long journey to bring patients to the hospital and prepared to abandon them in hospital at the stage of illness. Prof. Vidyasagar encouraged the relatives to stay with patients during treatment period.

Theoretical models of parental stress

Theoretical models of parental stress have been described in the literature. Perhaps the most simple is the four-domain concept of stress posited by Lessenbery and Rehfeldt (2004). The four domains include

- The stressor, or any event that exceeds an individual's coping abilities
- Strain, or the physical and emotional symptoms of a stressful event, including fatigue, irritability, muscle strain, and headaches
- Coping resources, or those things that an individual can use to help mediate and manage the effects of the stressor, such as social supports and educational resources, and
- Coping strategies, or the specific ways in which an individual uses the available coping resources to avoid or reduce the effects of the stressor, such as a parental support group and accessing respite care.

What is family burden?

The advent of extensive policies of deinstitutionalization saw the shifting of the locus of care of mentally ill persons from psychiatric hospitals to families
(Magliano 2008). Although this shift was intended to aid the patients in the community, the family often had to take responsibility for caring for their loved ones without knowledge or preparation for the caring role. The concept of family burden was introduced around the 1960s after a great deal of attention was given to the understanding of the burden that families experienced for caring for their mentally ill relatives (Glanville and Dixon 2005).

Numerous definitions of burden exist in literature but they share a common underlying theme on the effect of a patient on his family. To better understand and describe the effects upon family members of having to care for mentally ill family members, the concept of family burden was introduced. Providing care to family members dealing with chronic illness may result in feelings of burden or strain for caregivers that can be diminish their quality of life (Sales 2003). Numerous studies have demonstrated that family caregivers of persons with a severe mental illness suffer from significant stress, experience moderately to high level of burden and often receive inadequate assistance from mental health professionals (Saunders 2003).

**Defining family burden**

Family care of clients with mental illness is an endless burden to family caregivers. Lefley (1996) identified three types of burdens faced by family caregivers.

1. **Objective burdens** in coping with the mental illness (financial burden, time and effort in caregiving, disruption of daily routine and social life) (Hatfield and Lefley 2000).

2. **Subjective burdens** in facing the mental illness (feelings of loss, shame, worry, anger and hopeless towards the client with mental illness) (Lefley 2001).

3. **Burdens in management of problem behavior** of clients with mental illness (assault, mood swing, unpredictability, negative symptoms) (Lee et al. 2000).

Regarding various types of family caregivers, parental caregivers seem to be most responsible ones. But they are also highly stressful, frustrated in taking care of their children with mental illness (Hatfield and Lefley 2000). Spouse as caregivers, suffer the transformation of their beloved ones with strong feelings of loss and
grievance (Judge 1994). The family members try to compensate this by various coping skills they possess. There are various factors influencing the coping of family caregivers. These factors are availability of social support and network, opportunities and their willingness to join various types of family support services and programs (Solomon and Draine 1994). In fact, stress and coping of family caregivers are also influenced by mental health services and policy, as well as social and cultural contexts (Lefley 2001).

Family burden has been variously defined, based on different contexts in which the illnesses are viewed and different foci of burden perception.

- Family burden refers to “the effects on mental illness of one family member on the emotional well being of the other family members as well as on the family members’ use of the finances, time and general living conditions” (Platt et al. 1978).
- Family burden is “difficulties felt by the family of psychiatric patients” (Pai and Kapur 1981)
- Family burden is defined as “an element of hardship experienced by family members due to illness of patients “(Gibbons et al. 1984).

In fact, there have been many criticisms leveled against the family burden concept largely on the grounds that it obscures possible multidimensionality and focuses only on the negative aspects of looking after relative with mental illness. Similarly, Awad and Voruganti asserted that although the negative consequences of caring for an ill relative have received much attention, there are instances (though less frequent) where the experience of caring for persons with mental illness can be a self-satisfying act. In similar Ohaeri (2002) observed that the term ‘burden’ does not fully encapsulate the totality of the experience of providing care for an ill relative. Awad and Voruganti posited that in order to highlight positive aspects of caregiving experience, it was proposed that the concept of ‘burden of care’ be replaced with a rather unbiased term (e.g. ‘experience of caregiving’). However, the burden of care concept continues to be mostly used, often mirroring the depths of negative effects of burden of care (Awad and Voruganti 2008).
Factors influencing caregiving burden

This area has been addressed by several recent researchers but in a rather unsatisfactory way. Baronet in her review article in 1999 stated that less than 20% of the studies reviewed which were published prior to 1990 used regression statistics to identify relationships between variables and caregivers' burden. Prior to 1990, studies mostly used descriptive and correlational statistics to analyze and interpret findings. Among the studies reviewed which were published after 1990, over 75% used regression statistics. Because many variables are related to caregiver burden, the need to control these different variables is essential to identify relationships correctly. A large number of studies presented significant correlational association between variables and caregiver burden but these associations failed to reach significant levels when robust regression analysis was used. In some of these studies, like those of Greenberg et al. (1997), Cook et al. (1994), these variables were included in the study but not mentioned in the findings as associated with burden.

Some of the more popular factors that the studies on burden looked at are social demographic factors like age, gender, relationship to the patient, the educational level of the caregiver, illness related variables like the presence of symptomatic behaviours and diagnosis and the availability of support.

In her review article, Baronet (1999) looked at nine studies that evaluated the relationships between caregivers' age and burden. The findings were mixed for the association between the caregiver's age and burden. The ten studies that she looked at which evaluated the relationship between burden and caregiver's gender all reported no association with overall burden. Similarly the seven studies that looked at educational level of the caregivers in relation to burden also found no correlation between the two. Neither did she find in her review article any correlation between the overall burden of caregivers and factors like the caregiver's relationship to the patient and the diagnosis of the patient.

However, some conclusive findings were noted in the twelve studies evaluating the relationship between caregiver burden and the symptomatic behaviours of the patient. All twelve studies found association between both variables. Finally in
the area of social support, her article included six studies which reported mixed findings.

Baronet's (1999) review covered 28 studies from 1976 to 1997. The studies were wide ranging from longitudinal to cross sectional studies. The sample sizes were also very varied. In her review, consideration of methodology and sample size for the generalizability of findings was not a priority. However, this article is useful in providing the baseline for looking into this aspect of burden.

Following up on this review article, some researchers in later studies continue to attempt to look at factors associated with burden without many definitive answers. The two most significant factors that influenced burden was that of support and the behaviour or symptomatology of the patient.

In the area of support, Magliano et al. in 2002 did a study which specifically looked at the impact of professional and social network support on the burden of families of patients with schizophrenia. This large multi-centered study involved 709 key caregivers from 30 mental health departments. As in their previous studies, this Italian group used pure samples, sound methodology and ensured good inter-rater reliability. Their study found that burden was higher among relatives reporting poor professional and social support. They concluded that there were significant relationships between family burden and professional and social network.

Harvey et al. (2001) did find one demographic factor that is the age of the patient that predicted negative appraisal. The study found that relatives of younger patients had more negative appraisal of caregiving and that could mean higher burden.

Lastly, there is a very large study by Byford et al. (2001) that looked at factors influencing the cost of caring for patients with severe psychiatric illness. The study found that higher costs were influenced by the age of the patient and the duration of the illness. Although the study looked at the financial costs, it is inevitable that a higher cost of care will translate to a higher burden for the caregiver.

Some of the patient factors related to psychological distress in carers are: behavioural disturbances, functional impairments, physical impairments, cognitive impairments, and fear that their relative may attempt suicide (Shah et al. 2010).
The literature consistently demonstrates that the frequency of behavioural problems is a more reliable predictor of caregiver burden and depression than are the functional and cognitive impairments of the individual. Carers face unfamiliar and unpredictable situations which increases stress and anxiety. Anxiety may be increased by behavioural problems of patients who cannot be successfully managed on a consistent basis. Anxiety is associated with depression, stress, and physical ill health (Williamson and Schulz 1993).

Carers have reported great anxiety due to fear that their relative may attempt suicide (McDonell 2003). Carers of people with both physical and cognitive impairments have higher scores for objective burden of caring than those caring for people with either type of impairment alone (McDonell 2003). In contrast, scores for limitations on their own lives were higher among women caring for people with cognitive impairments (with or without physical impairments) (Tooth et al. 2008).

**Instruments used to evaluate family burden**

The last three decades saw a number of instruments or scales developed to measure caregiver burden. Family burden became one of the outcome measures in mental health service evaluation. Comparisons were made between community approaches and the more clinical approaches. The application of burden measures in routine a clinical setting that is to screen for burden, to identify individual members at risk and to monitor changes in burden over time is in its infancy (Schene et al. 1994).

Having established burden in the caring population, researchers then attempted to look at factors that influence this burden and more importantly how these caregivers cope. Beginning in the early 1980s, interventions or treatment programmes with a psycho-educational approach which aimed at a reduction of family burden, family stress or expressed emotion became the central point of interest (Kuipers and Bebbington 1988).

Grad and Sainsbury (1968) and Hoenig and Hamilton (1966) developed the first burden scales for caregivers of severely mentally ill patients, and a number of authors further developed instruments trying to distinguish between “Objective” and “Subjective” burden. Since 1967, Pasamanick and others proposed questionnaires for
burden evaluation in relatives of schizophrenic patients. Some instruments were validated first in a mentally ill group and then adapted for schizophrenic population.

Even more recently, because of the difficulty of operationalizing the concept of burden, researchers began to look at the entire concept of caregiving that included both the negative aspects (burden) and the positive aspects of caregiving. Since 1994, more new instruments have been developed to assess the experience of caregiving such as the Experience of Caregiving Inventory by Szmukler et al. (1996), the Perceived Family Burden Scale by Levine et al. (1996) and a generic instrument to assess the experience of caregiving by Schofield et al. in (1997). These newer instruments looked at caregiving in a wider, yet more specific perspective. In the Experience of Caregiving Inventory both the negative and positive aspects of caregiving were addressed, resulting in a balanced perspective.

The evaluation of behavioral disturbances should now be excluded from the objective burden dimension. It is specific domain, both objective and subjective, which can be described as a stressor in the stress-appraisal-coping model. A good approach of this domain can be found in the Perceived Family Burden Scale (PFBS). It comprises 24 items and the principal components analysis produces 2 factors ("active" and "passive"), explaining 35% of the variance, with food consistency and acceptable test-retest reliability. The evaluation is both objective (presence or absence) and subjective (induced distress). The Behavior Disturbance Scale (BDS) may also be taken into account, although it is less validated. This scale derives from the Subjective Burden Assessment Schedule (SBAS), modified as a self-questionnaire, with both objective and subjective evaluation of all items.

The concept of burden was recently modified in a new theoretical approach by Schene, when developing the Involvement Evaluation Questionnaire (IEQ). According to author, the burden scale is supposed to exclude stressors (patient’s behavior), as well as outcome variable (distress or psychological impairment in caregivers). The “caregiving consequences” section comprises 36 items, which focus on the subjective aspects of the caregiver’s experience. Principal component factors analysis generates four factors which explain 45% of the variance: tension,
supervision, worrying, urging. The overall caregiving score substantially explains the connection between patient, caregivers, relationship variables and the caregiver’s distress. This scale is valid and simple instrument for caregiving evaluation.

The Experience of Care giving Inventory (ECI) also introduces a new approach of caregiving and rejects the notion of burden. The 66 item version is composed of 10 factors (8 “negative” and 2 “positive”) with good internal consistency. The introduction to two positive factors (rewarding personal experiences, good aspects of the relationship with the patient) might be the basis of a useful outcome measure for intervention aimed at promoting caregivers well-being. Nevertheless, the authors fail to develop an overall score that includes these factors, and focus on the negative dimensions as predictors of morbidity and well-being. None of the variables included in the regression model explain a significant percent of the variance of the ECI positive score.

None of these instruments was employed for evaluating programs or treatment, even psycho-educational program for caregivers. This may be partly due to the lack of data about sensitivity to change. No instrument was available for evaluating therapeutics from the caregiver’s point of view. Developing such an instrument was necessary, in view of the increasing role of families in care for mentally ill patients.

Hoeing and Hamilton (1966) who divided burden into subjective and objective burden and again divided objective burden into type 1 and type 2. Type 1 (3 point scale) rated specific effects certain areas of family life whereas type 2 (4-point scale rated burden based on occurrence of certain behavior traits occurring in the patients. Subjective burden was assessed on global 3 point scale. Grad and Sainbury (1968) assessed burden in patient’s families by rating on a 3 point scale. Inter rater reliability was good. Spitzer et al. (1971)’s Family Evaluation Form, (FEF) is a standardized interview with 455 items grouped into 45 summary scales. Two major aspects of burden are assessed. One is family psychopathology due to the patient and other is objective burden.

Social behavior assessment scale by Platt et al. (1978) includes an evaluation of both subjective and objective burdens. The report good inter-rater reliability for the
subscales and claim that it is sensitive to changes in burden (Platt and Hirsch 1983). Creer and Wing (1975) evaluate burden in a survey of psychiatric patients in prolonged contact with community services in London. They examined objective and subjective burden on 4 and 3 point rating scale consecutively. The inter rater reliability was the highest for objective burden.

While the first authors referred to those problems which are deemed to be related to, or caused by the patient, Platt and Hirsch (1983) tried to distinguish between the occurrence of a problem, its alleged etiology, and the perceived distress, when developing the SBAS questionnaire. The SBAS is actually the most complete, but also complex instrument for evaluation burden in caregivers. Family burden can also be evaluated with the Family Experience Interview Schedule (FEIS), which evaluates patient problem behavior, activities of daily living, role functioning, disruption of household routine, caregivers contributions in time and money to the patient’s general support and treatment, and the amount of practical and emotional support provided to the caregiver by the patient (Tessler and Gamache 1995).

Family Questionnaire (FQ) of Barrowclough and Tarrier (1992) consists of a list of 59 problem focused on the patient, with an open category of “other” for the inclusion of idiosyncratic difficulties. Relatives indicate on three 5-point Likert-type scales, the frequency with which the behavior occur, the quantity of discomfort or unpleasantness caused by these behavior and to what extent they feel capable of coping with these difficulties.

No such work had been reported in Indian setting. The economic and cultural conditions in India being vastly different from that of western world, the areas of family burden and the pattern of accepting or rejecting patients may be entirely different. Therefore standardized method of assessing the burden on the family was attempted by Pai and Kapur in 1981. The 24 possible items were selected an were arranged in six different categories (financial, effect on family routine, effect on family leisure, effect on family interaction, effect on physical health of family members and effect on mental; health of family members). These questions assess the objective burden on relatives. For assessment of subjective burden on family members one more question is framed which is asked in last, and rated on 3 point scale. Each
item was then converted in question form and response to each question was rated 0, for none, 1 for moderate and 2 for severe burden. This constituted the structured interview. The reliability score was above 90% for 20 items and between 87% & 89% for other four items which is very high. The validity of this interview schedule was found to be sufficiently high when objective burden was compared with subjective burden. The correlation coefficient between the mean total scores on each item as assessed by professional raters and by relatives was 0.72 (df = 1).

Another instrument to assess the family burden on caregivers of chronic mentally ill was developed by Thara R et al. in 1998 which is known as ‘Burden Assessment Schedule’ (BAS). It is a 40 item instrument which assess both subjective and objective burden. Answers are rated on a 3 point scale, marked 1-3. Validity and ratability of this instrument was found to be sufficiently high.

**Gender and family caregiving**

Women are usually the principal care-givers. This responsibility usually rests with the family of origin, and usually with the mother of this person in need of care. Although the caring role most often falls to women, carers are heterogeneous groups and have widely differing family and personal circumstances, caring situation and feelings about their responsibility for care. Some carers receive external assistance, whilst others prefer to cope within the family. Whilst caring is reported to be fulfilling, stress and social isolation is a likely consequence of taking on a full time caring role. The researchers stated that previous studies had shown some ethnic variation in caring, for instance, more Chinese sons had assumed caring responsibilities that had Greek sons. However, they also suggested that this ‘high’ incidence of male carers could have been produced by the wording of a question on ‘the main responsibility in caring’. As non-English speaking background males from some ethnic backgrounds may be more likely to regard themselves as head of their family, their response to this question may have indicated their instrumental position rather than their participation in every day care-giving. Nevertheless, the finding indicates that attention may need to be paid to the role played by male carers and more generally to variations between men and women’s care-giving roles in different ethnic communities (Schofield et al. 1997).
Caregiving is often perceived as an exclusive purview of women because many of the demands of the sick people are often met by women in families (Walker and Pratt as cited in Lubkin and Larsen, 2006). Bedini and Phoenix (2004) reported that about 80 percent of people who provide informal caregiving are women. In the event where the spouse is absent, daughters or daughters in law are mostly the people who have to undertake caregiving responsibilities. HPNY and NAC (2005) asserted that on average women spend 17 years of their lives rearing their children and another 18 years as caregivers to elderly parents, and in some cases to people with mental illness. However several studies (Awad and Voruganti 2008) reported a trend of male caregivers that is burgeoning. In fact, Awad and Voruganti pointed out that according to some recent studies, 40% of caregivers are men.

Females care for individuals with chronic illness more commonly than males and have different attitudes to illness. Additionally, they experience greater burden and reduced quality of life, when compared to their male counterparts. A study done by Mc William et al. (2007) indicate that there are gender differences in the amount and type of knowledge gained during a caregivers psychoeducation program, with female caregivers showing greater knowledge acquisition that their male counterparts in most areas. Interventions designed to assist caregivers may be improved by targeting areas of knowledge specific to each gender. Such an approach might further reduce burden and improve the outcome for their relatives affected by schizophrenia.

Caregivers of young male patients have high level of depression as compared to older male patients and young female patient. No significant differences were observed between care givers of young male and female patients (Shabana et al. 2005).

**The family burden of care in different mental disorders**

Obsessive-compulsive disorder has a considerable impact on families and can lead to a reduction in social activities, causing isolation over time (Amir et al. 2002). People with obsessive-compulsive symptoms frequently involve their relatives in rituals (Amir et al. 2002). This can lead to an increase in anger and criticism towards them which has a negative impact on treatment outcomes (Amir et al. 2002). Caring for patients with eating disorders can be overwhelming for the carer. Available data suggest that the impact on carers of persons with anorexia nervosa may be even
higher than for psychoses (Treasure et al. 2001) Studies on bulimia nervosa indicate that carers have significant emotional and practical needs (Perkins et al. 2004).

Studies on family burden in schizophrenia

Magliano et al. (1998), the group conducted a large scale multi-centered study of 236 relatives of patients in five European countries. The sample involved only the key caregivers of patients with a diagnosis of schizophrenia according to ICD-10 of the World Health Organization’s classification. This was a multi-centered study in which the researchers were well trained and their inter-rater reliability was good. The data from each of the five centers were representative of the group of patients attending each centre. A face validity study was carried out together with a test retest reliability study making the findings of the study more reliable. This descriptive study confirmed some of the findings of other studies on family burden like restriction of social activities on the caregivers, negative effects of family life and feelings of loss. The study found high levels of burden in the absence of social support and good coping.

In their follow up study, Magliano et al. (2000) had one interesting finding that a reduction of burden was found in relatives with improved coping skills and who received more practical support from their social network. The methodology of this follow up study was similar to that of the main study. The limitation in this study was the high attrition rate of 33%.

Magliano et al. conducted yet another study on caregiver burden in 1999. In this 1999 study they found that the levels of burden on other relatives do not differ substantially from those with key relatives. This study however used a small sample from two centers so the results should be regarded as preliminary.

This same Italian group did another large study in this area of family burden. This study was another multi-centre study carried out in Italy. In this large study of 709 patients and their caregivers, Magliano et al. (2000) found significant relationships between family burden and professional and social network support. The findings showed that professional and social network support reduced the family burden in those caring for schizophrenic patients. The study is of a large scale and
although multi-centered, the researchers were all well trained and inter-centre reliability had been established. The random selection of the sample from mental health services makes the data representative of their national situation and therefore acceptable for comparison across the western world.

In another large study in Holland by Schene et al. (1998), the researchers studied 480 members of the Dutch family organization for patients with schizophrenia or chronic psychosis. In this study, they looked at the correlation between caregiving distress and the characteristics of the patients, the caregivers and their relationship and found four distinct caregiving domains of tension, worrying, supervision and urging. The two interpersonal domains of tension and worrying were found to be substantially correlated and so also the two behavioural related domains of supervision and urging. The study also found that the global burden of caregiving was related to the tension factor. One important finding of this study was that relatives in regular contact with the patients’ mental health professionals reported more caregiving strains than those not in contacts. This is in contrast to the findings of Magliano’s et al. study (2002) which found that professional network support reduced the burden of care. All in all the findings of this study suggested that caregiving distress can be lowered by reducing the patient’s symptomatology and by increasing the coping capacity of the caregivers and reducing the number of contacts between the patient and the caregiver.

Although this may be a large study, the sample was members of a self help organization of mainly mothers. There is thus an element of bias in the sample. There were some methodological limitations to this study like the 4 weeks time frame of the questionnaire that automatically excluded the long term caregiving aspects like the loss of social contacts and stigma. The information gathered including those about symptom severity were obtained from the relatives via self administered questionnaire without any face to face appraisal of any kind. Finally, path analysis, an inherently cumbersome longitudinal method was used in this cross sectional study.

In Provencher and Mueser’s (1997) study of 70 primary caregivers, although the severities of symptoms were correlated to caregivers’ burden, the perceived severity of positive symptoms was only related to subjective burden, not objective burden. This could be due to the fact that the presence of positive symptoms
necessitated admission to the hospital for management. With the patient in hospital and therefore away from the caregiver, it follows that the objective burdens which are more physical in nature are lessened. However, the subjective burdens which border around worries and distress remain. This is a study based on a convenient sample of members from a self help group so it may not be representative of other caregivers who do not have the support that this sample has.

In another small European study in Norway, Boye et al. (2001) looked at the relatives of patients discharged from two psychiatric hospitals within a defined geographical catchment area. The sample was confined to those suffering from schizophrenia or schizophreniform disorder making it a pure sample. The findings were consistent with those of other studies that the relatives were distressed by their high scores in the General Health Questionnaire (GHQ) and their distress was related to their reports of the problematic behaviour of the patients.

Szmukler et al. (1998) did a somewhat similar study in an English population involving 124 caregivers of patients with psychotic disorders including schizophrenia. The study was on informal caregivers in a population based sample of people with a psychotic illness. Their sample was quite different from the many studies where the samples of caregivers were selected from membership of a caregivers’ organization or by their relatives being a recent in-patient or by their willingness to participate in a survey. The findings were that 50% were dissatisfied with their caring role indicating that caregiving was burdensome. Also 23% of the caregivers scored above the cutoff point in the GHQ score putting them in the above normal range for stress. However, the ability of a wide range of individual characteristics to predict caregiving activities and caregiver distress was poor. In a stepwise multiple regression model only a measure of poor social functioning significantly predicted the number of caregiving activities and then only weakly. The caregivers’ GHQ score was poorly predicted by caregiving activities. This study showed that a clinician’s assessment of the person’s symptoms and disability will not be very indicative of the nature of a caregiver’s role nor of their distress. Only the caregiver can provide that information.

Harvey et al. (2001) in a study of 154 relatives of patients with psychosis also found that the relatives’ psychological distress was high with 41% scoring above the
caseness threshold on the GHQ. The sample comprised patients of various psychiatric diagnoses, almost half, that is 49% had a diagnosis of schizophrenia. It was also a multi-centered study to look at factors that influence contact frequency. The study hypothesized that relatives who appraised caregiving more negatively and experienced more psychological distress at baseline would be less likely to have frequent contact with the patient at 2-year follow-up. The findings were from the baseline interview with no comparison data available at the follow-up.

In a comparative study of the key caregivers of patients with schizophrenia and those with neurotic disorders, Veltro et al. (1994) found that the caregivers of schizophrenic patients reported at least a moderate to severe or very severe objective burden more frequently than those of neurotic patients. The same findings apply to the subjective burden. Although the sample in the study was a small one with only 27 caregivers of schizophrenia patients and 19 neurotic patients and the two groups of patients were heterogeneous, the methodology was sound and the study was the first of its kind.

Another Norwegian study by Boye et al. (2001) found that there was a significant decrease in the caregivers’ distress scores from the patient’s admission to the 4.5 month follow-up with no further decrease at the 9 month follow-up. This study found 14% of the caregivers with high GHQ case scores throughout the study. It seems then in this study that the distress scores were not related to the GHQ scores because the distress scores decreased while the GHQ scores remained constant. Generally in most of the other studies the GHQ scores were seen to be related to the distress scores.

Reinhard et al. (1994) in developing the instrument, the BAS to assess the burden of families with a severely mentally ill member conducted 2 studies using the instrument. In the first study, the samples of caregivers were from a self help group and over represented by whites. The second study was more representative of the situation statewide for families where ill relatives were recipients of public mental services. It followed then in the findings that the caregivers in the second study were more burdened than those from the self help group. The analysis from the 2 studies provided preliminary evidence that the BAS is an internally consistent and
conceptually meaningful tool useful for research in the area of family or caregiver burden. From a system perspective, the scale offers a tool for assessing family members’ burden related to serious mental illness and measuring reduction in burden. The samples in both studies are adequate in number and the methodology is acceptable.

There has not been much literature as far as the Asian and non white population is concerned. One of the earliest Asian studies is the one undertaken by Pai and Kapur (1981) where the researchers developed an interview schedule to measure family burden. The study was done on a small population of Indian caregivers of schizophrenia patients. The findings were that the most burdensome impact was family finances and disruption of normal family activities. The reliability and validity of the interview schedule was tested but not using the usual statistical methodology.

Using this same instrument named ‘the interview schedule’, but in a modified form, Martyn Yellowe (1992) studied 44 caregivers of African schizophrenic patients in Nigeria. He found that caregiving constituted a burden to both the rural and urban caregivers. The rural caregivers were found to have a higher GHQ-28 score and a higher burden score based on Pai and Kapur’s interview schedule which was modified to measure only the objective burden. The study found a positive correlation between the overall burden scores and the overall GHQ scores. No doubt the findings echo that of many other studies, this study’s small sample and the non validation of the instrument in its Nigerian population made the findings not generalizable.

In another Indian study by Rammohan et al. (2002), some 60 caregivers of patients with schizophrenia were studied for burden and coping in a hospital setting. The study found that burden and well being were significantly negatively correlated. The use of denial was associated with greater burden and less well being while the use of problem solving and support seeking coping were associated with lower burden and greater well being. The study found that patient characteristics such as age, education and illness severity were significantly associated with burden in the caregivers but not with well being. This study was cross sectional and limited to subjects from one religious group. The hospital where the sample was taken is one that caters to the lower income group where the majorities were receiving free
treatment, making the small sample a biased one and casting doubts in the generalizibility of the findings.

Lambert and Lambert (2007) evaluated the predictors of family care burden and quality of life of individual with schizophrenia. The study assessed the level of family burden and quality of life, its correlation with demographic variable of caregivers and the good predictors of family burden and quality of life. The study concluded that caregiver experiences a higher degree of burden while providing care for their schizophrenia patient. A significant correlation was found between the burden and their level of education and, good predictors were family caregiver’s physical health and household income.

Juvang et al. (2007) evaluated the association between demographic variables of family member and burden while providing care for an individual with schizophrenia in China. Study used the purposive sampling technique and 96 patients were including from 3 different hospitals. Findings suggested that the age of caregiver was significantly associated family care burden. Aged family members worried more about who would take care of their patient in future. The education level did not shown much negative impact on caregiver’s burden. It was hypnotized that higher level of education, may lead to higher salary. Subsequently high salary may minimize financial strains related to providing care for their patient. Moreover, higher educational level demonstrated more knowledge to handle the stressful life events. Therefore it was concluded that caregiver’s education level had an impact on the family care burden.

Western studies have concluded that family burden is grater in long term mental illness and has an influence on their, financial emotional, physical and psychological health. However, in India few studies have attempted to determine the relationship between family caregiving and burden.

Moily et al. (1997) evaluated family burden of individual with schizophrenia by using Pai and Kapur interview schedule. The results demonstrated that the majority of the samples were female, illiterate and unemployed. The main areas of burden were financial, disturbance, unhealthy family interaction, disruption in family routine,
disruption of social activities and adverse effects on mental and physical health of the caregivers.

Heru and Rayan (2000) assessed the family conflict and family relation with regard to the level of burden or reward system. The authors suggested that in a family system where a patient exists, acts as a mediating system between burden and reward.

Creado et al. (2006) studied family burden and coping strategies of 100 patients with chronic schizophrenia. Family burden and coping skill were assessed by using Burden Assessment Schedule and Mechanisms of Coping Scale. The study found that problem solving skills and expressive action can minimizes the family burden. As the functioning level decreases in the patient, the burden on the caregivers increases. The problem-solving mechanisms in managing family burden showed a significant improvement and higher level of functioning in such patients.

The study done by Kumar and Raguram (2009) demonstrated that family members of patient with schizophrenia experienced moderate level of burden. The high level burden was found in physical and mental health followed by external social support, caregivers’ routine, assuming responsibility, patients abnormal behavior, emotional support of patient and other relations respectively.

Talwer and Matheiken (2010) studied psychosocial and demographic variables of patient with schizophrenia. The aim of the study was to assess and compare perceived burden among Malaysian and Indian families of caregivers and to study the determinants that contributes to the caregivers perception of burden of care. Purposive sampling method was used and 50 samples were chosen from each group. The result indicated that Indian families face difficulties in many areas such as family relationship, finance, well being, but still perceives lesser burden compared to Malaysian counterpart.

**Literature on family burden in affective disorders**

Much less attention has focused on affective disorders, but like psychoses they can also cause great distress for individuals and their families. The partners of people with persistent depression in particular, have marked difficulties in maintaining social and leisure activities; complain about a decrease in total family income and may have
considerable strains placed on their marital relationships (Junbauer and Angermeyer 2002).

Patients suffering from schizophrenia and bipolar affective disorder (BAD) impose considerable burden on their caregivers (Fadden et al. 1987; Gibbons et al. 1984; Magliano et al. 1998). In one study, 93% of caregivers reported moderate or great distress in at least 1 burden domain. Some of the distress, over and above distress due to the patients clinical state and history, was accounted for by family belief, particularly illness awareness; perception of the patient; and perception of family control. The burden includes multiple responsibilities such as financial costs, physical care of the patient and compromises on the personal freedom and leisure activities (Perlick et al. 2004; Reinares et al. 2006), and has been reported to affect the course of illness (Perlik et al. 2004; Reinares et al. 2004; Roick et al. 2006). Severity of illness and symptom characteristics are important predictors of burden (Roick et al. 2006; Veltman et al. 2002; Wolthaus et al. 2002), with disorganized behaviour (Wolthaus et al. 2002) being especially associated with higher levels of burden.

Perlick et al. (1999) assessed the primary caregiver to 266 bipolar patients on illness appraisal (awareness of mental illness, and the volitional nature or otherwise of symptoms or behaviour), social adjustment, and burden (objectively, subjectively and globally rated), again using the Social behaviour assessment schedule. Only spouse/equivalent caregivers were included; sibling and nonspouse caregivers were excluded. Severe levels of burden were reported by over 50%, and moderate or severe levels were reported by over 90% of the caregivers interviewed. This study has limitations, including 10% of patients having bipolar II in the sample and a large proportion of patients with schizoaffective disorder (35%). Further limitations may arise from the possible lack of sensitivity or selectivity of the rating instrument used to detect the unique features of bipolar caregiver burden, the rationale for the assessment period (within 2 weeks of discharge), and the fact that no data were presented in the initial study about the polarity or duration of the index mood episode.

Chakrabarti et al. (1992) found that the objective burden on caregivers of hospitalized patients and outpatients with bipolar disorder was significantly higher
than for those with unipolar depression. They looked at burden of care in 90 patients and caregivers recruited in India. The sample included 17 unipolar patients, the remaining 73 having bipolar disorder. This study has problems with limited generalizability as it used locally developed instruments and there are considerable sociocultural differences in family structure and cultural norms compared with a Western context. Nevertheless they found that the objective burden on caregivers of bipolar patients was significantly higher than for those caring for major depressive disorder patients, although the statistical presentation of the data is unclear. They suggest that this finding may have been caused by the social disruption of the manic phase in bipolar patients, although this inference is not directly supported by data.

Fadden et al. (1987) went on to research the effects of affective disorder on a small number of spouse caregivers. They recruited 24 patients who suffered from persistent depression, including eight bipolars, eight unipolars, and eight neurotic depressed patients from the London area in the UK. They used their own interview schedule (based on the social behavior assessment schedule and camberwell family interview). It was found that spouses raised issues of a practical nature (e.g. giving up work, loss of income and less social activity), difficulties coping with problem behavior (e.g. certain symptoms, such as social withdrawal and complaints), and psychological strains and adjustments they had to make (e.g. a sense of loss or grief and a change in the relationship balance). Spouses were also asked about the nature and cause of the patient's condition and how satisfied they felt about their contact with mental health services. They did not feel that they had been adequately provided with information and support by the services that were offered to the patient. The focus by Fadden et al. (1987) on the depressive symptoms of the subjects does not take into account the manic symptoms of bipolar patients and the impact that these may have on the patient and their spouse. They also appear to view bipolar patients as consistently episodic in nature, with patients being well between episodes. However, the reality is that bipolar patients are frequently affected by inter-episode incomplete recovery and the persistence of chronic subsyndromal symptoms, which may have a major impact on quality of life and relationships.

Substantial subjective distress has also been reported in relative of individuals with bipolar disorders. Again, burden is significantly related to symptoms and
changes in family roles. Burden has been found to be greatest among family members who believe that their relative is able to control symptoms, and among those who were aware of the prognosis of illness. Moderate to great in at least one of the domains of burden has been reported by as many as 93% of caregivers (Perlick et al. 2005). The cyclical nature of bipolar disorders requires even more emphasis on the long term assessment of the impact they have on families. It is likely that families greatly involved in care only during their critical periods of disorders (Perlick et al. 2005).

**Literature on family burden in schizophrenia and affective disorders**

Gautam and Nijhawan (1984) compared the family burden among families of schizophrenic and chronic lung disease. The sample was 25 caregivers of each group. Caregivers of individual with schizophrenia reported high degree of burden, financially, on family leisure, family interaction, family routine, and mental health of other family members. The financial burden was greater when the male patient experiences the illness.

Verghese (1984) evaluated 60 patients with schizophrenia and affective disorder burden using family evaluation form. The study found that families of patients with mania experienced high degree of family burden. This burden was noticed specifically in the area of subjective distress, household activities and financial strains. Family distress, social isolation and community affairs were significantly correlated with objective burden. Burden was less seen in families of depressive disorder.

Roychoudhari et al. (1995) compared the extent and pattern of family burden in 30 families of individual with schizophrenia and 24 families of patient with affective disorder. Burden was found to higher among the cares of schizophrenic, young, male, low income and unemployed patients.

Chaudhuri et al. (1995) evaluated family care burden of caregivers of patient with schizophrenia and bipolar affective disorder. The result showed that schizophrenia caregivers experiences significant degree of burden compared to
bipolar disorder. Patient demographic variables like, young age, male gender, low income and unemployment were had a direct influence on caregivers burden.

Chadda et al. (2007) found that there are similar patterns of burden in caregivers of patients with schizophrenia and bipolar affective disorder.

Kalra et al. (2009) compared the family burden among patient with obsessive compulsive disorder and schizophrenia in an Indian setting and to evaluate impact of caregivers demographic, severity of illness and disability on family burden. The study found that both the groups experiences significant degree of family care burden in the care of obsessive and compulsive disorder patient and schizophrenia. Caregivers demographic variables did not influence burden severity. Patients illness severity and disability showed direct positive relationship with perceived burden.

Hadys et al. (2011) examined 141 psychiatric patients, to evaluate predictor of caregiver's burden. Patients were clustered according to ICD-10 criteria: schizophrenia (n = 55), depression (n = 61), and anxiety and personality disorders (n = 25). The results demonstrated that diagnostic groups differed with regard to socio-demographics variables, psychopathology and quality of life, but not in the areas of social functioning. Despite between-group significance, the family burden did not differ according to the diagnostic group. Most of caregivers worried regarding their patient's general health status (82%), future management (74%) and financial status (66%). Higher burden appeared to be correlated with the caregiver's age, being a parent and time spent weekly on caring for their patient. Lower burden was noticed with the caregiver subjective feelings of those, who were able to cope with day to day problems and to assume their own activities.

Studies looking at comparison of family care burden on patient with schizophrenia and depressive disorder in the Indian setting are very sparse.

Coping strategies and therapeutic techniques to reduce family burden in key caregivers

Much interest has been given to assessing and examining the factors which help family members successfully manage their role, and reducing the impact on their mood and general well being (Quayhagen and Quahagen 1998). Stress and coping
theory has been used in research to assess the coping pattern and types of coping patterns used by family members (Fingerman et al. 1996). Various types of psychosocial/psychotherapeutic techniques have been developed to reduce the family burden in key caregivers and provide support. These techniques include training programs, spiritual support, religious coping, psychotherapy, cognitive behavioural family intervention, enhancing social support and a combination of education and emotional support (Shah et al. 2010; Woods et al. 2003).

Ballard et al. (1995a) reported that a structured and higher level of education about dementia enhances a caregiver's feeling of sufficiency. These interventions were more promising to minimize their expectations of their dependents' abilities. Coppel et al. (1985) reviewed previous studies regarding coping strategies used by caregivers and reported that unrealistic expectations of dependents increased caregivers' risk of depression. Sadd et al. (1995) reported conversely that minimizing the key caregivers expectations is shown lower rates of depression. Balancing positive feelings towards their relatives which shown greater level of commitment to caring and lower level of perceived strain (Horowitz and Shindelman 1983). Higher level of depression is seen in those caregivers who experience a feeling of powerlessness, lack of control and unpreparedness (Coppel et al. 1985). Horowitz and Shindelman (1983) reported that a combination of emotional support and education is a mode of treatment to reduce the depression in caregivers.

Studies show that in older African Americans and Older Mexican- Americans, spiritual support is a one of the techniques which can be considered as a coping resource (Levin et al. 1995). African American reports that spiritual support is the higher level of reward in caregiving (Picot et al. 1997). Church support and reliance on payer is considered as a spiritual support (Dilworth and Anderson et al. 2002). African Americans and Hispanics are more often seen in using religious support, which plays a paramount role. Coon et al. (2004) demonstrated that religious coping is greater for Hispanic and African –American than for White caregivers. Social support is more accessible when religious support is frequently used (Walls and Zarit 1991).
Fewer depressed patients are seen in those groups who use more coping techniques such as problem solving than those who rely on more submissive methods (Haley et al. 1987). The caregiver who experiences a lesser level of depression is one who uses both positive and active strategies, positive meaning managing disturbed behaviour and active related to managing the meaning of illness. Sadd et al. (1995) suggested that it is the role of health care professionals to help caregivers enhance their coping skills, supporting exciting skills and facilitating the development of new ones.

Caregiving find some positive association in caregiving, including pleasure in accomplishing spousal responsibilities, intensified closeness with a care receiver, and gratification of desire with ones competence (Pinquart and Sorensed 2003). These perceived intellectual of caregiving are connected with lower level of caregiver burden and depression (Pinquart and Sorensen 2003). Caregivers of color are more perceived uplifts than among Whites (Haley et al. 2004).

Lower caregiver depression is associated with high quality of informal relationship and the presence of informal support (Cox 1995). Caregivers need to inculcate a deeper understanding to alleviate stress (Haley et al. 1987). In one of the studies it was found that the perceived burden was not received by the family members and caregivers reported worthy limitation on their social phenomena and social activities. Higher level of unemployment was reported when compared to general population and also reported they were over represented in lower income groups. Mental health challenges and high risk of social and economic disadvantages were found in family cares (Burton-Smith et al. 2009). Social support may not able to benefit those who are highly stressed as much as it would moderately stressed persons (Rivera 1991).

An effective way of coping with stress is necessary for caregivers. Once they learn new ways of coping behaviors, their level of anxiety and depression may be reduced and they become reliant on treatment (Gruetzner 2001). Behavioral skills and effective self management training were found to reduce patient behavioural problem and helps to improve the caregivers mood (Bourgeois et al. 1997). Behavioural management is promising intervention which reduces problem exhibited
by individual with mental disorder and also it enhances pleasurable activities of the caregivers (Stevens and Burgio 2000). A greater burden is always associated with passive coping styles. Depression and interpersonal conflict are more seen when a person is found to be using escape-avoidance coping mechanisms (Gruetzner 2001). Active participation of the caregiver in the intervention is required and cognitive behavioural intervention can result in a remarkable reduction in the burden (Yarnoz et al. 2008). There are more than twenty instruments, which can be used to assess the mental health of key caregivers and all these instruments have good psychometric properties. They can evaluate (i) caregiver’s needs for professional support (ii) the experience of care giving (Harvey et al. 2008). The burden scale and sense of coherence scale are highly useful for assessing caregiver stress risk, the burden pattern and coping strategies. Family members can be helped by a psychotherapeutic team to notice their negative experiences regarding care giving and help can be offered reflect their coping strategies to find a balance in their situation.

In severe mental disorders, the caring process can be very taxing and exhausting. Significant stress is found commonly in those providing long term care. Mental disorders are more often associated with behavioural problems which further increase the stress level of the caregiver and further it significantly reflects on their mental health (Shah et al. 2010). When compared to the general population, caregivers experience a higher rate of mental health problems which are direct consequences of their caring role. This result in a negative effect on the quality of life of care givers therefore standard care services are delivered. Assessment and treatment of psychological distress of the caregiver is multidisciplinary, wherein the cultural context of the patient and caregivers are considered and multiple risk factors simultaneously (Shah et al. 2010).

Negative factors associated with caregiver burden

Regardless of psychiatric problem of their relatives, family carers are themselves prone to developing physical and psychiatric problems, and as a result they may utilize more medical resources. High rate of depressive disorders has been reported among the family caregivers of people with psychiatric illnesses than in the
Studies report that in the presence of a mentally ill person in the house, families experience symptoms like insomnia, headache, irritability, anxiety and depression (Grad and Sainsbury 1968). Another study reported family caregivers' health impact was greatest. The symptoms which were reported are brooding, inner unrest, irritability, fatigue, insomnia as well as neck pain and shoulder pain (Angermeyer et al. 2001). The manifestation of symptoms is predominant indicator of psychosomatic complaints in caregivers, and compared with the general population they are seen to consult physicians more repeatedly, specifically general practitioners as well as particularly psychiatrists and psychotherapists. In a study it was reported that mothers and wives, and respondents with low incomes or who are in under poverty, in particular, were at high risk of developing depression. The impact on health and the need for health care resources may vary depending on the nature of the mental disorders. A study that reported retrospectively primary caregiver experiences in U.S. over a period of seven months before admission on bipolar disorders patients found greater rates of mental health problems and make use of primary care facilities than in general population (Perlick et al. 2005). Similarly another study recruited 90 families with schizophrenia found that relatives had mental health problems by the patient disturbing behavior at a ‘pathological’ level in 38% of cases (Birchwood and Cochrane, 1990). Indian Disability Evaluation Assessment (IDEA) score reveals that 64% of patient with schizophrenia suffers severe disability. This amount in depression and bipolar affective disorders are 33.3% and 30% respectively (Chaudhury et al. 2006).

Negative factors which commonly connected are with key caregiver burden include: self-blame and guilt experienced by parents, the financial difficulties of treatment, and the parents’ role to give more supervision for the patients (Loukissa 1995). Reinhard and Horwitz (1995) did reported the important factors like severity of mental illness, caregiving and burden are relatively connected each other which impact on caring of ill person. To illustrate many studies (Dixon et al. 2000, Tessler and Gamache 1994) have noticed that the affinity between the caregiver and ill relative is more intense when mentally ill exhibit erratic behaviour (e.g. verbal and
physical aggression) due to which caregivers experiences difficult which may be unbearable. Glanville and Dixon (2005) reported the nature of symptoms may contribute to family burden. For example, positive symptoms like, hallucinations and delusions are together with a more social dysfunction and recurrent relapses are often connected with severe family burden than negative symptoms like apathy and social withdrawal. Awad and Voruganti (2008) mentioned in a recent community survey which included 697 caregivers and 439 mentally ill relatives with schizophrenia which reveled the following ten negative collision of schizophrenia on caregivers:

- Significant reduction in family social activities
- Family members found to disagreements, dispute or fights among themselves
- Other family member suffering from depression (e.g. siblings of the ill relative)
- Perplex of other family members (caused by erratic behaviours)
- Financial difficulties
- Delay or dismiss of recess plans
- Reducing self – esteem or confidence in other family members
- Deterioration in the work or school performance of other family members
- Increase alcohol intake

Even more further Awad and Wallace (as cited in Awad and Voruganti, 2008) declares the important pattern which caregivers were reported that significantly contributes to their perception of burden are:

- Poor motivation and poor self-care on the part of the person with mental illness
- Lack of accessibility to hospitalization when psychiatric emergencies required
- Disrupted family dynamics and collective coping styles

The satisfaction of caregiving in families

Caregiving can lead to psychological, mental, physical and material burden, and stress, but many caregivers experience satisfactory role. Few studies reported that the looking after their children make them happier and closer to the children, heighten caregiver’s self – esteem, and relative gain insights about their personal strengths and
The literature reveals that male caregivers were more satisfied than their female counterparts. Male caregivers reported that caregiving broadened their horizons and inspired them to grow as people.

It is worthwhile to note that there are both recompenses and difficulties associated with caregiving; nevertheless, the positive aspects may take no notice. Reinforcement of the positive aspects of caring can be markedly associated with lesser family burden. Caregiver report that providing care for their ill relative may benefit in the form of feeling of gratification, pride and love. Irrespective of intervention benefit some of the relatives undergo considerable distress but as a consequences relative did not escape from their caring responsibilities. It is reported that when a support is provided adequately by professional, 92% of relatives continued to maintain contact with friends and relatives (Samele and Manning 2000) Similar findings are reported in research area of carers of older people with cognitive problems (Cohen et al. 2002) provided evidence based report that 73% of caregivers could recognize at least one positive aspects of caregiving.

In a survey of nearly 1000 informal carers, nearly half of them found to express positive aspects of caring and felt that their happiness can be reduced if they can shift their responsibilities to someone else (Brouwer et al. 2005) Inspite of the illness-related burdens, most of the spouses take positive aspect of living together. The perceived impairment, if it is moderate or moderately severe, partnership seems to be stable and achievable. Spouses who suffer from psychiatric problem themselves often experience the partnership as an appropriate and satisfactory way of life.

**Direct and indirect effects of caregiving**

Caregiving not only affect emotionally, but materially as well. It is against this backdrop that several studies (Genduso and Haley 1997; Lee et al. 2008; Tessler and Gamache 1994) assessed the material influence of mental illness, specifically the effects of schizophrenia illness on caregivers. This effect is subdivided into direct and indirect costs
Direct costs

Direct costs include medical and non-medical expenditures (Genduso and Haley 1997). Genduso and Haley denoted that direct medical expenditures includes detention treatment prevention, and psychosocial rehabilitative services which are hospitalizations, nursing home care, outpatient psychiatric follow-ups, other physician consultations, investigations and medications..

Indirect costs

Lee et al. (2008) in his study found that the indirect costs connected with schizophrenia are often underestimated. In similar vein, Lee et al. (2008) reported that indirect costs linked to schizophrenia are often more than economic. For example, Tessler and Gamache (1994) state that indirect cost often includes amount of time given by caregivers gnaw over their ill relatives. Key care givers of the ill relatives more worry about many matters, such as matters concern with the safety and well-being of their ill relative (Tessler and Gamache). Genduso and Haley (1997) asserted that usual onset of schizophrenia is early, the person who get influence by this undergo illness at the young age so therefore may not be able to work for himself for the rest of their lives.

As a consequence key caregivers need to minimize their working hours provide care for their ill relatives (Genduso and Haley 1997). The study done by a Lee et al. (2008) in the UK by Guest and Cookson that examined into the absence of caregivers from work and the influence on productivity. The results of the study state that indirect costs due to lost productivity considered for 49% of the National Health Service expenditure on schizophrenia in the UK (Guest and Cookson as cited in Lee et al. 2008). Awad and Voruganti (2008) gave data about caregivers indirect cost that of caregivers live up their job to care after their relatives with schizophrenia ranged from 1.2% for first episode patients to 2.5% for very demanding long-term patients. The MetLife Mature Market Institute and the National Alliance for Caregiving (2006) organizations were developed to render support to key caregivers. The study by a Neal and Hammer (2006) found that occasional absenteeism is more often in caregiving employee. They also reported that costs associated with absenteeism as a result of caregiving responsibilities were quite high.
Conclusion

Literature on family burden care is deeper which supports the existence of burden and its extent. There are very few studies which have specifically addressed to the subject of family burden among schizophrenia and affective disorder. Nevertheless some finding can be collated by reviewing both the disorder experiences equal number of family burden. It can be concluded from this review that there is no single study which have compared schizophrenia and depressive disorder.

SOCIAL SKILL TRAINING IN SCHIZOPHRENIA

THE REVIEW OF LITERATURE ON THIS SECTION HAS BEEN CATEGORIZED UNDER FOLLOWING SUBHEADINGS

- CONCEPTUALISATION OF SOCIAL SKILL
- MEANING OF SOCIAL SKILL TRAINING
- GOALS OF SOCIAL SKILL TRAINING
- RATIONALE FOR SOCIAL SKILL TRAINING IN SCHIZOPHRENIA
- CONTENT OF SOCIAL SKILLS TRAINING
- COMPONENTS OF SOCIAL SKILL
- SOCIAL SKILL DEFICITS IN MENTAL ILLNESS
- ASSESSMENT OF SOCIAL SKILL
- METHOD OF TRAINING
- STUDIES ON EFFECTIVENESS OF SOCIAL SKILL TRAINING SCHIZOPHRENIA
- CONCLUSION

Conceptualization of social skill

The impairment or loss of function in individuals with mental illness may prevent them from participating in various societal events. Social skills are important
keys for an individual to participate in community events. Thus rehabilitation is an important aspect of treatment which helps them to resume their functions for living in the community. Training in social skills continues to be an important issue among researchers, clinicians and social workers during rehabilitation (Tsang et al. 2010).

Though difficulties in social functioning can be seen in many psychiatric disorders, it is well studied in schizophrenia. Impairment in social functioning which includes difficulty in establishing and maintaining relationships, inability to perform the roles assigned to him like a student, parent or a worker. There is impairment of self-care skills and participation in leisurely and recreational activities (Tsang et al. 2010).

Over the past 30 years SST has emerged as a widely used psychiatric rehabilitation method for teaching individuals the specific skills necessary for achieving the necessary goals. The basic principle of SST is that complex interpersonal skills involve the smooth integration of a combination of simpler behaviors, including nonverbal behaviors (e.g. facial expression, eye contact), paralinguistic features (e.g., voice loudness and affect), verbal content (i.e. the appropriateness of what is said) and interactive balance (e.g. response latency, amount of time talking). These simpler and smaller specific skills can be systematically taught and through the process of shaping (i.e., rewarding successive approximations toward the target behavior), complex behavioral repertoires can be acquired (Kopelowicz et al. 2006).

SST consists of learning activities utilizing behavioral techniques to enable persons with schizophrenia and other disabling mental disorders to acquire interpersonal communication skills and help them adjust in their communities. A large and growing body of research supports the efficacy and effectiveness of SST for schizophrenia. When the type and frequency of training is linked to a particular phase of the disorder, patients can learn and retain a wide variety of social and independent living skills. Generalization of the skills for use in everyday life occurs when patients are provided with opportunities, encouragement and reinforcement for practicing the skills in relevant situations. Recent focus in skills training include short-term stays in psychiatric inpatient units, dually diagnosed substance abusing mentally ill, minority
groups, amplifying supported employment, treatment refractory schizophrenia, older adults, overcoming cognitive deficits and negative symptoms as well as the inclusion of SST as part of multidimensional treatment and rehabilitation programs (Bellack et al. 2004).

Neuroleptic drugs undoubtedly extend periods of remission and relapse but are associated with disturbing side effects. The greatest limitation of exclusive emphasis on drug therapy is its inability to impart new instrumental role behaviors, interpersonal and social skills with consequent improvements in quality of life (Hogarty et al. 1974).

SST treatment approaches are framed with the focus on recovery model rather than deficit model. The underlying theoretical frame work comes from a developmental neuroscience perspective, which supports the ideas that the brain is capable of change and development throughout the lifespan. Most cognitive and social skill behavioral interventions are based on the large literature supporting the concept of brain plasticity and neurogenesis. Cognitive science underlines that skill development can occur at any age and can help advance or restore the brain's capacity for improved cognitive or social performance. Learning in an optimally stimulating environment can help the patient capitalize on brain malleability and improve functioning.

The patients with schizophrenia have impaired cognitive functions which include executive functions, attention, working memory and declarative learning. These are severe and are one to two standard deviations below healthy comparison groups. They are present even before and also continue during the first episode of schizophrenia who are neuroleptic naïve (Andreasen et al. 2005; Bellack 2006).

**What is social skill training?**

There are different definitions of social skills available in the literature. Social skills have been defined as an "ability to express feelings or to communicate interests and desires to others" (Liberman et al. 1975). It has also been defined as "the ability of an interactant to choose optimal communicative behaviors for successful
accomplishing his own interpersonal goal during the interaction while maintaining the face and line of his fellow interactants" (Wiemann 1977).

Although consensus on the definition of social skill has not been achieved, it is commonly agreed that social skills are the ability to interact with other people in a way that is both appropriate and effective (Segrin 2000). To achieve appropriateness, the person's behavior should be socially acceptable and his values and expectations should not be viewed negatively by others (Segrin 2003). This requires the ability to perceive and analyze subtle cues that define the situation, as well as the presence of a repertoire of appropriate responses.

To achieve effectiveness, the person's behavior needs to attain their intended goal (Segrin 2003) or maximization of reinforcement in that specific interaction. Successful fulfillment of appropriateness and effectiveness criteria requires complex coordination of different mental and physical abilities of an individual in a particular situation. Any deficit or disruption in the process may affect the outcome of "social skill" or social competence, which may lead to anxiety, frustration and isolation of an individual.

There are four major elements of most definitions of social skills:

- The patient's internal state—his feelings, his attitudes and his perceptions of the interpersonal context.
- The paralinguistics of the patient's behaviors—includes behaviors such as eye contact, hand gestures, body posture, voice volume and latency of verbal response.
- The outcome of the interaction as reflected in the achievement of the patient's goals.
- The outcome of the interaction as reflected in the attitudes, feelings, behaviors, and goals of the other participants.

Hersen et al. (1977) defined social skills as “the ability to express both positive and negative feelings in the interpersonal context without suffering consequent loss of social reinforcement”. Such skills are observed in a variety of interpersonal contexts and involve the coordinated delivery of appropriate verbal and
nonverbal responses. In addition, the socially skilled individual is attuned to the realities of the situation and is aware when he is likely to be reinforced for his efforts. Trower et al. (1978) defined social skills as the ability to understand other people's use of elements of expression and convey impressions through appropriate verbal and non-verbal behavior, to have the ability to effect behaviors and feelings of others in ways the person intends and which are socially acceptable and influence environment sufficiently to attain basic personal goals. Spivack et al. (1976) have defined social skills in terms of "interpersonal cognitive problem solving skills." They have identified six skills:

- Problem recognition
- Means-ends thinking
- Alternative thinking
- Causal thinking
- Perspective thinking and
- Consequential thinking

The components of the SST procedure are derived from basic principles of human learning and represent translations from laboratory to clinical settings. The basic sciences relevant to SST include operant conditioning, experimental analysis of behavior, social learning theory, social psychology and social cognition. Examples of the translation from basic operant conditioning to the clinical arena include discriminative stimuli, contingent positive and negative reinforcements, extinction and rule-governed behavior. For instance, discriminative stimuli in the laboratory are signals or events that indicate the availability of positive reinforcement if particular behavioral responses are made by the organism. When we apply to the SST context, discriminative stimuli encompass therapist's prompting, cueing, instructing and coaching the patient. These instructional plays are associated with positive reinforcement contingent upon improved communication, and thus there is likelihood of more skillful social performance. Applications of social learning theory to the acquisition of instrumental skills include the use of modeling and other modes of observational learning. Whether directly trained or through vicarious approaches, when individuals are reinforced by achieving interpersonal goals, their likelihood of
initiating future social communications is increased (Kurtz et al. 2008; Siverstein et al. 2009).

Learning theory suggests that observable behaviors are more accessible to therapeutic intervention and therefore more readily acquired and modified than covert cognitions and emotions. Thoughts and feelings are subjectively experienced behavioral responses that constantly interact in a reciprocal manner with overt behaviors such as verbal and nonverbal communications. Because social competence is strengthened through the successful application of social skills in community life, cognitions and emotions also shift in positive ways with improvements in self-efficacy, self-esteem, self-confidence, empowerment, optimism and mood. In other words, direct training of social skills has a positive and indirect impact on how patients think and feel about themselves (Kurtz et al. 2008; Siverstein et al. 2009).

Because social skills are used in everyday life with favorable responses from a person's social network, desired changes occur at the subjective level of experience. Neuroscientists have extended the interrelationships of social behavior, cognition and emotions to the detection of changes in the brain associated with success in interpersonal relations (Siegel 1999). We do not communicate effectively because we feel good, we feel good because we communicate effectively.

Spence (1985) categorized social skills into three skill elements:

- Non-verbal
- Verbal and
- Conversational skills

Non-verbal skills include body posture, gestures and physical proximity. Verbal skills include tone, pitch and volume. Conversational skills refer to skills of initiating, maintaining and ending a conversation.

Goals

The main goal of SST is to train persons who have problems in verbal and nonverbal interactions in social situations. There are many people who have never learn interpersonal skills like making "small talk" in social settings, or the importance
of good eye contact during a conversation. Many people might not have learnt to "read" many cues involved in social interactions, such as how to tell when someone wants to change the topic of conversation or shift to another activity. SST helps patients to learn to interpret these social signals so that they can determine how to act appropriately in the company of other people in different situations. SST proceeds on the assumption that when people improve their social skills it will raise their self-esteem and increase the likelihood that others will respond favorably to them. People learn to change their social behavioral patterns by practicing selected behaviors in individual or group therapy sessions.

Another goal of SST is improving a patient's ability to function in everyday social situations. SST can help patients to work on specific issues like improving one's telephone manners that might be interfering with their jobs or daily lives (Tsang et al. 2001). A fundamental goal of skills training is to promote generalisation of the obtained positive behaviour to community setting (Keefe et al. 2003).

Rationale for social skill training in schizophrenia

The rationale for the use of SST in schizophrenia is based on multiple conceptual and empirical sources. Liberman et al. opined that social skills and social competence can be viewed as protective factors in the vulnerability-stress-protective factors model of schizophrenia (Liberman and Kopelowicz 2005a). Strengthening the social skills and competence of individuals with schizophrenia can compensate the harmful effects of cognitive deficits, neurobiological vulnerability, stressful events and social maladjustment. Coping skills and social competence confer not only protection against stress-induced relapse but also resilience, interpersonal supports, social affiliation and improved quality of life (Keefe et al. 2003). In a study by Salokangas et al. (2006) in a large sample of over 2000 patients with schizophrenia, there was a significant positive correlation observed between attributes that reflected social competence, good psychosocial functioning and subjective reports of high levels of life satisfaction (Salokangas et al. 2006).

When individuals are equipped with good social skills, they deal with stressful life events. They are also more capable in solving problems and challenges that arise in their day to day lives. Thus, stressors are less likely to trigger exacerbations or
cause decompensation in patients with schizophrenia. Moreover, the protective effects of SST also help individuals stabilize their illnesses, improve adherence to medication and psychosocial treatment and promote progress toward recovery (Liberman and Kopelowicz 2005).

Many children and adolescents who subsequently develop schizophrenia have shown deficits in social skills from an early age even before developing an active illness, which may presumably be a result of genetic and neurobiological vulnerability (Schiffman et al. 2004). Youngsters with impoverished social skills tend to gravitate to social environments that are not conducive to remediate these deficits. In fact, parental over-protectiveness and social withdrawal from peers accentuates their low social competence. SST, when carried out with high fidelity, intensity and sufficient duration, has been shown to improve the capacities for personal effectiveness among persons with schizophrenia, thereby attenuating their premorbid paucity of social skills.

Individuals with better social skill have greater impacts on their social environments and reciprocally, positive responses from the environment serve to reinforce the patients’ resurgence of social skills.

SST serves as a common denominator for becoming an active participant in controlling one’s illness, overcoming obstacles to achieve personal goals and mobilising social support. One example of the way skills training expands a patient’s participation as a partner in making informed treatment decisions is through its demonstrable effectiveness in teaching medication self-management skills. When patients learn how to reliably use medication, they are more in control of their illness, experience greater responsibility for their treatment and achieve greater insight into their illness (Day et al. 2005).

Content of social skills training

SST may be used to teach people specific sets of social competencies. A common focus of SST programs is communication skills. A program designed to improve people's skills in this area might include helping them with nonverbal and assertive communication and help them in making an effective conversation. It might
also include conversational skills that are needed in different specific situations, for example job interviews and informal parties.

The skills might be further divided into such subjects as beginning, holding and ending conversations or expressing feelings in appropriate ways.

Another common focus of SST programs involves improving a patient's ability to perceive and act on social cues. Many people have problems communicating with others because they fail to notice or do not understand other persons cues both verbal and/or nonverbal. Some children become unpopular with their peers because they force their way into small play groups, when a child who has learnt to read social signals would know that the children in the small group do not want someone else to join them, at least not at that moment. Learning to understand what the other person feels is as important as learning conversational skills. A social skills program may include skills related to the perceptual processing of the conversation of other individuals (Lehman et al. 2004).

Components of social skill

Liberman et al. (1989) breaks social interaction into a three-stage process in which different sets of skills exist at each stage. These three skills are-

- Receiving skill
- Processing skill and
- Sending skill

Receiving skill means the skill for recognizing environmental and interpersonal cues. Processing skill involves the ability to identify and allocate internal resources for interaction. Sending skill controls the actual content and message flow in interaction.
Mental illness

Depression

Lewinsohn's behavioral theory of depression (1974 and 1975) hypothesized that people who lack adequate social skills would be unable to obtain positive reinforcements and avoid punishments from their social environments. This would culminate in a state of low mood leading to depression. There are many research findings which indicate that many people with depression exhibit deficits in social skills (Segrin 2000 and 1990).

Schizophrenia

Schizophrenia leads to disturbance that is associated with substantial problems in cognition, affect and behavior. Social disabilities are prominent in this disorder and generally take the form of social skills deficits (Bellack et al. 1990). It is believed that the possession of poor social skills will generate stressors or interact with environmental stressor to produce maladaptive and disruptive outcomes for the person with schizophrenia (Kopelowicz et al. 1998).

Several studies have examined the relationship between neuro-cognitive functioning and social skill. The outcomes are consistent with the hypothesis that poor cognitive functioning contributes to social skill impairments. Mueser et al. observed that performance on Wechsler Memory Scale was reported to be strongly correlated with social skills performance in patients with schizophrenia (Mueser et al. 1991). There is a relationship between social skills on a conversation probe with a variety of cognitive measures assessed with a computer-driven battery. Cognitive Laboratory (Spaulding et al. 1989), reaction time on Wisconsin Card Sorting Task and a combined version of the Continuous Performance Task and the Span of Apprehension Task (Penn et al. 1995). In a study by Penny et al. The Allen Cognitive Test (Allen 1990) was significantly correlated with independent ratings of social skill in a study with a mixed sample of psychiatric patients (Penny et al. 1995).
Assessment of social skill

Social skills assessment gathers information and results in an understanding of clients that guides the focus of training. Besides individual assessment, information obtained from their significant others may also provide useful information in the assessment of social skills. Different techniques, including role-play assessments, naturalistic observations and the reports of self and significant others, have been used for assessing social skills of clients with schizophrenia (Tsang et al. 2010).

Foster et al. (1993) summarized different methods of social skills assessment and classified them into three categories:

- Direct observation by others
- Evaluation of behaviors by others and
- Self-report measures

Role-play is a widely used strategy in social skills assessment. In a role-play test, subjects are informed about the situation which they are suppose to mimic, their goal in the role-play and the role played by the partner. Clients are instructed to perform as they naturally would do if such a situation really occurred. The performance is usually recorded for rating on various dimensions of social skill. Role-play exercise is therefore considered valid for use by clinicians and researchers to assess the social skill (Tsang et al. 2010).

Naturalistic observation refers to observations made by staff member or significant others of clients in their natural environment. Alternatively observations can also be made in simulated environment and under a range of role-play situations. It provides insight into the person's effectiveness in different social situations and gauging the response of the environment to the patient. Such observations are frequently used to supplement role-play assessments.

Interview is another useful and cost effective assessment technique. An assessor evaluates the performance of the client through general questions or structured questions on specific examples or situations that the client has reported.
The interview provides an overview of the client's ability on verbal and nonverbal skills and interpersonal competence through the conversation and observation. Information obtained in an interview is useful for formulating individual training programs. The different areas include the client's relationship with the family, interactions at work, ability to deal with interpersonal problems, participation in social activities and responding emotions to others. However, interview by itself may not mimic actual situations. It is not a direct method to assesses consumer validly (Tsang et al. 2010).

There are several tools that can be used to assess the person’s symptomatic and functional state and identify the particular goals or phase of disorder that a person may be experiencing. For example, the Brief Psychiatric Rating Scale or Beck Depression Inventory can identify symptoms of a mental illness that may indicate that a person is in the acute or stabilizing phase and may benefit from training in disease management.

**Method of training**

Learning is impaired in most persons with schizophrenia. Thus skills training take so much importance in the form of special education (Harvey et al. 2004; Joseph and Lisa 2009). Repeated practice is essential to ensure improvement of interpersonal skills. Assessment of a person's desired social behaviors requires task analysis, breaking down each situational goal to tiny components that increases the likelihood of success during the training sessions and in applying the skills to everyday life. Learning is facilitated when errors are minimized and correct responses are strengthened with positive reinforcement.

SST involves cognitive and behavioral techniques or learning activities that enable people to establish or restore instrumental and affiliative skills in domains required to meet the interpersonal, self care and coping demands of community living (Liberman et al. 1994a).

SST addresses the interpersonal, self care and coping skills that patients with schizophrenia lack (Liberman et al. 1995). Skill training has been applied to various
areas such as grooming, personal hygiene, social conversation, self directed recreation, job finding, family communication and management of personal finance (Liberman et al. 1994). Studies using SST indicate schizophrenia patients can be taught specific social skills such as assertiveness and communication skills. Such training needs to be provided over an extended period of time, for positive effects to occur (Penn and Mueser 1996).

Because the onset of illness in persons with schizophrenia typically occurs before adult social skills are learnt through natural processes, teaching the required skills for independent functioning and personal effectiveness includes a host of target behaviors. The enormous array of social skills that are deficient in most persons with schizophrenia also derives from the cognitive and learning disabilities that long precede the onset of illness, stunting the social abilities of these individuals during the prodromal period and earlier. To build up the social repertoire of a person with schizophrenia to a level of proficiency, practitioners must focus on a broad spectrum of skill.

SST can be done with individuals, families, and groups. There are advantages of each of these modalities, eg- the training process and acquisition of skills by individuals is more rapid. Involving family members in skills training can directly influence family communication and problem solving and in turn, results in reductions in the stress-inducing "emotional temperature" of the family. When family members understand the value of the skills being learned by their mentally ill relative, they can encourage and reinforce those skills when they are exhibited in the home setting (Kopelowicz et al. 2006).

For various reasons, group therapy is the principal modality for doing SST. Training patients in a group is cost effective, increases cohesion among the participants, augments the behaviour when peers serve as a model which acts as reinforcement. It provides an opportunity for self-help, peer support and a chance for participants to learn from each other's real-life experiences and efforts which help them to solve problems. Training is often termed as education which by itself is non stigmatising. The patients can thus tell their friends and families that they are attending a class on human relations or community life (Kopelowicz et al. 2006).
SST is done in a warm and trusting therapeutic environment. The patient and the therapist work in collaboration to define problems, select goals and formulate appropriate solutions. The therapist takes a directive role in monitoring patients’ performance as well as in helping to maintain the patients’ motivation. In a typical session, the therapist demonstrates appropriate use of skills to the patient. The patient role plays these interpersonal situations and therapist provides reinforcement and corrective feedback. SST is generally conducted in setting such as clinic or inpatient facility, that is, away from patients’ natural environment. However, to make the training relevant, generalisation to other situations and to more natural settings is important (Liberman et al. 1985).

The process of SST involves teaching skills in a standard format which includes the following steps (Kopelowicz et al. 2006).

- Establish a rationale for learning the skill
- Break the skill into components and discuss each
- Model (demonstrate) the skill in a role play
- Engage a client in a role play to practice the same skill
- Elicit positive feedback from other group members and provide feedback about steps of the skill that were performed well
- Provide corrective feedback on how the skill could be performed better next time
- Engage the client in another role play of the skill in the same situation
- Provide additional positive and corrective feedback and engage in more role plays (if necessary)
- Engage other clients in role play following the same procedures
- Assign homework to practice the skill outside the group.

Over the past two decades, SST has evolved into an effective intervention for mental health and is the single most relevant method in treating individuals with severe mental illnesses. SST can improve social competence in individuals diagnosed with schizophrenia, which in turn can lead to a better quality of living (Bustillo et al. 2001). SST is based on principles of learning theory aimed at improving social functioning of individuals with schizophrenia (Bustillo et al. 2001). The primary goal
of working with individuals with schizophrenia is to improve social interactions and interpersonal skills in their activities of daily living (Bustillo et al. 2001).

According to Bellack and Mueser (1993), there are three forms of SST-

- The basic model
- The social problem-solving model and
- The cognitive remediation model

The basic model breaks down skills into smaller and simpler steps using instruction and role-play. Learning is enhanced when applied in natural settings. The social problem-solving model assumes that impairments in information processing are the causes of deficits in social skills, therefore aiming at improving areas such as basic conversation and personal care will improve the quality of life of the patients (Bellack and Mueser 1993).

The cognitive remediation model focuses on learning process with cognitive impairments such as attention deficits. By improving the underlying cognitive impairment, learning can be transferred to a more complex cognition which involves enhancing the learning of social skills and generalisation of it to the community setting (Bellack and Mueser 1993).

The research on the ‘basic model’ has demonstrated improved social skills that were assessed in the skills training setting. However limited evidence suggests that learning generalises to social competence in the community (Bellack and Mueser 1993). The study by Hogarty et al. (1991), which is considered to be the most extensive study on the basic SST model, determined that such skills could be maintained for a long period of time. In contrast, evidence of generalisability of acquired psychosocial skills from a clinical setting to everyday life is far weaker and has received less attention than it deserves. Further research is needed to know how to assess generalisability in natural settings and what factors affect the transfer of acquired skills from the training setting to other settings.

The ‘social problem-solving’ model, according to Liberman et al. (as cited in Bellack and Mueser 1993), has also demonstrated social skill enhancement.
Studies evaluating the ‘cognitive remediation model’ have provided mixed results on improvement in cognition. But overall, this model has not resulted in any direct improvements in social functioning (Bellack and Mueser 1993).

According to research, SST that targets both communication and problem-solving skills in combination yield the most impressive results (Bedell et al. 1997). Wallace and Liberman (1985) conducted a controlled clinical trial of 28 schizophrenic male patients, evaluating the effects of communication and problem-solving skills training. Patients were randomly assigned to either intensive SST or holistic health therapy, with a multidimensional evaluation before and after 9 weeks of inpatient treatment and for 24 months in the community (Wallace and Liberman 1985). The SST focused on effective use of communication in making requests and responding to other’s requests and teaching alternative solutions to problems as well as choosing effective solutions. Patients receiving SST showed significantly greater skill acquisition and generalisation, their social adjustment in the community showed improvement and they experienced fewer relapses and re-hospitalizations compared to patients receiving holistic health therapy (Wallace and Liberman 1985).

In a comparison group study where inpatients received either intensive social skill training for 10 hours per week or milieu therapy, researchers found that the social skill training group demonstrated more improvement in negativism and overall psychopathology and observed that the rehospitalisation rate reduced to half as compared to patients in whom there was no intervention (Liberman et al. 1986). Liberman et al. (1994) found that bio-behavioral therapy, which employs behavioural assessment, social learning principals and social skill training, improves the course and outcome of schizophrenia as measured by symptom reduction, social functioning and quality of life.

There are two types of group formats-

- Time-limited
- Open-ended.

SST is most effective in a group format, as it increases the network of support with peers participating in the group (Bedell et al. 1997). Time-limited groups place
their focus on specific goals to be achieved in a specific amount of time. The goal of time limited groups is to meet the needs of the client in a very focused and brief program and once met, treatment is discontinued.

Open-ended groups provide long-term treatment to stabilise clients. Open-ended groups are useful in allowing patients to apply skills to real-life settings over a long period of time with continuous support. Studies however tend to use time-limited groups over open-ended groups because they are cost-effective and SST groups can easily fit this format (Bedell et al. 1997).

Kopelowicz et al. (2003) conducted a comparative study to see the efficacy of SST in patient with schizophrenia who did and did not have the deficit syndrome. They chose 3 subjects with the deficit syndrome and 3 with nondeficit negative symptoms received 12 weeks of SST. Social skills and negative symptoms were evaluated before and after training and at follow up after 6 months. The result showed that the patient with schizophrenia who did not have the deficit syndrome demonstrated significantly better social skills and lower negative symptoms both after training and at follow-up than did those who had the deficit syndrome. They concluded that schizophrenic patients with nondeficit negative symptoms appear amenable to intensive SST and schizophrenic patients with the deficit syndrome may have significant deficits in skill acquisition.

SST is a form of behavior therapy that is used to help individuals who have difficulties relating to other people. There are many people who have never been taught interpersonal skills in social settings. This intervention helps individuals learn to interpret social signals, to know how to act appropriately around others in a variety of situations (Social Skills Training, 2006). It is based on the assumption that when people improve their social skills, their self-esteem increases as well as the likelihood that others will respond favorably to them. SST can help individuals work on specific issues that interfere with their daily lives and build a supportive network. It has been shown effective in treating patients with a broad range of emotional problems and diagnoses, including adjustment disorders, anxiety disorders, attention deficit hyperactive disorder, depression, bipolar disorder, developmental disabilities, various personality disorders and schizophrenia (Social Skills Training 2006).
Across cultures, SST as a mode of treatment and rehabilitation for individuals with mental illnesses has been well documented for its efficacy in controlled clinical trials in the United States and in other countries (Tsang et al. 2001a).

Tsang et al. (2001a) conducted a controlled study of a SST program in mental hospitals and day hospitals in Hong Kong that focused on finding and keeping a job for individuals with schizophrenia, using principles of the University of California, Los Angeles (UCLA) Social and Independent Living Skills Program. Information was presented in a three-tier hierarchical structure in which the participants had to master the skills in each tier before moving on to the next tier. The first tier covered basic social skills, focusing on interpersonal communication and basic job survival skills. Communication skills involved receiving, processing and sending information. Job survival skills included grooming, politeness and personal appearance. The second tier contained general work-related skills essential for securing a job, retaining a job and coping with situations specific to a particular job. The third tier focused on the benefits a person can gain as a result of acquiring the skills from tier 1 and 2- the benefits of getting a job, such as salary, social contacts, management of one’s time and a sense of achievement and satisfaction from working.

Participants were randomly assigned to one of three groups: training with follow up support, training without follow-up support, or a control group that only received assessment. Both groups that received training showed significant improvements in job related social skills after the training program as compared with the control group. A three month follow-up assessment was completed to evaluate participants’ employment status and workplace adjustment. Research showed that participants in the group that received follow-up support were more successful in obtaining employment than participants in the group that did not receive follow-up support. At the time of follow-up assessment, 47% of participants with follow-up support were employed, 23% of participants without follow-up support were employed, and only one participant from the control group was employed. Additionally, the participants in the group with follow-up support reported general satisfaction with their jobs and were able to develop concordant relationships with their supervisors and co-workers.
In a study by Wallace et al, participants were randomly assigned to one of the four groups over a two-year period, family therapy, SST, family therapy combined with SST, or a control group receiving neither therapy. Family therapy focused on reducing expressed emotion with education and management strategies for the family and SST focused on improving the patient’s social skills in dealing with family members. The results at the end of the first year of treatment demonstrated that both family therapy and SST had significantly lower rates of relapse than the control group and no relapses were seen in the family therapy + SST group. By the end of the second year of treatment, relapse rates in all groups increased, family therapy and family therapy + SST having the lowest rates of relapse and the SST group almost equal to the control group. The reason the relapse rates for the SST group increased almost as much as the control group was due to a change in the SST schedule of training sessions. The secondary focus of the evaluation was improvement in social functioning. The results for those who did not relapse one year into the study favored the SST condition pertaining to symptoms and performance. The results for those who did not relapse the entire study favored the family therapy and family therapy + SST conditions focusing on interpersonal skills needed to cope with familial interactions.

The 1995 Patient Outcomes Research Team (PORT) review of randomized controlled trials concluded that psychosocial skills training improved social functioning, symptomatology and likelihood to relapse of patients with schizophrenia (Scott et al. 1995). The following conclusions remained consistent through present research:

- Patients with schizophrenia can be made to perform a wide range of social skills such as simple behavior, understanding body language, to more complex behaviors and aid symptom management, assertiveness and conversation.
- SST has a positive effect on the way a patient perceives himself as more assertive and experience less social anxiety after treatment, yet only moderately impacts on psychiatric symptoms, relapse and re-hospitalizations.
- SST fair well to settings similar to training situations, but inconsistently to new environments.
• Relatively few studies have accounted for the durability of long-term treatment outcomes beyond several months.

Wallace et al. (1992) tested the usefulness of SST beyond the acute care setting, using UCLA social and self-care modules to patients in State psychiatric centers, day treatments and residential care facilities had used a random experimental design to assess treatment efficacy. Results from group comparisons and inter-group analyses indicated that patients’ grooming, medication management, and recreational skills had significantly improved regardless of the training site, but only in those cases where therapists’ interventions matched those detailed as per the UCLA training manual. The module’s effects ranged from moderate to substantial, suggesting that the composition, specificity and procedures presented in the treatment manuals effectively compensated for differences in trainers’ educational and professional background. Follow-up testing of the participants who remained at the facilities was conducted a year later, which demonstrated that skills which acquired were maintained (Wallace et al. 1992).

SST aims to help individuals with severe mental disabilities develop specific skills and perform those physical, social, emotional, problem-solving, intellectual, and vocational skills needed to live and work in the community. Principles of SST attempt to emphasize the importance of setting specific expectations through using instruction, coaching, modeling, role-playing, and positive reinforcement. There are cognitive impairments that many individuals may experience while suffering from severe mental disorders that constrict their ability to learn, remember and adapt new skills to adopt to their own environment. In overcoming one’s learning disabilities, it is beneficial for skills to be presented slowly and consistently, with frequent repetition. Serious and persistent mental disabilities are often accompanied by deficits in those skills that are needed for family life, friends, work and school. Serious mental illnesses generally begin in adolescence and early adulthood before an individual has the opportunity to acquire instrumental and affiliative skills, so that many individuals with schizophrenia haven’t ever learned the interpersonal skills needed for adult functioning (Liberman et al. 2002a).
In certain developed countries, schizophrenics who staying in long-stay units at psychiatric hospitals receive only pharmacological treatment (Sultenfuss and Geczy 1996). Group psychotherapy, has been supposed to be useful, especially once florid symptoms are under control. The results seem to be better than those obtained with individual psychotherapy individual, which can be explained by the fact that the group therapy approach offers socialisation experiences, behavioural models and a more shared transference which is less dependent on the therapist (Tsang et al. 2010).

Thorup et al. (2005) had conducted a randomized control trial with 547 patients in which assertive community treatment, multifamily groups, psycho-education and SST therapies were used as a therapeutic intervention tools. This integrated treatment approach significantly reduced both negative and psychotic symptoms, assumable due to the different psychosocial treatment elements that were provided in the intervention.

Liberman et al. (1978) evaluated the effects of 30 hours per week of training with 3 patients of schizophrenia. There were 3 areas of homework assignments-

- Specified interactions with the members of the nursing staff
- With the parents and
- With the social and vocational contacts in the community.

Training was conducted for a duration of 10 weeks. During the initial 2 weeks, performance on all assigned tasks was simply assessed. Training was then applied for interactions with nursing staff during weeks 3 to 6, shifted to interactions with parents as well as with nursing staff during weeks 7 to 8 and finally focusing on interactions with community agents, family and nursing staff during weeks 9 to 10 completion of homework assignments did not change until training was applied to that specific area suggesting that training was the effective element that increased the rate of completed assignments.

Dobson (1996), using two meta-analytic studies, asserts that more recent data support the contention that generalization did not occur. In summary, the positive results of SST appear to be promising but results may be only time limited. Longitudinal research and strategies for generalization are needed.
Research at the University of Pittsburgh had compared the relapse rates for outpatients with schizophrenia assigned to an individually administered program of SST plus antipsychotic medications with a group that only received pharmacotherapy. At 1 year of follow-up there was a 40% rate of relapse in the control group compared to 30% in the SST group. These differences remained significant statistically in favour of SST (Kaplan and Sandock 2000).

A different approach to short-term inpatient skills training features the community re-entry program, a skills training module in the social and independent living skills program, developed at the intervention research centre for psychosis at the UCLA (Liberman et al. 1994). This manualized program consists of 16 training sessions that teaches the skills necessary for symptom identification, medication management, collaborative treatment planning and follow-through with community aftercare. Program goals are to facilitate rapid discharge from the hospital and linkage with community aftercare facilities and to minimize the risk of post discharge relapse.

One to- one SST (60-minute sessions twice weekly for 3 months) was offered to three individuals who met deficit syndrome criteria (Kirkpatrick et al. 1989), as well as 3 patients who displayed non deficit negative symptoms. Compared with deficit syndrome patients, non deficit subjects displayed significantly better social and communication skills (e.g., eye contact and voice volume) on a behavioural role-play test immediately following training and at 6 months follow up. Non deficit patients had significant improvement on each trained social skill and their improvement remained 6 months later. Patients with the deficit syndrome failed to show any meaningful change in behavioural skills either after training or at follow up.

Kopelowicz et al. (1997) concluded that schizophrenia patients with nondeficit negative symptoms are benefited by intensive SST, whereas deficit syndrome patients may possess significant deficiencies in skills acquisition. Those authors speculated that the poorer treatment response observed for deficit syndrome individuals may be subsequent to greater neuroanatomical, neurobiological and neurocognitive impairment, all of which limit a patient's potential for learning new skills.

Benton and Schroeder (1990) in a meta-analysis had reviewed 27 controlled studies evaluating the effectiveness of SST with inpatient individuals with...
schizophrenia. They determined that research on SST reliably showed (a) significant improvement in assertiveness and anxiety, (b) the social skills learned during therapy generalized into real life settings, (c) compared to other treatments, SST produced better social functioning over long periods of time, (d) SST resulted in higher hospital discharge rates, (e) SST resulted in lower rates of relapse compared to other treatments and (f) the effectiveness of SST was the same with schizophrenic samples as with samples composed of various other mental illnesses.

Granholm et al. (2005) conducted a randomized, controlled trial of cognitive behavioral social skills training for middle-aged and older outpatients of chronic schizophrenia. Participants were assigned to either treatment as usual or a combination of treatments plus cognitive behavioural SST. Raters assessed social functioning, positive/negative psychotic and depressive symptoms, cognitive insight and skill mastery. The research indicated that the patients who received the combined treatment performed significantly more social functioning activities than the patients who received treatment as usual. Patients who received the combined treatment also achieved significantly greater cognitive insight and demonstrated greater skill mastery. The overall group effect was not significant for either psychotic or depressive symptoms. The gain in cognitive insight significantly correlated with greater reduction in positive symptoms. The results of this study are consistent with several other studies that showed significant improvement in psychosocial functioning with younger patients of schizophrenia after receiving cognitive behavioural SST.

Hogarty et al. (1991) found that participants of SST had improved on various measures of social adjustment. Three general conclusions are supported by these reviews: (1) individuals with schizophrenia who complete SST can acquire the targeted social skills, (2) SST shows to be effective in improving individuals’ social competence, assertion in particular and (3) these positive results are strongest and most consistent when skill acquisition is assessed through role-play methods.

In terms of generalization, a major lacuna is that few studies have assessed the extent to which participants have actually used acquired skills in their daily lives (Scott and Dixon 1995). There are evidences that some types of skills, such as motor performance may generalize more readily than other, more complex behaviours such
as making an appropriate request for behavioural change to another individual. Summarily, evidence of generalization of acquired skills to real-life settings is mixed and limited (Scott and Dixon 1995).

Dilk and Bond (1996) provided a meta-analytic evaluation of 68 studies on skill training research for individuals with severe mental illnesses. The literature evaluated the social skills (interpersonal skills and assertiveness), prevocational skills, activities of daily living, affective management skills and cognitive skills. They found that among the 68 studies, SST focused on interpersonal and assertiveness skills predominated by 81% and determined to be moderate to strongly effective in increasing skill acquisition and reducing psychiatric symptoms. They also found that as most studies were confined to inpatient settings they hardly examined generalization of acquired skills to real-life settings.

The results from the narrative and meta-analytic reviews point towards three general conclusions about the acquisition of targeted social or cognitive skills

First, individuals with schizophrenia who complete social skills training may acquire the targeted social skills. As Wallace et al. (1980) conclude, "there is of course, little doubt from the accumulated evidence that the topographical (basic performance) features of social skills can be modified by the training procedures". This finding has been confirmed in subsequent reviews. For example, Brenner et al. (1992) established that patients who are exposed to integrated psychological therapy (IPT) exhibit significant improvement from baseline levels on cognitive tasks such as abstraction ability, attention and general verbal performance.

Second, SST appears to be effective in improving the social competence of subjects' (Halford et al. 1991).

Third, these positive results are strongly consistent when acquisition is assessed through role-play methods, but studies that had used other measures such as naturalistic observation generally report positive results as well.

Meta-analytic reviews suggest that trained skills continue to be maintained. In these reviews, mean (Benton et al. 1990) and median (Corrigan 1991) treatment effect sizes significantly different from zero were detected. Four of the seven primary
studies examined skill maintenance, reporting it to be successful. Though, it is important to remember that many of the studies included had not used lengthy follow up periods. Evidence for the maintenance of cognitive skills trained through IPT is not satisfactory. Brenner et al. (1992) report such a finding in one study. There are evidences that the effects of psychosocial skills training generalize from the training setting into "Real Life" (Mario et al. 2006) concluded that social skill training consistently led to a moderate but significant and stable improvement in social functioning, slightly reduces general psychopathology and considerably decreases the hospitalisation rate at follow up.

In recent years, training approaches such as the Partners in Autonomous Living” approach or the “In Vivo Amplified Skills Training” were developed, which either include relatives or friends of the patient in order to provide opportunities, encourage and contingently ensure the patient's use of acquired skills in daily living or where training became an integral part of a case management program (Liberman and Martin 2002). However, the data do not allow yet for a final conclusion pertaining to the additional benefits from these refined approaches. Moreover, findings indicate that the effects of SST on social functioning may be improved by an increase in cognitive functioning achieved by cognitive remediation (Spaulding et al. 1999a).

The effectiveness of SST has been analyzed in two meta analyses which reached different conclusions regarding evidence for its efficacy. Pilling et al. (2002) included nine Randomized control trials (RCTs) of SST and found no evidence suggesting a benefit for relapse rates, global adjustment, social functioning, quality of life or treatment adherence. In contrast, Pfammatter et al. (2006) included meta-analysis of 19 SST studies (quasi-experimental studies as well as RCTs) indicating beneficial effects for the acquisition of social skills.

Roder et al. (2002) conducted an evaluation of a four stage skills training program focused on improving either recreational skills, vocational skills or residential skills for patients at eight institutions in Germany, Switzerland and Austria. Participants were assigned to the group that best addressed their goal of interest and matched for age, psychopathology, duration of illness and motivation. Group and individual sessions, in-vivo exercises and homework assignments were
targeted on clients' most frequent problems. Small to medium effect sizes for cognitive and social functioning were evident for all three areas, recreational skills, residential skills, and vocational skills.

The American Psychiatric Association states "SST may be helpful in addressing functional impairments with social skills of activities of daily living" (Lehman et al. 2004).

The meta-analysis by Kurtz et al. (2008) intended to build upon previous meta-analysis of SST for individuals with schizophrenia. The study only included RCT on SST with samples consisting of patients with diagnosis of schizophrenia or schizo-affective disorder, investigating the impact of training variables, experimental design issues and participant characteristics and categorized and evaluated outcome measures on a continuum of hypothesized proximal versus distal effects of SST. The significant results justified the utility of SST for improving functional outcomes like social adjustment and independent living. SST also had an average effect size on improving negative symptoms strongly associated with impaired psychosocial functioning in schizophrenia.

A study done by a Manju (2008) revealed the effects of social skill training among institutionalised patient of schizophrenia. The study design included pre and post test design without having control group. The patients were trained in conversation skill, personal hygiene, and recreation skills which was provided for a period of 6 months. The finding suggested that social skill training significantly improves the social role of schizophrenia population.

Similar study was done by Seo et al. (2007) to assess the efficacy of social skill training program to improve the social skill and self-esteem in patients of chronic schizophrenia. The study design had an experimental and control group. The experimental group received 16 group training programs and the control group received routine medical management. The training program was clustered into two parts viz, conversational skills and assertiveness skills. After the training program the experimental group showed improvement in the conversational skill, interpersonal role, assertiveness skill, and self-esteem. The result demonstrated that the social skill
training program has efficacy in improving social role of patients with chronic schizophrenia.

Padmavathi et al. (2013) evaluated the effectiveness of social skill program in patient with schizophrenia. Multistage simple random sampling technique was utilized in the study to assign the patients to control group from closed female ward and experimental group from open female ward. The sample included patients between 18-60 years of age and who were admitted at National Institute of Mental Health and Neuroscience, Bangalore. Skill training was given by using role play technique in 15 sessions. The study results demonstrated skill training is an effective method to improve social role of patients with schizophrenia.

Studies looking at the effectiveness of social skill training in patient with schizophrenia in Indian setting are very sparse.

Conclusion

This review examined the efficacy of SST on patient with schizophrenia. The effectiveness studies conducted and concluded that SST exhibits methodological problem that limits their generalizability, yet another prevailing question of how well these treatment hold up outside the academic research is an important and extremely relevant one. However, there is a consistent evidence that SST increases behavioral skills, improves community life, and greater self efficacy in social situation. As per training concern, research shows that skill can be taught and maintained overtime. Yet other studies suggest that the efficacy of social skill training on social role is moderate and may last for a shorter time. With regard to acquisition of SST the narrative and meta analysis reviews support that patient with schizophrenia who undergo SST can acquire required social skills. The literature on social skill generalizability presents a different set of issues. Firstly none of the primary studies assessed the genealizability. Second evidence for the generalizability of SST from clinical setting to everyday life is draught and has received less attention. Other studies however, have found that schizophrenia patient may improve minimally and few critics that patient have hard time in transferring learned skills into real life situation.