CHAPTER – 1

INTRODUCTION WITH A REVIEW OF RELATED LITERATURE
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1.1 CONCEPT OF DEPRESSION

In the modern complex societies, which are full of stresses and strains, almost everybody experiences feelings of depression at one time or another. The emotions of feeling sad, unhappy or disappointed are a part of a human being's normal existence and are experienced by everyone almost on a daily basis. Such emotions may be associated with failure in academics, setback in a relationship, loss in a financial investment, break-up of a love affair, or with the death of a loved one. However, after feeling low for a few days, during which time there can be changes in the sleep pattern and appetite, disinterest in daily chores etc., the person undergoing depressive symptoms usually returns to normal within a reasonable period of time. On the other hand, if these depressive feelings persist to a greater degree and for a longer time interfering with one's health, they are referred to as a state of "clinical depression". Clinical depression is a state of sadness that has advanced to the point of being disruptive to an individual's social functioning and daily activities requiring clinical intervention. “Depression” comes from the latin word depressio, meaning to press down. Many researchers assume that the term "depression" refers not simply to a state of depressed mood, but to a syndrome comprising mood disorder, psychomotor changes and a variety of somatic disturbances.

Depression is a psychological condition that changes how we think and feel and also affects our social behaviour and sense of physical well being. When mired in depression, happiness eludes us. Pleasure is nowhere to be found. Our ambitions clot. Our strength leaves us. We worry. We lack confidence. We think we are unloved. Our thoughts are filled with cries of helplessness and hopelessness. We feel trapped. Our attention is adrift. Our relationships sour. We feel stuck, numbed, dull and lifeless. Encapsulated within a persistently negative mood, gloom seems impenetrable. Interests are dampened. This process practically always include patterns of negative, depressive thoughts including helplessness, hopelessness and worthlessness (Knaus, 2006).
Here is depression personified “I am depression. Cold like arctic mist, I dampen your spirit and your soul. I fill your thoughts with gloom. When I am with you, you are but a withered leaf beneath wet snow with nowhere to go. Still, I can do much more. I can fill your mind with graveyard thoughts and make you teary. I can cause you to complain and bicker. I can make you feel uncertain. I can drain all pleasure from your life. I can dig you into a hole so deep that you can’t see the top. For I am the mood of depression, I alone can control what you feel and do.” Though this description of depression may sound scary, nevertheless, we do find a tone of desperation in depression that cannot be ignored. Like a destructive tenant, depression rarely leaves without strong urging (Knaus, 2006).

This painful process of depression can start with an overwhelming trauma or slowly build from a long history of stress and negative thinking or a family history of depression and negative life circumstances. Depression can be viewed as a persistent and recurring scourge that can involve multiple coexisting conditions such as anxiety and anger (Pettit & Joiner, 2006). This condition is clearly an equal opportunity disability that can affect anyone at any economic level, from childhood to old age. Over the millennium, the painful dysphoric mood of depression has been experienced in similar ways by hundreds of millions. Kessler et al. (2003) found that approximately 16% of adults will experience depression in their lifetime. Depression is the most commonly encountered disorder among psychiatric outpatients (45%) and only 31% of depression sufferers are suffering from depression alone (Zimmerman et al., 2008).

In India, depression is a major public health problem resulting in increased suffering, diminished social and occupational functioning as well as high levels of suicide. A number of Indian studies (Amin et al., 1998; Nambi et al., 2002; Pothen et al., 2003) have reported a wide range of prevalence of depression in India. A World Health Organisation study examining 15 primary care centers, in 14 countries worldwide, including Bangalore in Southern India, was conducted to assess psychological problems in general healthcare on the basis of which it was determined that 9.1% of the general population in Bangalore, India suffers from depression (Goldberg and Lecruiber, 1995). Patel (1996) found that 40% of Indian adults attending primary health care clinics were
depressed. Nandi et al. (2000) suggested that the rate of depression has increased significantly over the years in India as well. Madhav (2001) found that prevalence rates for depression in India is 31.2 per 1000 population. Sengupta (2005) stated that depression is a major health problem in countries like India. Poongothai et al. (2009) in the largest population based study from India reported that prevalence of depression among south Indians is 15.1%. This is consistent with the figures reported for developing countries (10-44%) by WHO (2001). Tsui (2008) reported that the National Institute of Mental Health and Neuro-Sciences (NIMHANS), Bangalore, India, found that 1 in every 15 adult Indians suffers from depressive illness. At least 10% of the population suffers from depression that needs professional and medical help and as much as 40 per cent of the population is demoralized and likely to cross the line to clinical depression sometime. Reddy (2010) stated that Indian union health ministry estimates state that 120,000 people commit suicide every year in India and that majority of those committing suicide suffer from depression. A review of eight epidemiological studies on depression in South Asia shows that the prevalence in primary care was 26.3%. In the Goa study, the rate of depressive disorders was 46.5% in adult primary care attendees (Reddy, 2010).

Over the past several years, the prevalence of depression has been on the rise because of several reasons such as demographic shifts to urban and suburban areas and loss of small community support, rapid social and economic changes that appear outside the scope of individual control, sedentary lifestyles and earlier pubescence. More than a dozen epidemiologic studies around the world have presented data suggesting that depression has become more common and has been on the rise in the last half century (Ballenger et al., 2001; Kessler et al., 2005). According to World Health Organization, clinical depression which is currently the fourth leading illness, worldwide, is expected to become the second leading cause of disability by the year 2020 (Murray and Lopez, 1997; World Health Organisation, 2002). Ciprani et al. (2009) suggested that depression is expected to show a rising trend over the next twenty years.

Major depression is a common, costly, disabling and one of the most burdensome disorders worldwide (Grant et al., 2004; Olsen et al., 2004; Donohue and Pincus, 2007). Major depressive disorder is associated with grave consequences in terms of excessive
mortality, morbidity, loss of productivity, income, poor health and suicide. Several researchers have found that the relationship between depression and mortality has been on the rise for the past few years (Vinkers et al., 2004; Adamson et al., 2005; Wulsin et al., 2005). Depression carries a high mortality rate because it is a risk factor for many major disease related causes of death as well as suicide (Mykletun et al., 2007). In India 2% of those who commit suicide suffer from major depressive disorder (Manoranjanjitham et al., 2010). Depression is associated with higher morbidity (Kessler et al., 2003). Murray & Lopez (1996) in The Global Burden of Disease Study report that major depression costs three times more than the price of alcohol abuse. Depression is associated with increased rates of chronic illness, health care utilizations and absenteeism at work (Stewart et al., 2003; Stein et al., 2006; Greenberg et al., 2006a). In the year 2000, the estimated cost of depression due to personal impairment, medical costs and low productivity was $83.1 billion (Greenberg et al., 2003). Depression is expected to overtake heart disease as the largest killer by 2020 and is now the largest cause of absenteeism in businesses costing over $51 billion a year in productivity (Grimes, 2009).

1.2 CLINICAL FEATURES OF DEPRESSION

Major depressive disorder is diagnosed based on the presence of a constellation of signs and symptoms that are characteristic of the illness. DeRubies et al. (2008) stated that depression can be defined as both a syndrome and a disorder. As a syndrome it involves episodes of sadness, loss of interest, pessimism, negative beliefs about the self, decreased motivation, behavioural passivity, changes in sleep, appetite and sexual interest and suicidal thoughts and impulses. Baghai et al. (2008) stated that the core symptoms of depression are a combination of psychological and somatic symptoms, often combined with psychomotor and cognitive disturbances.

Deb and Bhattacharjee (2009) stated that the term ‘depression’ is used to describe a range of experiences from a slightly noticeable and temporary mood decrease to a profoundly impaired and even life-threatening disorder. Basically depression refers to a constellation of experiences including not only mood but also physical, mental and behavioural experiences that define more prolonged impairing and severe conditions that may be clinically diagnosable as the syndrome of depression.
Major depressive disorder (MDD) is characterized by one or more major depressive episodes and the absence of manic episodes. A major depressive episode is defined by depressive mood or loss of interest or pleasure in almost all usual activities accompanied by other depressive symptoms. DSM-IV-TR (American Psychiatric Association, 2000) specifies that at least five of nine specific depressive symptoms (e.g. depressed mood most of the day, diminished interest in nearly all activities, significant weight loss or weight gain, insomnia or hypersomnia, lethargy, fatigue, indecisiveness, feelings of guilt and thoughts of death) must be present nearly every day for at least two weeks to make a diagnosis of major depressive disorder and that the symptoms must cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. Somatic symptoms are common in patients with depression (Tylee and Gandhi, 2005; Demyttenaere et al., 2006), including fatigue and lack of energy (Baldwin and Papakostas, 2006) and painful physical symptoms such as headaches and back pain (Currie and Wang, 2004). Perlis (2005) suggested that DSM-IV does not include irritability as a symptom of major depressive disorder among adults, despite the fact that irritability is commonly found in clinical samples of adults with depression. Feixas et al. (2008) found that those with depressive disorders perceived themselves and others more negatively, perceived themselves as different from others and generated fewer constructs to describe self and others in comparison to the non-clinical group. Bjarehed et al. (2010) reported that reduced anticipation of future positive events is a defining characteristic of depression.

According to an analysis of data from the World Health Organisation, 69% of patients in primary care settings meeting the DSM-IV/ICD-10 criteria for depression presented somatic symptoms as their primary reason for seeking medical care (Simon et al., 1999).

The term depression encompasses a variety of conditions that differ in severity. The DSM-IV recognizes the clinical utility of distinguishing levels of severity by including a dimensional severity specifier that is based on a combination of number of symptoms, degree of functional impairment and presence of psychotic symptoms. Although severity alone is insufficient for an adequate classification of depression, it is
an important part of classification system because it has significant implications for treatment, prognosis and etiology. Discussions of dimensional models of depression have almost always focused exclusively on variations in symptom severity (Andrews et al., 2007). Depression can range in severity from mild disruptions of normal mood to disorders of psychotic intensity. Major depression can be categorized into mild, moderate and severe depression.

Mild depression ranges from a threshold number of symptoms (4-5) with minimal functional impairment. While symptoms are usually less severe and less numerous in mild depression than moderate and severe depression, they still have the ability to cause disruption and distress. Mild depression causes an impact upon our daily activities. The sufferer shows a diminished interest in things which he or she usually finds interesting or enjoyable. The sufferer may carry on with their normal lives, only appearing low in spirits and possibly less sharp in their thinking or in their interest. They may stop doing things they do not actually have to do, but will often continue with essentials, such as going to work or caring for the family. However, they will tend not to be as conscientious about these things as previously, or will become upset because they feel they are not coping as well as they should because they feel too tired.

Moderate Depression is characterized by the presence of 5-6 symptoms including 2 key symptoms (i.e. persistent sadness, loss of interest or low energy). Moderate depression fits somewhere between mild and severe depression. The characteristics of moderate depression tend to be more prominent and more enduring than those described for mild depression and less severe than those experienced in severe depression. People who experience moderate depression may find they have a reduced interest in normally pleasurable activities and simple things require real effort or just get neglected. Moderate depression can cause serious difficulties with social, work and domestic activities and if left untreated may lead to severe depression. Moderate depression usually results in a detectable reduction in self confidence or self esteem which may result in people becoming less motivated and less productive. Such people often start to worry about things unnecessarily, such as performance at work, even if they are managing to maintain their previous standards. They may be more sensitive and susceptible to feeling hurt or offended within personal relationships.
The patient’s appearance is characteristic. Dress and grooming may be neglected. The facial features are characterized by a turning downwards of the corners of the mouth and by vertical furrowing of the center of the brow. The rate of blinking may be reduced. The shoulders are bent and the head is inclined forward so that the direction of the gaze is downwards. Gestural movements are reduced. It is important to note that some patients maintain a smiling exterior despite deep feelings of depression.

Severe depression is characterized by the presence of all or nearly all DSM-IV depressive symptoms to a clinically severe degree and marked functional impairment in all areas of life (Anderson and Lambert, 2001). Severe depression may include extreme feelings of depression, distress, agitation and guilt. It is unlikely that the person will be able to continue with work, social and domestic activities.

1.3 FUNCTIONAL IMPAIRMENTS CAUSED BY DEPRESSION

Recent research has been successful in demonstrating differences between depressed and non-depressed individuals i.e. it identifies impairments in the functioning of depressed individuals that are present during depressive episodes. Major depressive disorder is worldwide the fourth leading illness causing functional impairment (Murray & Lopez, 1997). Individuals with major depressive disorder have substantial and long-lasting impairment in multiple areas of functioning and well-being that equal or exceed those of patients with chronic physical illness (Hirschfeld et al., 2002; Greden, 2001). In several follow-up studies, patients with major depression were found to be at higher risk of impairment in physical, social and role functioning which resulted in lower levels of overall functioning (Oldehinkel et al., 2001). World Health Organisation (2002) reported that major depressive disorder is a leading cause of disability due to its high prevalence and the severity of functional impairment associated with its symptoms. There is widespread evidence that those who suffer from depression have impaired psychosocial functioning i.e. patients with depression suffer from impairments in social functioning as well as a variety of other problems such as low self-esteem and feelings of worthlessness (Angermeyer et al., 2002). Judd et al. (2000) found significant increases in functional limitations with each stepwise increment in the severity of depressive symptoms during the long term course of depressive disorder. Ustun (2004) and Hyman (2006) stated that
worldwide, depression is the leading cause of years lived with disability. Donohue and Pincus (2007) stated that depression is a highly prevalent condition that results in substantial functional impairment. Depression is associated with second largest number of days out of role impairment, second only to chronic back/neck pain and exceeding the number of days of role impairment associated with disorders such as arthritis, cancer and heart disease (Merikangas et al., 2007). Swan et al. (2009) found that depressed people have significantly impaired quality of life. Strine et al. (2009) reported that there is a strong association among depression, impaired health related quality of life, inadequate social and emotional support, dissatisfaction with life and disability.

Patients with depression appear to suffer from impairments in various areas of adjustment (such as social, work, marital & interpersonal functioning), self esteem and they make use of maladaptive coping skills when faced with stressful situations. These impairments are discussed as below:

(A) Adjustment Impairment

Adjustment refers to the adaptation of the person to his environment. Adjustment may take place by adapting the self to the environment or by changing the environment (Campbell Psychiatric Dictionary, 1996). Specific ways of behaving, referred to as roles, are commonly accepted as appropriate and the individual is perceived in terms of the way his role performance conforms to the norms of his referant group. Adjustment generally refers to relationships with spouse, children and other relatives; social relationships outside home; social leisure activities; and performance in the work place, in school or as a homemaker.

Luty (2002) and Rytsala et al. (2006) found that adjustment is impaired during depression and is affected by a number of clinical variables such as depression severity, age, duration of depression and personality.

Although, it has been suggested that adjustment problems are a consequence of depression, there is also evidence that ongoing social adjustment problems increase the risks for recurrence of depression (Fava et al., 1996). Barkow et al. (2003) found that poorer adjustment predicts persistence of depression.
Perugi et al. (1994) found that depressive episodes influence all areas of adjustment, but that different areas are affected differently. The different areas of adjustment that are impaired during depression are social functioning, work functioning and marital or interpersonal functioning.

(a) Social Functioning Impairment

Many theories relate depressive symptoms and social functioning. Interpersonal theory provides a mechanistic framework where emotions guide social interactions throughout the formation and maintenance of interpersonal relationships (Keltner & Kring, 1998). People are social animals; they strive to maintain relationships with others and emotions help us navigate those relationships (Diener & Seligman, 2002). When emotions no longer function normally, the guidance offered by them deteriorates and our social functioning suffers (Joiner & Katz, 1999; Zauszniewski & Rong, 1999). Other theories suggest similar linkages but specify different mechanisms. Information processing (Leppanen, 2006), for example, suggests that depression results from an inability to process emotionally relevant social interaction cues. People with major depression have abnormal cognitive and neural processing of emotional information (Goeleven et al., 2006). The abnormal processing may not only be indicative of depression vulnerability (Leppanen, 2006) but also may cause the lasting social impairment often observed following depressive treatment (Hirschfeld et al., 2002). Furthermore, poor social functioning may lead to lasting depression due to rejection (Coyne, 1976). These divergent theories suggest different causal mechanisms and causal direction.

Zlotnick et al. (2000) found that patients with depressive symptoms had significantly worse social functioning and role functioning as compared to patients with other chronic medical conditions. Independent observers have documented that depressed people have fewer social skills than non depressed individuals (Sergin, 2000). Depression is associated with impaired health related quality of life and social functioning (Klein et al., 2002; Saarijarvi et al., 2002). Individuals with a diagnosis of depression have consistently been found to have more social impairment than healthy controls (Zisook et al., 2004; Kennedy et al., 2007; Stellman et al., 2008).
(b) **Work Functioning Impairment**

Several researchers have found that difficulties affecting adjustment at work and leisure are reflected following recurrent episodes of depression (Rytsala et al., 2005; Sasso et al., 2006). Petersen et al. (2004) stated that depressive disorders can be associated with occupational impairment. Depression may have the highest impact on total work impairment of any disorder (Collins et al., 2005). Adler et al. (2006) and Kessler et al. (2006) showed that depression causes a significant drop in work productivity.

Depression affects work productivity by reducing cognitive processing (Pardo et al., 2006), memory (Bearden et al., 2006; Rose & Ebmeier, 2006), attention and concentration (Zimmerman et al., 2006) and energy levels of the depressed people. At the surface level, depression affects three areas related to occupational functioning—education, absenteeism-presenteeism and employment (Lerner et al., 2004). Depression affects educational attainment (Berndt et al., 2000) thus affecting employment opportunities. If employed, depressed people miss work more than other employees (Stewart et al., 2003; Rost et al., 2004; Collins et al., 2005; Donohue and Pincus, 2007); including workers with debilitating medical conditions such as heart disease (Druss et al., 2000) and rheumatoid arthritis (Lerner et al., 2004). Depressed workers are less productive (i.e. lower presenteeism) than non-depressed workers (Stewart et al., 2003; Donohue and Pincus, 2007), they operate at slower rates (Wang, 2004) and produce more errors (Greenberg et al., 2003). Several researchers have stated that disability associated with depression makes it difficult to find and keep a job (Lerner et al., 2004; Virtanen et al., 2005).

(c) **Marital and Interpersonal Functioning Impairment**

There is a growing body of research findings indicating that depression is intricately linked with impaired marital functioning (Whisman & Uebelacker, 2003; Reich, 2003). Persons with major depression were found to have more marital and family problems than those without the disorders. Benanzon & Coyne (2000) demonstrated that presence of depression in one person is associated with lower satisfaction in his or her
partner because of the increased burden on the partner caused by depressed person’s emotional strain, lack of energy and fear of relapse. Whisman et al. (2004) found that a person’s own level of depression was significantly associated with his or her level of marital satisfaction, with greater levels of depression associated with lower levels of marital satisfaction.

Zlotnick et al. (2000) found that depression in adults can often have a negative impact on interpersonal relationships. Hammen (2009) stated that depression leads to the development of impairments in marital and interpersonal functioning.

(B) Self-Esteem Deficits

Everyone, at some point or another, is uncertain about themselves, lacks self-confidence, doubts their abilities, or thinks negatively of themselves. Self-esteem usually refers to how we view and think about ourselves and the value that we place on ourselves as a person. Low self-esteem is having a generally negative overall opinion of oneself, judging or evaluating oneself negatively and placing a general negative value on oneself as a person. People with low self-esteem usually have deep-seated, basic, negative beliefs about themselves and the kind of person they are. These beliefs are often taken as facts or truths about their identity as a result of which, low self-esteem can have a negative impact on a person and their life.

Self esteem refers to a positive or negative evaluation towards oneself (Rosenberg et al., 1995) and indicates the degree to which one experiences oneself as worthy and capable. High self esteem is assumed to be crucial to mental and social well being as it influences an individual’s aspirations, personal goals and interaction with others (Mann et al., 2004; Ogden, 2004; Kaptein & Weinman, 2004). Self-esteem has been most extensively investigated in depression. Macinnes (2006) found that lower level of self esteem is associated with higher level of depression. There is a convincing evidence of a reciprocal link between depressive mood states and self-esteem. As feelings of worthlessness are a part of the diagnostic criteria for depression, research designs need to explore whether self-esteem deficits are simply the symptom of the disorder itself, a prodrome to the disorder (i.e. an early symptom) or a scar of the past episodes (Roberts &
Gamble, 2001). Silverstone and Salsali (2003) found in his study that low self esteem increases the susceptibility of developing depression and the presence of depressive disorders in turn lowers self esteem.

A large number of prospective studies have shown that low self-esteem arises during major depression i.e. many depressed clients suffer from an underlying negative view of the self, accompanied by destructive emotions (Yousufzai and Siddiqi, 2007). These negative self evaluations and the associated intense emotions are distressing to the client and often lead to interpersonal difficulties and dysfunctional behaviour, by sapping motivation, increasing sensitivity to criticism and increasing passivity and avoidance. Deb and Bhatacharjee (2009) conducted a study to ascertain the self-esteem of depressive patients. The findings revealed that self esteem of depressive patients and normal population differed significantly (p<0.01) which indicates that depressive patients have low self-esteem.

Moreover, it has also been proposed that low self-esteem acts as a vulnerability factor for the development of major depression (Kendler et al., 2002, 2006; Evans et al., 2005; Orth et al., 2009). Nilsson et al. (2010) also found that low self-esteem has been found to be a risk factor for depression in major depressive disorder. Low self esteem has been found to be related to the onset and maintenance of clinical depression (Nolen-Hoeksema, 2000; Pelkonen et al., 2003, Kuehner & Buerger, 2005).

(C) Maladaptive Coping Skills

In recent years, conviction has grown that it is how individuals cope with stress, not stress per se, that influences their psychological well-being, social functioning and somatic health. At a general level, coping has been defined broadly as "process of seeking and utilizing information" (Hamburg & Adams, 1967), "any response to external life strains that serves to prevent, avoid or control emotional distress" (Pearlin & Schooler, 1978), "any effort at stress management" (Cohen & Lazarus, 1979), "overt and covert behaviour that are taken to reduce or eliminate psychological distress or stressful condition" (Fleishman, 1984) or as "constantly changing cognitive and behavioural efforts to manage specific external or internal demands that are appraised as taxing or
exceeding the resources of the person” (Lazarus & Folkman, 1984). When we react in various ways to threatening events, coping styles exist (Aronson et al., 2007). Kelly (2009) stated that coping refers to the thoughts and actions we use to deal with stress.

In contemporary research on coping strategies, several researchers have emphasized on the different coping styles or dispositions which are adopted by different individuals in particular stress situations (Pareek, 1997). The use of a particular coping strategy, in response to a stressor, plays a pivotal role in depression (Beck & Worthen, 1972). A recent comprehensive review of the literature identified the three most frequent categories of coping style as problem solving, avoidance and seeking social support (Skinner et al., 2003).

Approach and task-oriented coping are strategies involving problem solving, seeking information and attempts to alter the situation (Ray et al., 1982). Several studies have found that more reliance on approach coping and less on avoidance coping is associated with less future distress and more stable functioning among individuals who have experienced high levels of stressors (Folkman & Lazarus, 1986, 1988a; Echteld et al., 2003; Livneh & Wilson, 2003). Schouws et al. (2001) reported that active approach and seeking social support was associated with a higher quality of life. Problem-focused coping style is associated with solving a problem or changing a situation (Ben-Zur, 2009). This coping style can help to change a meaning to a situation and can help focus more on a specific goal which can allow someone to feel in control of a situation. Problem-focused coping style is helpful for uncontrollable situations such as chronic illness (Ben-Zur, 2009).

Conversely, avoidance and emotion-oriented coping strategies seem to be associated with psychological distress. Escape or avoidance coping styles, in particular, may hamper the ability of depressed persons to deal effectively with their problems (Coyne et al., 1981). Avoidance coping describes activities aimed at avoiding the stressful situation and involves denial, wishful thinking and withdrawal (Folkman & Lazarus, 1988a). Avoidance coping involves cognitive and behavioural efforts oriented towards denying, minimizing, or otherwise avoiding dealing directly with stressful demands and is closely linked to distress and depression (Penley et al., 2002). According
to Ben-Zur (2009), avoidance coping style is the least effective coping style because it prevents someone from trying to solve their problems and blocks people’s awareness that the situation may change for the better.

Emotion-oriented coping describes emotional reactions that are self-oriented in order to reduce stress. These reactions involve emotional responses (individuals blaming themselves for being too emotional, becoming angry or tense) (Endler and Parker, 1999) and ruminative responses which are defined as: behaviours and thoughts that focus attention on depressive symptoms and on the implication of these symptoms (individuals thinking how tired they feel and why they get depressed, why others do not) (Ray et al., 1982).

Many studies of coping examine the relationship between coping and depression. Research on the relation of coping and depressive disorder has attracted great attention in the present times (Sommerfield & McCrae, 2000; Lazarus, 2000). Coping models assume that depression is the consequence of ineffective coping techniques such as avoidance and emotional coping. Reliance on avoidance coping has been linked to increased depressive symptoms among adults (Echteld et al., 2003; Marchand & Hock, 2003; Holahan et al., 2005). Livneh & Wilson (2003) found that avoidance focused coping tended to predict poor psychological adjustment. Bjorck et al. (2001) stated that for all participants, challenge appraisals predicted adaptive coping (problem solving and positive reappraisal) and less distress. Problem solving, seeking social support and positive reappraisal predicted less distress; self-control, accepting responsibility and escape-avoidance predicted greater distress. Haynes and Love (2004) as well as Love et al. (2007) found that those who engaged in a more problem-focused style of coping, such as active coping were found to be better adjusted than those who engaged in more emotion-focused styles of coping such as escape avoidance coping, confrontive coping, accepting responsibility and self-controlling coping. Vollman et al. (2007) stated that individuals who used more planful problem-solving and social support seeking coping strategies had fewer depressive symptoms, whereas individuals who used more escape-avoidance coping (e.g. wishful thinking) had more depressive symptoms. Auerbach et al. (2010) found that coping deficits, a greater tendency to utilize maladaptive as opposed to
adaptive coping strategies, was associated with increases in depressive symptoms following negative events.

Moreover, various studies show that persons who suffer from depression use dysfunctional strategies of coping. Vossler et al. (2001) found that depressives reported more social stress and used ineffective coping strategies and wishful thinking more often than the control persons. Ravindran et al. (2002) found that more highly depressed patients made greater use of emotion-focused coping strategies. Sigmon et al. (2006) found that depressives used more avoidance coping as compared to non depressed people. Friedman-Wheeler et al. (2007) stated that depression showed significant positive relationship with disengagement coping strategies (such as withdrawing from the situation) and negative relationships with engagement strategies (such as approaching those involved).

Vigil and Geary (2008) stated that natural disasters such as Hurricane Katrina resulted in psychological impairment such as major depressive disorder (MDD) among the victims. It was said that families who lost their homes as a result of Hurricane Katrina engaged in different coping styles. One of the coping styles in which some victims of the Hurricane Katrina engaged in was avoidant coping style; the researchers stated that these Katrina victims reported having higher depression and distress symptoms along with lower self-esteem (Vigil and Geary, 2008). These people just gave up and were not trying enough to do something to solve their problems. Another coping style in which victims of Hurricane Katrina engaged in was problem-focused coping (adaptive coping). Victims who engaged in problem-focused coping tried to change the situation in which they were going through by relying in (unfamiliar) community-based support (Vigil and Geary, 2008). Perhaps, victims who engaged in problem-focused coping (adaptive coping) style were able to focus more on getting help so they could continue on with their lives (Vigil and Geary, 2008). Some victims who probably engaged in problem-focused coping were able to think better about what they would do to continue on with their lives instead of thinking of what happened with their homes and so on.

Nagase et al. (2009) found that depression was associated positively with avoidant strategies but negatively with problem solving strategies. People with depression
symptoms prevent getting social support and help (Oflaz et al., 2008). These people avoid getting help and they avoid things that may be able to help them feel better. Thompson et al. (2010) found that depressives using lower levels of adaptive coping and higher levels of maladaptive coping had higher levels of depressive symptoms.

1.4 THEORIES OF DEPRESSION

In considering the development of depression, we find it useful to examine the possible roles of biological, psychoanalytical, behavioural, interpersonal and cognitive factors.

(A) **Biological Theory of Depression**

Researchers have sought to determine whether there is a biological basis for depressive disorders or not. Investigators attempting to establish a biological basis for depression have considered genetic and constitutional factors as well as neuro-physiological and biochemical alterations. Evidence that depression is related to genetics has been growing recently, as more and more research is being done to examine the role, the brain and heredity play in the likelihood that an individual will develop depression. Research suggests that the prevalence of mood disorders is higher among blood relatives of depressed persons than in the general population. In a recent meta-analysis, the occurrence of major depression in first degree relatives of depressives compared to general controls is estimated to be much higher (Sullivan et al., 2000). Lewinson (2006) and Kendler et al. (2006) stated that depression is heritable as is evident from the fact that recurrence and early age at onset characterize cases with the greatest familial risk. There is evidence from family, twin and adoption studies that there is significant heritability of depression (Goldberg, 2006).

At the neurotransmitter level, differences in serotogenic, cholinergic, noradrenic and dopaminergic systems have all been associated with depression (Brooks-Gunn et al., 2001; Sokolov and Kutcher, 2001; Rush, 2007). Whereas early research in 1960’s focused on deficiencies or excesses in neurotransmitter substances, current research now focuses on the functioning of the neurotransmitter systems with respect to the storage, release, reuptake and responsiveness (Sokolov and Kutcher, 2001). New research is
examining the interaction between the hypothalamic-endocrine and neurotransmitter systems. However, as noted by Brooks-Gunn and her colleagues (2001), less certain is whether changes and deficits in these systems are causes, correlates, or a result of depression. Nevertheless, once a depressive episode occurs, biological disregulation follows, further influencing behaviour, thought, mood and physiological patterns.

(B) Psychoanalytic Theory of Depression

Psychodynamic perspective is defined as a “Psychological approach that emphasizes unconscious dynamics within the individual such as inner forces, conflict, or the movement of instinctual energy” (Wade & Tavris, 2006). Psychodynamic perspective is mostly centered on inner conflicts and how such conflicts affect human development. Freud (2005) originated the general basis of this belief by saying that “inner conflicts normally arise from childhood and often can lead to mental illness”. Psychoanalytical theory of Freud emphasized the individual's loss of self-esteem in depression. The psychoanalytic view suggests that low self-esteem is often the result of anger inward when experiencing loss. The individual does not learn to express his or her anger believing that it is wrong to do so and thus internalize it. The psychodynamic model was first developed by Freud and Karl Abraham, his student early in the twentieth century. This early psychodynamic model calls upon the similarities between depression and the grief experienced by those who loose a loved one (Comer, 2005). Of the similarities cited are "constant weeping, loss of appetite, difficulty sleeping, loss of pleasure in life and general withdrawal" (Comer, 2005). It is also noted that mourners regress to the initial stage in Freud's developmental stages, the oral stage. Regression to the oral stage allows the mourner to regain the lost loved one symbolically through merging their identity with that of the lost person. Eventually, this leads to closure and the ability to move on. However, individuals that do not come to a resolution through this oral stage regression develop depression through worsening grief and inability to cope.

According to Freud and Abraham, individuals most likely to become clinically depressed are those whose needs were under met, or excessively met, during the first 18 months of their life (the oral stage). If an individual doesn't have positive experiences with his or her mother during the first year of life, then a predisposition to depression
may be planted (Wetzel, 1984). Moreover, Freud also believed that too many positive experiences during the first year of life could set an individual up for developing depression later on in life (Comer, 1992). Freud believed that if an individual is nurtured too much as an infant, he or she won't develop beyond the oral stage of development because there was never a need to. The individual runs into problems in adult life because he or she is used to receiving excessive amounts of attention (Comer, 1992). If an individual is used to receiving ten points of attention like he or she did when he or she was young and he or she only receives six points of attention, then he or she will feel rejected, unloved and thus inferior. Bemporad (1992) notes that these individuals often spend their lives searching for love and approval, which can in turn impact greater losses on the individual.

Thus, psychotherapists continue to use the relationships between parents and their children, losses in childhood and the excessive meeting or lack of meeting of childhood needs in their explanations of depression.

(C) Behaviour Theory of Depression

Behaviour theory by Ferster (1973, 1974) argued that depression could be equated with a state of extinction from positive reinforcement that is a state in which the person's responses no longer produce positive reinforcement. One problem that can lead to low rate of positive reinforcement is a deficit in social skills or major environmental factors. In a theory much in line with Freud's theory of nurturing, many behaviorists believe that some individuals develop depression because they were overprotected when they were younger (Wetzel, 1984). The pressures and stressors of life out in the “real world” are just too much for them to handle. They have been taught by their parents to be passive because there was always someone looking out for them. The stressors mount and they feel inferior because they believe they are incapable of fending for themselves.

In 1974, Lewinsohn proposed a behavioural and interpersonal model of depression. Lewinsohn (1974, 1981) elaborated on this model and proposed that depression can be elicited when a person's behaviour no longer brings the accustomed reinforcement or gratification. The failure to receive positive reinforcement contingent on
one's responses or an increase in the rate of negative reinforcements, in turn leads to a reduction in effort and activity, thus resulting in even less chance of coping with aversive conditions and achieving need gratification. According to Lewinsohn, depressed individuals do not receive enough positive support from significant others because they lack the social skills necessary for eliciting positive responses. Furthermore, depressed people are seen as less able of giving back to others, also thereby decreasing their chances for receiving support. The theory also hypothesizes that the maintenance of depression is influenced by the depressed individual's tendency to withdraw from social activities and therefore experience less pleasure.

(D) Interpersonal Theory of Depression

The interpersonal theory of depression takes into account aspects of an individual's social functioning and environment. The researchers of Interpersonal Theory, Weissman and Paykel in 1974, published an innovative study on the interpersonal and personal lives of depressed women. The empirically validated interpersonal psychotherapy (IPT) was developed from their findings. However, their theory remained largely based on the broad idea that understanding and renegotiating interpersonal relationships is essential in the treatment of depression. Specific maintaining factors were not identified or tested through research.

In 1976, Coyne introduced his Interpersonal Theory of Depression which proposed that initially non-depressed but mildly dysphoric individuals seek constant excessive reassurance from others to alleviate their doubts as to their own worth and others' love for them (Coyne, 1976). Significant others often respond with reassurance, but with little success, because the potentially depressed person doubts and rejects the reassurance. As the pattern continues, the depressed person's significant others become increasingly frustrated and irritated and more likely to reject the depressed individual which is the individual's greatest fear. This rejection, in turn, exacerbates or maintains the depressed person's symptoms (Coyne, 1976).
(E) **Cognitive Theory of Depression**

In the early 1970s, when cognitive psychology was becoming more mainstream, many clinical theorists shifted from a motivational-affective perspective to a cognitive approach for the study of psychopathology (Alloy et al., 1985). More specifically, much theorizing about psychopathological individuals' dysfunctional cognitive processes occurred within the area of depression. Two leading cognitive etiological theories of depression emerged during this time and continue to have great influence today. These were the Beck's cognitive model of depression (Beck, 1967, 1976; Beck et al., 1979) and reformulated learned helplessness theory of depression (Abramson et al., 1978). Both models could be described as cognitive diathesis-stress models of depression in which individuals with particular cognitive styles are hypothesized to be vulnerable to depression when faced with negative events.

Beck's cognitive model is a cognitive-diathesis model in which three cognitive constructs are postulated to account for the development of depression when negative life events occur (Beck, 1967, 1976). These three constructs are schemata, cognitive errors and the cognitive triad. Schemata represent relatively enduring, cognitive organizing structures that direct the processing of situational information. Schemata are hypothesized to develop through interactions with the environment and to be initially formed during childhood, reinforced by ongoing experience. According to Beck (1967), depressogenic schemata are negative in content and consist of immature and rigid attitudes concerning the self and its relation to the world. Dysfunctional schematic information processing constitutes a vulnerability factor in the development of depression. More specifically, when activated by negative life events, depressogenic schemata lead to automatic and systematic cognitive errors in the logic of depressives' thinking. In addition, Beck et al. (1979) suggested that depressed people think irrationally in areas, which he called the cognitive triad, i.e. negative thoughts about the self, negative thoughts about one's experiences and the surrounding world as well as negative thoughts about one's future.
Abramson's revised version of Seligman's original hopelessness model stated that an individual's expectation that highly desired outcomes are not likely to occur or that highly aversive outcomes are probable and that one has no power to change the probability of these outcomes - the expectation of hopelessness - is a proximal sufficient, but not a necessary, cause of depression (Abramson et al., 1985). The theory also specifies a causal chain of events that results in the expectation of hopelessness. The causal sequence begins with the occurrence of negative life events and ends with the onset of depressive symptoms. In between, Abramson argued that the expectation of hopelessness and thus, depressive symptoms are more likely to occur when negative life events are attributed to internal, stable and global factors than when they are attributed to external, unstable and specific factors. Furthermore, the onset of depression is more likely to occur when negative life events are viewed as important than when they are perceived as unimportant. Abramson hypothesized that some individuals possess a depressogenic attributional style, which consists of an overall tendency to attribute negative events to internal, stable and global factors and to view negative events as very important. Hence, people who exhibit the hypothesized depressive attributional style should have a higher probability than people who do not have this style of forming an expectation of hopelessness and thus, depressive symptoms. In this context, this cognitive style serves as a cognitive diathesis to depression. There has been much support in the adult depression literature for this model. For instance, a positive association has been found between depressive symptoms and depressive attributional style (Peterson & Seligman, 1984; Sweeney et al., 1986). Evidence for the hopelessness theory of depression has also been reported (Metalsky & Joiner, 1992; Metalsky et al., 1993).

Thus, while cognitive theorists differ in what they consider to be the critical cognitions for depression, they all assume that the depression related cognitions are causally related to depression i.e. the two most prominent cognitive theories of depression described above (Beck's cognitive model and the reformulated learned helplessness model) suggest that certain individuals exhibit enduring, trait like cognitive patterns that render them especially vulnerable to depression. Beck (1967) and Beck et al. (1979) postulates that negative expectancies about self, the world and the future lead to depression and Seligman et al. (1979) proposes that internal attributions for failure and
external attributions for success can cause depressive disorders. While a number of correlational studies (e.g. Munoz et al., 1979) have provided strong support that certain kinds of cognitive changes are associated with depression, the direction of causation is left in doubt. Although it could be true, as the theorists suggest, that negative cognitions precede depression and in some way contribute to its occurrence (Alloy, 2006), it is equally possible that negative conditions are a consequence of depression, that being depressed causes one to think negatively. Though numerous studies have substantiated Beck's prediction that depressed individuals are more prone to report dysfunctional attitudes (Zimmerman et al., 1986; Barnett & Gotlib, 1988) and negative thoughts (Dobson & Shaw, 1986; Kendell et al., 1989) than are non-depressed controls, such as depressotypic cognitions appear to be state-dependent i.e. elevated levels of dysfunctional attitudes and negative automatic thoughts are typically observed only during the depressive episode itself; the majority of investigations have found that the cognitions of remitted depressives, on average, to be indistinguishable from those of non-depressed controls (Dohr et al., 1989; Blackburn et al., 1990). Investigations of the reformulated learned helplessness models have reported a similar pattern; depressed individuals are more likely than non-depressed controls to attribute negative events to internal, stable and global causes (Brewin, 1985; Barnett & Gotlib, 1988), but the majority of reports have found no significant differences in negative attributional style between remitted depressives and controls (Fennell & Campbell, 1984; Dohr et al., 1989).

The available evidence, then, suggests that depressive cognition may be largely a function of the depressed state itself, rather than a stable, trait like characteristic of individuals vulnerable to depression. It is, however, important to note that such findings are not entirely inconsistent with the predictions of Beck's cognitive model. In proposing the existence of maladaptive schemata, Beck proposed that such schemata may remain latent in vulnerable individuals until such time as they are activated by the occurrence of one or more negative life events (Beck, 1976, Beck et al., 1979). Monroe & Simons (1991) found that a number of attitudinal and attributional based predispositions which increase the risk of depressive reactions are typically inoperative in the course of normative information processing but becomes reactive with specific life stressful events. This view holds that people thought to be vulnerable to the onset of depression are
typically indistinguishable from the general population and it is only when these individuals are confronted with certain stressors that differences between vulnerable and non-vulnerable persons emerge. For vulnerable persons, these life events can precipitate a pattern of negatively biased information processing that initiates the first cycle in a downward spiral of depression. Non-vulnerable individuals respond with appropriate levels of distress to the event not spiraling into depression (Metalsky et al., 1987; Segal et al., 1992). Segal & Ingram (1994) also proposed that depressive thinking patterns persist in vulnerable individuals but only become active and detectable following a triggering event. Thus, we can say that individuals at risk for depression may retain the tendency towards depression-inducing responses but this reactivity is likely to emerge only under certain conditions.

Gotlib and Joorman (2010) stated that cognitive theories of depression posit that people’s thoughts, inferences, attitudes and interpretation, which they attend to and recall information, can increase their risk for depression. Three mechanisms have been implicated in the relation between biased cognitive processing and the dysregulation of emotions in depression: the inhibitory processes and deficits in working memory, ruminative responses to negative mood states and events and the inability to use positive and rewarding stimuli to regulate negative mood. Thus, they concluded that depression is characterized by increased elaboration of negative information, by difficulties disengaging material and by deficits in cognitive control when processing negative information.

1.5 INTERVENTIONS FOR DEPRESSION

Depression is one of the most common and debilitating psychiatric disorder. Moussavi et al. (2007) stated that owing to its prevalence, its chronic and recurrent nature and its frequent co-morbidity with other chronic illnesses - both as a contributing factor and as a consequence - depression is considered to be the condition that is most responsible for health decrements worldwide. It is therefore, a global health priority to understand, prevent and treat depression. Lester and Howe (2008) also stated that the recognition and treatment of depression is a challenging area of clinical practice as there are many patients with various presentations and multitude of causes for distress. He viewed that
there is a need to identify, treat and understand the perspectives of people with depression and provide them with effective, high quality, flexible and cost effective interventions.

Over the past fifty years, the scientific research on depression has discovered many ways to address and defeat this chronic disability. Depending upon the severity and nature of depression, there are a wide range of effective treatments available (Donohue and Pincus, 2007). There are a number of anti-depressant medication and psychotherapies that can be used to treat depression. Various studies have reported that antidepressant medication and psychotherapies are efficacious in treating moderate and severe forms of depression (American Psychiatric Association, 2000; DeRubies et al., 2005; Dimidjian et al., 2006). Some people with milder forms may do well with psychotherapy alone. Most do best with combined treatment: antidepressant medication to gain relatively quick symptom relief and psychotherapy to learn more effective ways to deal with life's problems, including depression. Taking into account, the patient's diagnosis and severity of symptoms, the therapist may prescribe antidepressant medication and/or one of the several forms of psychotherapy that have proven effective for depression. There are several biological and psychological interventions for the treatment of depression which are as follows:

(A) Biological Interventions

The biological interventions for depression include Electroconvulsive Therapy (ECT) and antidepressant medication.

(a) Electroconvulsive Therapy (ECT)

Electroconvulsive therapy is useful, particularly for individuals whose depression is severe or life threatening or who cannot take antidepressant medication. ECT often is effective in cases where antidepressant medications do not provide sufficient relief of symptoms. In recent years, ECT has been much improved. A muscle relaxant is given before treatment, which is done under brief anesthesia. Electrodes are placed at precise locations on the head to deliver electrical impulses. The stimulation causes a brief (about 30 seconds) seizure within the brain. The person receiving ECT does not consciously experience the electrical stimulus. For full therapeutic benefit, at least several sessions of ECT, typically given at the rate of three per week, are required.
(b) **Antidepressant Medication**

There are several types of antidepressant medications used to treat depressive disorders. Over the past forty years, there has been considerable research on the effectiveness of antidepressants in treating depression. The use of antidepressant medication has increased greatly during the past decade (Rigler et al., 2003).

Antidepressant medication has been shown to prevent the return of symptoms associated with depression as long as it is continued or maintained (American Psychiatric Association, 2000). Nierenberg & DeCecco (2001) found that antidepressants can prove helpful for between 25% and 60% of people suffering from depression. Gitlin (2002) found that response rates to a single antidepressant medication were found to be 60%-70%, compared to placebos response rates of 30%. Koosis (2003) found that the efficacy of antidepressant medication has been established for the short-term treatments of chronic depressions by randomized, placebo-controlled clinical trials. Nelson and colleagues (2004) recently reported that combining SSRI’s and norepinephrine reuptake inhibitors significantly increases the remission rates. Bauer et al. (2006) and Wijkstra et al. (2006) suggested that lithium improves overall outcome in depressed patients. Trivedi et al. (2006) found that approximately 55% of patients with Major Depressive Disorder (MDD) will respond to treatment with an initial antidepressant medication. Leventhal and Antonuccio (2009) stated that the prescription of antidepressant drugs for the treatment of depression have increased enormously over the years. Avasthi et al. (2010) and Dube et al. (2010) found that antidepressants are greatly efficacious in the treatment of depressive disorders. Isacsson et al. (2010) and Selvaraj et al. (2010) found that the increased use of antidepressants has contributed to the worldwide reduction in suicide rates as suicide is caused by depression and antidepressants relieve depression.

Paykel (2002) found that antidepressants reduce relapse rates considerably. The new international study by Goodwin et al. (2009) showed Valdoxan’s (a novel antidepressant), efficacy in preventing relapse in patients with major depressive disorder, irrespective of the severity of depression.

A prime biological theory for depression is that deficiencies in the neurochemical serotonin plays a significant role in promoting depression. Serotonin depletions in brain
areas such as the hypothalamus, amygdala and the cortical areas are associated with disturbances in sleep, appetite, mood and sex. Various antidepressants are thus designed to address the biological symptoms of depression that are caused by serotonin deficiencies and tend to change the more primitive limbic area of the brain which is associated with functions such as sleep, appetite, sex etc. The newer antidepressant medications include chiefly the selective serotonin reuptake inhibitors (SSRIs) (such as Prozac, Zoloft), the tricyclics and the monoamine oxidase inhibitors (MAOIs). The SSRIs - and other newer medications that affect neurotransmitters such as dopamine or norepinephrine - generally have fewer side effects than tricyclics. Additionally, side-effects tend to be mild to moderate and are transitory, usually disappearing after 1-3 weeks. Some brand names of SSRIs are Zoloft, Prozac, Paxil and Lexapro. Tricyclic antidepressants (TCAs) work in the same manner but affect the reuptake of all three neurotransmitters associated with mood: serotonin, norepinephrine and dopamine. However, TCAs have more side-effects and can be dangerous if overdosed. TCAs are not recommended to patients with heart trouble. Some tricyclic antidepressant brand names are Allegron, Tryptizol, Anafranil and Ortrip. Monoamine oxidase inhibitors (MAOIs), an older class of antidepressants, also increase levels of all three neurotransmitters by inhibiting an enzyme responsible for inactivating them. However, MAOIs also affect tyramine, a molecule linked to blood pressure. As a result anyone taking MAOIs must stick to a very strict diet that forbids a variety of common foods like cheeses, yogurt, certain meats, bananas and many more foods. Failure to do so can lead to a hypertensive crisis and may result in death. MAOIs also interact with many medications and are no longer widely prescribed.

Sometimes the doctor tries a variety of antidepressants before finding the most effective medication or combination of medications. Sometimes the dosage must be increased to be effective. Although some improvements may be seen in the first two weeks of the treatment (Posternak & Zimmerman, 2005), antidepressant medications must be taken regularly for 3 to 4 weeks (Garfield et al., 2004) before the full therapeutic effect occurs. Anti-anxiety drugs or sedatives are not antidepressants. They are sometimes prescribed along with antidepressants, however, they are not effective when taken alone for a depressive disorder.
(B) Psychological Interventions

Bortolotti et al. (2008) and Cuijpers et al. (2009c) found that psychological forms of interventions are quite effective and significantly linked to clinical improvement in depressive symptomatology. In the recent years, there has been an increase in attention to psychological treatments for depression, because of the demand of depressed patients and their families for non-drug approaches as there is little evidence that having taken medication does anything to alter the risk factors that lead to subsequent relapse and recurrence (Kupfer, 2005) and most patients with chronic or recurrent depression are encouraged to stay on medication indefinitely (Hollon et al., 2002). Further, there is a recognized need for alternatives to medications, given their potential for side effects and some patients’ preferences for non-pharmacological treatments for depression (Hollon & Shelton, 2001; van Schaik et al., 2004). And as such clinicians have welcomed the development of more systematic psychological approaches for patients who cannot be prescribed standard antidepressant drugs or who are unlikely to respond to this intervention alone.

Zeiss et al. (1979) proposed that any psychological treatment that meets the following criteria should be effective in overcoming depression:

- Therapy should begin with an elaborate, well-planned rationale. This rationale should provide initial structure that guides the patient to the belief that he or she can control his or her own behaviour and thereby, his or her depression.
- Therapy should provide training in skills that the patient can utilize to feel more effective in handling his or her daily life. These skills must be of significance to the patient and must fit with the rationale that has been presented.
- Therapy should emphasize the independent use of these skills by the patient outside of the therapy context and must provide enough structure so that the attainment of independent skill is possible for the patient.
- Therapy should encourage the patient's attribution that improvement in mood is caused by the patient's increased skillfulness and not by the therapist's skillfulness.
Based on the research literature and the American Psychiatric Association Practice Guidelines, Markowitz (2008) reviewed potential cautions and relative indications for initiating treatment with psychotherapies for major depressive disorder. Potential indicators include:

- Patient preference
- Symptom severity
- Relative contraindications to pharmacotherapy
- Prior treatment history
- Nature of symptoms
- Psychosocial context, including a life crisis or complicated bereavement
- New and enduring skills

Hautzinger (2008) suggested that there are a number of structured psychological interventions that have been shown to be effective in reducing the symptoms of patients with depression, which are as follows:

(a) **Psychodynamic Therapy**

Psychodynamic therapy is based on the assumption that a person experiences depression as a result of unresolved, generally unconscious conflicts, often stemming from childhood. The goal of this type of therapy is for the patient to understand and cope better with these feelings by re-experiencing them through talking about them. Psychodynamic therapy is administered over a period of three to four months, although it can last longer, even for years. Several researchers have found that psychodynamic therapy is effective in treating depression (Leichsenring, 2001; Leichsenring & Rabung, 2008).

(b) **Interpersonal Therapy**

Another therapy used with depressed patients is Interpersonal Therapy (IPT) which is a short-term psychotherapy, normally consisting of 12 to 16 weekly sessions. It was developed specifically for the treatment of major depression and focuses on correcting current social dysfunction. Weissman & Markowitz (1994) found that IPT focuses on factors that interfere with social relations. It is a treatment that focuses on the
behaviours and social interactions a patient has with family and friends. The primary goal of this therapy is to improve communication skills and increase self-esteem during a short period of time. It usually lasts three to four months and works well for depression caused by mourning, relationship conflicts, major life events and social isolation. Craighead et al. (2002) found that IPT has been shown to be an effective treatment for major depressive disorder, equalling the effects of CBT. de Mello et al. (2005) and Parker et al. (2006) found interpersonal therapy to be effective in treating depression.

(c) Cognitive Behavioural Therapy

Still another promising psychosocial intervention is Cognitive Behavioural Therapy. Over the past 50 years, Cognitive Behavioural Therapy (CBT) has become one of the most effective mainstream psychosocial treatment for many emotional and behavioural problems.

CBT is a psychotherapeutic approach, which is used by psychologists and therapists to help promote positive change in individuals, to help alleviate emotional distress and to address a myriad of psychological, social and behavioural issues. CBT aims to alleviate distress by modifying cognitive content and process, realigning thinking with reality (Longmore and Worrell, 2008). Cognitive Behavioural therapists identify and treat difficulties arising from an individual's irrational thinking, misperceptions, dysfunctional thoughts and faulty learning. CBT is based on the scientific fact that our thoughts cause our feelings and behaviours, not external things like people, situations and events. The benefit of this fact is that we can change the way we think to feel and act better even if the situation does not change. The therapy can be conducted with individuals, families or groups. CBT includes cognitive techniques as well as behavioural components. The former emphasizes on recognizing and challenging negative thoughts and maladaptive beliefs while the latter involves graded task assignments, pleasant events scheduling as well as other skills training such as relaxation skills, communication skills, assertiveness skills and problem solving skills (Soloman & Haaga, 2004).
Although, Beck developed cognitive therapy in the early 1960’s as a treatment for depression, it has since been then applied to virtually every psychiatric disorder, as well as to general “problems of living”. Sanderson and Mc Ginn (2001) stated that cognitive behaviour therapy has been traditionally used as a short term treatment for a wide range of emotional disorders and problems. CBT is at present a recommended treatment option for a number of mental disorders (Whittal, 2008), including depression (Beck et al., 1979; Tolin, 2010) personality disorders (Matusiewicz et al., 2010), marital distress (Epstein & Baucom, 2002), social phobia (Clark et al., 2003), obsessive-compulsive disorder (Butler et al., 2006), eating disorders (Wilson, 2005), generalized anxiety disorder (Dugas and Robichaud, 2007), panic disorder or agoraphobia (Marchand et al., 2009), bipolar disorders (Otto and Miklowitz, 2004), post-traumatic stress disorder (Bradley et al., 2005) and ADHD (Safren et al., 2005). It is also frequently used as a tool to deal with chronic pain for patients with illnesses such as rheumatoid arthritis (Backman, 2006), cancer (Magill et al., 2008) and insomnia (Edinger et al., 2007).

CBT is currently an integration of two originally separate theoretical approaches to understanding and treating psychological disorders: the behavioural approach and the cognitive approach (Ledley et al., 2005). The behavioural approach focuses exclusively on observable, measurable behaviour and ignores all mental events. It views that the mind is not worthy of exploration and it focuses instead on the interaction of environment and behaviour. The cognitive approach focuses on the role of mind and specifically on cognitions as determinants of feelings and behaviours.

The development of CBT took place in three stages. The first stage was the growth of behaviour therapy from 1950's to 1970's in two independent and parallel streams in the United Kingdom and United States. The British form of behaviour therapy derived its inspiration from the works of Pavlov, Watson, Hull, Wolpe and Eysenck, while in America, Skinner became the pioneer of the behaviourist movement. John. B. Watson, often considered to be the “father of behaviorism” saw behaviour change, as a function of learning via classical conditioning. He posited that even complex behaviours could be broken down into component behaviours that had all been acquired through simple learning process. There are three key elements of classical conditioning: the
unconditioned stimulus and response, the conditioned stimulus and the conditioned response. Watson believed that all learning (and thus, all behaviour change) occurs through this type of simple stimulus- response pairings.

B.F. Skinner was another key figure in the rise of behaviourism. Skinner’s theories of conditioning were more sophisticated than Watson’s, they focused on operant rather than classical conditioning. In operant conditioning, stimuli are not thought of as eliciting responses. Instead, as organisms interact with their environments, they emit all sorts of responses, when the organism is rewarded for a particular response, the response is more likely to occur again as it is reinforced.

At that time, experimentally based principles of behaviour were applied to the modification of maladaptive human behaviour but slowly behavioural therapy started fading out of sight because the behavioural approach did apply to some of the problems, but all learned behaviours could not be explained through simple stimulus response association, as a result of which the clinicians became interested in the cognitive aspects.

The second stage was the development of cognitive therapy which took place in the United States from the 1960’s. The most influential pioneers in the development of Cognitive Therapy were Ellis (1962) and Beck (1964). Beck (1964) acknowledged that disordered cognitions are not a cause of abnormal behaviour or emotions, but rather are an intrinsic (yet alterable) element of such behaviour and emotions. If the critical cognitive components can be changed, then the behaviour and maladaptive emotions will automatically change. Thus, after much clinical observations and experimental testing, Beck (1964) developed the cognitive therapy, which was well supported by Ellis as well.

The third stage was the merging of cognitive and behavioural principles and strategies into a coherent whole, resulting in the emergence of cognitive behaviour therapy. CBT was developed by Aaron. T. Beck at the university of Pennsylvania in the early 1960’s as a structured, short-term, present oriented psychotherapy for depression, directed towards solving current problems and modifying dysfunctional thinking and behaviour (Beck, 1964).
Cognitive behaviour therapy is based on the cognitive model, which proposes that distorted or dysfunctional thinking underlies all psychological disturbances. Furthermore, dysfunctional thinking has an important effect on our mood and behaviour. The key concept of the cognitive model is that it is not the events that affect a person’s behaviour, but rather how he perceive the events. This key concept can be illustrated with the help of an example provided by Ledly et al. (2005) which is as follows:

A situation has to be considered. Jane makes plans to meet a friend for a movie at 7 P.M. Jane’s friend does not arrive till 7:30 P.M. and the movie is about to begin. Jane, a chronic worrier, immediately assumes that her friend has been in a car accident on the way to the restaurant. This makes Jane feel terribly worried and anxious. Jane tries calling her friend’s mobile phone, but no one answers. She has vivid images of her friend in a crashed car in the middle of the road. She keeps calling, thinking that if her friend is trapped in the car, but conscious, she might answer and Jane would be able to offer her support. So, Jane keeps calling her friend repeatedly and becoming increasingly panicked about her friend’s fate and her inability to help her.

Another person might have a very different reaction. John might think that his friend decided that she does not like doing things with him and has made plans to see another friend instead. This might make John feel dejected and might lead him to go home and cry. Susan might think that her friend just forgot to meet her, as she has often done in the past. This might leave Susan feeling annoyed, but she might decide to enjoy the movie on her own. This example illustrates that a single situation can elicit various emotional and behavioural responses, all depending on how the person perceives the situation. This is the crux of the cognitive model.

The cognitive model, as set forth by Beck, begins with central core beliefs or schemas. These beliefs about oneself, other people and the world form during childhood based on the experiences which are faced during growing up period (Wright et al., 2003). Core beliefs are “understandings that are so fundamental and deep that they are regarded by the person as absolute truths” (Beck, 1995; Wright et al., 2003). Core beliefs are
global and apply to situations in general. Schemas, or core beliefs, are the deepest level of cognition defined in CBT. Schemas are fundamental rules or templates for information processing that are shaped by developmental influences and other life experiences (Wright et al., 2003). As they play a major role in regulating self-worth and behavioural coping strategies, schemas or core beliefs are a frequent target of CBT interventions. It has been suggested that schema change may account for part of the relapse prevention effect of CBT.

This is in contrast to automatic thoughts, which are described as “the actual words or images that go through a person’s mind” and which are situation-specific. The automatic thoughts are the more autonomous, often private cognitions that flow rapidly in the stream of everyday thinking and may not be carefully assessed for accuracy or relevance. Everyone has automatic thoughts, but in clinical states such as depression and anxiety disorders, these cognitions are often riddled with errors in logic (Beck et al., 1979; Wright et al., 2003). In depression, automatic thoughts typically center on the themes of negativity, low self-esteem and ineffectiveness.

In between core beliefs and automatic thoughts are intermediary beliefs, which consist of “attitudes, rules and assumptions” (Beck, 1995). These concepts can be illustrated with the help of the example of Jane. It is certainly possible that Jane holds a core belief that “I am an unlucky person”. In between this core belief and her automatic thought (“My friend was in an accident”), Jane might hold a variety of intermediate beliefs including “Bad things will happen to people I am close to” and “The world is full of danger.”

The cognitive model posits that when people find themselves in situations, automatic thoughts are activated that are directly influenced by their core beliefs and intermediate beliefs. Automatic thoughts then influence their reactions and as such different people have very different reactions to the same situations.
In the cognitive model, stimuli consists of an event plus interpretation of (thoughts about) the event. When referring to responses or “reactions”, the cognitive model is referring to three kinds of reactions: emotional, behavioural and physiological. When Jane automatically concludes that her friend has been in a car crash, she feels worried (emotion), calls her friend repeatedly on the mobile phone (behaviour) and experiences all sorts of physical symptoms like shaking, sweating and shortness of breath. All of these reactions are a result of the way Jane interpreted a situation that could have been interpreted in a number of different ways.

Cognitive behaviour therapy works to change the parts of the chain i.e. from situation to interpretation to reaction. CBT involves both cognitive and behavioural treatment tools. It would be overly simplistic though to think that cognitive techniques only target cognitions and behavioural techniques only target behaviour. Change in one of these systems undoubtedly results in change in the other systems.
When cognitive techniques are applied in CBT, not only a person’s cognitions but his behaviour, emotions and physiological responses also undergo a change as well. The primary cognitive tool is cognitive restructuring, which involves identifying and reframing maladaptive thoughts. Rather than treating automatic thoughts as “truths”, cognitive restructuring involves questioning the thoughts and reframing them if they are irrational or maladaptive. Cognitive restructuring can be illustrated with the help of the example provided by Ledly et al. (2005). Jane’s automatic response to her friend being late is to assume that her friend has met with a terrible accident. However, if she is taught CBT skills, she is now able to question these thoughts. She quickly realizes that she has jumped to conclusions, that there are all sorts of possible reasons for why her friend is late and that it is unlikely that her friend is dead. Jane recognizes that her friend might be running late, might have lost the way, might have had something come up at work and might have also forgotten to turn her mobile on. These realizations lead to a very different behavioural response. Jane decides to leave a message on her friend’s mobile phone saying she is going to see the movie and telling her friend to either come in and meet her even if she is late or call back later to let her know what happened. This is a
very different behaviour than calling her friend repeatedly in panic. Jane is also likely to have a different emotional and physiological reactions. As she settles in to the theater and begins to enjoy the movie, she is likely to feel calm and relaxed, rather than being terribly anxious. Thus, cognitive restructuring positively affects Jane’s beliefs, her behavioural responses, her emotional and physiological responses to a potentially stressful situation.

Similarly, behavioural techniques though, appear to be simply focused on correcting dysfunctional behaviour, it helps in the formulation of not only new behaviours but also new beliefs. Thus, we can say that CBT with its cognitive and behavioural techniques help an individual to develop positive and rational beliefs, behaviours and emotions.

1.6 KEY PRINCIPLES OF COGNITIVE BEHAVIOURAL THERAPY

Cognitive Behavioural Therapy is one of the best supported treatments for depression and is the only psychotherapy to date that has demonstrated an enduring effect in the treatment of depression (Hollon et al., 2006; Dobson et al., 2006). Compared with various other approaches in treating depression, cognitive behavioural therapy (CBT) is one of the most well known active, directive, time limited and structured approach (Beck et al., 1979).

Craighead et al. (2002) stated that cognitive behaviour therapy procedures have the following five important features which are instrumental in producing positive changes. First, they present a concrete rationale and this rationale includes a vocabulary for describing and defining the problems of depression as well as the mechanisms of change that may be very new to the participants. Second, they educate the clients about the relationship between thoughts and feelings and teach self monitoring skills for dysfunctional thoughts. Third, all of the therapy programs are highly structured as they provide clear plans for providing change in the logical sequence of steps. Fourth, these therapy procedures provide feedback and support so that participants can clearly see changes in their own behaviour and are reinforced for these changes. Fifth, they include relapse prevention strategies.
Although, CBT must be tailored according to the individual needs yet, there are certain key practice principles that form an integral part of cognitive behaviour therapy for depression (Beck, 1995; Kuyken et al., 2005) which are as follows:

(A) **Cognitive Behavioural Therapy focuses on current problems and is goal oriented**

When treating depression, identifying, operationalizing and prioritizing current problems and goals is a core aspect of therapy. Such goals direct the therapy and need to be reviewed regularly. These goals should be clear, mutually agreed, specific and detailed in ways that are helpful to the therapy (including cognitive, affective and behavioural elements). Identifying specific problems and goals can help patients to feel that their problems are more manageable and make them more optimistic about change.

(B) **Cognitive Behavioural Therapy is based on a cognitive formulation of the presenting problems**

CBT case formulation has been defined as "a coherent set of explanatory inferences about the factors causing and maintaining a person's presenting problems that is derived from cognitive theory of emotional disorders" (Bieling and Kuyken, 2003). A case formulation should guide treatment and serve as a marker for change and as a structure for enabling practitioners to predict beliefs and behaviours that might interfere with the progress of therapy. The case formulation provides a psychological explanation that can help the therapist and the client understand what is maintaining the depression and a clear rationale for intervention (Wright et al., 2003). There have been several attempts to provide individualized case formulation systems firmly based in cognitive theory that can be used by cognitive therapist in day-to-day practice and in treatment process and outcome research (Beck, 1995). Standard case formulation rubrics describe:

- The presenting issue(s)
- The predisposing factors
- The precipitating factors
- The perpetuating factors
- The protective factors.
Cognitive Behavioural Therapy is based on active collaboration

From the first meeting, the client and therapist engage in a process of 'collaborative empiricism' (Beck, 1995). The term collaborative empiricism is often used to describe the therapeutic relationship in CBT (Wright et al., 2003). A highly collaborative relationship is established in which clinician and patient work together as a team to identify maladaptive cognitions and behavior, test their validity and make revisions where needed (Wright et al., 2006). The therapist takes an active stance, supporting the client in working towards the therapy goals. The initial building of collaboration with the patient involves primary description of his depression in biological, cognitive, behavioural and affective terms (Greenberger and Padesky, 1995). A principal goal of this collaborative process is to help patients effectively define problems and gain skills in managing these problems. As in other effective psychotherapies, CBT also relies on the nonspecific elements of the therapeutic relationship, such as rapport, genuineness, understanding and empathy (Wright, 2006).

Cognitive Behavioural Therapy tends to be short to medium term

Cognitive therapy for depression typically involves 16-20 meetings, although brief versions have been developed for particular circumstances (Bond and Dryden, 2002) and more sessions are indicated for chronic and recurrent depression (Moore and Garland, 2003). Initial sessions tend to be frequent (either twice a week or weekly) to initiate the change process, manage suicide risk and achieve symptom relief and later sessions tend to be less frequent (monthly and perhaps even 3-monthly) to consolidate gains and prevent relapse.

Cognitive Behavioural Therapy draws on a wide range of cognitive and behavioural techniques to change thinking, beliefs and behaviours

Friedman and Thase (2008) concluded that for longer than 40 years, the cognitive and behavioral therapies have evolved as alternatives to more traditional nondirective and insight-oriented modes of psychotherapy. The cognitive and behavioral therapies now include a diverse group of intervention techniques that share several pragmatic and theoretical assumptions. First, there is an emphasis on psychoeducation: patients are
assumed to be capable of learning about their disorder and the interventions they will need to treat it. Second, homework and self-help assignments are usually recommended to provide patients the opportunity to practice therapeutic skills and to generalize positive behaviors outside of the therapy hour. Third, treatment is based on the objective assessment of psychiatric symptoms and selection of therapeutic strategies derived logically from such assessments. Fourth, the therapeutic methods used are generally structured, directive and characterized by a high level of therapist activity. Fifth, for most disorders, the cognitive and behavioral therapies are time-limited interventions. Sixth, these therapies are based on empirical evidence that validates and guides the choice of therapeutic techniques: learning theory (i.e. classical, operant and observational models of learning) and the principles of cognitive psychology.

Beck et al. (1979) had also suggested that treatment for depression is based on a two pronged attack; first, using cognitive techniques to alter maladaptive assumptions containing negative information about the self in relation to the world and the future; and, second, ameliorating reduced levels of behavioural activity, exercise and positive experience. Cognitive behavioural therapy integrates the cognitive restructuring approach of cognitive therapy with the behavioural modification techniques of behavioural therapy.

The cognitive techniques focus on the client's negative automatic thoughts and maladaptive beliefs. Cognitive techniques are designed to increase clients' awareness of these thoughts, challenge them by evaluating their basis in reality and providing more adaptive and realistic alternative thoughts. The Dysfunctional Thought Record is used as a primary tool for developing this skill. Repeated practice at dealing with negative thinking is required for thought challenging to become a robust skill. Useful approaches to challenging automatic thoughts include listing evidence from past experience that supports and refutes each hypothesis generating alternative explanations, checking whether a thought may reflect a cognitive error and reattributing negative events to factors other than the client's personal inadequacy. In cognitive theory, maladaptive beliefs (e.g. 'If I drop my facade, others will despise me') and higher order core mode beliefs (e.g. 'self-as-weak') underlie automatic thoughts and are the next focus of cognitive interventions. Careful questioning about and explanation of the client's
unrealistic and maladaptive beliefs is carried out to examine if the beliefs are based in reality and to correct the distortions and maladaptive beliefs that perpetuate emotional distress. The advantages and disadvantages of the assumptions are explored and the possibility of adopting more functional, alternative rules is discussed. Early, often childhood events that may have led to the adoption of these rules are explored and can be challenged, for example by using imagery to relive the event coupled with questions to introduce new perspectives. Core modes require a further set of therapeutic strategies (Beck, 1995; Young et al., 2003). For example, when core modes such as 'self-as-weak' are identified, more adaptive beliefs (e.g. 'I am basically capable and likeable') can be established through Socratic questioning, examining advantages and disadvantages of the old and new core beliefs, acting 'as if' the new core beliefs were true, subjecting the beliefs to tests across the person's life history and reconstructing associated memories and images. (Beck, 1995).

The behavioural techniques focus on the client's behaviour by encouraging them to increase their activity levels and engage in more constructive activities (Cuijpers et al., 2006; Mazzucchelli et al., 2009). The rationale is that for some people behaviour monitoring, behaviour activation and behavioural change can lead to substantive gains. For example, people with more severe depression often become withdrawn and inactive, which can feed into and exacerbate depression. The person withdraws and then labels him/herself as 'ineffectual', thereby fuelling the depression. By focusing on this relationship and gradually increasing the person's sense of daily structure and participation in masterful and pleasurable activities the person can take the first steps in combating depression (Beck et al., 1979). To maximize the likelihood of success, plans need to be operationalized at a very concrete, detailed level, including consideration of when, where, how and with whom the plans will be implemented, as well as potential obstacles and how to overcome them. It is important to note that within CBT, the behavioural techniques are used with the 'collaborative empiricism' approach, such that before plans are implemented, thoughts and beliefs relevant to the activity (e.g. 'It is pointless to try', 'I won't succeed', 'I am too tired', 'I am not interested') can be set out as hypotheses to be tested. Recent adaptations to CBT suggest that the changes in
behavioural contingencies may be particularly important in treating severe and recurrent depression (McCullough, Jr. & Goldfried, 2000; Martell et al., 2001).

1.7 TECHNIQUES USED IN COGNITIVE BEHAVIOURAL THERAPY

There are a number of cognitive and behavioural techniques which aim at influencing the patient’s thinking, behaviour and mood (Beck, 1995). These are as follows:

(A) Cognitive Techniques

Whereas aims of behavioural techniques are primarily to create alterations in the actions of the patient, many cognitive techniques aim primarily at change in cognition, since CBT considers that change in affect and behaviour comes chiefly as a result of cognitive changes. The various cognitive techniques that are explicitly aimed at cognitive changes are as follows:

(a) Cognitive Restructuring

A large part of CBT is devoted to helping the patients recognize and change maladaptive automatic thoughts and schemas (Persons et al., 2001; Young et al., 2001). David et al. (2005) found that cognitive restructuring is an effective technique of CBT. Schnyder (2009) stated that cognitive restructuring has shown strong evidence of its efficacy. Several commonly used methods for cognitive restructuring include identifying cognitive errors, examining the evidence, reattribution, listing rational alternatives and cognitive rehearsals. The overall strategy for cognitive restructuring is to identify automatic thoughts and schemas in therapy sessions, teach patients skills for changing cognitions and then have patients perform a series of homework exercises designed to extend therapy lessons to real world situations.

(b) Daily Record of Dysfunctional Thoughts

Much of the work in cognitive behaviour therapy centers around a device called the daily record of dysfunctional thoughts (DRDT). The four most important columns in DRDT corresponds to the situation, belief, emotional consequences and rational or functional beliefs. Patients are first taught to use DRDT by noting those times when they
experience unpleasant affective state. Once the patients are able to report situations, thoughts and emotional reactions, intervention can begin. The therapist help the patients in formulating rational responses for their irrational thoughts.

(c) Downward Arrow Technique

Downward arrow refers to a series of questions that can be asked of almost any inference, where each answer calls for another question. The aim of each question is to probe for the personal meaning of the inference to the patient until an inference is brought about that will profit from the work of CBT.

(d) Socratic Questioning and Guided Discovery

The most important and frequently used cognitive technique is the use of questions that encourage the patient to break through rigid patterns of dysfunctional thinking and to see new perspectives. The two terms most often used to describe this form of inquiry are Socratic questioning (asking questions that guide the patient to become actively involved in finding answers) and guided discovery (a series of questions that help the patient explore and change maladaptive cognitive processes). Examples of some of the specific techniques that might be included in guided discovery are examining the evidence exercises and two-column analyses of the advantages and disadvantages of holding a core belief (Wright, 2006).

(B) Behavioural Techniques

Behavioural techniques aim at bringing change in patient’s overt behaviour. Most behavioural techniques used in CBT are designed to help people break patterns of avoidance and helplessness, to gradually face feared situations, to build coping skills and to reduce painful emotions. Several behaviour techniques used in CBT are as follows:

(a) Problem Solving

Associated with or in addition to their psychological disorders, patients have real life problems. The therapist inquires about such problems in the first session, creating a “problem list” or translating each problem into positive goals. At every session, he
encourages the patient to put on the agenda problems that might arise in the coming weeks. While the therapist might take a more active role initially in suggesting possible solutions, he encourages the patient to do active problem solving himself as therapy progresses. The therapist helps the patients to specify a problem, devise solutions, select a solution, implement it and evaluate its effectiveness. Cuijpers et al. (2007) and Eskin et al. (2008) showed that problem solving skills are effective in reducing the symptoms of depression. Kennard et al. (2009) found that problem solving is an active element in CBT for adolescent depression.

(b) **Decision Making**

Common to many patients is difficulty making a decision. The therapist asks the patient to list the advantages and disadvantages of each choice and then helps him devise a system for weighing each item and drawing a conclusion about which option seems best.

(c) **Behavioural Experiments**

Behavioural experiments directly test the validity of the patient’s automatic thoughts or assumptions and are an important evaluative technique, used alone or accompanied by Socratic questioning. These experiments can be done in or out of the therapist’s office e.g. if a patient believes in a thought that there are no jobs for which he is qualified, the therapist can test the validity of this thought by reviewing the various advertisements for jobs along with the patient. Several researchers have found that behaviour experiments produced significant cognitive and behaviour changes in depressed patients (Safran & Muran, 2000; Bennett-Levy, 2003).

(d) **Activity Monitoring and Scheduling**

An activity chart is simply a chart with days of the week across the top and each hour down the left hand side. This chart can be used in several different ways including monitoring the patient’s activities, measuring and analyzing pleasure and mastery, monitoring and measuring negative moods. Wright (2006) stated that activity and pleasant event scheduling are commonly used to help depressed patients reverse problems with low energy and anhedonia. These techniques involve obtaining a baseline of
activities during a day or week, rating activities on the degree of mastery and/or pleasure and then collaboratively designing changes that will reactivate the patient, stimulate a greater sense of enjoyment in life, or change patterns of social isolation or procrastination.

The same activity chart can be used to schedule activities. Instead of monitoring his activities during the week, the patient plans and writes in activities for the coming week, such as pleasurable activities, tasks that must be done, socializing, therapy homework, exercise or previously avoided activities (Feltham & Horton, 2006).

(e) **Relaxation**

Lolak et al. (2008) and Jorm et al. (2008) found that relaxation techniques are effective at reducing depressive symptoms. Many patients benefit from learning relaxation techniques. Relaxation exercises should be taught and practiced in session, where problems can be dealt with and efficacy can be assessed. The therapist should be aware that some patients experience a paradoxical arousal effect from relaxation exercises i.e. they actually become more tensed and anxious (Clark, 1989). Thus, the therapist proposes to the patient to try relaxation as an experiment; either it will help reduce anxiety or it will lead to anxious thoughts which can be evaluated.

(f) **Coping Cards**

Coping cards are usually 3”×5” notecards which a patient keeps nearby (often in a desk drawer, pocket, purse or car dashboard). He is encouraged to read them on both regular basis (e.g. three times a day) and as needed. These cards can take several forms, three of which are as follows: writing a key automatic thought or belief on one side with its adaptive response on the other, devising behavioural strategies to use in a specific problematic situation and composing self instructions to activate the patient (Beck, 1995). Wright (2006) stated that coping cards help to encourage the patient to use behavioral skills learned in therapy sessions. Key elements of a coping strategy or management plan typically including both behavioural and cognitive strategies are recorded on a small card that the patient carries at all times. Coping cards might contain, for example, anti-suicide plans detailing what to do if suicidal thoughts return, strategies for coping with critical
remarks from a spouse, or specific ideas for combating procrastination at work. Coping methods that are generated and rehearsed in therapy sessions are then carried out with the help of coping cards in real-life situations.

(g)  **Graded Exposure**

Graded task assignments, in which problems are broken down into pieces and a stepwise management plan is developed, are used to assist patients in coping with situations that seem especially challenging or overwhelming (Wright, 2006). In order to reach a goal, it is usually necessary to accomplish a number of steps along the way. Patients tend to become overwhelmed when they focus on how far they are from a goal instead of focusing on their current step. The therapist generally suggests starting with an activity that is associated with low to moderate anxiety, practicing this step every day or even several times a day until the patient’s anxiety has decreased significantly. The patient then attempts the next task in the hierarchy until he can do it with relative ease (Feltham & Horton, 2006).

(h)  **Role-Playing**

Role-Playing is a technique that can be used for a variety of purposes such as to uncover automatic thoughts, to develop a rational response, to modify intermediate and core beliefs. Role-Playing is also useful in learning and practicing social skills.

(i)  **Using The “Pie” Technique**

It is often helpful to patients to see their ideas in graphic form. A pie chart can be used in many ways, for instance, in helping the patient set certain goals. When a patient has difficulty specifying his problems and what changes he would like to make in his life, or when he lacks insight into how imbalanced his life is, he may benefit from a graphic depiction of his ideal versus actual expenditure of time.

(j)  **Functional Comparisons of The Self and Positive self statement logs**

Patients with depression have a negative bias in information processing, especially when evaluating themselves. They tend to notice data that could be construed
as negative and ignore or discount or even forget information that is positive. In addition, they often make one of two dysfunctional comparisons: they compare themselves at present with how they were before the onset of their disorder or they compare with others who do not have a psychiatric disorder. The therapist helps the patient to see that his negative attention and comparisons are dysfunctional and teaches him to make more functional comparisons and to keep a positive self statement log (i.e. a daily list of positive things the patient is doing or items he deserves credit for).

(k) **Homework Assignments**

Yet another important and integral element of CBT is homework (Claire et al., 2005) i.e. the assignments that takes place between therapy sessions and are aimed at building understanding and coping skills throughout the week, increasing self-reliance and rehearsing adaptive cognitive and behavioural skills. Wright (2006) found that homework assignments are used to extend the patient’s efforts to change beyond the confines of the treatment session and to reinforce learning of CBT concepts and it also helps structure therapy by serving as a recurrent agenda item that links one session with the next. Homework moves the discussions in session from abstract, subjective discussion of issues to real day-to-day experiences. The therapist acts as a coach, guiding and debriefing the client from week to week. Readings and other educational aids are also used extensively in CBT. Typically, patients are asked to read self-help books, pamphlets, or handouts during the beginning phases of therapy (Barlow & Craske, 2000; Wright & Basco, 2002). Homework assignments are tailored to the individual, are set up as no-lose propositions and may range from the therapist suggesting a relevant book (Gregory et al., 2004), to the person undertaking a long procrastinated assignment (e.g. telephoning a friend to resolve an area of unspoken conflict), while monitoring the thoughts and images that come to light in preparing for the assignment (e.g. 'the friend will be angry towards me'). As therapy progresses, the client takes on more responsibility for setting and reviewing the homework.

Empirical research shows that the patients who complete more homework assignments have a more positive outcome in cognitive therapy of depression (Burns and Spangler, 2000; Claire et al., 2005). Burns and Spangler (2000) found that homework
completion led to improvement rather than improvement leading to more homework completion. Iiardi and Craighead (1994) suggested that assignment of homework appear to be integral to early symptomatic improvement in CBT. Neimeyer et al. (2008) found evidence that willingness to complete homework assignments and mastery of skill in cognitive restructuring helped account for the relationship between homework compliance and reduced symptom severity. Mausbach et al. (2010) indicated a significant relationship between homework compliance and treatment outcome.

Thus, above were the various cognitive behavioural techniques that are used in CBT by the therapist to help the clients in achieving their desired goals and outcomes.

1.8 THE STRUCTURE OF COGNITIVE BEHAVIOURAL THERAPY

Cognitive behavioural therapy intervention sessions involve checking how the client has been doing, reviewing the previous session, setting an agenda, working through the agenda items, setting homework, reviewing and summarizing the session and eliciting feedback (Kuyken et al., 2005). Hollon and Dimidjian (2009) gave an overview of cognitive behaviour therapy within and across the sessions which is as follows:

Individual sessions typically begin with the therapist and the patient working together to set an agenda to prioritize matters of importance and ensure that their time together is spent efficiently. Once areas of difficulty are delineated, the therapist uses a series of gentle, thoughtful questions to help bring to light the dysfunctional thoughts and beliefs that may be driving the patient’s distress and maladaptive behaviours. This process of exploring maladaptive automatic thoughts and their underlying core beliefs has been referred to as Socratic questioning and is assumed to be critical to successful CBT. By its very nature, it avoids confrontation, because the goal is to discover whether certain thoughts and beliefs are not serving the patient well rather than to expose him or her as a “faulty thinker”. A failure to fully understand the patient’s personal meaning system could hinder progress. If the therapist cannot imagine feeling what the patient feels and if he or she does not believe what the patient believes, then still more of the meaning system needs to be explored.
From the first session on, the therapist and the patient collaborate to generate assignments to complete between sessions. These assignments, which can be written or behavioural, often incorporate the experimental component of the therapeutic process. They allow the patient and the therapist to test the patient’s negative beliefs and predictions and to gather evidence for necessary change.

As therapy continues, the therapist and the patient work collaboratively to examine whether the patient’s interpretations of events and beliefs about self, world and future are accurate or adaptive. Progress is regularly and systematically assessed in terms of concrete behavioural outcomes. As patient and the therapist gain a better understanding of the patient’s worldview and as problematic core beliefs and underlying assumptions begin to change, they may revisit goals. New techniques are introduced throughout therapy, but all serve to address the same concept: the testing of negative beliefs and expectations.

CBT emphasizes the links among belief, mood and behaviour. As a result, many effective techniques incorporate behavioural interventions in the service of testing specific automatic negative thoughts and underlying beliefs or assumptions (Bennett-Levy et al., 2004). For example, depressed patients often feel overwhelmed and unable to cope with life’s demands. In fact, patients may indeed be facing serious demands in a number of different areas, including problems in relationships, financial difficulties and difficulties at work. Such patients might be encouraged to list what they need to do, then to break large tasks into smaller constituent steps.

Patients are then encouraged to run an experiment to see whether they can get things done by focusing on accomplishing just one step at a time. After doing this graded task assignment, patients often find that they more easily complete the larger tasks they set for themselves, because they are less likely to be overwhelmed by their own negative thinking.

Use of various techniques depends upon patients’ goals and symptoms. Some techniques, such as graded task assignments or detailed schedule of activities are particularly useful early in therapy. Such concrete behavioural assignments allow patients
to learn observational and problem solving skills that are used throughout the therapy and help in motivating them to take an active approach to problem solving and the pursuit of goals.

Other techniques emphasize more cognitive strategies. For example, patients typically are taught to ask themselves a series of questions to examine the accuracy of their negative beliefs:

- What is the evidence for and against that belief?
- Are there alternative explanations for that event other than one that first occurred to me?
- What are the real implications if that belief is true?

The Dysfunctional Thoughts Record (DTR) is a formalized way for the patient to identify, evaluate and respond to negative automatic thoughts in a written format. Additional techniques include teaching problem solving and decision making skills, developing flash cards with important phrases as patient self reminders and employing in–session role play to practice real life interactions.

As the therapist and client work through the agenda items, the therapist makes use of frequent capsule summaries. These serve to ensure that the therapist and the client agree about what has been said, provides a chance to review each session as it proceeds and build a strong therapeutic relationship. Because people with depression experience negatively distorted thinking, they may see the therapy and the therapist in negative ways. Capsule summaries can elicit these distortions and provide an opportunity to challenge this undermining negative thinking. At the end of each session, the therapist asks the client for a summary of the session (e.g. 'What do you think you can take away from today's session that might be useful to you?') and for any feedback, both positive and negative, on the session (e.g. 'What did you like and not like about how today went so that we can ensure next time things are working well for you?).

Sessions tend to be less frequent and discontinue as the client and the therapist have confidence that the therapeutic goals have substantively been attained and the client has the cognitive and behavioural skills to manage both everyday and anticipated
problems. The CBT case formulation enables a good prediction of what future difficulties are most likely to prove problematic. This is used to rehearse how the client might manage these difficulties and thereby prevent future relapse if these difficulties arise.

Thus, CBT maximizes efficiency because it uses manual based, empirically supported treatment strategies and defines specific, measurable and achievable targets. A focused assessment process and a relatively structured session format facilitate the implementation of treatment strategies without delay and allow the therapist to make efficient use of session time. Once, the treatment is implemented, a periodic review of treatment progress using objective criteria enables the therapist and the client to make informed decisions about the direction of the treatment. Further, CBT helps in preventing relapse and empowers the patients by providing them with skills they can use outside therapy sessions.

1.9 THE EFFECTIVENESS OF COGNITIVE BEHAVIOURAL THERAPY IN TREATING MODERATE DEPRESSION

Cognitive Behavioural Therapy has been demonstrated to be a generally effective treatment for depression in a large number of studies that have accumulated since the original study by Rush et al. (1977).

Cognitive behaviour therapy has been shown to be effective with mild to moderate unipolar, nonpsychotic depression (Beck et al., 1979). He used cognitive behaviour therapy with depressed patients and found that at the end of their treatment, patients showed significant lessening of their depressive symptoms. Many reports and meta analyses affirm the effectiveness of CBT as a beneficial method for treating depression (Stuart & Bowers, 1995; Wampold et al., 2002).

Butler & Beck (2000) conducted a review of meta-analyses of cognitive behaviour therapy. This review included 14 meta-analyses that covered collectively 9,138 subjects in 325 studies involving 465 comparisons for 14 disorders of populations. This was the first such review and the findings show that cognitive-behavioral therapy (CBT) is quite effective. In particular, this therapy is substantially superior (mean ES=.90) to no-treatment, wait list and placebo controls for various psychiatric disorders including adult
and adolescent depression. Thase (2001) and Keitner et al. (2003) stated that CBT is one of the best studied psychotherapy for treating depression. Schulberg et al. (2002) and Wright et al. (2003) found CBT to be particularly effective for depressed people receiving services in an outpatient mental health center.

Merrill et al. (2003) in his study examined the effectiveness of transporting an empirically supported treatment for depression, cognitive behavior therapy to a community mental health center setting. CBT was delivered to 192 adult outpatients with major depression and a benchmarking strategy compared results with those of two randomized controlled trials. The 3 samples were largely similar in terms of initial severity of depression and CBT was as effective in reducing depressive symptoms in the current sample as in the randomized controlled trials. This study demonstrates that an empirically supported treatment can be used effectively in a clinical setting for the treatment of depression.

Many recent studies have confirmed the efficacy of cognitive behavioural therapy for treating depression (Butler et al., 2006; Chen et al., 2006; Craighead et al., 2007; Conradi et al., 2008). Wright et al. (2006) found that CBT is well established as a treatment for depression and is based on the concept that mental disorders are associated with characteristic alterations in cognitive and behavioral functioning and that this pathology can be modified with pragmatic problem-focused techniques used in cognitive behaviour therapy.

Feldman (2007) and Rohan et al. (2007) suggested that CBT is an effective non pharmacologic strategy for depression treatment that has received considerable empirical support. Garratt et al. (2007) reported that CBT reduces the frequency of patients’ negative thoughts and the severity of their dysfunctional attitudes and these changes are associated with depression reduction over the course of treatment.

Wong (2008) examined the effectiveness of CBT and found that CBT led to reduction in symptoms of depression, dysfunctional rules and negative emotions. Lau (2008) and Laidlaw et al. (2008) found CBT to be an effective treatment procedure for
mild to moderate depression. DeRubies et al. (2008) found CBT to be more effective treatment for depression as compared to standard treatments.

Meyer and Scott (2008) in his research work found that cognitive models and clinical trials of cognitive behaviour therapy of depression are evolving and adapting to increase applicability to the spectrum of depressive symptoms and syndromes experienced by clients.

Christopher et al. (2009) used CBT interventions with emphases on psycho-education and skills training. Participants completed self-report measures at admission and discharge to assess psychological distress, depression, negative automatic thoughts and behavioral activation. The results suggested that CBT intervention can be an effective treatment for mood disorders. Depressive symptom improvement appears to be associated with decreased negative automatic thoughts and increased behavioral activation. Wright et al. (2009) as well as Hollon and DeRubies (2009) also reported similar findings and stated that CBT has been shown to be efficacious in the treatment of depression.

Fujisawa et al. (2010) developed a culturally adapted, 16-week manualized individual CBT program for Japanese patients with major depressive disorder. A total of 27 patients with major depression were enrolled in a single-group study. Twenty six patients (96%) completed the study. The mean total score on the Beck Depression Inventory-II (BDI-II) for all patients (Intention-to-treat sample) improved from 32.6 to 11.7, with a mean change of 20.8 (95% confidence interval: 17.0 to 24.8). Twenty-one patients (77.7%) showed treatment response and 17 patients (63.0%) achieved remission at the end of the program. Significant improvement was observed in measurement of subjective and objective depression severity (assessed by BDI-II, Quick Inventory of Depressive Symptomatology-Self Rated and Hamilton Depression Rating Scale), dysfunctional attitude (assessed by Dysfunctional Attitude Scale), global functioning (assessed by Global Assessment of Functioning of DSM-IV) and subjective well-being (assessed by WHO Subjective Well-being Inventory) (all p values < 0.001). Thus, he concluded that cognitive behaviour therapy is an effective treatment intervention for adults with depressive disorders.
Arehart-Treichel (2010) found that cognitive-behavioral therapy can prevent depression in adults who are highly susceptible to it. Hepner et al. (2010) stated that CBT is an effective and superior psychotherapy for depression. Lynch et al. (2010) found that though CBT was effective in reducing the symptoms in major depression but the effect size was small.

Beck and Dozois (2011) stated that cognitive behaviour therapy is a system of psychotherapy with a powerful theoretical infrastructure, which has received extensive empirical support and a large body of research attesting to its efficacy for a wide range of psychiatric and medical problems. Cognitive behavior therapy has been found to be efficacious either alone or as an adjunct to medication.

1.10 THE EFFECTIVENESS OF COGNITIVE BEHAVIOURAL THERAPY IN REDUCING THE FUNCTIONAL IMPAIRMENTS CAUSED BY DEPRESSION

It is now widely accepted that functional status is an important component of the assessment of treatment outcome (Wells et al., 1989). Mc Knight and Kashdan (2009) stated that successful treatment is not only associated with an improvement in symptom severity but is also associated with changes and improvement in functional impairment in various spheres of depressed patients. In recent years, significant attention has been paid to understanding the mechanisms by which CBT produce symptom and functional change in patients suffering from major depressive disorder (Scott et al., 2000; Hirshfeld et al., 2002; Papakostas et al., 2004; Goldapple et al., 2004). Buist-Bowman et al. (2004) concluded that after recovery, functional impairments return to levels similar to those before a major depressive episode. Rytsala et al. (2006) reported that with recovery from depression, patients’ overall functioning and social adjustment was markedly improved. Watson and Nathan (2008) reported that approximately 80% of women and 74% of men treated with five or more sessions of CBT demonstrated normative functioning or reliable improvement at post-treatment. Swan et al. (2009) found that CBT brings about a change in the affective state and symptomatology of depressed people and thereby improves their quality of life.
Although, functioning after recovery has been an important topic in many studies, the results are inconsistent and the issue remains controversial. Though some researchers reported that mean functional levels returned to normal levels among patients who had recovered from depressive episodes (Judd et al., 2000; Hirschfeld et al., 2002), several other researchers have found residual impairment after recovery in one or two specific roles such as work, social and leisure activities, marital role or interpersonal behaviour (Zlotnick et al., 2000). Kennedy et al. (2007) also found that psychosocial impairment tends to persist even after clinical remission from depression and psychosocial recovery appears delayed compared with clinical recovery.

Inspite of these controversial studies, several researchers have found that CBT improves the various impairments among depressed patients in the areas of adjustment, self esteem and coping skills.

(A) Adjustment

It is now widely acknowledged that depression is accompanied by major deficits in social functioning and adjustment, however this dysfunction is found to decline rapidly with proper treatment interventions (Furukawa et al., 2010).

Shapira et al. (1999) found that adjustment of patients with depression improves considerably as symptomatic recovery occurs, although this adjustment remains frequently incomplete since interpersonal difficulties seem to persist even after recovery. Scott et al. (2000) assessed psychological and social functioning and compared medication management alone to CBT plus medication management. They reported that patients receiving cognitive behavior therapy plus medication management had better psychosocial functioning than those receiving medication management alone.

Hirschfeld et al. (2002) found that CBT psychotherapy has a direct effect on psychosocial functioning through therapeutic work on issues that have relevance to psychosocial functioning, such as the building of social skills. Consistent with past research Hirschfeld et al. (2002) also found that depressive symptoms and social adjustment improved more in the combined treatment group (cognitive behaviour therapy and medication) than in the two single treatment groups, which did not differ
significantly on these outcomes. In addition, social adjustment improved less than and partly independently of, depressive symptoms.

Vittengl et al. (2003) examined the levels of interpersonal distress and social adjustment before and after 20 sessions of cognitive behaviour therapy for depression (N=118). It was found that interpersonal distress decreased and social adjustment increased with cognitive behaviour therapy.

Somers and Queree (2007) found that functioning in a person’s work, home and leisure activities improves in concert with reduction in depressive symptoms both during and following a course of CBT. Rahman et al. (2008) found in his study that CBT improved the overall functioning and adjustment of depressed clients.

CBT improves global adjustment of depressed clients by bringing about an improvement in social, work, marital and interpersonal functioning. Several research studies have been reported which show that CBT improves social functioning, work functioning, marital as well as interpersonal functioning.

(a) Social Functioning

Various treatment outcome studies show improved social functioning for patients who respond to treatment (Judd et al., 2000; Spijker et al., 2004; Buist-Bouwman et al., 2004; Airaksinen et al., 2006) and fully recover (Papakostas et al., 2004). Cognitive Behaviour Therapy which focuses on relieving depressive symptoms, has proven quite efficacious in improving social functioning (Strunk & De Rubies, 2001; Vittengl et al., 2004).

Dunner et al. (2006) found that combining cognitive behavioral group therapy with medication improves social functioning more than treatment as usual. Matsunaga et al. (2010) also suggested that combining cognitive behavioral therapy with medication improves both depressive symptoms and social functioning. Moreover, these improvements in both depressive symptoms and social functioning were maintained over one year following completion of CBT while continuing on medication.
Regardless of this evidence, social functioning as an end-point may be more difficult to change than depressive symptoms (Judd et al., 2004). Not all treatment outcome studies support these improvements. Bech (2005) documented statistical but non-clinically significant social functioning change for various scales. Social functioning improvement depends on characteristics of the treatment (e.g. duration; Kocsis et al., 2002, strength; Nickel et al., 2005 and modality; Papakostas et al., 2004) and patient (e.g. personality disorders; Skodol et al., 2005, comorbid mental health conditions; Spijker et al., 2004, physical fitness; Stewart et al., 2003, cognitive functioning; Airaksinen et al., 2006 and coping style; Sherbourne et al., 1995). Furthermore, social functioning change lags behind depression symptom change; impairment lingers–persisting much longer than depressive symptoms (Hirschfeld et al., 2000, 2002; Scott et al., 2000). Patients who presented with symptoms and functional impairment before treatment showed clinically meaningful change in symptoms but relatively little change in social functioning afterwards. Thus, social functioning changes are said to lag symptom changes.

(b) Work Functioning

Evidence-based treatments for major depression have been shown to yield corresponding improvement in occupational function and employees with substantial improvement in depressive symptoms after receiving appropriate treatment rate themselves as much more able to function effectively in the work environment (Coulehan et al., 1997). Furthermore, improvement in major depression appears to be associated with greater likelihood of remaining employed and less work absence due to depressive symptoms (Simon et al., 2000; Wells et al., 2000). It has been determined that change in work ability is simultaneous with change in depressive symptomatology - as depression resolves, work function is restored and most of the improvement in depression symptoms or work function is evident in a few months following initiation of treatment (Judd et al., 2000; Sherbourne et al., 2001; Kocsis et al., 2002).

Several studies produced data suggesting that cognitive behavioural therapy (CBT) has a beneficial effect on work function above and beyond the impact of antidepressant medication (Mynors-Wallis et al., 1997; Sherbourne et al., 2001; Hirschfeld et al., 2002). There is some indication that adverse effects of antidepressants
may be of concern for recovery of work function: a recent study found that some employees experienced antidepressant side effects that interfered with work performance, including sleep disturbance, poor concentration, lack of motivation and a numbing down of feelings and responses (Haslam et al., 2003).

Spijker et al. (2004) in his study found that after symptomatic recovery, functioning in daily activities and work improves to premorbid level with longer duration of recovery. Rost et al. (2004) found that depression treatment leads to significant occupational functioning. Sasso et al. (2006) found that many employers received a potentially significant returns on investment from depression treatment models that improve absenteeism and productivity at work. Della-Posta and Drummond (2006) indicated that CBT has a useful role in the rehabilitation of people on worker’s compensation who are seeking employment i.e employment was found more rapidly after CBT.

(c) **Marital and Interpersonal Functioning**

CBT is one of the most popular and fastest growing approaches to helping couples resolve their conflicts because of its brief, time-limited and educational focus that makes it efficient (Halford et al., 2003). The key theoretical assumption underlying CBT oriented programs (Halford et al., 2003) is that the way a couple handles negative emotions is a critical predictor of future relationship outcomes and hence a primary target for couple intervention (Markman et al., 2004). Various researchers have found that cognitive behaviour therapy helps in improving marital relationships (Epstein & Baucom, 2002; Butler et al., 2006; Stanley, 2007). Gupta et al. (2003) found that cognitive behaviour therapy helps in improving marital functioning and reducing spousal criticism in depressed patients.

Cho et al. (2008) in his study maintained the basic tenets of cognitive-behavioral treatment and used the techniques of CBT for depression but focused on marital conflicts when dealing with negative thoughts and used behavioral techniques to improve marital relationships. For buffering negative events related to marital discord and alleviating depression, five types of positive and supportive behaviours of the partner are potentially
important: spending quality time together, listening positively, acquiring support, boosting self-esteem and building intimacy. Once depressed patients perceive the positive and supportive behavior from their spouse, the level of depression seems to decrease over time.

Wong (2008) found that cognitive and behavioural techniques help depressed clients learn meaningful activities and manage interpersonal difficulties efficiently. However, Zlotnick et al. (2000) and Hetch et al. (2005) reported that interpersonal difficulties seem to persist even after recovery and concluded that recovered depressives reported a higher level of marital conflict at the termination of treatment than did normal controls.

(B) Enhancement of Self Esteem

Several investigators have found that low self-esteem in depression can be improved with the help of various psychological treatments that are available for depression especially CBT. In CBT, low self esteem has been conceptualized as a global negative self-judgment, which is further maintained by the adoption of dysfunctional rules of living, typically extreme rules for self-validation (e.g. 'I need to do everything perfectly') which in turn lead to unhelpful compensatory behaviours, such as avoidance, concealment of feelings and overvigilance for success and failure. Key skills in CBT include enhancing motivation and instilling realistic hope to improve self esteem (Snyder et al., 2000; Waddington, 2002).

Hankin and Abramson (2001) reported that cognitive-behavioral therapy (CBT) focuses on identifying and modifying an individual's dysfunctional attitudes and negative attributional style, thereby enhancing his self esteem. Bennett-Levy (2003) found that use of behavioural experiments in cognitive behavioural therapy helps the clients with low self esteem to test the validity of their negative thinking and predictions and consequently, re-evaluate their thoughts and raise their level of self esteem. Fennell (2004, 2006) concluded that CBT for overcoming low self-esteem included the following four phases of treatment:
• Goal-setting, individualized formulation and psychoeducation.
• Breaking into maintenance cycles: learning to re-evaluate thoughts/beliefs through cognitive techniques and behavioral experiments.
• Re-evaluating “rules for living”: developing alternative, more adaptive rules
• Re-evaluating the “bottom line”: formulating an alternative, more helpful “bottom line”; combating self-criticism and enhancing self-acceptance and planning for the future.

Thus, Fennell’s (2004, 2006) cognitive approach to low self-esteem offers a way of conceptualizing and treating patients with low self-esteem that incorporates elements of both symptom-focused CBT and schema-focused CBT. The key element of this approach is combining standard CBT interventions to break maintenance cycles with more core-belief focused work to change basic beliefs about the self and the dysfunctional ways in which the person interacts with the world.

Fennell (2007) stated that the aim of cognitive behaviour therapy is working with clients who do not value themselves (i.e. who have a low self esteem) and help them to create more realistic and flexible standards for themselves and to establish a stance that acknowledges inevitable human weakness and frailty without condemning it and without losing a fundamental underlying sense of self-acceptance. Homework is central to this endeavor, because it means that new learning escapes the confines of the consulting room and finds opportunities to flourish in the real world.

McManus (2009) in his study provided a case report which describes the assessment, formulation and treatment of a patient with low self-esteem, depression and anxiety symptoms. At the end of treatment (12 sessions over 6 months) and at 1-year follow-up, the treatment showed large effect sizes on measures of depression, anxiety and self-esteem. The patient no longer met diagnostic criteria for any psychiatric disorder and showed reliable and clinically significant change on all measures. This case study provides an initial contribution to the evidence base for the efficacy of CBT for low self-esteem.
In contrast to these studies, certain researchers (Shapira et al, 1999; Daskalopoulou et al., 2002; Serretti et al., 2005) emphasizes the presence of self esteem deficits even after depressed patients have remitted.

(C) Development of Rational Coping Strategies

Many depressed people perceive themselves as incapable of changing their situation as they make use of maladaptive and irrational coping skills to deal with their problems. CBT directly challenges people to alter the way they think about themselves, the way they behave and the way they cope with problems. CBT helps the depressed clients to become aware of the rational behaviours, feelings and thoughts associated with specific stressors and situations. The clients are then encouraged to evaluate their attitudes and beliefs regarding the stressors and to offer positive interpretations of the situations. The clients therefore, learn new ways of coping that are more efficient and effective. Thus, we can say that CBT aims at training the clients in development of adaptive and rational coping skills. There are several research studies which have found that cognitive behaviour therapy is effective in enhancing positive and adaptive coping skills and reducing maladaptive coping skills among depressed clients.

Wright et al. (2006) found that cognitive and behavioral interventions can be highly useful in helping patients improve coping, social and problem-solving skills. Simos (2008) found that CBT aims at focusing on changing habitual responses and behaviours i.e. by developing new helpful behaviours and phasing out unhelpful habitual responses to problematic situations. CBT aims at decreasing maladaptive behaviours (avoidance, inactivity, denial) and improving adaptive coping skills (problem solving). Wong (2008) found that CBT led to the development of adaptive and more positive coping skills among the depressed patients. Clarke and Goosen (2009) found that cognitive behaviour therapy was suggested to control emotion-focused coping behaviours of self-blame, wishful thinking and avoidance. Hamdan-Mansour et al. (2009) in a study examining the effectiveness of cognitive behavioral therapy found that using CBT showed a significant improvement in the coping skills of depressed university students i.e. at post treatment they made less use of avoidance coping strategies and more use of approach coping strategies.
Lipsey et al. (2007) found that CBT imparts anger management training which typically focuses on teaching the clients to monitor their patterns of automatic thoughts to situations in which they tend to react with anger or violence. Day (2008) and Shelton et al. (2009) also found that CBT reduces aggressive, impulsive and hostile styles of coping behaviours.

Benett-Levy et al. (2004) and McManus (2009) found that CBT helps the depressed clients to re-evaluate their self defeating and critical thoughts through cognitive techniques and behavioural experiments. Knaus (2006) found that CBT helps the depressed clients to rectify and reduce their blame excesses and develop a realistic perspective by making them follow seven steps i.e. (1) specify the causes, effects and actual damages (2) Describe the thinking about the situation (3) List blame thinking excesses (4) Devise an alternative for blame thinking excesses (5) Among the choices available, decide a direction (6) Implement the action (7) Revise as and whenever required. Garratt et al. (2007) found that in CBT the therapist helps the client work toward identifying more positive coping thoughts that can replace the negative self-defeating and self critical thoughts. Andersson et al. (2007) found that CBT showed a reduction in the feelings of denial after the completion of therapy.

Oei & Sullivan (2006) and Rahman et al. (2008) found that CBT enhances social support coping among depressed clients. Chen et al. (2006) and Chen (2008) discovered that individuals with poorer problem-solving skills before CBT showed an improvement in their problem solving skills. Moreover, the more individuals improved their problem-solving skills, the more their depression decreased. Kennard et al. (2009) stated that CBT participants who received problem-solving treatment components were more likely to show a positive response.

1.11 THE EFFECTIVENESS OF COGNITIVE BEHAVIOURAL THERAPY IN COMPARISON TO OTHER TREATMENT INTERVENTIONS

Numerous studies have investigated the efficacy of standardized, short term psychotherapeutic and medication treatments for depression. The most well known of these treatment approaches include CBT, IPT and antidepressant medications. The effects
of psychological treatments are comparable to those of pharmacological treatments (De Maat et al., 2006; Cuijpers et al., 2009a) and combined treatments are more effective than psychological treatment alone (De Maat et al., 2007; Cuijpers et al, 2009b) and than pharmacotherapy alone (Pampanolla et al., 2004; Cuijpers et al., 2009b).

There are various research studies which show the efficacy of CBT in comparison to antidepressant medication. Over two decades, CBT has been shown to be one of the most effective form of treatment for depression, perhaps because it aims at changing the cognitive structures (i.e. CBT directly modifies cognitive phenomena, it deactivates depressive schema while making another schema available and inculcates a set of skills that helps individuals to deal with negative thoughts when they occur) whereas pharmacotherapy changes only cognitive products at surface.

The review of literature suggests that cognitive behaviour therapy was at least as effective as medication in treating depressed outpatients, the combination of the two treatments was more effective than either one alone and most of the studies found that cognitive behaviour therapy was equally applicable to more severe and more endogenous types of depression (Blackburn & Twaddle, 1996).

Many studies have shown CBT to be more effective than antidepressant medication in managing mild to moderate uni-polar depression (Wampold et al., 2002; DeRubies et al., 2005; Butler et al., 2006; Imel et al., 2008). Other studies have shown CBT to be as effective as antidepressant medication (Craighead et al., 2002; Scott et al., 2003; Pampallona et al., 2004; Hollon et al., 2005; De Maat et al., 2006; Thase et al., 2007; David et al., 2008; De Rubies et al., 2008; Hegerl et al., 2009). Driessen and Hollon (2010) reported that cognitive behavioral therapy (CBT) is efficacious in the treatment of depression and may provide a viable alternative to antidepressant medication for even more severely depressed unipolar patients when implemented in a competent fashion.

Many studies have reported that combining CBT with pharmacotherapy has been found to be particularly effective than either treatment alone in treating depression (Keller et al., 2000; Craighead et al., 2002). Beck (2005) stated that cognitive behavior
therapy has been shown to be effective in reducing symptoms with or without medication, in a wide variety of psychiatric disorders including depression. Pilling & Burbeck (2006) and Powell et al. (2008) stated that CBT in the treatment of depression is one of the therapeutic modalities with the highest empirical evidence of efficacy, whether applied alone or in combination with pharmacotherapy. Several other researchers have also found that the combination treatment was associated with greater reduction of symptom severity and higher remission rates (De Maat et al., 2007; Manber et al., 2008; Arnow and Hill, 2008; Cuijpers et al., 2009b).

Hollon et al. (1992) suggest that combined treatments may confer additive benefits because the strengths of each modality are promoted while the weaknesses of each modality are minimized. Thus, response and remission rates for combined treatment should be superior to those of either treatment modality as a monotherapy. They argue that combined treatment increases the magnitude, probability and breadth of clinical response. Adding drug therapy to psychotherapy may bring about a more rapid relief of symptoms than psychotherapy alone, permitting the patient to participate more productively in psychotherapy (Thase and Howland, 1994). Conversely, adding psychotherapy to drug therapy may increase medication adherence, decrease the presence and risk of residual symptoms following drug discontinuation and facilitate the patient’s development of healthy coping skills (Paykel et al., 1995).

Fava et al. (2003) found that the neurobiological substrate of an individual’s depressive illness may be too severely disturbed to be responsive to psychotherapy alone. Likewise, psychosocial or interpersonal stressors may be so extensive that pharmacotherapy alone will not bring about full remission of an individual’s depressive episode. Investigators consistently demonstrate an increased recurrence risk for individuals who experience a partial remission, delayed response to acute treatment, or residual symptoms post treatment. For these individuals, combined psychotherapy and pharmacotherapy may be the best treatment modality. Frank et al. (2006) states that the majority of private practitioners, still see combination as the ideal treatment and combination therapy is recommended in the treatment guidelines promulgated by the American Psychiatric Association.
March et al. (2007) found that the combination of CBT and an SSRI is particularly powerful because it provides a "one-two" punch against the powerful symptoms of depression. Medicines target brain chemistry problems that can impact mood. CBT steps in to provide a person with skills that they can use whenever and wherever they happen to be. These new skills can improve a current depressed mood, as well as help to prevent (or decrease the severity of) future depressive episodes.

Abernethy III et al. (2008) stated that though psychiatric medications are commonly considered the first line of treatment for a wide range of psychiatric disorders, pharmacotherapy may not produce a complete remission of symptoms and at times may be associated with a delayed effectiveness. CBT can complement, if not replace, pharmacotherapy for various disorders. CBT can be offered to patients to control symptoms while awaiting a response to medications and to supplement or strengthen treatment response. Indeed, CBT has also been shown to be an effective treatment in addition to medication for depression. These findings seem to support the notion that two treatments (CBT plus pharmacotherapy) must be better than one.

Blanco et al. (2010) found that combination therapy may work better than either monotherapy because some patients may respond to psychotherapy and others to medication and so if patients receive both therapies, the probability of response is higher. The other, more likely, explanation is that the two treatments have an additive or synergistic effect. He said, “The average improvement in the combined treatment is better than the average improvement in one of the therapies, so it is not just a matter of probability responding to one or the other; it is actually that the effect of one adds to the effect of the other.”

Although various researchers have supported the effectiveness of CBT in the treatment of depression, there are a few studies (Wampold et al., 2002) which point out that there are no statistical significant differences in the results of CBT and other kinds of therapy, such as behaviour therapy and interpersonal therapy. One likely possible explanation for the similarity in improvement rates for these treatment conditions may be the random assignment of depressed patients to treatment conditions rather than assignment according to the specific needs of the individual patients. Luty et al. (2007)
found that IPT and CBT are comparably effective therapies with no significant difference in their efficacy. Wolf and Hopko (2008) found that CBT is as efficacious as interpersonal therapy, problem solving therapy and pharmacotherapy in treating depressed patients. Cuijpers et al. (2009c) found that there are no large differences in efficacy between the major psychotherapies for mild to moderate depression (CBT, psychodynamic therapy, interpersonal therapy, problem solving therapy, behavioural activation and social skills training).

However, Gloaguen et al. (1998) found CBT to be superior to anti-depressants, interpersonal psychotherapy, relaxation therapy, supportive and non-directive psychotherapies. Simon and Ludman (2009) found that compared with current primary care practice, a structured telephone program including care management and cognitive behaviour psychotherapy has significant clinical benefit for depressed patients. Tolin (2010) in his study aimed at determining whether CBT yields superior outcomes to alternative forms of psychotherapy. He reported that CBT was superior to psychodynamic therapy, although not interpersonal or supportive therapies, at post-treatment and at follow-up. Methodological strength of studies was not associated with larger or smaller differences between CBT and other therapies. Researchers' self-reported allegiance was positively correlated with the strength of CBT's superiority; however, when controlling for allegiance ratings, CBT was still associated with a significant advantage. The superiority of CBT over alternative therapies was evident only among patients with depressive disorders. These results argue against previous claims of treatment equivalence and suggest that CBT should be considered a first-line psychosocial treatment of choice, at least for patients with depressive disorders.

Although, cognitive behaviour therapy and pharmacotherapy have been found to be similarly effective for treating major depression (DeRubies et al., 2005; Hollon et al., 2005), there is little research on the sequence of symptom improvement for each of the treatment modalities. One possibility suggested in the literature is that cognitive symptoms of depression improve before somatic symptoms when patients are treated with CBT, with the reverse pattern implicated for pharmacotherapy (DiMascio et al., 1979; Rush et al., 1981). Such distinct patterns of symptom remission are based on the
theoretical assumptions underlying the different treatments (Goldapple et al., 2004). CBT is assumed to directly target cognitive processes such as dysfunctional attitudes and negative automatic thoughts, the improvement of which in turn would facilitate improvements in other symptoms of major depression. Conversely, pharmacotherapy involving serotonin selective reuptake inhibitors (SSRIs) alters selective functioning (Hyman & Nestler, 1996) known to play a key role in the regulation of appetite, sleep and several other somatic functions. Thus, SSRIs may improve somatic functions, before other symptoms of depression.

Rush and colleagues (1981) found that across the first four weeks of treatment, CBT was associated with initial improvements in hopelessness, self beliefs and negative mood followed by the alleviation of somatic and motivational symptoms while no discernable pattern of change was seen in patients treated with pharmacotherapy. A number of studies have documented that during CBT, substantial changes in cognitive content occur which results in reduction in depressive symptoms (Hardy et al., 2005; Tang et al., 2005; Jarrett et al., 2007; Parrish et al., 2009). DiMascio and colleagues (1979) found that somatic symptoms of depression such as sleep disturbance improved before depression, for patients treated with pharmacotherapy. Further, Haskell et al. (1975) found that pharmacotherapy was associated with rapid improvements in sleep, appetite disturbances and suicidal feelings, but slower improvement in cognitive symptoms such as impaired interests, retardation, pessimism and hopelessness.

Empirical results have been inconsistent with respect to whether CBT and pharmacotherapy are associated with distinct patterns of symptom improvement as a few studies have not found discernible treatment specific differences in the rapidity of change of somatic or cognitive symptoms. DeRubies and colleagues (1990) found that cognitive constructs associated with vulnerability of depression (e.g. hopelessness, dysfunctional assumptions) were significantly reduced in the first half of the treatment regardless of whether patients were treated with CBT alone, or in combination with pharmacotherapy or pharmacotherapy alone. Similarly, Simons et al. (1984) found that CBT and pharmacotherapy were associated with nearly identical patterns of improvement in negative automatic thoughts and dysfunctional assumptions. Accordingly, Mandell
(1988) found that cognitive and somatic symptoms of depression changed in a uniform manner across CBT and pharmacotherapy. Bhar et al. (2008) suggested that changes may occur simultaneously at both cognitive and somatic levels of depression irrespective of the type of treatment received by the patient. He proposed that although CBT and pharmacotherapy may be associated with different primary mechanisms of change, these mechanisms serve to activate changes in the informational processing system, which in turn leads to uniform improvement across somatic and cognitive dimensions of depression.

Effective treatment of depression requires not only resolution of the symptoms of the disorder, but prevention of relapse and recurrence as well. Advocates of psychosocial interventions have long argued that psychotherapy provides stable gains that survive the termination of treatment and reduce subsequent risk (Beck et al., 1979). Several researchers have explored the long term effectiveness of CBT i.e. the extent to which CBT intervention effects persist following the cessation of treatment and whether these effects persist to a greater extent than do those of other treatments. Hollon et al. (2002) suggested that the effects of psychological and especially psychopharmacological interventions substantially weaken, if not disappear entirely, once the active treatment is discontinued. However, because of the CBT’s focus on modifying thinking and transferring the skills learned in therapy to everyday life, treatment effects are expected to persist even after the termination (Beck, 1995). Craighead et al. (2002) found that after treatment consisting of 16 weeks of CBT, 50% to 70% of people with major depressive disorder no longer met the criteria for the disorder and at one year follow up, only 20% to 30% had relapsed. Various studies have shown that CBT reduces rates of relapse and recurrence among the depressed patients (Teasdale et al., 2002; Fava et al., 2004; Bockting et al., 2005; Vittengl et al., 2007; De Rubies et al., 2008). Andre (2009) and Lynch et al. (2010) revealed that CBT is an important tool for relapse prevention in severe depression. Arehart-Treichel (2010) stated that CBT has a preventive effect in some people whose thought patterns make them susceptible to depression and that this effect can endure at least six years after CBT has been completed.
It has even been found that CBT leads to a greater reduction in relapse rates of depression as compared to antidepressants. Studies of long term follow up reported that cognitive behaviour therapy was associated with greater prophylactic effects in depressive disorders. Gloaguen et al. (1998) allowed a comparison of cognitive behaviour therapy with antidepressants at a follow-up point of at least one year, with respective rates of relapse of 29% and 60%. Fava et al. (1998) studied patients with major depression, who, after tapering antidepressants, were randomly assigned to either CBT for residual symptoms or standard clinical management and found lower rates of relapse for cognitive behaviour therapy after two, four and six years (25% versus 80%, 35% versus 70% and 50% versus 75%, respectively). Butler & Beck (2000) found that following CBT interventions, depressed people have an approximately 70% chances of staying depression free. In a subset of eight studies, that compared depression relapse for cognitive therapy and antidepressants at least a year after discontinuation of treatment, cognitive therapy patients had half the relapse rate (29.5%) of patients treated with antidepressants (60%).

Hensley et al. (2004) and Hollon et al. (2005, 2006) indicated that CBT lowers the rates of relapse as compared to medication and further, CBT was equally as efficient as continued medication in preventing relapse. Segal et al. (2006b) and Strunk et al. (2007) stated that CBT has more of relapse prevention effect as compared to pharmacotherapy. Pilling and Burbeck (2006) found that CBT is associated with significantly better long-term outcomes (up to two years after completion of treatment) than are antidepressants alone. In a recent comparison of relapse rates for clients who were treated successfully for depression, approximately one-third of clients treated with CBT had relapsed by the 2 year follow up. By comparison, over three-fourth of the clients previously treated with antidepressant medication had relapsed (Dobson et al., 2008). Mor and Haran (2009) found that CBT is superior to antidepressants in relapse prevention. Hollon and Ponniah (2010) found that CBT has more enduring effects as compared to medication i.e. it is possibly more effective in prevention of relapse and recurrence.

Keller et al. (2000) found a greater remission rate in the patients who received both an antidepressant medication and a modified form of CBT (42%) compared with either treatment on its own (22%-24%). In another study, 79% of depressed patients
remained well at two years after cognitive behaviour therapy, compared with 85% of patients who had combined CBT and medication (Hollon et al., 1992). In a pilot study, adding CBT to an antidepressant program that lost its effect, had short and long term benefits (Fava et al., 2002). CBT added to an antidepressant program significantly reduces the rate of a relapse for those who did not respond to standard pharmacological treatment (Scott et al., 2003). Fava et al. (2004) examined 40 participants who had previously been successfully treated with antidepressant medication for recurrent major depression. Participants were randomly assigned to one of two conditions: (1) pharmacotherapy and CBT or (2) pharmacotherapy and clinical management. Regardless of condition, each participant received 10 thirty-minute bi-weekly sessions. Over the course of the sessions, medication was tapered and eventually discontinued. Participants were evaluated over the course of six years. Results suggested that 40% of the participants in the combined CBT and pharmacotherapy group and 90% of the participants in the pharmacotherapy and clinical management group relapsed at least once during the 6-year follow-up period. Beck (2005) found that CBT reduced relapse rates with or without medication in depressed patients. Beck and Dozois (2011) also found that CBT either alone or in combination with medication provides a prophylaxis against relapse and recurrence.

Teasdale et al. (2002) has suggested that changing the content of negative thoughts and beliefs does not prevent relapse; rather it is changing one’s relationship to negative thoughts and beliefs that confers protection. Specifically, it has been proposed that during cognitive behaviour therapy, patients learn to “decenter” from their negative thoughts and develop the ability to experience internal events from a stance of metacognitive awareness. Bockting et al. (2005) claims that the reduced rates of relapse in CBT is linked to the competent use of the strategies rather than some other factor i.e. the acquisition of cognitive skills in recognizing and disputing negative beliefs predicted subsequent freedom from relapse. Strunk et al. (2007) found that cognitive behaviour therapy (CBT) for depression is designed to teach patients material that is believed to help prevent relapse following successful treatment. This study of 35 moderately to severely depressed patients who responded to CBT provides the first evidence to suggest that both development and independent use of these competencies predict reduced risk
for relapse. Among patients who responded to treatment, both CBT coping skills and in-session evidence of the independent implementation of CBT material predicted lower risk for relapse in the year following treatment. Thus, CBT coping skills and independent use of CBT principles appear to play an important role in relapse prevention. Thase et al. (2007) noted that while drugs act more quickly and involve less work on the patient’s part, “they only suppress the problem.” CBT, on the other hand, prepares people to deal with mood swings and “prevent a full-blown relapse.” Ludgate (2009) described various therapeutic interventions used in cognitive behavioural therapy which aims at relapse prevention. These are as follows:

- Help client plan a self-therapy program to be pursued after termination
- Educate regarding relapse and create realistic expectations regarding the future course of the disorder
- Discuss the need for and benefits of maintenance efforts
- Anticipate and plan for high risk situations
- Help clients recognize early warning signals of possible relapse
- Generate and rehearse an emergency plan in the event of future setbacks
- Modify the environment, if possible to support new behaviors and set up a support system to buffer future adverse life events if they occur
- Use booster sessions

Arehart-Treichel (2010) stated that the CBT interventions focuses mainly on identifying and changing dysfunctional attitudes, enhancing specific memories of positive experiences by having subjects keep a diary of positive experiences and formulating specific relapse/recurrence prevention strategies. All these interventions provide a significant protective effect against further major depressive episodes in patients and lead them to a depression free future.

1.12 MEDIATORS AND MODERATORS OF CHANGE IN COGNITIVE BEHAVIOURAL THERAPY OF DEPRESSION

It has been a little more than thirty years since Beck and his associates published their treatment manual on cognitive therapy of depression (Beck et al., 1979). Since the
publication of the first clinical trial involving depressed outpatients (Rush et al., 1977), numerous outcome studies have found CBT to be a highly effective treatment for depressive disorders.

Interest in recent years has been directed at identifying the active ingredients of change of CBT of depression. Greenberg and Pinsof (1986) suggested that to say something worked (or failed) without being able to specify what it was that worked undermines the replicability criterion of scientific research. A treatment or intervention that is allegedly effective cannot be reproduced if its essential characteristics cannot be determined and evaluated. Identifying the critical ingredients in CBT has important theoretical implications regarding answers to the questions of how, for whom and under what set of circumstances CBT produces positive outcome. Moreover, identifying the critical ingredients of change may have important clinical implications in regard to ways of maximizing treatment efficacy - through suggesting changes in therapeutic techniques, including new interventions and improving methods of therapist training. Finally, such research not only increases understanding of the treatment but also helps to increase understanding of the general causal mechanisms of the outcome variable of interest (e.g. depression). Hyman (2000) suggested that finding the answers to questions such as ‘how does CBT work?’, ‘what determines the effectiveness of CBT?’, ‘How do we target CBT more effectively?’ is essential to developing better therapy and matching therapy to patients systematically rather than by trial and error. Kazdin & Nock (2003) also stated that it would be of great value to understand how psychological interventions work as research could then focus on enhancing the effective elements while discarding those elements found to be redundant. As matters stand, markedly different views are held regarding how psychological treatments work e.g. some claim that they work exclusively through common or non specific mechanisms (Luborsky et al., 2002) a position that is hard to reconcile with many studies that have identified treatment specific effects. It has been argued that CBT for depression works by changing the content and structure of cognitive schema (Beck et al., 1979), through teaching compensatory skills (Barber & De Rubies, 1989) or by establishing a metacognitive stance (Teasdale et al., 2002). In search for isolating the active ingredients responsible for treatment induced change, investigators have sought to identify the mediators and moderators of change in CBT of
depression. Whisman (1993) reviewed the theoretical and empirical literature associated with the mediators and moderators of change in cognitive behaviour therapy of depression. He reviewed the covariation between change in cognition and change in depression, specific effects of cognitive versus behavioural components of CBT, specific effects of CBT versus other treatments, moderating influence of nonspecific and technical aspects of the therapeutic environment and moderating influence of client characteristics.

A mediator is “the generative mechanism through which the focal independent variable mechanism is able to influence the dependent variable of interest” (Baron & Kenny, 1986). Mediators of treatment effects are variables which account for, in a statistical sense, at least some of the effects of treatment on the patient’s outcome (Baron & Kenny, 1986). Kraemer et al. (2002) stated that mediators are a consequence of treatment and explain in a statistical sense some of the effects of treatment on outcome. As such, they correlate with treatment, are modified during treatment and this change precedes the effects of treatment on outcome. The term “mediators” refer to the question of what change processes underlie improvement (Kazdin and Nock, 2003). Treatment effects may be mediated by improvements in depressive symptoms and reductions in depressogenic thinking (Kaufman et al., 2005; Rohde et al., 2006). In outcome research, mediators (or mechanisms) of change are those characteristics of the individuals that are changed by the treatment and that, in turn, produce change in the outcome of interest (e.g. change in depression). For a variable to be a mediator of change of CBT for depression, it must itself covary with change in depression within the relevant treatment condition and precede that change temporally. A number of cognitive phenomena have been proposed as mediators of change in CBT for depression, including automatic thoughts and underlying assumptions (Beck et al., 1979), attributional style (Seligman, 1980) and empirical disconfirmation of negative expectancies (Hollon & Garber, 1990). The identification of mediators is, therefore, an initial step in establishing how the treatment works.

A moderator, in contrast, is a "variable that affects the direction and strength of the relation between an independent or predictor variable and a dependent or criterion variable" (Baron & Kenny, 1986). Kraemer et al. (2002) stated that moderators precede
treatment, are uncorrelated with treatment and “explain”, in a statistical sense, individual differences in the effects of treatment. They indicate under whom and under what circumstances treatment has the most effect. They also suggest to the clinicians which of their patients might be most responsive to the treatment and for which patients other, more appropriate, treatments might be sought. Moderators may identify subpopulations with possibly different causal mechanisms or course of illness. Therefore, moderators may also provide unique new and valuable information to guide future restructuring of diagnostic classification and treatment decision making.

Kraemer et al. (2002) stated that rapid progress in identifying the most effective treatments and understanding on whom treatment works and do not work and why treatment work or do not work depends on the efforts to identify moderators and mediators of outcome. As such, we will review the theoretical and empirical literature that has sought to identify the active ingredients of CBT for depression through examining the mediators and moderators of change. Covariation between change in cognition and change in depression, specific effects of cognitive versus behavioural components of CBT, specific effects of CBT versus other treatments, moderating influence of nonspecific and technical aspects of the therapeutic environment and moderating influence of client characteristics are discussed as follows:

(A) Mediators of CBT

Understanding the process and mechanisms of successful CBT for depression is essential to developing more efficacious, more effective and more appropriately targeted treatments for depression. The cognitive model (Beck, 1976) predicts that CBT should produce specific changes on measures of cognitions, that these changes in cognitions are unique to CBT and that these changes in cognitions should predict symptomatic improvement.

Garratt et al. (2007) stated that a central theoretical principle guiding cognitive behaviour therapy is that mediation by cognitive processes is linked to the successful treatment of depression. The mediation hypothesis can be broadly defined as encompassing two related questions: cognitive mediation framed as "are cognitive
changes associated with therapeutic improvement,” and cognitive specificity from the perspective of “are changes in cognition specific to cognitive therapy?” This latter question is particularly important when cognitive therapy is compared to pharmacotherapy. Whisman (1993) in the past also noted two similar fundamental assumptions underlying the proposed mechanisms of cognitive behaviour therapy. First, is the idea that cognitive change must covary with symptomatic reduction and hence, cognitive changes putatively produced by cognitive behaviour therapy lead to changes in depression. Second, the hypothesis suggests that cognitive change is specific to cognitive interventions. Questions about specificity reflect whether cognitive changes are unique to CBT because of specific procedures (i.e. a focus on the modification of cognitions) or are due to nonspecific variables that are a part of all therapies. Several investigators have identified the following mediators of CBT:

(a) **Cognitive Mediation in CBT Across Treatments and Within Sessions**

A number of investigations have shown that across treatment, changes in depression correlate with changes in hopelessness (DeRubies et al., 1990); views of the self, the world and the future, attributional style (DeRubies et al., 1990; Kwon & Lemon, 2000); automatic thoughts and dysfunctional thoughts (DeRubies et al., 1990). Particularly strong evidence for the mediational role of attributional style in CBT was obtained by DeRubies et al. (1990), who reported that correlation between the change in depression and change in attributional style was significantly stronger for patients who received CBT than for those who received pharmacotherapy. If change in attributional style was only a consequence of change in depression, then there should have been no difference between CBT and pharmacotherapy in the magnitude of the observed covariation. Barber and DeRubies (2001) as well as Westra et al. (2002) found that CBT leads to reduction in dysfunctional attitudes and improvement in dysfunctional attitudes covaried with improvement in depression. Dobson & Dozois (2001) advocated that a defining feature of cognitive-behavioural therapy is the proposition that symptoms and dysfunctional behaviours are often cognitively mediated and, hence, improvement can be produced by modifying dysfunctional thinking and beliefs. Kwon & Oei (2003) found that CBT reduces negative cognitions and changes in automatic thoughts and
dysfunctional attitudes lead to change in depressive symptoms. Segal et al. (2006a) in his study randomly assigned patients with major depressive disorder to receive either antidepressant medication or cognitive behavior therapy. Cognitive reactivity was assessed at the end of both treatments by having patients complete the Dysfunctional Attitudes Scale before and after a sad mood induction. Patients who received cognitive therapy showed less cognitive reactivity at the end of treatment and patients with lower reactivity had lower relapse rates over the following 18 months. Quilty et al. (2008) found that changes in dysfunctional attitudes accompanied CBT resulting in depression symptom reduction.

Covariation between change in cognition and change in depression not only has been found across treatment but has also been observed within individual sessions. Rush et al. (1981) found that during the first 4 to 11 weeks of treatment, improvement in hopelessness and the symptom dimensions of views of the self and mood generally preceded changes in motivational and somatic symptoms of depression for individuals receiving CBT; no such pattern of change was associated with pharmacotherapy. Persons and Burns (1986) found that within-session change in automatic thoughts were highly correlated with within-session changes in depressed mood. DeRubies et al. (1990) found that changes on measures of both depressogenic attributional style and dysfunctional attitudes during the first 6 weeks of treatment significantly predicted subsequent change in depression for individuals who received CBT but not in those who received pharmacotherapy. Tang and DeRubies (1999), Tang et al. (2005) and Kelly et al. (2005) found evidence of sudden gains in many patients, which is a sudden and substantial improvement in depression symptoms in one between session interval. These sudden gains tended to immediately follow critical sessions in which substantial cognitive changes occurred. Thus, their findings suggested that sudden gains in cognitive therapy are triggered by substantial cognitive change and are therefore, consistent with cognitive mediation hypothesis regarding the efficacy of CBT. Some authors assume that the therapeutic strategies in CBT that encourage cognitive change are responsible for sudden gains in treatment (Tang & DeRubeis, 1999; Tang et al., 2005).
Thus, the mediational role of cognitive phenomena in CBT is supported by the results from several prior investigations that have indicated that cognitive change correlates with across treatment change in depression as well as correlates with within-session change in depressed mood and precedes change in depression.

(b) Specific effects of CBT

Although, the results from the previously reviewed investigations generally support the cognitive mediational hypothesis for CBT of depression, these findings do not answer questions regarding the specificity of such changes. That is, these results do not address whether changes in cognitive phenomena are the result of characteristics unique to CBT or whether these changes are due to general factors that are included in CBT but may also be included in other treatments. Specificity of the cognitive mediational hypothesis for CBT is supported if changes in cognitive phenomena are greater for cognitive versus behavioural components of CBT and CBT versus other treatments.

As CBT consists of both cognitive and behavioural treatment components, comparing the effects of different components with one another and with those of complete treatment provides a test of the specificity of cognitive change for each component. Specific effects for cognitive versus behavioural components of therapy were reported by McNamara and Horan (1986), who found that the cognitive component was more effective than the behaviour component in reducing depressogenic cognitions. In a component analysis of CBT, behavioural component appeared as effective as the full CBT package (Jacobson et al., 1996; Barrera, 2009). Most recently, behavioural activation outperformed CBT among more severely depressed patients (Dimidjian et al., 2006). Thus, there are mixed findings regarding the effectiveness of cognitive versus behavioural components in CBT.

Beegers and Miller (2005) in his study randomly assigned depressed patients to receive cognitive therapy or family therapy. During the year following treatment, patients who had received cognitive therapy showed weaker associations between negative cognition and symptoms of depression than those who had received family therapy.
Findings support the hypothesis that cognitive therapy specifically changes how a person thinks in the presence of dysphoria.

Garratt et al. (2007) found that the results of cognitive specificity studies are more mixed than the body of research showing a link between cognitive changes and symptom reduction in CBT. He found that some studies are suggestive of specificity in cognitive-pharmacological comparisons (Teasdale et al., 2001; Chu & Harrison, 2007). The results of these studies suggested that CBT results in specific effects on select measures of dysfunctional cognitive phenomena and strongest support for specific effects of CBT was obtained for measures of cognitive biases, attributional style and dysfunctional attitudes.

Dozois et al. (2009) stated that negative cognitive structure has been shown in some research to persist past a current episode of depression and potentially to be a stable marker of vulnerability for depression. Given that cognitive therapy (CT) is highly effective for treating the acute phase of a depressive episode and that this treatment also reduces the risk of relapse and recurrence, it is possible that CT may alter these stable cognitive structures. In the current study, patients were randomly assigned to CT+ pharmacotherapy (n = 21) or to pharmacotherapy alone (n = 21). Both groups evidenced significant and similar reductions in level of depression (as measured with the Beck Depression Inventory-II and the Hamilton Rating Scale for Depression), as well as automatic thoughts and dysfunctional attitudes. However, group differences were found on cognitive organization in favor of individuals who received the combination of CT+ pharmacotherapy.

From the available literature, it is evident that cognitive changes are specific and unique to cognitive behaviour therapy as compared to other treatments.

(B) Moderators of CBT

Although, there are various efficacious treatments for depression, it is possible that the effectiveness of these treatment conditions may vary because of the different client characteristics of the individual patients i.e. certain characteristics of the patient and the nature of depression may be general indicators of prognosis irrespective of treatment, while others may be indicators of response to individual treatments alone or of
differential treatment outcome, that is, preferential response to one or more treatments compared to others. In an effort to understand the variability of response to treatments for depression, the relevance of patient characteristics and the variables that may account for individual differences in the response to treatment needs to be studied. Identifying the characteristics or variables that predict which types of patients are most likely to benefit from which type of psychotherapy has been the focus of numerous reviews (Bergin & Garfield, 1994). Because not all people improve after CBT, researchers have attempted to identify variables that may moderate the effectiveness of treatment and thereby predict outcome to the therapy. Identifying prognostic indicators that could be used to target individuals who would likely to benefit from treatment and maintain those benefits after treatment is an important area of inquiry with both scientific and clinical implications (Steketee & Chambless, 1992). Moreover, it is important to distinguish characteristics that are uniquely associated with outcome to CBT from those that are associated with outcome to treatment for depression in general, because many of the factors predicting positive outcome to CBT are similar to those predicting outcome to alternative treatments such as pharmacotherapy (Joyce & Paykel, 1989).

Kraemer and colleagues (2002) have provided a clear description of moderators of treatment effects in randomized clinical trials. Moderators are variables that are present before treatment and are independent of treatment assignment. A moderator variable has an interactive effect with treatment condition on treatment outcome. A moderator answers the question of which depressed clients are more likely to benefit from one of the studied treatments as compared with the others and can be considered an indicator with prescriptive value. For the practicing clinician, moderators are very helpful because they suggest directions for differential treatment selection and planning.

(a) **Moderating Influence of the Therapeutic Environment**

One set of variables that has been examined in prior research is concerned with the relation between outcome and features of the therapeutic environment. Specifically, the investigators have examined the moderating role of nonspecific therapeutic alliance and CBT - specific factors of adherence and competence.
The Therapeutic Alliance

The relationship between the therapist and patient is clearly an important factor in the process and outcome of therapy. In the past years, several studies have supported the importance of the quality of the therapeutic alliance as a moderator of change in CBT (Safran & Muran, 2000; Gaston, 2004). The therapeutic alliance refers to the relationship between a mental health therapist (e.g. a psychiatrist, psychologist, mental health counselor, social worker) and a client. There is evidence that a strong therapeutic alliance predicts better outcomes in therapy. A strong therapeutic alliance is evident when the client feels comfortable with the therapist, has a sense of common goals or purpose with the therapist and feels a sense of safety and trust in the therapy process (Pedneault, 2010).

Beck (1993) stated that the efficacy of cognitive and behavioural techniques are dependent, to a large degree, on the relationship between therapist and patient. The relationship requires therapist warmth, accurate empathy and genuineness. Without these, the therapy becomes ‘gimmick- oriented’. Martin et al. (2000) suggested that the therapeutic alliance has been found to correlate positively with treatment outcome. Keijser et al. (2000) investigated the characteristics of the therapeutic relationship in cognitive-behavior therapy (CBT) and identified the therapist or patient interpersonal behavior that affects treatment outcome. He found that two clusters of interpersonal behavior were clearly associated with CBT outcome: (a) the Rogerian therapist variables — empathy, nonpossessive warmth, positive regard and genuineness; and (b) therapeutic alliance. There is some evidence for the impact on outcome of two additional clusters of patient behavior: (a) the patients’ perception of the therapist as being self confident, skillful and active and ; (b) the patients’ openness to discuss their problems. Thus, he concluded that therapeutic relationships have a consistent and moderate impact on CBT outcome.

Waddington (2002) identified moderators of therapeutic alliance quality as a well established predictor of treatment outcome. Extensive documentation exists for a positive relationship between therapeutic alliance and treatment outcome in CBT for depression (Trepka et al., 2004; Zuroff and Blatt, 2006; Crits-Christoph et al., 2006). Baldwin et al. (2007) and Zuroff et al. (2010) found that patients whose therapists provided high
average levels of the perceived Rogerian conditions i.e. conditions of positive regard, empathy and genuineness experienced more rapid reductions in both overall maladjustment and depressive vulnerability.

In contrast to these studies, there are many other research studies where the working alliance fails to predict outcome or where associations are nonsignificant (Gaston, 2004; Brotman, 2004; Kaufman et al., 2005).

Inspite, of these contrasting studies, which have underscored the importance of the therapeutic relationship as an intervention for change in CBT, several researchers have empirically evaluated that therapeutic alliance is an intrinsic aspect of the process of change and enhances the efficacy of CBT.

(ii) **CBT Adherence And Competence**

In discussing the potential moderating role of the technical features of CBT, investigators discuss the importance of two separate phenomena adherence, which refers to how much therapists use techniques that are specific and appropriate to CBT and competence, which refers to how adequately they apply these techniques (Dobson & Shaw, 1988).

Concerning the role of adherence in CBT, a number of studies (DeRubies et al., 1990) showed that CBT could be discriminated from alternative treatments such as clinical management treatments and interpersonal psychotherapy. The relation between adherence and outcome, however, was examined in only a few studies. Brotman (2004) reported that “concrete” symptom-focused, methods of CBT (i.e. those that measured adherence to the procedures and strategies of CBT and focused on teaching people skills that they could use on their own to combat depressive mood states) predicted subsequent reduction in depression severity when assessed early in the treatment. Minonne (2008) found that therapist adherence in CBT predicted greater reductions in depression. Strunk et al. (2010b) found that two elements of therapist adherence (i.e. cognitive methods and negotiating content/structuring sessions) emerged as the strongest predictors of symptom improvement.
A second technical component of CBT is competence, which refers to the skillfulness of the therapist in providing a therapeutic milieu, in conceptualizing the patient's distress and problems within a specific theoretical framework and in applying recognized techniques or methods consistent with the goals of the treatment. Burns and Nolen-Hoeksema (1992) reported that depressives that were treated with CBT by novice therapists had poorer outcomes than those treated by experienced therapists, which they concluded suggested that "specific cognitive and behavioural skills may account for the degree of recovery." Trepka et al. (2004) and DeRubies et al. (2005) found that therapist competence is positively related to outcome in CBT. Kuyken and Tsvrikos (2009) as well as Strunk et al. (2010a) found that therapist competence is associated with improved therapy outcomes and therapists who are more competent have better patient outcomes.

Wampold and Brown (2005) reported that about 5% of preoutcome and postoutcome variance is due to therapists, whereas Lutz et al. (2007) attributes 8% of the total variance and 17% of patient improvement to therapists. Dinger et al. (2008) also concluded that differences in therapist effectiveness influences the outcome of therapy. Several studies have been published that investigated therapist effectiveness in therapy (Kim et al., 2006; Okiishi et al., 2006). These studies stress the importance of therapist effectiveness, whereas more cautious researchers find the empirical evidence for substantive therapist differences sparse (Elkin et al., 2006).

(b) **Moderating Influence of Client Characteristics**

Clinical depression is a frequently chronic or recurrent illness that often requires several treatment trials before achieving remission. Identifying patient characteristics that might predict outcome to specific treatments for depression would clearly be clinically useful, through assisting the allocation of the right treatment to the right patient. Various investigators have sought to identify specific client characteristics that moderate and influence treatment effectiveness (Hollon et al., 2005; Leykin et al., 2007; Fournier et al., 2008).

With regard to the relationship between age and recovery, the findings are mixed. Hamilton and Dobson (2002) found that younger age at onset is associated with poor
response to CBT. Demyttenaere et al. (2009) and Fournier et al. (2009) found that lower age was related to positive treatment outcome. However, age has not been found to predict treatment outcomes by several researchers (Tuma, 1996; Hirschfeld et al., 1998). Petersen et al. (2002) and Szadoczky et al. (2004) concluded that age has not been found to predict treatment outcomes.

Petersen et al. (2002) and Szadoczky et al. (2004) also concluded that gender has not been found to predict treatment outcomes. Watson and Nathan (2008) suggested that men and women have about the same chances of benefiting from CBT. Parker et al. (2010) found that there is no consistent evidence to suggest that gender has any impact on response to psychotherapy.

Hollon et al. (2005) found that married people had positive effect on CBT outcome. Weinberger et al. (2008) found that marital status affected the outcome and course of depression. Van et al. (2008) found that people who were married responded better to CBT. Demyttenaere et al. (2009) and Fournier et al. (2009) found that being married was associated with better outcome to therapy. However, Sotsky and colleagues (1991) found no evidence that marital status predicted differential response.

Patient preferences refer to what the patients want from their psychotherapists or psychotherapy in contrast to what they expect. Three types of preferences are role preferences, preferences for the type of treatment and preferences for the type of therapist (Glass et al., 2001). Specifically, focusing on the type of treatment, clients may express preference for treatment or no treatment, psychotherapy or pharmacotherapy, cognitive behavioural or interpersonal psychotherapy, individual or group therapy, brief or long term psychotherapy, etc. Numerous studies have indicated that clients do indeed have preferences in such areas (Aita et al., 2005; Riedel-Heller et al., 2005). Concerning the effect of client treatment preference on treatment delivery, the American Psychological Association (2006) and other health care organizations have deemed the inclusion of client preferences as an important part of best practice standards. Although, American Psychological Association has emphasized the importance of including client preferences in the delivery of treatment, empirical reviews of the literature have illustrated mixed findings concerning the effects of client treatment preferences on observed therapy.
outcome. Lin et al. (2005) concluded that obtaining preferred treatment appears to contribute to improved treatment outcome. Swift and Callahan (2009) as well as Kocsis et al. (2009) found that clients’ preference had an effect on treatment outcome, signifying an advantage for those clients who matched to their preferred treatment compared with non-matched clients. Moreover, clients who received their preferred treatment were significantly less likely to drop out compared with clients who did not receive their preferred treatment. Kwan et al. (2010) examined the effects of treatment preference on attrition, therapeutic alliance and change in depressive severity in a longitudinal randomized clinical trial comparing pharmacotherapy and psychotherapy. Prior to randomization, 106 individuals with major depressive disorder reported whether they preferred psychotherapy, antidepressant medication, or had no preference. A mismatch between preferred and actual treatment was associated with greater likelihood of attrition, fewer expected visits attended and a less positive working alliance. There was a significant indirect effect of preference match on depression outcomes, primarily via effects of attendance. These findings highlight the importance of addressing patient preferences, particularly in regard to patient engagement, in the treatment of major depressive disorder. However, Glass et al. (2001) reviewed 10 studies examining the relation between matching clients to a preferred treatment and therapy outcome. Of those 10, only two found a positive relationship while the remainder found a mixed or no relationship between treatment preference matching and outcome. King et al. (2005) also found minimal or no effect of client preference on treatment outcome.

The existing literature suggests that early prognostic beliefs or anticipation of relief (either positive or negative) play a key role in subsequent response to treatment (Dozois & Westra, 2005; Greenberg et al., 2006b). Westra et al. (2002) found that negative expectations about treatment outcome may be associated with reduced treatment benefit in CBT and may place the individuals at significantly greater risk of premature treatment termination. Burlingame et al. (2004) and Grawe (2004) reported that therapeutic outcome in CBT is affected by patients’ expectations about the treatment. Miklowitz (2005) also found that pretreatment patients’ expectations greatly affect the treatment outcome. CBT is greatly efficacious when there is a match between the cognitive model and the client’s expectations of treatment. Patients with positive
expectations about CBT may be the ones who will respond most rapidly to the treatment. Sotsky et al. (2006) found that patients with higher expectation of improvement had a higher likelihood of recovery. Greenberg et al. (2006b) and Timmer et al. (2006) found that the relation of patient's positive expectations to outcome has been generally positive. Westra et al. (2007) found that patients' pretreatment expectations of therapeutic effectiveness predicted their active engagement in therapy, which then led to greater improvement across cognitive therapy. It is important to note that though only pretreatment expectancies were assessed; patients' expectancies after some experience of therapy may be an even stronger predictor of outcome. He also proposed that it is important to point out that homework compliance is one possible mechanism through which expectancies for change may influence treatment outcome. A patient who expects to improve is likely to be more engaged in treatment, possibly through alliance with the therapist. Seligman et al. (2009) reported that patients’ negative expectations have a negative effect on CBT outcome. On the contrary several researchers have found that patients’ expectations did not predict outcome at either the end or in the middle of therapy (Hamilton and Dobson, 2002; Vogel et al., 2006).

Another client characteristic which has been reported to have a significant effect on CBT outcome is the motivation level pertaining to treatment. For individuals who have not yet entered therapy, treatment motivation may refer to preliminary treatment-related behaviours such as the act of seeking or entering treatment. However, for individuals who are already participating in therapy, treatment motivation may refer to the client’s level of engagement and compliance with the prescribed therapy. Miller and Rollnick (1991), two leading researchers in the field, define motivation as “the probability that a person will enter into, continue and adhere to a specific change strategy”. For the purpose of this study, Miller and Rollnick’s definition of motivation (i.e. initiating and adhering to a change strategy) was used when subsequently referring to the patient’s motivation for treatment. CBT may be most effective when people are engaged, involved and motivated for treatment. The motivation to engage in the therapy should also be an important predictor of the outcome (Grawe, 1997). Specifically, a positive outcome to CBT was observed for people, who expected to gain help through behavioural and cognitive changes (Gaston et al., 1989); were committed to treatment

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(Marmar et al., 1985); showed an initial positive response to therapy (Beckham, 1989) and were willing to learn new coping strategies (Burns & Nolen-Hoeksema, 1991). Westra and Phoenix (2003) found that if patients were taught motivational enhancement interventions, then there is marked improvement in symptomatology. There has been a considerable amount of research that has demonstrated that level of overall motivation at the outset of treatment is a significant predictor of treatment response in various psychiatric disorders (Vansteenkiste et al., 2005; Arkowitz et al., 2008). Grawe (2004) reviewed that the patients’ motivation to participate in the treatment act as a catalyst for therapeutic change. Zuroff et al. (2007) found that motivation was a stronger predictor of higher probability of achieving remission and lower post treatment depression severity across all three treatments interventions (i.e. depressed outpatients were randomly assigned to receive 16 sessions of manualized interpersonal therapy, cognitive-behavior therapy, or pharmacotherapy with clinical management). Fluckinger et al. (2008) stated that psychotherapy can only work with what the patient brings to therapy - specifically, his or her motivational readiness and abilities. On the contrary, Vogel et al. (2006) found that high level of motivation to change was not significantly related to post-treatment outcome. Similarly, in a study conducted by Pinto et al. (2007) motivation scores at admission were not predictive of treatment response.

Thus, we can say from the above research studies that there are mixed findings regarding the effect of age, gender, marital status, preferences to engage in the therapy, expectations and motivation level of the clients on the outcome of CBT.

1.13 PRESENT STUDY

From the review of literature, we can conclude that depression is the common cold of mental disorders. Depression is among the most prevalent of all psychiatric disorders and from a societal perspective, is perhaps the most costly. It is also a highly recurrent disorder with increasingly younger age of onset for the initial episode (Gotlib & Hammen, 2009). Depression is a difficult to treat condition. The ultimate goals for the long term treatment of depression are:
(a) To help achieve remission
(b) To keep the patient as asymptomatic as possible
(c) To manage risk factors for subsequent episodes.

By anticipating and adjusting treatment to meet patients’ changing needs over time, the clinicians can help them achieve and maintain remission from depression (Shelton, 2009). Though there are various interventions for depression, cognitive behaviour therapy (CBT) is one of the most efficacious intervention used for several reasons. It relies on various cognitive and behavioural techniques to alter dysfunctional thoughts and behaviour patterns. CBT is a process of teaching, coaching and reinforcing positive behaviours. CBT helps people to identify cognitive patterns or thoughts and emotions that are linked with behaviours. CBT is a psychological treatment that addresses the interaction between how we think, feel and behave. It is usually time limited (10-20 sessions), focuses on current problems and follows a structured style of intervention. The development and administration of CBT have been closely guided by research. Evidence now supports the effectiveness of CBT for many common mental disorders. For some disorders, carefully designed research has led international consensus panels to identify CBT as the current “treatment of choice”. CBT has been studied and effectively implemented with persons who have multiple and complex needs and who may be receiving additional forms of treatment or have had no success with other kinds of treatment.

In the present study, an effort has been made to study the three treatment modalities (i.e. medication alone, a combination of CBT and medication as well as CBT alone) and to see whether these three treatment interventions can bring about a reduction in the level of depression and an improvement in the adjustment and self esteem level of depressed clients or not. This study has also seen whether the three treatment interventions help the depressed clients in reducing their maladaptive coping styles and developing more adaptive and rational coping strategies. It has also been seen which of the three treatment interventions show the greatest efficacy in reducing the level of depression as well as maladaptive coping skills and in improving the self esteem, adjustment and rational coping skills among depressed clients. In the present study an
effort has also been made to see whether the age, gender, marital status, preferences, expectations and the motivation level of the clients affect the outcome of CBT.

1.14 OBJECTIVES

Keeping in view the significance of CBT as a mode of intervention the following objectives have been formulated:

1a. To study whether each of the three treatment interventions (i.e. Medication alone, a combination of CBT and medication as well as CBT alone) will show a significant reduction in the level of depression.

1b. To study whether there will be a significant difference in the effectiveness of the three treatment interventions (i.e. Medication alone, a combination of CBT and medication as well as CBT alone) in reducing the level of depression among depressed clients.

2a. To study whether each of the three treatment interventions will show a significant improvement in the level of self esteem.

2b. To study whether there will be a significant difference in the effectiveness of the three treatment interventions in improving the self esteem of depressed clients.

3a. To study whether each of the three treatment interventions will show a significant improvement in the level of adjustment.

3b. To study whether there will be a significant difference in the effectiveness of the three treatment interventions in improving the adjustment level of depressed clients.

4a. To study whether each of the three treatment interventions will show a significant reduction in the maladaptive coping skills of confrontive coping (hostile and aggressive behaviours), distancing (detachment and denial), self controlling (inhibition of feelings and actions), accepting responsibility (feelings of self blame and self criticism) and escape avoidance (wishful thinking and behavioural efforts to escape or avoid the problem).
4b. To study whether there will be a significant difference in the effectiveness of the three treatment interventions in reducing these maladaptive coping strategies among depressed clients.

5a. To study whether each of the three treatment interventions will show a significant improvement in the rational coping skills of seeking social support (emotional, instrumental and sometimes informational assistance or help), planful problem solving (active cognitive and behavioural attempts to manage stress) and positive reappraisal (reframing the situation to see it in a positive light).

5b. To study whether there will be a significant difference in the effectiveness of the three treatment interventions in improving these rational coping skills.

6. To study whether there will be a significant difference in the outcome of CBT with reference to the clients’ age, gender and marital status.

7. To study whether there will be a significant difference in the outcome of CBT with reference to the clients’ preferences, expectations and their motivation level.

1.15 HYPOTHESES

Keeping in view the objectives of the study, the following hypotheses have been framed:

1a. All the three treatment interventions (i.e. Medication alone, a combination of CBT and medication as well as CBT alone) will show a significant reduction in the level of depression.

1b. There will be a significant difference in the effectiveness of the three treatment interventions in reducing the level of depression among depressed clients.

1c. It is also hypothesized that CBT either in combination with medication or when applied alone will be more effective than medication alone in reducing the level of depression.
2a. All the three treatment interventions will show a significant improvement in the level of self esteem.

2b. There will be a significant difference in the effectiveness of the three treatment interventions in improving the self esteem of depressed clients.

2c. It is also hypothesized that CBT either in combination with medication or when applied alone will be more effective than medication alone in improving the self esteem of depressed clients.

3a. All the three treatment interventions will show a significant improvement in the level of adjustment.

3b. There will be a significant difference in the effectiveness of the three treatment interventions in improving the adjustment level of depressed clients.

3c. It is also hypothesized that CBT either in combination with medication or when applied alone will be more effective than medication alone in improving the adjustment level of depressed clients.

4a. All the three treatment interventions will show a significant reduction in the maladaptive coping skills of confrontive coping (hostile and aggressive behaviours), distancing (detachment and denial), self controlling (inhibition of feelings and actions), accepting responsibility (feelings of self blame and self criticism) and escape avoidance (wishful thinking and behavioral efforts to escape or avoid the problem).

4b. There will be a significant difference in the effectiveness of the three treatment interventions in reducing these maladaptive coping skills.

4c. It is also hypothesized that CBT either in combination with medication or when applied alone will be more effective than medication alone in reducing these maladaptive coping skills among depressed clients.

5a. All the three treatment interventions will show a significant improvement in the rational coping skills of seeking social support (emotional, instrumental and
sometimes informational assistance or help), planful problem solving (active cognitive and behavioural attempts to manage stress) and positive reappraisal (reframing the situation to see it in a positive light).

5b. There will be a significant difference in the effectiveness of the three treatment interventions in improving these rational coping skills.

5c. It is also hypothesized that CBT either in combination with medication or when applied alone will be more effective than medication alone in improving these rational coping skills among depressed clients.

6. There will be no significant difference in the outcome of CBT with reference to the clients’ age, gender and marital status.

7. There will be no significant difference in the outcome of CBT with reference to the clients’ preferences, expectations and their motivation level.