CHAPTER I

INTRODUCTION
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1.1 Depression: A Silent Killer

Depression, the silent killer has become one of the alarming crises in today's fast paced society. Even without the presence of any actual illness, major depression robs off all self worth, self-esteem, self-confidence and self-image. We live in a fast paced world. The pressures we are under to perform and produce results are insurmountable. And then there are the actions of those around us that sicken us to our souls and make us think that the world is a sad place to live in. There are days when we don't want to get out of bed. There are nights when we can't sleep. There are times when we wonder what exactly is the purpose of our place on earth and would anyone truly miss us if we were no longer around.

Depression is still looked upon as a taboo subject, which is ridiculous when we realize how many people suffer from depression. There are varying degrees of depression. Some mild, some quite severe and debilitating. The most severe of all is the degree of depression, which leaves the sufferer feeling alone, lost, and without hope for long periods of time culminating in suicide...the only way out the sufferer can see.

What does depression originate from? In this 21st century we are very much familiar with the term 'Mood'. Every normal individual experience a wide range of mood variations during their lifetime. Mood may be normal, elevated or depressed. When an individual experiences elevated mood, he shows expansiveness, flight of ideas, high self-esteem and grandiose ideas. On the contrary, an individual with depressed mood expresses lack of energy, low self-esteem, loss of interest and thoughts of death.

Major depressive disorder, commonly referred to as 'depression,' can severely disrupt one's life, affecting appetite, sleep, work, and relationships.
Mood disorder involves severe alterations in mood for prolonged period of time. The signs and symptoms of mood disorder include changes in activity level, cognitive abilities, speech and vegetative functions e.g.- sleep, appetite, sexual activity etc.

For mood disorder 'depression' is the most deadly one affecting a large number of population across the world. Depressive disorder occurs with alarming frequency at least 10 to 20 times more frequently than Schizophrenia. The lifetime prevalence rate of depression for males and females are 13% and 21% respectively (Kessler et al., 1994).

Depression is an emotional state of dejection, feeling of worthlessness, guilt accompanied by apprehension. Depression can be of two types- Endogenous and Exogenous. Endogenous depression is self-made, largely of ones own making without any apparent reason e.g.- observing colleague’s prosper. Endogenous or reactive depression is due to factors beyond one control such as noise, environment and so on.

In contrast to the normal emotional experiences of sadness, loss or passing mood states, clinical depression is persistent and can interfere significantly with an individual’s ability to function. ‘Depression’ is a universal, timeless and ageless human affliction. It affects the way a person eats and sleeps, the way one feels about oneself, and the way one thinks about things. A depressive disorder is not the same as a passing blue mood. It is not a sign of personal weakness not a condition that can be willed or wished away. The economic cost of this disorder is high, but the cost in human suffering cannot be estimated.

Depression is rightly known as silent disease because it slowly affects an individual and the individual remain unknown at the initial stage. Most of the people get depressed from time to time. With the advancement of the society in science and technology, life has become more complicated and we have to face competition everywhere. When people cannot cope with the stressful
situation, when peoples' needs are not fulfilled, they eventually fall prey to depression.

Earlier depression was considered as a disorder of middle aged or older people. Gradually this conception has changed. Nowadays it is evident that the most common age for onset of depression is youth or early adulthood (Burke et al., 1990). Klerman and Weissman (1989) were among the first to note that rates of depressive disorder were relatively higher in those born more recently. Another study carried out in the United States confirms the said findings (Burke, Burke, Rae and Regier, 1990 and 1991; Ryan et al., 1992; Lewinsohn et al., 1993).

Women experience depression about twice as often as men (Sorenson, Rutter and Aneshensel, 1991; Blazer et al., 1994). Many hormonal factors may contribute to the increased rate of depression in women—particularly such factors as changes in menstrual cycle, pregnancy, miscarriage, postpartum period, pre-menopause and post-menopause. Although men are less likely to suffer from depression than women, three to four million men in the United States are affected by the illness. Men are less likely to admit depression.

The rate of suicide in men is four times that of women, though more women attempt it. Men's depression is often masked by alcohol or drugs, or by the socially acceptable habit of working excessively long hours. Depression typically shows up in men not as feeling hopeless and helpless, but as being irritable, angry, and discouraged; hence depression may be difficult to recognize among men.

In Indian psyche, the 'male' identity tends to overshadow the limitations caused by any kind of mental problem. The position of women however differs. The marital status of a woman often acts as a determining factor of her position in her family as well as in the society. A girl's life is perceived as incomplete in Indian culture if she remains a spinster all her life. Even after marriage also, motherhood plays an important role in determining the social
status of a woman. Such women are perceived as social burden and hence are more vulnerable to depression.

The concept and scenario of mental problem is changing very rapidly, yet in our country most of the people are not aware of mental illness. Here any mental problem is termed as 'Madness', Lack of awareness and stereotyped thoughts push us into the deep well of darkness. So, we often cannot understand their problems, their feeling and their unspoken pain. This negligence makes the depressed persons more sad and unhappy and hence prolongs their recovery.

The significance of Public health has been known for nearly 2,500 years and mood disorders continue to command major public health interest. The term ‘mood disorders’ group together a number of clinical conditions whose common and essential features are disturbance of mood, accompanied by related cognitive, psychomotor, psychophysiological and interpersonal difficulties.

Mood disorders are best considered as syndromes (rather than discrete diseases) that consist of a cluster of signs and symptoms that are sustained over a period of weeks to months, represent a marked departure from a person's habitual functioning and tend to recur often in periodic or cyclic fashion.

Diagnostic and Statistical Manual (DSM-IV) classifies mood disorders as Depressive Disorders (unipolar depression), the Bipolar Disorders, mood disorders due to a general medical condition and substance abused mood disorder (the last two are based on etiology). Depression is the most common mood disorder.

Depression is one of the major health problems affecting a large number of population especially younger generations across the world. It is estimated
that in the next two/three years this disease will affect majority of the population.

The term ‘depression’ is used in everyday language to describe a range of experiences from a slightly noticeable and temporary mood decrease to a profoundly impaired and even life-threatening disorder. When used to describe a mood, the term conveys a temporary state of dysphoria that may last a few moments, hours or even a few days. As such, it is usually a normal reaction to an upsetting event, or even an exaggerated description of a typical event. 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.

1.2 Symptoms Of Depression:

Depressed people may differ from one another by the number, unique patterns and severity of the symptoms. The various symptoms of depression are:

1.2.1 Affective Symptoms: Depression is one of the several disorders generally called affective disorders, referring to the manifestations of abnormal affect or mood as a defining feature. The various affective symptoms of depression are:

i) Depressed Mood: It is always present in a mild or severe form. In its mildest form, the individual experiences a flattering of affect, and as the depression increases, the individual is more miserable and unhappy. He becomes preoccupied with gloomy thoughts and tends to look on the dark side of the things. Thus, depressed mood, sadness, feeling low, down in the dumps or empty is typical. The
depressed mood can be inferred from the person's facial expression and demeanor.

ii) Irritability: Depressed individuals often exhibit irritability, e.g. persistent anger, a tendency to respond to events with angry outbursts or blaming others, or an exaggerated sense of frustration over minor matters. In children and adolescents, an irritable or cranky mood may develop a sad or dejected mood.

iii) Loss Of Interest: The experience of loss of interest or pleasure is one of the most common features of the depressive syndrome, according to many studies on depressed adults and teenagers of many different countries (Klinger, 1993). Depressed individuals often report feeling loss of interest or pleasure, a feeling of "blah", listlessness and apathy. Nothing seems enjoyable -- not even experiences that previously elicited positive feeling, including work and recreation, social interaction, sexual activity and the like. Pass times are no longer enjoyable; even pleasurable relationships with one's family and friends may no longer hold appeal or even become negative, and the individual may find it hard to think of things to do that might help to relieve the depression even temporarily.

Nothing can permanently raise his interest, nothing gives him pleasure, even when the person is accomplishing an important task, and there is little sense of satisfaction. Some severely depressed individuals often describe the loss of pleasure as seeing the world in black, white and gray with no color.

1.2.2 Cognitive Symptoms: Some researchers have defined depression as a disorder of 'thinking', as some have defined it as a disorder of 'mood'. The important cognitive symptoms are:
i) **Negativistic Thinking:** Depressed people typically have negative thoughts about themselves, their world and their future. The negativistic thinking is commonly irrational and distorted and represents very different interpretations of the self and the world during the depressed state than an individual would typically display when not depressed. This cognitive feature of depression has been given particular emphasis by some investigators, who note that thinking in such grim and self-critical ways actually makes people more depressed and prolong their depression.

ii) **Guilt Feeling:** The depressed individuals often experience themselves as incompetent and worthless, and are relentlessly critical of their own act and characteristics. They often feel guilty as they dwell on their perceived shortcomings. The guilt feeling in depression varies from culture to culture, and it often does not appear in patients from African and Asian cultures, whereas in Europe, and U.S.A., about three in four patients exhibit guilt to some degree.

iii) **Low Self-esteem:** It is a common attribute of depression. Individual may feel helpless to manage their lives and resolve problems. They may be viewing their lives and futures as black and unrewarding, feeling that change is not only pointless but also essentially unattainable.

iv) **Suicidal Thoughts:** Depressed individuals often think that they are superfluous in the world and they do not have any right to retain their lives any longer. Cognition reflecting hopelessness about one's ability to control desired outcomes may be common, and the resulting despair may also give rise to thoughts of wanting to die or to take one's own life. The suicidal thoughts range from a belief that others would be better off if the person was dead, to transient but recurrent thoughts of committing suicide, to actual specify plans of how to commit suicide. The frequency, intensity and lethality of
these thoughts can be quite variable. Less severely suicidal individuals may report transient (1 to 2-minute), recurrent (once or twice week) thoughts. More severely suicidal individuals may have acquired materials (e.g. a rope or a gun) to be used in the suicide attempt and may have established a location and time when they will be isolated from others so that they can accomplish the suicide. Motivations for suicide may include a desire to give up in the face of perceived insurmountable obstacles or an intense wish to end an excruciatingly painful emotional state that is perceived by the person to be without end.

v) Impaired Mental Process: In addition to negativistic thinking, depression is often marked by difficulties in mental processes involving concentration, decision-making and memory. The depressed person may find it enormously difficult to make even simple decisions, and significant decisions may seem beyond one's capacity altogether. Depressed patients often report problems in concentrating, especially when reading or watching television, and memory may be impaired (Watts, 1993). Memory problems, in fact, often lead depressed people to worry further that their minds are failing, and hence the problem becomes more dangerous.

1.2.3 Behavioral Symptoms: The important Behavioral symptoms of depression are:

i) Social Withdrawal: Depression leads to social withdrawal. Because of the apathy, diminished motivation and interest. It is common for depressed individuals to withdraw from social activities or reduce their typical behaviour. In severe depression, the individual might stay in the bed for prolonged periods.

ii) Psychomotor Changes: Actual changes in movements, called psychomotor changes are often observed taking the form of being
slowed down or agitated and restless. Some depressed individuals may talk and move very slowly, their faces showing little animation with their mouths and eyes seeming to droop as if weighted down. Their speech is marked by pauses, fewer words, a monotonous voice and less eye contact (Cloitre, Katz and Van Praag, 1993). In severe forms, the depressed individual’s activity is diminished, the voice fades and speech becomes an indistinct mumble and finally ceases, leading to mutism.

1.2.4 Somatic Symptoms: Some somatic symptoms are characteristic of depression and may even come to dominate the clinical picture. The various somatic symptoms are:

i) Reduced Energy: It is a very frequent complaint (occurring in 93% of depressed patients as reported in a study by Buchwald and Rudick-Davis, 1993). Depressed patients feel a general loss of energy, quickly become tired and completely exhausted, and have vague feeling aches in the muscles and complain of headache. Depressed patients complain of listlessness, lethargy, feeling heavy and leaden, and lacking the physical stamina to undertake or complete tasks.

ii) Gastro-intestinal Symptoms: The Gastro-intestinal symptoms are very common among depressed individuals like decrease in appetite, loss of interest in food, dryness of mouth and constipation and this decreased appetite results in weight loss. To some depressed individuals appetite changes may take the form of increased appetite with corresponding weight gain.

iii) Insomnia/Hypersomnia: Sleep changes are one of the hallmarks of depression, and can take several forms like difficulty falling asleep, staying asleep or too much sleep. Depressed patients often experience what is called “Early Morning Awakening”, which
occurs 2-3 hours before the patient's usual time of waking up; usually with difficulty falling back asleep as a result he lies awake feeling un-refreshed and often restless and agitated. The patient thinks about the past failures and a gloomy future. It is this combination of 'early morning awakens' with 'depressive thinking' that is important in diagnosis. In some depressed patients, hypersomnia rather than early morning awakening may occur, but they still report that the sleep was not refreshing.

iv) Loss Of Libido: Another important somatic symptom of depression is the loss of libido. Loss of libido occurs early in the development of depressive illness. Depressed men may complain of difficulty with erections, of an inability to ejaculate and finally of complete impotence. Among depressed women, amenorrhea and loss of sexual interest is common.

Besides, sometimes depressive patients complain about palpitations, breathlessness, and pain in the chest, feeling dizzy, fainting, trembling, choking and sweating with a sense of impending doom.

1.3 Types Of Depression:

According to the Diagnostic and Statistical manual of Mental Disorder (DSM-IV), Depressive disorder basically takes one of the three following forms:

1.3.1 Major Depressive Disorder
1.3.2 Dysthymic Disorder
1.3.3 Depressive Disorder not otherwise specified (including several forms of briefer on milder period of depression). These conditions are briefly described.
1.3.1 Major Depressive Disorder:

i) Essential Features: The essential features of major depressive disorder are a clinical course that is characterized by one or more major depressive episodes without a history of Manic, Mixed or Hypomanic episodes. The essential feature of a major depressive episode is a period of at least two weeks during which there is either depressed mood or the loss of interest or pleasure in nearly all activities. And the mood in a major depressive episode is often described by the depressed person as depressed, sad, hopeless, discouraged or 'down in the dumps'. Loss of interest or pleasure is nearly always present, at least to some degree. Individuals may report feeling less interested in hobbies, "not caring any more", or not feeling any enjoyment in activities that were previously considered pleasurable including sex. Besides these, other symptoms of major depressive disorder are:

- Feeling of hopelessness, pessimism.
- Feeling of guilt, worthlessness, helplessness.
- Decreased energy, fatigue, being "slowed down".
- Difficulty in concentrating, remembering and making decisions.
- Insomnia or hypersomnia.
- Loss of appetite and/or weight loss or over eating and/or weight gain.
- Thoughts of death or suicide, suicidal attempts.

Other associative features of major depressive disorders are irritability, brooding, obsessive rumination, anxiety, phobias, excessive worrying over physical health, and complaints of pain (e.g. headaches or joint, abdominal or other pains). In children, separation anxiety may occur.

Major Depressive Disorder is often associated with high mortality. 15.0% individuals with severe major depressive disorder die by committing suicide. Epidemiological evidence also suggests that
there is a fourfold increase in death rates in individuals with Major Depressive Disorder who are over 55 years of age. Individuals with Major Depressive Disorder admitted to nursing homes may have a markedly increased likelihood of death in the first year.

Major Depressive Disorder may be preceded by Dysthymic Disorder (10% in epidemiological samples and 15% - 25% in clinical samples). It is also estimated that each year approximately 10% of individuals with Dysthymic Disorder alone have their first major depressive episode. Other mental disorders frequently co-occur with Major Depressive Disorder e.g. Substance-Related Disorders, Panic Disorder, Obsessive-Compulsive disorder, Anorexia nervosa, Bulimia nervosa, Borderline Personality Disorder.

Major Depressive Disorder may be associated with chronic general medical conditions. 20% - 25% of the individuals with certain medical condition (e.g. - diabetes, myocardial infarction, carcinomas, stroke etc.) may develop Major Depressive Disorder during the course of the general medical condition (Source: Diagnostic and Statistical Manual of Mental Disorder, IV).

ii) Specific Culture, Age And Gender Features: Culture can influence the experience and communication of symptoms of Major Depressive Disorder. In some cultures, Major Depressive Disorder may be experienced largely in somatic forms, rather than with sadness or guilt. Complaints of "nerves" and headaches (In Latino and Mediterranean culture), of weakness tiredness or "indolence" (in Chinese and Asian cultures), of problems of "heart" (in middle eastern cultures) or of being 'heartbroken' (among Hopi) may express the depressive experience. Major depressive disorder (Single or Recurrent) is twice as common in adolescents and adult females as in adolescents and adult males. Pre pubertal children, boys and girls are equally affected. Certain symptoms such as Somatic
Complaints, motor retardation, hypersomnia and delusions are less common in puberty than in adolescence and adulthood. Rates in men and women are highest in the 25 - 44 year age group, where as rates are lower for both men and women over age 65 years (Source: Diagnostic and Statistical Manual of Mental Disorder, IV).

Major Depressive Disorder may begin at any age, with an average age at onset being the mid 20's.

**iii) Prevalence:** Studies of Major Depressive Disorder have reported a wide range of values for the proportion of the adult population with the disorder. The lifetime risk for Major Depressive Disorder in community samples has varied from 10% to 25% for men. The point prevalence of Major Depressive Disorder in adults in community samples has varied 2% to 3% for men (Source: Diagnostic and Statistical Manual of Mental Disorder, IV, p. 341).

Major Depressive Disorder is 1.5 - 3 times more common among first-degree biological relatives of persons with this disorder than among the general population. There is evidence for an increased risk of Alcohol Dependence in adult first-degree biological relatives, and there may be an increased incidence of Attention-Deficit / Hyperactivity Disorder in the children of adults with this disorder (Source: Diagnostic and Statistical Manual of Mental Disorder, IV, p. 341).

### 1.3.2 Dysthymic Disorder:

**i) Essential Features:** The essential feature of Dysthymic Disorder is a chronically depressed mood that occurs for most of the days for at least 2 years. Individuals with Dysthymic Disorder describe their mood as sad or "down in the dumps". In children, the mood may be irritable rather than depressed, and the required minimum duration is only 1 year.
Several studies suggest that the most commonly encountered symptoms of Dysthymic Disorder are:

- Feelings of inadequacy.
- General loss of interest or pleasure.
- Social withdrawal.
- Feeling of guilt or brooding about the past.
- Subjective feelings of irritability or excessive anger.
- Decreased activity, effectiveness or productivity.

In individuals with Dysthymic Disorder, vegetative symptoms (e.g. sleep, appetite, weight change, and psychomotor symptoms) appear to be less common than for persons in a Major Depressive Episode. When Dysthymic Disorder without prior Major Depressive Disorder is present, it is a risk factor for developing Major Depressive Disorder (10% of individuals with Dysthymic Disorder will develop Major Depressive Disorder over the next year). Dysthymic Disorder may be associated with Borderline, Histrionic, Narcissistic, Avoidant, and Dependent Personality Disorders. However, the assessment of features of a Personality Disorder is difficult in such individuals because chronic mood symptoms may contribute to interpersonal problems or be associated with distorted self-perception. Other chronic Axis I disorders are e.g., Substance Dependence or chronic psychosocial stressors may be associated with Dysthymic Disorder in adults. In children, Dysthymic Disorder may be associated with Attention-Deficit/Hyperactivity Disorder, Conduct Disorder, Anxiety Disorders, Learning Disorders, and Mental Retardation.

**ii) Associated Laboratory Findings:** About 25-50% of adults with Dysthymic Disorder have some of the same polysomnographic features that are found in some individuals with Major Depressive Disorder e.g. reduced rapid eye movement, latency, increased REM density, reduced slow-wave sleep, impaired sleep continuity. Those individuals with polysomnographic abnormalities more often have a positive family history for Major Depressive
Disorder (and may respond better to antidepressant medications) than those with Dysthymic Disorder without such findings. Whether polysomnographic abnormalities are also found in those with "pure" Dysthymic Disorder (i.e., those with no prior history of Major Depressive Episodes) is not clear. Dexamethasone nonsuppression in Dysthymic Disorder is not common, unless criteria are also met for a Major Depressive Episode.

**iii) Specific Age And Gender Features:** In children, Dysthymic Disorder seems to occur equally in both sexes and often result in impaired school performance and social interaction. Children and adolescents with Dysthymic Disorder are usually irritable and cranky as well as depressed. They have low self-esteem and poor skills and are pessimistic. Among adults, women are two to three times more likely to develop Dysthymic Disorder than men.

**iv) Prevalence:** The lifetime prevalence of Dysthymic Disorder (with or without superimposed Major Depressive Disorder) is approximately 6%. The point prevalence of Dysthymic Disorder is approximately 3%.

**v) Familial Pattern:** Dysthymic Disorder is more common among first-degree biological relatives of people with Major Depressive Disorder than among the general population.

### 1.3.3 Depressive Disorder Not Otherwise Specified:

The 'Depressive Disorder Not Otherwise Specified' category includes disorders with depressive features that do not meet the criteria for Major Depressive Disorder, Dysthymic Disorder, Adjustment Disorder with Depressed Mood, or Adjustment Disorder with Mixed Anxiety and Depressed Mood. Sometimes depressive symptoms can present as part of an Anxiety Disorder Not Otherwise Specified. Examples of Depressive Disorder Not Otherwise Specified include:
i) **Premenstrual Dysphoric Disorder:** It occurs in most menstrual cycles during the past year, symptoms (e.g., markedly depressed mood, marked anxiety, marked affective liability, decreased interest in activities) regularly occurred during the last week of the luteal phase (and remitted within a few days of the onset of menses). These symptoms must be severe enough to markedly interfere with work, school, or usual activities and be entirely absent for at least 1-week post menses.

ii) **Minor Depressive Disorder:** Episodes of at least 2 weeks of depressive symptoms but with fewer than the five items required for Major Depressive Disorder.

iii) **Recurrent Brief Depressive Disorder:** If refers to depressive episodes lasting from 2 days up to 2 weeks, occurring at least once a month for 12 months (not associated with the menstrual cycle).

iv) **Post Psychotic Depressive Disorder Of Schizophrenia:** A major Depressive Episode that occurs during the residual phase of Schizophrenia.

v) **A Major Depressive Episode** superimposed on Delusional Disorder, Psychotic Disorder Not Otherwise Specified, or the active phase of Schizophrenia.

vi) Situations in which the clinician has concluded that a depressive disorder is present but is unable to determine whether it is primary, due to a general medical condition, or substance induced.

1.4 **Sub-Types Of Depression:**

In addition to the more formal diagnostic subtypes of depression currently included in the DSM-IV and ICD-10, that are defined by severity or duration, there is an enormous need to consider the possible qualitative
distinctions in depressions. As indicated by the heterogeneity of expressions of the features of depression, some seem more "biological" in presentation while others are more "psychological". Also, the depressions may vary considerably in their possible etiological factors, including both biological and psychological origins.

Historically, research has focused on the neurotic-psychotic, reactive-endogenous, and endogenous-non-endogenous subtypes, but the terms psychotic and endogenous have variously referred to severity or qualitative distinctions, or to absence of precipitating stressors, often with different investigators using the same term with different operational criteria. A theme cutting across the search for subtypes has been the idea that there are "biological" (endogenous) depressions that are diseases arising in the absence of environmental precipitants vs. 'psychological' depressions that stem from personality or situational factors. As Zimmerman, Coryell, Stangl, and Pfohl (1987) noted labels for "endogenous" depression have included vital severe, major incapacitating, psychotic, primary, retarded, melancholic, autonomous, and endogenomorphic, while "nonendogenous" depressions, have been variously termed neurotic, reactive, characterologic, atypical, secondary, mild, psychogenic, situational, and nonmelancholic.

The following are clinically derived sub-groups based on descriptive features:

i) **Melancholic Features:** It include loss of pleasure in all or almost all activities, lack of reactivity to pleasurable stimuli such that even good events, funny stories, or enjoyable experiences do not elicit any (or only a small amount) of positive reaction. Also, depression is regularly worse in the morning than evening (diurnal variation), the person shows excessive or inappropriate guilt, early morning awakening, marked psychomotor change (retarded or agitated), significant loss of appetite and weight loss. The person with melancholia may also experience the depression as having a distinct quality that is different from the kind of sadness felt after the death of a loved one. The melancholic subtype of depression appears to predict a favorable
response to antidepressant medications (Jouce and Paykel, 1989; Rush and Weissenburger, 1994), and therefore might have important treatment implications. It has also been found to correlate with certain abnormal biological functions that some have speculated are indicators of an underlying depressive 'disease' (Rush and Weissenburger, 1994). Individuals who display the melancholic subtype tend to show similar features during subsequent episodes (Coryell et al., 1994).

ii) **Seasonal Pattern Depressions:** Seasonal pattern depressions refer to those that have an apparent regular onset during certain times of the year, and which also disappear at a characteristic time of the year. In the Northern hemisphere, the most common pattern is autumn or winter depressions, clearing up in the spring, although some individuals experience regular summer depressions. The seasonal pattern has been observed in 15% of patients with recurrent mood disorders, including both unipolar and bipolar forms (Faedda et al., 1993). Qualitatively, such depressive episodes are especially marked by low energy, more sleeping, over-eating and weight gain, and craving for carbohydrate foods (Jacobsen, Wehr, Sack, Karnes, and Rosenthal, 1986).

iii) **Depression With Psychotic Features:** Depression with psychotic features is usually a severe depression in terms of the general symptoms, and includes presence of either hallucinations or delusions. Typically, such hallucinations or delusions have a depressive theme, such as guilt due to the belief that one has caused a terrible misfortune, belief that one is deserving of punishment or is being punished (e.g. voices accusing one of sins or failures), nihilistic beliefs (delusions about the world ending or that one is going to be killed or is already dead), or bodily delusions (such as a belief that one is rotting away). Less often, depressed individuals may have delusions and hallucinations that are not related to depressive or destructive themes (e.g. belief that one's thoughts are being broadcast on the radio). Psychotic depression, even more than melancholic depressions, appear to be relatively stable over repeated episodes (Coryell et al., 1994;
Sand and Harrow, 1994); that is, if a person has a psychotic depression their future episodes are also likely to show psychotic features.

iv) Postpartum Depression: Many, perhaps most, women develop mild symptoms such as crying, insomnia, poor appetite, and mood variation in the period 3-7 days after giving birth. It is called "baby blues". These experiences are considered normal responses to the profound shifts in hormones. However, when a major depressive episode develops in the few weeks after delivery, it may be identified as major depression with postpartum onset. Generally speaking, the symptoms of postpartum depression are not different from symptoms of major depressives episode. Some studies have indicated that, if anything, postpartum depressions are generally milder than non-postpartum depressions (Whiffen and Gotlib, 1993). O'Hara and colleagues (1990) did not find any higher rates of postpartum depression than among demographically similar non-child bearing women. Moreover, several studies have indicated that postpartum status is probably not causally related to the depression. Instead, women who become depressed after childbirth are likely to have had previous emotional problems and vulnerabilities, with their depression likely the result of the stresses of having a child or marital difficulties (Gotlib, et al., 1991; O'Hara, et al., 1991). Women who do develop postpartum depression appear to be at increased risk for developing future depressive episodes, as indicated in a 41/2 year follow-up (Philipps and O'Hara, 1991).

1.5 Classification Used In Research:

Some other classifications of depression used in research include:

i) St. Louis Feigher Criteria: These criteria developed by Feigher et al., (1972) based on a distinction between 'primary' and 'secondary' depression as the central theme. This distinction is drawn on the basis of nature, history and antecedents of the disorder in a patient. When depression occurs in a patient with history of any other pre-existing psychiatric illness,
it is termed as 'secondary' depression; depression in the absence of such a history is 'primary'.

ii) Catego: Catego is based on the 9th version of the present state examination (PSE) developed by Wing et al., (1974). Catego describes three classes of depression, namely,

1. Class DT (or depressive psychosis),
2. Class R (or retarded depression), and
3. Class N (or neurotic depression).

It also describes four syndromes of depression, namely depressive delusions and hallucinations, simple depression, special symptoms of depression, and, other symptoms of depression.

iii) Research Diagnostic Criteria (RDC): Developed by Spitzer, Endicott and Robins (1978), RDC lists the various diagnostic categories of depression under two broad headings namely major depressive disorder and minor depressive disorder, on the basis of severity of symptomatology. Although the major depressive disorder has about 12 subtypes, they are not mutually exclusive. The minor depressive disorder has two subtypes.

The RDC follows endogenous-reactive, psychotic-neurotic distinction in the classification of depression. It is a precursor to the DSM-III, DSM-III-R and DSM-IV systems, and the resemblance is obvious. It has been extensively used in research in the past.

iv) Winokur's Familial System: Winokur (1979) has classified unipolar primary depression into the following categories:

1. Familial Pure Depressive Disease (FPDD), where there is a family history of depression.
2. Depressive Spectrum Disease, where there is a family history of alcoholism or sociopath but no family history of depression.

3. Sporadic depressive disease, where there is no history of depression, alcoholism or sociopath.

**1.6 Diagnosis Of Depression:**

The first diagnostic distinction to be made is the difference between unipolar depression and bipolar disorder. Unipolar depression includes only depressive conditions occurring in the absence of current or past mania or hypomania. Mania and Hypomania (mild mania) are episodes of abnormal elevations of activity level, self-esteem, mood and other features that are in many ways the opposite of depression. Individuals who have cycles of both depression and mania/hypomania are considered to have bipolar affective disorder, which is a chronic problem of recurrent symptoms, often marked only by extreme mood swings but even by psychotic experiences including delusions and hallucinations. Even though their depressions may be indistinguishable from those of people who have only the severe unipolar form of the disorder, individual with bipolar disorder are considered to have an etiologically different disorder with a different course, and require different types of treatment. Hence, it is very important to evaluate very carefully not only the current symptoms but also the past history of mood disorders, keeping in mind that research has found that about 10% or more of initially depressed people go on to develop bipolar episodes (Coryell et al., 1995).

Bipolar I disorder includes a history of episodes of depression and mania while depression with history of hypomania is called Bipolar II disorder. Bipolar II is relatively more difficult to detect if the hypersomnia is more subtle or brief. An additional diagnostic problem is that sometimes there is no history of previous mania or hypermania but the person is nonetheless suffering from bipolar disorder. It has been demonstrated in longitudinal research that approximately 15% of individuals initially diagnosed with:
"unipolar" depression eventually 'switch' to bipolar disorder with the eventual display of manic/hypomanic episodes. The study of Akishal et al., 1995; and Coryell et al., 1995 also indicated that about 4% depressive patients converted to Bipolar I disorder overtime, and 8.6% converted to Bipolar II disorder.

1.6.1 Major Depressive Disorder: Box 1 displays the diagnostic criteria for major depressive disorder, according to DSMIV, and Box- 3 (3.1) displays the very similar criteria in the International Classification of Diseases and related health problems (10th ed.) (ICD-10; World Health Organization, 1993). For the diagnosis of major depressive disorder the individual must experience the symptoms for all or most of the time for at least two weeks. Also, in order to be diagnosed, the episode must be clinically significant in terms of causing distress or impaired functioning in the person's typical social or occupational roles.

1.6.2 Dysthymic Disorder: Box 2 displays the diagnostic criteria for Dysthymic disorder, according to DSMIV, and Box- 3 (3.2) also displays the very similar criteria in the International Classification of Diseases and related health problems (10th ed.) (ICD-10; World Health Organization, 1993). Dysthymic disorder would be diagnosed if symptoms persisted for at least two years (although there might be brief periods of normal mood lasting not more than 2 months). Additionally, in order to be diagnosed, dysthymic disorder must be seen to cause significant distress or disruption in the person's significant areas of functioning.
Box 1: Criteria for Major Depressive Disorder

A. Five (or more) of the following symptoms have to be present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

(1) Depressed mood for most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g. appears tearful). In children and adolescents, can be irritable mood.

2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others)

3. Significant weight loss when not dieting or weight gain (e.g. a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. In children, consider failure to make expected weight gains.

4. Insomnia or hypersomnia nearly every day

5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feeling of restlessness or being slowed down)

6. Fatigue or loss of energy nearly every day

7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)

8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others)

9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide

B. The symptoms do not meet criteria for a Mixed Episode.

C. The symptoms are not due to the direct physiological effects of a substance (e.g. a drug of abuse, a medication) or a general medical condition (e.g. hypothyroidism).

D. The symptoms are not better accounted for by Bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.
Box 2: Diagnostic Criteria For Dysthymic Disorder

A. Depressed mood for most of the day, for more days than not, as indicated either by subjective account or observation by others, for at least 2 years. In children and adolescents, mood can be irritable and duration must be at least 1 year.

B. Presence, while depressed, of two (or more) of the following:
   (1) Poor appetite or overeating
   (2) Insomnia or hypersomnia
   (3) Low energy or fatigue
   (4) Low self-esteem
   (5) Poor concentration or difficulty making decision
   (6) Feelings of hopelessness

C. During the 2-year period (1 year for children or adolescents) of the disturbance, the person has never been without the symptoms in Criteria A and B for more than 2 months at a time.

D. No Major Depressive Episode has occurred during the first 2 years of the disturbance (1 year for children and adolescents); i.e., the disturbance is not better accounted for by chronic Major Depressive Disorder, or Major Depressive Disorder, In Partial Remission.

E. There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode, and criteria have never been met for Cyclothymic Disorder.

F. The disturbance does not occur exclusively during the course of a chronic Psychotic Disorder, such as Schizophrenia or Delusional Disorder.

G. The symptoms are not due to the direct physiological effect of a substance (e.g., drug of abuse, a medication) or a general medical condition (e.g. hypothyroidism).

H. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Box 3: Diagnostic Criteria For Depressive Disorders

(ICD-10, World Health Organization, 1993)

Note: General diagnostic criteria and clinical features are specified, but the following are the more precisely defined diagnostic criteria for research (for depressive episode and dysthymia)

3.1 Depressive Episode:

A. Symptoms must be present for at least weeks; the person did not meet criteria for mania or hypomania at any time.

B. a) Depressed mood most of the day and almost every day, uninfluenced by circumstances
   b) Loss of interest or pleasure in activities that are normally pleasurable
   c) Increased fatigability or decreased energy

C. a) Loss of confidence or self-esteem
   b) Unreasonable feelings of self-reproach or excessive and inappropriate guilt
   c) Recurrent thoughts of death or suicide, or any suicidal behaviour
   d) Complaints or evidence of diminished ability to think or concentrate, such as indecisiveness or vacillation
e) Change in psychomotor activity, with agitation or retardation (either subjective or objective)

f) Sleep disturbance of any type

g) Change in appetite (decrease or increase) with corresponding weight change

Note: Depressive episodes may be diagnosed as:

- **Mild** (at least 2 from B plus at least 2 from C, for a total of at least 4);
- **Moderate** (at least 2 from B plus 3 or 4 from C, for a total of at least 6);
- **Severe depressive episode** without psychotic features (all 3 from B plus at least 4 from C, for a total of at least 9-no hallucinations, delusions or depressive stupor).

### 3.2 Dysthymia:

**A** There must be a period of at least 2 years of constant or constantly recurring depressed mood; intervening periods of normal mood rarely last for longer than a few weeks; and there are no episodes of hypomania.

**B** None, or very few, individual episodes within the 2 years period are sufficiently severe or long lasting to meet criteria for recurrent mild depressive disorder.

**C** During at least some of the periods of depression at least 3 of the following should be present:

- a) Reduced energy or activity
- b) Insomnia
- c) Loss of self-confidence or feelings of inadequacy
- d) Difficulty in concentrating
- e) Frequent tearfulness
- f) Loss of interest in or enjoyment of sex and other pleasurable activities
- g) Feeling of hopelessness or despair
- h) A perceived inability to cope with the routine responsibilities of everyday life
- i) Pessimism about the future or brooding over the past
- j) Social withdrawal
- k) Reduced talkativeness

### 1.6.3 Diagnosis Of Depression In Children And Adolescents:

There are three key issues about the diagnosis of depression in youngsters. One is that the same criteria used for adults can be applied and that the essential features of the depression syndrome are as recognizable in children as in adults (Carlson and Cantwell, 1980; Mitchell, Mc Cauley, Burke, and Moss, 1988). Second, because children's externalizing or disruptive behaviors attract more attention or are more readily expressed, compared to internal, subjective suffering, depression is sometimes
overlooked. It may not be recognized, or it might not be assessed. Childhood
depression has a high level of co-existing disorders, especially involving
conduct problems and other disruptive behaviors; such patterns give rise to
the erroneous belief that depression is 'masked.' Third, there are a few
features of the syndrome of depression, such as irritable mood, that are
more likely to be typical of children than of adults, leading to age-specific
modifications of the diagnostic criteria. Major depression, therefore, would
be diagnosed with adult criteria as in Box 1 and 3(3.1), but permitting
irritability instead of depressed mood. Dysthymia in children must persist at
least for one year (in adults duration is at least two years). According to a
recent study of dysthymic disorder in children, it differs from major
depression primarily in the emphasis on gloomy thoughts and other
negative affect, with fewer symptoms such as loss of interest, social
withdrawal, fatigue, and reduced sleep and poor appetite (Kovacs, Akiskal,
Gatsonis, and Arrone, 1994).

Developmental considerations should be taken into account when assessing
for depression in children. For instance, irritability may be substituted for
depressed mood because it is recognized both that irritability is a common
expression of distress in depressed youngsters and that young depressed
children may not express subjective negative affect. Goodyer and Cooper
(1993) found that 80% of their sample of 11-16 year-old girls with major
depressive episode reported irritability, while Ryan et al., (1987) observed
irritability or anger in 83% of a child and adolescent clinic sample.

Young depressed children, especially preschoolers and preadolescents, are
unlikely to report subjective dysphoria and hopelessness, but instead "look"
depressed in facial expression and posture (Carlson and Kashani, 1988;
Ryan et al., 1987). In adolescence, by contrast, depressed mood is
commonly reported by more than 90% of those with major depression
(Mitchell et al., 1988; Ryan et al., 1987). Also, younger depressed children
are more likely to have physically unjustified or exaggerated somatic
complaints (Kashani and Carlson, 1987; Ryan et al., 1987). In a community sample, depressive symptoms were more associated with physical complaints among 12-year-olds than they were for 17-year-olds (Kashani, Rosenberg, and Reid, 1989). Younger Children also show more irritability, uncooperativeness, apathy, and lack of interest (Kashani, Holcomb, and Orvaschel, 1986),

Two studies compared the symptoms of depressed youngsters and adults. Overall, several symptoms increase with age: loss of pleasure, psychomotor retardation, and diurnal variation, while several decrease with age: depressed appearance, physical complaints, and poor self-esteem (Carlosn and Kashani, 1988). Comparing combined child-adolescent groups with a sample of adults, Mitchell et al., (1988) found similar differences for self-esteem, somatic complaints, diurnal variation, and also found that adult depressed patients report less guilt and more early morning awakening and weight loss than do depressed youngsters.

In addition to presentation of depressive symptoms, patterns of comorbid disorders are also likely to be somewhat different at different ages. For instance, depressed children and young adolescents are more likely than depressed older adolescents to display separation anxiety disorders (Fleming and Offord, 1990). Other kinds of anxiety disorders and disruptive behavioral disorders appear to co-exist with depression for both children and adolescents.

There are several other symptoms frequently seen in children and adolescents. Social withdrawal is common in both the groups. Excessive worrying and other anxiety symptoms are common, as are oppositional and conduct problems (Goodyer and Cooper, 1993; Mitchell et al., 1988) Indeed, the likelihood of comorbid anxiety and disruptive behaviour disorder diagnoses is very high i.e., 60-70%. Somatic symptoms and bodily complaints are also frequently associated with depression, as noted earlier,
and problems with self-esteem - and in adolescent girls, distress over negative body image - are also common associated symptoms of depression (Allgood-Merten Lewinsohn, and Hops, 1990; Petersen, Sarigiani, and Kennedy, 1991).

Suicidal thoughts and attempts are among the diagnostic criteria for major depression. Suicidal ideation is quite common in depressed youngsters, occurring in about two-thirds of preschoolers, preadolescents, and adolescents (Kashani and Carlson, 1987; Mitchell et al., 1988; Ryan et al., 1987). Actual suicidal attempts occurred in 39% of the preadolescent and adolescent samples of Mitchell et al. (1988), with 6-12% of the Ryan et al. (1987) child and adolescent samples making moderate or severe attempts. These rates appear to be higher among depressed youngsters than among depressed adults.

1.7 Causal Factors Of Depression:

There is no specific causal factor of depression. However the causative factors can artificially be divided into genetic factors, biochemical factors and psychosocial factors. The division is artificial because of the likelihood that the three realms interact among themselves. These etiological factors of depression are given below:

1.7.1 Genetic Factors: The genetic data strongly indicate that a significant factor in the development of depression is genetics. The methods of genetic research include family studies, adoption studies and twin studies.

A) Family Studies: A number of studies of adult depressed probands have been conducted. Gershon (1990) reviewed ten such studies of unipolar depressed patients, and found that the rates of depression in first-degree
relatives ranged between 7% and 30% – considerably higher than in the
general population. In the Collaborative Depression Study of nearly 900
patients and controls, the rate of severe major depression involving
hospitalization, incapacitation, or psychosis was 10.4% in first-degree
relatives of unipolar probands, compared with 4.9% of controls' relatives
(Winokur et al., 1995).

Klein et al., (1995) found that dysthymia was significantly more common in
the relatives of dysthymic patients than in either major depressed or normal
comparisons, but that these families also displayed elevated rates of major
depression. Both dysthymia and major depression in patients were also
associated with elevated rates of personality disorders in relatives, although
the association was especially strong for dysthymic patients.

B) Adoption Studies: Adoption studies have also produced data that
support the genetic basis for the inheritance of depression. According to
adoption studies children of depressed parents appear to be at increased risk
for developing depression as well as other disorders. Many studies found that
about 50% to 80% of children of depressed parents display a diagnosable
disorder during childhood or adolescence, about 50% of the offspring display
depressive disorders but the full array of conduct, anxiety, and substance
abuse disorders may also be present. (Weissman et al., 1987; Gotlib and Lee,
1990; Klein et al., 1988). While early onset of disorder may be an indicator of
genetically transmitted dysfunction, most of the offspring studies also
indicate that the children in such families not only inherit whatever biological
factors may contribute to psychiatric disorders, but they also "inherit" a
variety of psychosocial disturbances such as dysfunctional child rearing and
highly stressful family environments (Hammen, 1991a).

C) Twin Studies: In view of the difficulty in drawing conclusions about
specifically genetic transmission from family patterns of disorder, many
investigators have turned to twin study methods. Since identical (monozygotic) twins share 100% of their genes, they should be more similar to each other in the expression of a disorder (concordance) than would twins who are not identical (dizygotic) and who share an average of 50% of their genes. Indeed, earlier twin studies have generally indicated approximately 4 times higher concordance rates in monozygotic than dizygotic twins (65% to 14%) according to a review by Nurnberger and Gershon (1984).

McGuffin, Katz, Watkins, and Rutherford (1996) conducted a study on 214 twin pairs through probands and revealed that concordance for lifetime major depression was 46.0% for monozygotic twins, compared with 20.0% for dizygotic twins, and both rates were substantially higher than lifetime depression in the general population. McGuffin et al., (1996) concluded that genetic factors play a moderate role in family patterns of depression, and also suggested that genetics may be particularly important in recurrent depression with endogenous (melancholic) features.

Kendler et al., (1992) also tested the genetic versus shared environment hypothesis in their study of 1033 female twin pairs from the community-based Virginia Twin Registry. Using various diagnostic criteria to define depression, concordance between monozygotic (MZ) twins was higher than for dizygotic (DZ) twins and both groups had higher rates of depression than did the general population. Kendler et al., (1993) also found 27% concordance for MZ twins and 17.6% concordance for DZ twins. Flomin et al., (1997) also reviewed evidence from five studies showing that monozygotic co-twins of a twin with unipolar major depression are about two to four times as likely to develop major depression as are dizygotic co-twins of a depressed twin.
1.7.2 Biochemical Factors:

Every human being has a unique biochemical makeup. Whether or not a person will experience depression (or other neurological disorders) depends largely on the amount of certain brain chemicals and how they interact in the central nervous system (CNS). The different biochemical factors of depression are:

A) Neurotransmitters: Starting in the 1960s, the view that depression may arise from disruptions in the delicate balance of neurotransmitter substances that regulate and mediate the activity of the brain's nerve cells, or neurons, has received a great deal of attention. Neurotransmitters are, of course, the "chemical messengers" by which neurons communicate and link the regions and functions of various parts of the brain.

Historically, there has been considerable interest in the potential role of monoamine neurotransmitters (especially serotonin, norepinephrine (noradrenaline), and dopamine) in mood disorders. The monomine neurotransmitters were known to be especially important in the functioning of the limbic system of the brain (amygdala, hippocampus, hypothalamus, and related structures of the "old brain), areas that play a major role in the regulation of drives (e.g. appetite) and emotion. Limbic system neurotransmitter pathways link this region with other parts of the brain, and also, through the hypothalamus, exert control over the endocrine and autonomic nervous systems (Shelton et al., 1991).

In the 1950s, several medications were observed either to cause or decrease depression, and it became known that they had their effects on the central monoamine neurotransmitters. For example, tricyclic antidepressants such as imipramine were found to block the synaptic reuptake of amines into the presynaptic neurons, thus increasing their availability (Mc Neal and Cimbolic, 1986). Based on the apparent monoaminergic effects of drugs,
SChildkraut (1965) articulated a catecholamine model of affective disorders that claimed depression results from insufficiencies of the monoamine neurotransmitters. Siever and Davis (1985) proposed a dysregulation model of neurotransmitters in depression, hypothesising that instability, desynchronisation, and abnormal reactivity in the monoamine neurotransmitter system causes depression.

B) Neuroendocrine Functioning: The monoaminergic neurotransmitters play a crucial role in the various brain functions, including the limbic system. The hypothalamus exerts control over the endocrine and autonomic nervous systems. There has been considerable interest in the role of such processes in depression. For instance, in the search for differences between depressed and non-depressed persons, one of the most consistent findings concerns cortisol and related functioning of the hypothalamic-pituitary-adrenal (HPA) axis. The HPA axis is a neuroendocrine system involving complex interconnections between the brain, certain hormones, and various organs. It is centrally involved in the body's normal reactions to stress. When the person perceives stress, under the control of various neurotransmitters such as norepinephrine, serotonin, gamma-aminobutyric acid (GABA), and acetylcholine, the hypothalamus in the brain synthesizes the hormone CRF (Corticoticotropin-Releasing Factor), which then stimulates the anterior pituitary gland resulting in the synthesis and release of an adrenocorticotropic hormone (ACTH). ACTH then circulates to the adrenal glands, located on the kidneys, which produce cortisol. Cortisol is a key hormone in the sympathetic nervous system, resulting in a variety of forms of physical arousal and activation. The presence of cortisol in the blood then inhibits further production of ACTH and corticotropin-releasing hormone (CRH). In normal people, therefore, this homeostatic mechanism prevents excessive or prolonged physiological arousal. Numerous studies have found elevated levels of cortisol in acutely depressed people compared to nondepressed (as well as increased levels of CRF). When the person is no longer depressed, cortisol levels return to normal.
C) Sleep And Other Biological Rhythms:

i) Sleep Disturbance Pattern: Sleep is characterized by five stages that occur in a relatively invariant sequence throughout the night (stages 1 to 4 of non-REM sleep and REM sleep). REM (Rapid Eye Movement) sleep is characterized by rapid eye movements and dreaming, as well as other bodily changes.

A number of studies have found disruption in sleep patterns, both behavioral and as measured by electroencephalogram (EEG) recordings. Over the past 25 years, three sleep pattern abnormalities have been well documented in depressed patients. One is a sleep continuity problem, including difficulty falling asleep or staying asleep, and waking up early. These abnormalities are present in about 80% of people in a major depression, although they are not limited to depressive conditions (Ford and Kamerow, 1989, Kupfer and Thase, 1983). A Second abnormality is decreased slow-wave (delta) sleep, as recorded by brain-wave activity during sleep (Reynolds and Kupfer, 1987). This pattern is most apparent in depressives with so-called endogenous (melancholic) features. The third abnormality is alterations in the nature and timing of Rapid Eye Movement (REM) sleep. Thase et al., (1995) noted that normal people experience the onset of the first REM period about 1 to 2 hours after falling asleep, with subsequent REM periods increasing in length and intensity occurring at about 90-minute intervals. About 50% of depressed patients, by contrast, have shortened REM latencies – that is, they begin REM sleep in less than 60 minutes, and increased REM activity with a shift of REM activity into the first few hours of sleep (REM density). Disturbed REM sleep may be a marker of a particularly pernicious form of depression, with an increased risk of relapse (Reynolds and Kupfer, 1987).

Several studies have suggested that sleep abnormalities are relatively stable, and remain unchanged when the depression remits (Giles et al., 1993). Thase
et al., (1994) examined the sleep patterns of unmedicated male patients undergoing psychotherapy. They found that with clinical improvement, the sleep profiles showed a significant reduction in REM sleep density. However, there were no changes in reduced REM latency or slow-wave sleep. These results suggest either that the latter are stable traits – possibly serving as markers for future risk of relapse or possibly they do return to normal levels with the passage of time.

It is of interest to note that abnormal sleep patterns may be familial, perhaps indicating a genetically transmitted marker or process of vulnerability. Giles, et al., (1992) found correlated patterns of sleep abnormalities in youngsters and their parents in families with depression. Lauer et al., (1995) studied sleep patterns of 54 healthy adults who were considered at risk for mood disorders because a close relative had displayed reduced slow-wave sleep and increased REM densities, the authors suggest that such patterns may mark a vulnerability for future depression.

ii) Circadian Rhythms: The abnormal patterns of circadian rhythm functions such as cortisol secretion and sleep disturbances have suggested a dysfunction of some type. One hypothesis is that there is a disorganization or desynchronisation of different cycles in relation to each other. Normally, REM patterns and cortisol fluctuate in synchrony with the sleep - wake cycle. Early morning awakening, diurnal variation, and the abnormalities noted have suggested a "phase advance" of the REM and cortisol secretion circadian rhythms in relation to the sleep - wake cycle. The desynchrony results in biological disturbances causing the symptoms of depression. Interestingly, sleep deprivation has been shown to reduce depression, at least temporarily, possibly by bringing the circadian rhythms back into alignment with each other (Wu and Bunney, 1990).
iii) Sunlight And Seasons: Another kind of rhythm abnormality or disturbance may be seen in sub type of unipolar depression known as seasonal affective disorder. This type of patients seem to be responsive to the total quantity of available light in the environment (Oren and Rosenthal, 1992) becoming depressed in the fall and winter and normalizing in spring and winter.

D) Brain Structure And Functioning: Individuals who sustain injuries or strokes in the frontal part of the brain have often been observed to display depression. One condition, post stroke depression, has been estimated to affect 30% to 50% of individuals after acute stroke.

Examination of the association between stroke location and presence of depression has suggested that the frontal regions and left side of the brain are especially critical, particularly the left frontal region, but the right posterior region of the frontal lobes may also be important in post stroke depression (Starkstein and Robinson, 1991). The frontal lobes control not only the higher intellectual functions such as planning and judgment, but are also a major regulatory component of the limbic system. Starkstein and Robinson (1991) speculate that stroke induced damage to the biogenic amine pathways that connect the frontal regions to the limbic system may account for the symptomatology of depression.

Building on such observations and hypotheses, investigators have looked at the possibility of brain abnormalities in depressed patients. Neuroimaging studies, for example, have provided some evidence of structural abnormalities in the frontal regions of unipolar patients, particularly severely depressed patients (Powell and Miklowitz, 1994). Coffey et al., (1993) used magnetic resonance imaging (MRI) analysis to demonstrate that depressed patients had lower frontal lobe volume than did controls, although there were no temporal lobe volume differences.
Another method for assessing frontal lobe functioning is electrophysiological (EEG) recording. Davidson and his colleague (Henriques and Davidson, 1990) reviewed evidence from various sources, concluding that depression is associated with a decrease in either left frontal or right posterior activation. They demonstrated left frontal hypoactivation in a sample of 15 unipolar depressed patients compared with normal controls (Henriques and Davidson, 1991).

Henriques and Davidson (1990) evaluated individuals who previously had experienced a major depressive episode but who were now non-depressed, and compared them with never-depressed individuals. The former depressives were found to have the predicted reduced activation in the left frontal and right posterior cortical regions. Davidson speculates that deficits in left anterior activation reflect deficits in an "approach" system, and that individuals who display this type of frontal EEG asymmetry are more vulnerable to negative affective states including depression given sufficient environmental stress.

E) Fluctuating Hormone Levels:
In women, fluctuating hormone levels can contribute to depression. Conditions linked to hormones in women are:

- **Premenstrual Syndrome**: Approximately 3% to 8% of women in their reproductive years are affected with premenstrual syndrome (PMS) during the week or so before their menstrual period. PMS is characterized by depressed mood, mood swings, irritability, and tension or anxiety. It lessens with the onset of the menstrual period each month.

- **Postpartum Depression**: Postpartum depression actually refers to three distinct phenomena postpartum blues occur in a substantial
percentage of women in the first few days after birth. Symptoms of crying, sadness, and upset are short-lived and rarely treated. They are thought to be consequences of the dramatic drops in estrogen and progesterone levels that occur at birth. Thus, this reaction is normal, and does not resemble the clinical condition of depression. Postpartum major depression, on the other hand, meets criteria for major depression and may occur in 10-15% of women after birth. Since only a minority of women experiences such depression, they are clearly not an inevitable response to hormonal changes. In general, women who do experience such depression display psychosocial difficulties and prior histories of depression (Gotlib et al., 1991, O’Hara et al., 1991). The depression may also be related to large changes in hormones and cortisol (Weissman and Olfson, 1995). Women who develop postpartum depression are at increased risk for developing depressive episodes in future.

Depression In Menopause: Menopausal depression was once attributed to middle-aged women feeling sad over the loss of their childbearing capabilities (the loss of their "youth" or "femininity"), and the loss of their grown children (the "empty nest"). There is no evidence that this is true. In fact, evidence suggests that for some women, menopause and the "empty nest" may signify a new freedom in their lives to pursue long-delayed interests and devote more time to their own needs. However, hormonal fluctuations in menopause are real, and some women suffer from mood swings, fatigue, and depression. Hormone replacement therapy (HRT) can lift mood and fatigue among women who are medically able and who choose to take HRT.
1.7.3 Psychosocial Factors:

Most forms of psychological disorder affect individual's interpersonal lives, impairing their social functioning by altering interpersonal behaviors and the quality of relating to others. Depression is no exception because the symptoms of depression interfere with normal relationships. But even more importantly, several perspectives about the causes of depression emphasize the role of relatedness to others as a fundamental contributing factor. There is no single interpersonal perspective on depression; instead there are diverse topics of study, such as premorbid personality factor, family functioning, attachment, marital adjustment, loss and bereavement, and the effects of stressful interpersonal events, and social skills. Difficulties in social relatedness have been variously viewed as concomitants of being in a depressed state, consequences of depression that have negative "side effects", and as fundamental causal factors in depression.

A) Premorbid Personality Factor: No single personality trait or type uniquely predisposes one to depression. All humans, of whatever personality pattern, can and do become depressed under appropriate circumstances, however certain personality types such as oral-dependent, obsessive-compulsive, hysterical - may be at greater risk for depression than are antisocial, paranoid, and other personality types who use projection and other externalizing defense mechanism.

B) Early Childhood Experiences: Many researches indicate that the quality of early life experiences in the family may contribute to depression. The quality of the attachment bond, the experience of critical, rejecting, or over controlling parenting and disrupted family life appear to set the stage for depression. Children exposed to such experiences may become depressed, while adults who experience such events in childhood may be vulnerable to depressive reactions when faced with triggering experiences.
i) Attachment And Depression:

Both psychodynamic and social learning theory models of human development emphasize the importance of experiences in early childhood in the family environment. When those experiences are dysfunctional or when the child lacks critical experiences such as a close bond with a stable caretaker, he or she may develop in maladaptive ways. Both of these models hypothesize that depression might be a form of psychopathology resulting from certain unique family experiences.

John Bowlby (1978; 1981) has articulated a model of the importance of early attachment bonds between the infant and the caretaker, which has implications not only for depression, but also for key elements of individual personality and adaptive functioning.

Kobak et al., (1991) and Hammen et al., (1995) also showed that adolescents were more likely to become depressed following stressful life events if they had more insecure attachment representations of their parents. A study of clinically depressed women patients found that they reported significantly less attachment to their mothers than did non-psychiatric controls (Rosenfarb, Becker, and Khan, 1994).

Taken together, the few attachment studies support a link between quality of early childhood attachment and vulnerability to depressive reactions. In general, the retrospective studies are fairly consistent: depressed adults report more adverse relationship with their parents during childhood. Andrews and Brown (1988) found that women who became clinically depressed following occurrence of major life events were more likely to report lack of adequate parental care or hostility from their mothers, compared to those who did not become depressed (Brown and Harris, 1993). In reviewing the extensive literature on depressed individuals' recollections of parents, Gerlsma, Emmelkamp, and Arrindell (1990) concluded that parental childrearing styles that included low affection and more control (overprotection) were especially consistently related to depression.
Recently, research shows that such parental styles were not only associated with the occurrence of depression, but also with its course features. For instance, Lizardi et al., (1995) examined the childhood experiences of patients who had diagnoses of early onset dysthymic disorder, and found that they were significantly more likely to have experienced negative relations with their parents than were comparison groups of normal controls or those with major depressive episodes. In another study, severity of symptoms, as well as highly negative cognitions, were particularly associated with adverse family experience including harsh, rigid control, overprotection, or sexual assault (Rose et al., 1994). Gotlib, Mount, Cordy, and Whiffen (1988) examined the reports of women with or without postpartum depression concerning their own parents' childrearing styles. They found that the depressed women reported less maternal and paternal care and more maternal overprotection. Also, a further study of postpartum depressed women found that negative perceptions of parents predicted the onset of depression during the postpartum period, and more negative perceptions predicted slower recovery (Gotlib, Whiffen, Wallace and Mount, 1991).

Although the research links depression with somewhat general parental styles reflection negativity (criticism, low affection or care, over controlling), some investigators suggest that different types of depression might be associated with more specific patterns. Blatt and Homann (1992), adopting a psychodynamic object-relations model of depression, argued that insecure attachment characterized by anxiety and neediness would lead to an depression focused on dependency and concerns about abandonment ('anaclitic' depression characterized by helplessness and weakness). Insecure attachment characterized by an avoidant or dismissive reaction toward others, on the other hand, would lead to a depression focused on issues of self-worth, self-criticism, and achievement (an 'introjective' depression, characterized by feelings of inferiority, failure, and guilt. According to Blatt and Homann (1992), introjectively depressed persons are likely to have had
parents who set high standards, and are harshly critical, intrusive, and controlling in and attempt to get their children to meet their high expectations. As a result, the child constantly berates herself or himself, and attacks the self as worthless.

**ii) Early Loss And Depression:** Numerous studies have tested the theory that depression is often caused by loss of a parent in early childhood, presumably creating a vulnerability to become depressed later in life if a real or threatened loss of a loved one reactivates the despair of the early loss. Some researchers have viewed that not only early parental loss but lack of quality and inconsistent care for the child also leads to depression (Bifulco, et al., 1987; Harris, et al., 1986). Harris and colleagues hypothesize that the adult women in their studies who lost a parent in childhood and were then subjected to poor care were likely to experience lowered self-esteem. Later on, exposure to highly stressful life events, therefore, might cause a generalized sense of hopelessness, hence depression, in those with low self-esteem.

**iii) Specific Childhood Stressors And Vulnerability To Depression:** In addition to loss and inadequate parenting, several studies point to the impact of particular childhood stressors. A large-scale epidemiological study of community residents who met criteria for major depression found that several childhood adversities (parental drinking, parental mental illness, family violence, parental marital problems, deaths of mother or father, and lack of a close relationship with an adult) were predictive of onset of depression. Three early adversities, parental mental illness, violence, and parental divorce, were significantly predictive of recurrence of depression (Kessler and Magee, 1993).

Several Studies have indicated that the experience of childhood physical and sexual abuse may be associated with later depression (and other disorders)
Abuse was especially associated with recurrent depression. Similar findings were reported for those with early onset of dysthymia, which by definition is a chronic disorder for with men and women, childhood sexual assault, was particularly related to likelihood of adult disorders including depression (Burnam et al., 1988).

C) **Marital Problem:** There is a large body of research showing an association between marital status or quality and depression. Studies of marital couples are one, which in clinically depressed have shown relationally negative interaction patterns marked by hostility, tension, difficulty resolving conflict, and reports of marital difficulties associated with depression (Fadden et al., 1987). Got lib and Hammen (1992) suggest that intimate / happy marital relationship with the spouse is protection against depression, even in the face of major stressors. On the other hand, marital distress can lead to depressive episode or marital conflict and criticism can prolong depression or precipitate relapses.

D) **Cognitive Model Of Depression:** According to Beck's cognitive theory of depression (Beck, 1967) there are certain depressogenic schemas or dysfunctional beliefs, which are developed during childhood and adolescence as a function of one's experiences with parents or with significant others (teachers, peers etc.). Children who lose parent or who have poor parenting are prone to develop depressogenic schemas. The dysfunctional schemas or beliefs make a person vulnerable to depression if he/she encounters certain significant stressors. Once activated the dysfunctional beliefs trigger automatic thoughts that in turn produce depressive symptoms, which further fuel the depressive automatic thoughts.
Beck's Cognitive Model Of Depression

Depression

→

Early experience

→

Formation of dysfunctional beliefs

→

Critical incidents

→

Beliefs activated

→

Negative automatic thoughts

↔

Symptoms of depression

→

Behavioural

Motivational

Affective

Cognitive

Somatic

Beck's Cognitive Model Of Depression
1.7.4 Other Factors: Other factors that can lead to depression include:

- Alcohol or drug abuse
- Use of certain medications, such as steroids and some blood pressure medications
- Underlying general medical conditions that can cause depressive symptoms, such as hypothyroidism (underactive thyroid gland), chronic fatigue syndrome, and others
- "Burnout," a depletion of mental and physical energy usually stemming from prolonged overwork and/or an overload of demands and obligations placed upon an individual

1.8 Consequences Of Depression:

Depression can be devastating to family relationships, friendships, and the ability to work or to go to school. It affects the quality of life, productiveness of an individual. The depressed person faces problem to cope everywhere - at home, at school, in friend circle, in social occasions or even at road. At depression's worst, the afflicted person may spend endless hours in bed; often find it difficult to perform even minimal tasks such as bathing or getting dressed.

Depression cause pain and suffering not only to those who are the victims of this deadly disease, but also to those who care about them. Their persistent depressed mood, irritation, agitation, constant lethargy, not caring to others, lack of sense of responsibility, pessimistic thoughts and suicidal ideation make others also irritated and sad. Family members do not get any means to make the suffered person's mind happy, to bring him/ her in to the normal stream of life. Such mental condition of their nearest and dearest one makes them also unhappy, helpless, hopeless and anxious. Initially the family members respond to the depressed person with concern and compassion, but
their reaction eventually turn to dejection and hostility because of the aversive ness of the disease.

1.8.1 Impaired Interpersonal Relationship: Depressed people not only have interpersonal problems, but their own behaviour also seems to make these problems worse. A depressed person may induce depressed feeling and negative affect in others (Howes et al., 1985; Joiner et al., 1995) and may make a non-depressed person less willing to interact again with the depressed person.

Depression negatively affects marital relationships. Sometimes poor marriages cause depression but often it is depression that causes marital problems. Depressed people and their spouses tend to perceive their interactions as marked by tension and hostility, which often persist even after the depressed spouse recovers. The effects of depression are diverse, probably including irritability, withdrawal, dependency, and other symptoms. Also, of course, depressed spouses are often viewed as a great burden, causing worry, reducing the sharing of pleasurable activities, failing to respond to encouragement and support.

Depression causes significant impairment in parent-child relationship. The effect of depression in one family extend to infants, children and adolescent, as well. Parental depression puts children at high risk for many problems, but especially for depression (Murray et al., 1996). For adolescent girls, it also increases risk of conduct problems (Davies and Windle, 1997). Depressed mother often wish to be good parents, and are troubled by their difficulties. Nonetheless depression takes an enormous tool on their energy, interest, patience, and mood- all of which doubtless impair their abilities to sustain positive, supportive, and attentive relationships with their children. Not only this, depressed youngsters also have negative interactions with their parents.
1.8.2 Mortality Due To Depression: Depression is one of the few psychological disorders that can be said to be fatal. Suicide now ranks among the ten leading causes of death in most Western countries. In the United States it is the eighth or ninth leading cause of death, with current estimates of more than 30,000 suicides each year (Silverman, 1997).

The risk of suicide—taking one's own life—is a significant factor in all depressive states. Of all the consequences, suicide is, of course, the starkest consequences of the individual's feeling of hopelessness and debility. Although it is obvious that people also commit suicide for reasons other than depression, depressed people are 20 times more likely to commit suicide than non-depressed people (D.C. Clark, 1995). About 10-15% of individuals with a diagnosis of major depressive disorder eventually kill themselves (Maris et al., 1992). Depression is also associated with increased mortality due to accidents and medical problems.

1.9 Treatment Of Depression:

Depression is a serious, potentially life threatening medical illness, and both the patients and their families deserve much support. Most clinicians and researchers believe that combined psychotherapy and pharmacotherapy is the most effective treatment for depressive disorder. Combined therapy helps a patient to develop more stable, long-range adjustment.

Considerable evidence also suggests that certain forms of psychotherapy for depression, alone or in combination of pharmacotherapy, significantly decrease the likelihood of relapse within a two-year follow up period (Hollon et al., 1996)

1.9.1 Pharmacotherapy: Antidepressant medications are widely used and effective treatment for depression. Existing antidepressants influence the
functioning of certain chemicals in the brain called neurotransmitters. The newer medications, such as the selective serotonin reuptake inhibitors (SSRIs), tend to have fewer side effects than the older drugs, which include tricyclic antidepressants (TCAs) and monoamine oxidase inhibitors (MAOIs).

1.9.2 Electroconvulsive Therapy (ECT): ECT is often used in case of severely depressed patients as antidepressants often take three to four weeks to produce significant improvement. ECT is currently administered under medically safe conditions, in which patients are first given sedatives, muscle relaxants or other agents to control potentially damaging physical side effects. The person receiving ECT does not consciously experience the electrical stimulus. ECT is useful, particularly for individual whose depression is severe or life threatening or who don't respond to other pharmacological treatment (Weiner and Coffey, 1988). ECT is considered as the treatment of choice for the elderly who often either cannot take antidepressant medications or who don't respond well to them (Niederehe and Schneider, 1998). When selection criteria of this form of treatment are carefully observed, a complete remission of symptoms occurs after 6 to 12 treatments (with two or three per week being typical), meaning that a majority of severely depressed patients can be vastly better in two to four weeks (Gitlin, 1996).

1.9.3 Psychotherapy: Although psychoanalytic approaches were the predominant mode of treatment for depression in the early to middle part of this century, now many types of psychotherapy based on a variety of concepts are in use. Psychotherapeutic approaches have been developed specifically for depression that aim to correct specific manifestations, including cognition, behaviour and affect.

A) Cognitive Behaviour Therapy (CBT): CBT stems from four major theories: Psychoanalytic theory, phenomenological philosophy, cognitive psychology and behavioural psychology. Aaron Beck, the originator of
Cognitive Behavioural Therapy (CBT), developed a comprehensive, structured theory of depression. According to this theory depression is associated with negative thought patterns, specific distorted schemas and cognitive errors or faulty information processing. Such cognitive dysfunctions form the core of depression while affective and physical changes and other associated features of depression are in consequences.

CBT focuses on the cognitive distortions postulated to be present in major depressive disorder. Such distortions include selective attention to the negative aspects of circumstances and unrealistically morbid inferences about consequences.

The goal of CBT is to change the way a person thinks and subsequently, to alleviate the depressive syndrome and prevent its reoccurrence. This is accomplished by helping the patient a) identify and test negative cognitions, b) develop alternative more flexible schemas and c) rehearse both new cognitive and new behavioural responses.

CBT is a short-term, structured therapy that involves active collaboration between the patient and the therapist toward achieving set goals .It is oriented toward current problems and their resolution. It is an effective treatment for many out patients with major depressive disorder. This therapy is particularly effective among mild to moderately depressed patients and may be less effective than pharmacotherapy among more severely depressed patients.

B) Interpersonal Therapy (IPT): Interpersonal therapy, developed by Gerald Klerman, focuses on one or two of the patient's current interpersonal problems, using two assumptions: first current interpersonal problems are likely to have their roots in early dysfunctional relationships. Second, current interpersonal problems are likely to involved in precipitating or perpetuating the current depressive symptoms. The interpersonal therapy approach to
depression involves three interacting components: Symptom formation, social and interpersonal experiences, and enduring personality patterns.

The goal of interpersonal therapy is to i) reduce the patient's depressive symptoms and improve self-esteem ii) help the patient to develop more effective strategies for dealing with current social and interpersonal relations.

The interpersonal therapy programme usually consists of 12 to 16 weekly sessions. The therapy is characterized by an active approach on the part of the therapist and by an emphasis on current issues and social functioning in the life of the patients. Intra-psychic phenomenon such as, defense mechanisms, or internal conflicts are not addressed. Discrete behaviours such as lack of assertiveness, social skills or distorted thinking may be addressed, but only in the context of their meaning or effect on interpersonal relationships.

C) Behaviour Therapy: Behaviour therapy is an effective treatment modality for major depressive disorder. This therapy is based on the hypothesis that maladaptive behavioural patterns result in a person's receiving little positive feedback from society and perhaps outright rejection. By addressing maladaptive behaviours in therapy, patients learn to function in the world in such a way that they receive positive reinforcement. Several behaviour therapies devised to treat depression are characterized by overlapping behavioural and cognitive intervention strategies. These are:

i) **Self-Control Therapy:** This therapy is developed by Lynn Rehm to treat depression. Key component of this approach include techniques designed to correct deficits in the patient's ability to realistically and productively self-monitor, self-evaluate and self-reinforce.
ii) **Social Learning Therapy:** Peter Lewinsohn develops this therapy. The focus of this therapy is on increasing pleasant activities and interactions with the environments.

iii) **Social Skill Training:** This approach is designed by Michel Hersen and Alan S. Bellack. It focuses on the training of social skills in parents to increase positive interactions and reinforcements.

The goal of behaviour therapies is to increase the frequency of the patient's positively reinforcing interactions with the environment and to decrease the number of negative interactions and also to improve social skills. Basically this therapy believes that alteration of personal behaviour is the most effective way to change the associated depressed thoughts and feelings.

D) **Family And Marital Therapy:** Family therapy is not generally viewed as a primary therapy for the treatment of major depressive disorder, but increasing evidence indicates that helping a patient with a mood disorder reduce the chance of relapse. Family therapy examines the role the mood-disordered member in the overall psychological well being of the whole family; it also examines the role of the entire family in the maintenance of the patient's symptoms.

In addition, for married people who are depressed and having marital discord, it has been shown that marital therapy (focusing on the marital discord rather than depressed spouse alone) is as effective as cognitive therapy in reducing unipolar depression for the depressed spouse.

E) **Psychoanalytically Oriented Psychotherapy:** All psychoanalytic contributions to studies of depression derive from the theory that a disturbance in interpersonal relations in early childhood, usually involving a loss or disappointment, impairs subsequent interpersonal relations. The affected person is especially vulnerable to interpersonal disappointments and
loses later in life, which may result in depressive illness. The goal of traditional psychoanalytic psychotherapy is to elicit changes in personality structure, not simply to alleviate symptoms. It aims to improve the patient's potential for interpersonal trust, intimacy, and generativity; coping mechanisms, the ability to experience a wide range of emotions; and the capacity to grieve.