Chapter 2

THE THEORETICAL BACKGROUND

Alcoholism and Related Concepts
Characteristics, Stages and Effects
Theories of Etiology of Alcoholism
Treatment for Alcoholism
Relapse after Treatment
2.1. ALCOHOLISM AND RELATED CONCEPTS

2.1.1. Different Terms Related to Alcoholism

At the outset, the different terms like addiction, substance abuse, alcoholism and related concepts should be clearly defined. Following are brief, working definitions of such terms, which are repeatedly mentioned in the present study.

Addictive Behaviour

Addictive behaviour is behaviour based on the pathological need for a substance (or activity), which may involve the abuse of substances such as alcohol or cocaine or the excessive ingestion of high calorie food resulting in extreme obesity. Most commonly used problem substances are the psychoactive drugs, the drugs that affect mental functioning: alcohol, barbiturates, minor tranquilizers, amphetamines, heroin and marijuana (Carson & Butcher, 1998).

Addiction

Addiction is the repeated use of a psychoactive substance or substances, to the extent that the user is periodically or chronically intoxicated, shows a compulsion to take the preferred substance (or substances), has great difficulty in voluntarily ceasing or modifying substance use, and exhibits determination to obtain psychoactive substances by almost any means. It refers to a pattern of drug use characterized by compulsion, preoccupation and relapse (Jaffe, 1983).
Key indicators of ‘addiction’ are traditionally thought to be tolerance and experience of withdrawal syndrome. Addiction is not a diagnostic term in International Classification of Diseases (I.C.D.)-10, but continues to be very widely used.

Drug Addiction

Drug addiction is a state or periodic or chronic intoxication, detrimental to the individual and to the society, produced by repeated consumption of a drug. It is the physiological and psychological dependence on a drug.

Drugs

Drug is any substance that when taken into the living organism, may modify one or more of its functions (World Health Organization [W.H.O.], 1994).

Drug Abuse

Drug abuse is the use of a drug to the extent that it interferes with health and/or occupational or social adjustment. It is the improper or illegal use of a drug, taking it in excessive doses or where no medical reasons exist.
Abuse

In international drug control conventions, abuse refers to any consumption of a controlled substance no matter how infrequent (American Psychiatric Association [A.P.A.], 1994). The term ‘abuse’ is sometimes used disapprovingly to refer to any use of illicit drugs.

In the Diagnostic Manual of Mental Disorders of American Psychiatric Association (A.P.A., 1994), ‘psychoactive substance abuse’ is defined as “a maladaptive pattern of substance use, leading to clinically significant impairment or distress”.

Alcohol abuse is diagnosed if one of the following is present:

- Failure to fulfill major obligations, for example, absence from work.
- Exposure to physical dangers, such as driving while intoxicated.
- Legal problems such as driving while intoxicated.
- Persistent social problems such as arguments with spouse (A.P.A., 2000).

Drug Dependence

Drug dependence is a state of physiological or psychological dependence or both that arises in a person after administration of the drug.
It is a psychic state and sometimes also physical, resulting from the interaction between a living organism and a drug, characterized by behavioral and other responses that always include a compulsion to take the drug on a continuous or periodic basis in order to experience its psychic effects and sometimes to avoid the discomfort of its absence (Chungappura, 1999).

Diagnostic Statistical Manual (D.S.M.) IV of American Psychiatric Association prefers the term substance abuse to drug abuse because the term substance abuse is more inclusive than drug abuse and people abuse substances other than drugs also (Carson & Butcher, 1998).

Concepts related to dependence are: craving, tolerance and withdrawal.

**Craving:**

Craving is an intense desire for the drug, despite the repeated attempts to cut down or quit.

**Tolerance**

Tolerance is the physiological condition in which an increased dosage of an addictive drug is needed to obtain effects previously produced by a smaller dose. This is because of the gradual decrease in effect following continued administration.
There are certain internationally used criteria for diagnosis of dependency to substance or alcohol as fixed by D. S. M.-IV and I. C. D.-10 systems. The key features of these criteria are:

- **Impaired control indicative of compulsion.** There is a tendency to take larger amounts over a longer period than planned and an inability to predict consumption consistently.

- **Relapse.** A persistent desire or unsuccessful efforts to cut back, with recurrent inability to control consumption.

- **Preoccupation.** Excessive attention is focused on acquiring and drinking alcohol. Alcohol acquires a central role in life and other activities are reduced.

- **Use of alcohol despite related problems.** Alcohol is more important than the problems it causes.

- **Physical dependence** to alcohol or other substance (McCann, 1997).

**Substance Withdrawal**

Substance withdrawal is the unpleasant physical and emotional symptoms that occur, when a person quits using a drug which he or she has used for a long time.

**Withdrawal Syndrome**

Withdrawal syndrome is a group of symptoms of variable severity that occur on cessation or reduction of drug use after a prolonged period of use and/or in high doses. The syndrome may be
accompanied by signs of both psychological and physiological disturbance.

A withdrawal syndrome is one of the indicators of dependence syndrome. It is also the defining characteristic of the narrower psychopharmacological meaning of dependence.

**Alcohol Withdrawal Syndrome**

Alcohol withdrawal syndrome is characterized by tremor, sweating, anxiety, agitation, depression, nausea and malaise. It occurs 6 to 48 hours after cessation of alcohol consumption and, when uncomplicated, abates after 2 to 5 days. It may be complicated by grand mal seizures and may progress to delirium (known as delirium tremors) (W.H.O., 1994).

The diagnostic criteria for alcohol withdrawal according to D.S.M.-IV are:

A. Cessation of (or reduction in) alcohol use that has been heavy and prolonged.

B. Two (or more) of the following, developing within several hours to a few days after criterion A:
   
   1. Automatic hyperactivity (e.g. sweating or pulse rate greater than 100)
   2. Increased hand tremor
   3. Insomnia
   4. Nausea or vomiting
(5) Transient visual, tactile or auditory hallucinations or illusions
(6) Psychomotor agitation
(7) Anxiety
(8) Grand mal seizures

C. The symptoms in criterion B cause clinically significant distress or impairment in the social, occupational, or other important areas of functioning.

D. The symptoms are not due to a general medical condition and not better accounted for by another mental disorder.

Withdrawal Symptoms

Withdrawal Symptoms are physical symptoms like sweating, tremors and tension, which accompany when the substance is not available.

Numerous biomedical studies have called into question the traditional views of drug action, what defines craving and the relationship between dependence and patterns of use.

Dependence and Abuse

A person can be dependent on a drug but not abuse it. A typical example is of cancer patients who depend on morphine but still do not abuse it.
On the other hand people may also abuse a drug without being dependent on it. Thus people who use a drug for recreational purposes but do not demonstrate other behaviors associated with dependence.

**Alcoholism**

Alcoholism is the dependence on alcohol that seriously interferes with adjustment. “Alcoholism is a primary, chronic disease with genetic, psychosocial and environmental factors influencing its development and manifestations. The disease is often progressive and fatal. It is characterized by continuous or periodic, impaired control over drinking, preoccupation with the drug alcohol, use of alcohol despite adverse consequences and distortions in thinking, most notably denial” (United Nations International Drug Control Program [U.N.D.C.P.], 2002).

**Alcoholic**

Alcoholic is a person with a serious drinking problem, whose drinking impairs his/her life adjustment in terms of health, personal relationships and occupational functioning.

The World Health Organization (W.H.O.) has defined alcoholics as “excessive drinkers whose dependence on alcohol has attained such a degree that they show noticeable mental disturbance or an interference with their mental and bodily health, their interpersonal relations and their smooth social and economic functioning, or who show the prodromal (beginning) signs of such developments” (W.H.O., 1992).
Marty Mann, the founder of the National Council on Alcoholism and Drug Dependence defines an alcoholic as “someone whose drinking causes a continuing problem in any department of his life” (Mann, 1990).

The description of the dependence syndrome by Edwards and Gross was a landmark in the evolving concept of addiction. The syndrome consists of a cluster of cognitive, behavioral and physiological phenomena. These elements have been incorporated in the Diagnostic Statistical Manual of Mental Disorders (4th ed.) [D.S.M.-IV], and International Classification of Diseases (I.C.D.)-10 systems.

The key features of addiction or dependence contained in these criteria are: impaired control, relapse, preoccupation and physical dependence (Edwards& Gross, 1976).

**Alcohol Dependence Syndrome**

World Health Organization no longer recommends the term alcoholism but prefers the term alcohol dependence syndrome. It is the state psychic and usually also physical, resulting from taking alcohol, characterized by behavior and other responses that always include a compulsion to take alcohol on a continuous or periodic basis in order to experience its psychic effects, and sometimes to avoid the discomfort of its abstinence (W.H.O., 1992).
According to Text Revision of Diagnostic Statistical Manual (A.P.A., 2000), alcohol dependence is diagnosed if the person meets three of the following criteria:

- Withdrawal symptoms, negative psychological and physical effects, appear if the person stops drinking.
- Tolerance develops. The person needs to drink more and more alcohol to produce the desired effect.
- The person uses more alcohol than intended or uses it for a longer time than intended.
- The person recognizes that alcohol consumption is excessive and may have unsuccessfully tried to cut down or stop.
- Much time is spent trying to obtain alcohol or recover from its effects.
- Alcohol use continues despite psychological or physical problems caused by it.
- Participation in many activities (work, recreation, social) is reduced because of the drug.

**Alcohol Intoxication**

D.S.M.-IV Diagnostic Criteria for Alcohol Intoxication are:

A. Recent ingestion of alcohol.

B. Clinically significant maladaptive behavior or psychological changes (e.g., inappropriate sexual or aggressive behavior, mood liability, impaired judgment,
impaired social or occupational functioning) that developed during, or shortly after, alcohol ingestion.

C. One or more of the following signs, developed during, or shortly after, alcohol use:

1. Slurred speech
2. In-co-ordination
3. Unsteady gait
4. Nystagmus
5. Impairment in attention or memory
6. Stupor or coma

E. The symptoms are not due to a general medical condition and are not better accounted for by another mental disorder (A.P.A., 1994).

2.1.2. Towards a Disease Concept of Alcoholism

The disease concept of alcoholism was developed by Dr. Jellinek in 1952. In 1784 Dr. Benjamin Rush, the father of American Psychiatry and a signer of the Declaration of Independence had described habitual drinking as an involuntary condition, a disease caused by ‘spirituous liquors’. It is Dr. Jellinek who put forward the idea that alcoholism is a disease which is to be treated rather than a moral problem to be condemned (Jellinek, 1960).

The puritan belief that the use of alcohol was immoral overshadowed the disease concept until the failure of prohibition.
American Medical Association declared alcoholism as an illness in the year 1956. In 1990 the National Council on Alcoholism and Drug Dependence and the American Society of Addiction Medicine defined alcoholism as follows:

“Alcoholism is a primary, chronic disease with genetic, psychosocial and environmental factors influencing its development and manifestations. The disease is often progressive and fatal. It is characterized by continuous or periodic impaired control over drinking, preoccupation with the drug alcohol, use of alcohol despite adverse consequences and distortions in thinking, most notably denial (U.N.D.C.P., 2002).

Through the efforts of Marty Mann, the first woman to achieve sobriety through Alcoholics Anonymous the concept got wider acceptance.

The disease concept developed by Jellinek is not at all the last word in the matter. Jellinek himself said that his disease concept was an unproven theory based on limited information. It should be used carefully and dealt with only a narrow aspect of alcohol problems. He soon enlarged his views and identified five different kinds of problem drinkers of which only two fit into his disease model.

There are many who disagree with the disease model and many who say that it has been damaging (Doweiko, 1996).
Despite the serious flaws in the theory and its development, this view quickly became popular and was accepted and presented as fact by doctors, educators, treatment programmes, and courts (Doweiko, 1996; Miller & Willoughby, 1997; Ogilvie, 2001).

Professor Edwards and Gross state that the alcoholic is certainly ill. It is the involuntary and compulsive nature of the drinking, leading to serious harm, that makes dependence an illness (Edwards & Gross, 1976). However, many still view alcoholism as a behavioral disorder, and drinking is seen as impulsive or deliberate, rather than addictive.

The definition of the disease of alcoholism given by members of the American Society on Addiction Medicine (A.S.A.M.) is as follows. “Alcoholism is a primary disease characterized by impaired, control over drinking, preoccupation with alcohol despite adverse consequences and distortions in thinking, most notable denial” (Bayog & Blume, 1990).

The concept of alcoholism as an illness has therapeutic advantages. The view that it is a serious but treatable illness reduces shame and defensiveness and conveys hope. The patient is enabled to take responsibility for the management of the chronic and potentially fatal condition (McCann, 1997).
2.1.3. Terms Used In the Present Study

Abstinence

Abstinence is refraining altogether from the use of a particular substance or from a particular behavior. The term refers to the act of refraining from alcohol or other drug use, whether for health, personal, social, religious, moral, legal or other reasons. One who is currently abstinent may be called an ‘abstainer’ or a ‘teetotaler’. The term current abstainer is sometimes used for research purposes and is usually defined as a person who has not used drugs for a specified prior period of time, e.g. 36 or 12 months. In some studies, persons who drink or use other drugs only once or twice per year are also classified as abstainers. There are important differences in the health and demographic profiles of people who are life-long abstainers as opposed to those who are ex-drinkers (W.H.O., 1992).

The term abstinence is used in this investigation as refraining from the use of alcohol following a treatment or cessation of drinking.

Relapse

Relapse is the return of the symptoms of a disorder after a period of time. It is a persistent desire or unsuccessful effort to cut back, with recurrent inability to control consumption (McCann, 1997).

In this study by relapse is meant the return of an alcoholic to drinking after a period of abstinence. It is a return to drinking or other
drug use after a period of abstinence, often accompanied by reinstatement of dependence symptoms.

Some writers distinguish between relapse and lapse (slip) with the latter denoting an isolated occasion of alcohol or drug abuse (U.N.D.C.P., 2000). For one who has achieved the state of moderate drinking following treatment for alcohol disorder, drinking too much on a single day is termed lapse and returning completely to the old pattern is called relapse.

A related term is remission. A disease is said to be in remission if the symptoms cease for a while, even though the underlying condition has not been cured. For those who view drug or alcohol dependence as a disease, ‘addicts’ are said to be in remission if they have gained a period of abstinence.

The speed at which the signs of dependence return is thought to be a key indicator of the degree of dependence (Edwards & Gross, 1976).

Facilitating Abstinence

The term facilitation means helping, making easy etc. as different from determining. In this study the investigator is attempting to find the factors that help the patient to abstain. If the study confirms the hypothesis it would mean that the variables mentioned in the study will help the alcoholic patients to remain abstinent. It will not mean that these factors determine abstinence or that they are the only factors which influence abstinence.
The other key terms in the study like stress tolerance, social support, spirituality etc. are explained in the methodology (chapter 4) while describing the tools of the study.

2.2. CHARACTERISTICS OF ALCOHOLISM

The disease of alcoholism has the following characteristics (Chungapura, 1999):

2.2.1. A Primary Disease

Alcoholism is not a symptom of other diseases but other diseases may be caused by alcoholism.

2.2.2. A Chronic Disease

A person does not become alcoholic all on a sudden but only gradually. But once a person develops it, it will become part of the person till death. He moves along with it years together, engages in normal activity with ups and downs according to his level of control.

2.2.3. A Permanent Disease

The disease of alcoholism is not cured once and for all like acute diseases. It can only be controlled. Once alcoholic means that one is ever an alcoholic. An alcoholic may maintain abstinence after treatment or without treatment. But he or she keeps the alcoholic nature and the possibility of relapsing any time.
2.2.4. A Terminal Disease

If the disease of alcoholism is not controlled by a change of life style it may lead to death.

2.3. STAGES OF ALCOHOLISM

Alcohol dependence is generally described to have three predictable stages such as early stage marked by increased tolerance, blackout, and preoccupation with drinking, middle stage marked by loss of control, rationalization, grandiose behavior, aggression, changing drinking patterns etc: and chronic stage marked by binge drinking, loss of physical coordination and psychiatric symptoms like paranoia and hallucination.

Jellinek who has developed the disease concept of alcoholism gives a more comprehensive description of the different stages of alcoholism. According to him there are four different phases in the development of alcoholism (Mangal, 1987).

2.3.1. Pre-alcoholic Symptomatic Phase

One starts drinking as a social drinker. This is followed by an experience of relief from tension. The person seeks relief from tension occasionally. Gradually tolerance for tension decreases and the person resorts to alcohol daily. This transition from occasional to frequent drinking takes several months.
2.3.2. The Pro-dromal Phase

According to Jellinek there are some warning signals with which the pre alcoholic enters into the stage of pro-dromal phase, the most important of which is the sudden onset of blackout. The person is able to go through elaborate activities and reasonable conversation. But he will have no memory of these events the next day. This temporary amnesia or complete loss of memory is an indication of heightened susceptibility to alcohol.

The other behaviours of the alcoholic at this stage are:

a) The person takes conscious efforts to look ‘okay” and to conceal his drinking from the notice of others.

b) The preoccupation with alcohol. He becomes preoccupied and worried about the thought of his next drink—where and when to get it.

c) Avid drinking. The person begins to gulp the first one or two drinks.

d) Guilt feeling about drinking.

e) Avoidance of references to alcohol in conversation.

This period can last from 6 months to 4 or 5 years, depending on the drinker’s circumstance.
2.3.3. The Crucial Phase

This phase has the following features:

a) **Loss of Control**

Loss of control is the core feature of the crucial phase. The person loses control over the quantity of alcohol he drinks as well as the place and time. This phase is marked by the futile attempts to regain control and aggression.

Formerly the person could control whether or not to take the first drink though he had no control once he started. As he begins to lose control he attempts a sequence of strategies to regain control. Common such attempts are short periods of abstinence, changing the patterns of drinking, geographical escapes, changing jobs, etc. When these too end in failure and life altogether becomes alcohol-centered, he becomes totally resentful and remorseful.

b) **Rationalization.**

Another feature is rationalization. The person may either try to convince others that he did not lose control or that he has good reasons to get intoxicated.


c) Grandiose Behavior

Grandiose behaviour is another feature of this phase. To compensate for the lowering of self-esteem he tries to project a greater image by making extravagant expenditure.

d) Increased Isolation

The person begins drinking in the morning, becomes intoxicated during the evening. He loses time for job, but struggles hard to maintain employment and social status. The struggle subjects the drinker to severe stress. He may begin to drop friends. He may be abandoned by associates and dismissed by employers.

Large intake of alcohol and neglect of proper nutrition and decreased sexual drive leads him to hostility towards spouse. This is termed “alcoholic jealous syndrome”. First alcohol-related hospitalization is likely at this point.

2.3.4. The Chronic Phase

Morning drinking marks the beginning of this phase. Withdrawal symptoms are felt so strong that the person feels that he cannot start the day without a drink. Starting early in the morning, drinking becomes a day-long phenomenon. He is no longer selective about persons he drinks with. He may drink with anyone for e.g., with one who was formerly below his social status. When ethanol is not available he may drink poisonous substitutes. There is marked physical deterioration. He can no
longer hold his liquor bottle. Tremors develop. Many simple tasks are impossible. There are also ethical and emotional deterioration and impairment of thinking.

The person loses tolerance. Half the quantity previously required may be enough to produce an alcoholic stupor. He experiences indefinable fears and tremors become persistent.

Rationalizations fail one after another. Some may admit defeat, express inability to control on their own and become amenable to treatment.

As to the path of development of alcoholism, there are different views. Some people progress steadily from moderate use to regular. Some others become alcohol abusers during a time of stress and then return to light drinking when the stress has resolved. When a person becomes dependent the disorder is often chronic. According to one study two-thirds of alcoholic men with alcohol dependence were still independent when they were reassessed five years later (Schuckit et al., 1998).

Researchers speak of two variables measured in early adulthood, predicting the onset of alcohol abuse 10 years later. They are:

- Self-report of a low level of intoxication after a dose of alcohol.
- Less body sways while standing after drinking (Ibid).
2.4. EFFECTS OF ALCOHOL INTAKE

Intake of a maximum of one or two drinks a day is said to be associated with a decreased risk for cardiovascular disease. This may be due to the alcohol-induced decrease in platelet adherence or to an increase in one portion of high-density lipoprotein (H.D.L.) cholesterol. But this is not a very powerful factor in protecting against the disease. Intake of more than 2 drinks a day can increase low-density lipoprotein (L.D.L.) cholesterol and triglycerides and to raise blood pressure contributing to the risk of cardiac disorders. Apart from the positive factor of possible decrease in heart disease mentioned above, (which itself is a very weak factor) alcohol intake has got only negative effects. Intake of alcohol is followed by several physiological, psychological, social and moral effects.

2.4.1. Effects on Human Body

One ounce of alcohol contains 210 calories. But alcohol provides only empty calories. It does not contain vitamins, minerals or other substances. Alcohol even interferes with body’s ability to use other sources of energy.

Alcohol does not undergo the usual process of digestion. About 20 percent of alcohol is absorbed directly in the stomach. The rest passes into the small intestine to be absorbed. The speed of absorption of alcohol in the blood stream is influenced by the amount of food in the stomach and the type and concentration of the beverage. High
concentrate beverages like distilled spirit is speedily absorbed and gives more kick than wine or beer.

The effects of alcohol on the body are determined by the blood alcohol level. Only a small amount of alcohol is metabolized through sweat, urine and breath. The rest undergoes a process of chemical metabolism, the first step of which is change to acetaldehyde. In this process liver holds the key position.

Continued and heavy drinking can cause damage to cardiovascular system, digestive system, kidneys, liver and central nervous system. Alcohol can affect almost each and every system of the body and in so many ways. Frequent drinking is associated with a higher risk for alcohol related medical disorders—pancreatitis, upper gastrointestinal bleeding nerve damage and impotence.

2.4.1.1. Alcohol and Liver

Liver is said to be the body’s main line of defense against intoxication. The alcohol dehydrogenate is the enzyme that helps lever to break alcohol into harmless water and carbon dioxide. But human liver has got a quantity of this enzyme to handle only about one drink’s worth of alcohol an hour. To make the situation worse the process produces acetaldehyde which attacks nearby tissues. This results in a variety of disorders like cirrhosis and hepatitis (Nelmark & Convey, 1994).
Liver is particularly vulnerable to alcohol. About 10 percent to 35 percent of heavy drinkers develop alcoholic hepatitis and 10 percent to 20 percent develop cirrhosis. Increasing alcohol doses result in the accumulation of fats and proteins in the cells producing a swelling called fatty liver.

2.4.1.2. Gastrointestinal Problems

Almost 15 percent of alcoholic persons develop inflammation of the pancreas that can present as the abdominal emergency of acute pancreatitis. Alcohol can also cause diarrhea, hemorrhoids and ulcers.

2.4.1.3. Cerebro-vascular and Cardiovascular Problems

Heavy drinking increases blood pressure and elevates both L.D.L. cholesterol and triglycerides and increases the risk for myocardial infarction and thrombosis. One study found that binge drinkers had a risk for a cardiac emergency that was two and a half times that of non-drinkers.

2.4.1.4. Stroke and Cancer

Since drinking impairs blood flow heavy drinking can increase the risk of stroke. Alcohol may also increase the risk for hemorrhagic stroke although it may protect against stroke caused by narrowed arteries.
Alcohol may not cause cancer but it increases the carcinogenic effects of other substances like cigarette smoke. Even moderate use of alcohol has been associated with high risk for breast cancer.

2.4.1.5. Alcohol and Diabetics

Alcohol can cause hypoglycemia. The danger is that intoxicated diabetes may not be able to recognize.

2.4.1.6. Fetal Alcohol Syndrome

Alcohol abuse may have damaging effects on the developing fetus including low birth weight and an increased risk for miscarriage. High amount can cause fetal alcohol syndrome, which results in mental growth retardation.

Fetal alcohol syndrome is a disorder observed in infants of alcoholic mothers. A characteristic facial or limb irregularity, low body weight, and behavioural abnormality are observed in the subjects. The child shows some permanent physical abnormalities, characteristic of the syndrome, such as widely spaced eyes, short broad nose, under developed upper lip and receding chin (Carson & Butcher, 1998).

2.4.1.7. Other Problems

Acute alcoholism is strongly associated with pneumonia, osteoporosis (loss of bone density) muscular deterioration, skin sores and itching.
2.4.2. Effects on Mental Functioning

Alcohol is a depressant that affects the highest brain centers. It impairs judgment and other rational processes and lowers self-control. Drinkers may indulge in the satisfaction of impulses, which are usually held under control. He loses motor coordination, discrimination and perception of cold and pain. There is a rise of self-adequacy and sense of warmth and well-being because of the screening out of unpleasant realities. When the alcoholic content in the blood reaches 0.1 percent, the individual is considered to be intoxicated. Impairment of muscular coordination, speech and vision, confusion of thought process etc. accompany. Judgment is impaired. He may misjudge his condition to be safe to drive when actually he is not. When the blood alcohol level reaches 0.5 percent the entire neural balance is upset and the person becomes unconscious.

2.4.2.1. Neurological Problems

Drinking too much alcohol can cause neurological problems like insomnia and headache. Alcohol intoxication can help a person fall asleep more quickly but there is a depression of rapid eye movement sleep and inhibition of stage four sleep. There is a frequent alternation between sleep stages, which is called sleep fragmentation.

About 10 percent of alcoholic persons after years of heavy drinking develop peripheral neuropathy due to an apparent combination of vitamin deficiency and direct effect of alcohol. Symptoms of this disorder are numbness of hands and feet.
2.4.2.2. Common Psychiatric Problems Associated with Alcohol Use

Excessive drinkers usually suffer from chronic fatigue, oversensitiveness and depression. Though initially alcohol may help to screen out intolerable realities and enhance feelings of adequacy and worth, excessive use may be counterproductive, resulting in lowered feelings of adequacy and worth, impaired reasoning and judgment and resulting personality deterioration. As a result psychiatric complaints like depressed mood, severe anxiety and psychosis are observed.

2.4.2.3. Psychoses Associated With Alcohol Dependence

Excessive abuse of alcohol after long periods of time results in reactions that fit the diagnostic classification of substance induced disorders. They consist of confusion, excitement and delirium. Such abusers are called alcoholic psychotics because they temporarily lose contact with reality.

Two such common psychotic reactions are:

- Alcohol withdrawal delirium (formerly called tremens) and
- Alcohol-amnesic-disorder.

Main symptoms of alcohol withdrawal delirium are disorientation for time and place, vivid hallucination, acute fear, extreme suggestibility, marked tremors of hands, tongue and lips perspiration, fever, rapid and weak heart beat, foul breath etc.
The main symptoms of Alcohol-amnesic-disorder are memory deficit, inability to form new associations, cognitive impairments and intellectual decline (Ibid.).

2.4.3. Social Effects

2.4.3.1. Behavioral Effects

Following impairment of reasoning and judgment and personality deterioration, there are marked changes in behaviour. Behaviour becomes coarse and inappropriate. The drinker becomes less responsible, loses interest in personal appearance, neglects spouse and family, becomes touchy, irritable, unwilling to discuss problems, unable to hold a job, and incapable to cope with new demands. These may lead to loss of employment and marital breakdown.

2.4.3.2. Addiction and Family

Alcoholism is called a family illness due to the tremendous impact an alcoholic has on the other family members, especially the spouse. They are confused, bewildered, angry and afraid. They may react emotionally through negative feelings of guilt, grief, anger, hurt, shame, fear and loneliness. These reactions generally help just to accelerate the problem.

Domestic violence is a common consequence of alcoholism. More often spouses are the targets of violence. Researchers suggest that for women the most serious risk factor for injury from domestic violence
may be the alcoholic abuse of male partner and for children, from the alcoholic parent.

Children are the ones most badly affected by parents’ alcoholism. Children of alcoholic patients tend to perform academically less than others. One study found that children who are diagnosed with major depression between the ages of 6 and 12 were more likely to have alcoholic parents or relatives. One study found that 41 percent of children of alcoholic parents are at higher risk for divorce and psychiatric symptoms. Studies have confirmed the common popular experience of the risk for children to inherit alcoholism later in life (Chungappura, 1999).

2.4.3.3. Accidents, Suicides and Murders

Alcohol abuse impairs the ability to drive safely. It plays a major role in more than half of all automobile fatalities. One emergency room patients study found that having had more than one drink doubled the risk for injury and more than four drinks increased the risk 11 times. Another study reported that among emergency room patients who were admitted for injuries 47 percent tested positive for alcohol abuse and 35 percent were intoxicated. Alcoholism is in one quarter of all who commit suicide and in 67 percent of all murderers (Ibid.).
2.5. **Theories of Etiology of Alcoholism**

Traditionally there are three broad theories of etiology of alcoholism, biological, psychosocial and socio-cultural, representing the medical, psychological and social models. The web of addiction is woven where these three fold factors interact and interweave.

2.5.1. **Biological Factors**

Biomedical model views suggest that the causes of addiction range from a tendency to maintain homeostasis, genetic vulnerability or altered neurochemistry.

2.5.1.1. **Homeostatic Basis**

In the alcohol dependent person the cell metabolism adapts itself to the presence of alcohol in the blood stream. When the alcohol in the blood stream falls below a certain level, withdrawal symptoms like tremors, perspiration and weakness occur. The easy way to end these is to take another drink (Carson & Butcher, 1998).

2.5.1.2. **Genetic Vulnerability**

According to researchers like Dawson, Harford and Grant (1992), alcoholism tends to run in families. Cloninger and Colleagues (1986) found that for males having one alcoholic parent increased the rate of alcoholism from 11.4 percent to 29.5 percent and having two alcoholic parents increased the rate to 41.2 percent.
Biological theories of alcoholism center on genetic influence. An important finding that supports genetic influence is the threefold to fourfold increased risk for severe alcohol problems in close relatives of alcoholic persons. The rate of alcoholic problems increases with the number of alcoholic relatives, the severity of their illness, and the closeness of their genetic relationship to the person under study.

According to data supporting genetic influence in alcoholism:
- Close family members have a fourfold increased risk.
- Identical twin of an alcoholic person is at higher risk.
- Adopted-away children of alcoholic persons have a fourfold increased risk.

Twin studies showing higher concordance in MZ than DZ pairs and adoption studies, demonstrating high rates of problem drinking among people who were adopted and not raised by their alcoholic parents, support further the genetic importance (Cadoret et al., 1985).

Researchers probing the genetic basis for alcoholism have studied the possibility of what is called an inherited alcohol-risk personality or pre-alcoholic personality. Alcohol-risk personality according to Finn (1990) is the personality of an individual (usually an alcoholic’s child) who has an inherited predisposition toward alcohol abuse and who is impulsive, prefers taking high risks, is emotionally unstable, has difficulty planning and organizing behaviour, has problems in predicting the consequences of his or her actions, has many psychological problems, finds that alcohol is helpful in coping with stress, does not experience hangovers, and finds alcohol is rewarding. Studies in this
direction have suggested that pre alcoholic men may be more prone to develop tolerance for alcohol than low-risk men (Earlywine and Finn, 1990; Finn & Phil, 1987; Finn, Zeitonni & Phil, 1990; Stewart, Finn & Phil, 1990).

A related area of research is the difference in vulnerability of various ethnic groups. The researches of Fenna and Colleagues (1971) and Wolf (1972) show that Asians and American Indians have abnormal, physiological reaction to alcohol. Asian groups are considered to have lower rate of alcoholism due to faster metabolism. However Schaefer (1977, 1978) differs in basing this on metabolism rate. Thus the role of genetics in alcoholism is still an “unresolved issue”.

2.5.1.3. Altered Neurochemistry

Another biomedical theory explains the physiological basis of craving and effects of addictions through the concept of altered neurochemistry.

Solomon, the proponent of this theory explains addiction as a self reward, assuming that there are pleasure centers or internal reward mechanisms in the brain, which exerts very powerful influence over addiction. Solomon proposed a general homeostatic motivational model of addiction based on the view that emotion arousing stimuli follow a pattern of affective dynamics. He called it **opponent process theory**. A primary peak emotion is opposed by a secondary affective after reaction. The primary process reaches a peak quickly and then levels off due to
the rising influence of the slower opponent process. This opposing process tries to restore the balance disturbed by the strong primary process. The adaptation phase reflects the net effect during the time when both primary and opponent processes are maximal. The primary process also stops quickly and the opposing influence continues to work. The overall effect is comparable to the depression following intense excitement and happiness.

After repeated exposure to a stimulus, the peak emotional response habituates, but the after-reaction becomes much stronger. Thus the emotional ‘lows’ are much stronger and intense than emotional ‘highs’.

Intake of alcohol leads at first to the primary process of affective pleasure, viz., the feeling of being relaxed or mellowed out. When the alcohol is worn off, the after-reaction called affective withdrawal viz., headache, nausea, or feeling of ‘being down’ begins.

Tolerance is the result of habituation of ‘a’ process. The emotional reaction is not strong after repeated presentations. So the person has to increase the dose to achieve the same ‘high’ as before. Long-term use will be associated with diminished pleasure or affective tolerance. Still, the after-reaction continues to strengthen. Hence the withdrawal effects causes aversion. So the person feels compelled to go on taking the drink to remove the extreme ‘low’. Hence continued drinking is primarily an avoidance response. Any attempt to quit may be frustrating because merely taking another drink will immediately remove the withdrawal symptoms (Rice, 1998).
2.5.2. Psychosocial Factors.

Genetics is not the whole story behind alcoholism. Several psychosocial factors are suggested for psychological dependence to alcohol.

2.5.2.1. Psychological Vulnerability

In the effort to answer the question whether there is an alcoholic personality, researchers have found that potential alcoholics tend to be emotionally immature, to expect a great deal from the world, to require too much praise and appreciation, to react to failure with marked feelings of hurt and inferiority, to have low frustration tolerance and to feel inadequate and unsure of their abilities to fulfill roles. People at high risk for developing alcoholism were found to be significantly more impulsive and aggressive than others (Morey, Skinner & Blashfield, 1984).

Many researchers have linked alcoholism with antisocial personality (Cadoret et al., 1985; Stabenan, 1984; Harford & Parker, 1994) and depression (Lutze & Snow, 1985).

Other disorders found to co-occur with alcohol dependence are schizophrenia (Buckley et al., 1994; Mueser & Bellack, 1992), borderline personality (Miller et al., 1993) and anxiety disorders (Himle & Hill, 1991).
2.5.2.2. Stress and Tension

Alcoholics are generally discontented with life and are unable to tolerate stress and tension. A person is liable to become alcoholic when alcohol is found as tension-reducing and it becomes reinforcing. (Cooper, 1994, Cox & Klinger, 1988). Alcohol is considered to reduce tension and alter moods. Several researches have been conducted on the tension reduction properties of alcohol. But the results are inconsistent. An explanation to this inconsistency is that the tension reducing effect of alcohol is found only among some people who lack alternative ways of coping with stress and expect alcohol to alleviate their negative moods (Cooper et al., 1992).

Relationship of stress and alcoholism are dealt more elaborately in the next chapter.

2.5.2.3. Failures in Parental Guidance and Marital Relationship

Children exposed to negative models early in life or lacking adults providing necessary guidance are at the risk of becoming involved in maladaptive behaviour, alcohol abuse. Vega et al., (1993). Chassin and Colleagues (1993) demonstrated that the lack of adequate monitoring of adolescents’ activities is related to adolescents’ affiliation with drug using peers and subsequent abuses in them.

Excessive drinking of the spouse or partner of intimate relationships may foster drinking in the other partner. Stress generated by breakup of marital relationship can lead to alcohol dependence. In a
longitudinal study, family factors like father’s alcoholism, marital conflict lack of maternal supervision, lack of attachment to father and lack of family cohesiveness were identified as etiological sources of alcoholism (Vaillant & Milofsky, 1982).

2.5.2.4. Alcoholism as a Learned Behavior

Drinking usually starts with experimentation and social drinking. Gradually by learned habituation it leads to dependence. Learning theory explains this through the concepts of habituation and conditioning of contextual cues. Alcohol tolerance is assumed to result from habituation i.e., response to alcohol is reduced due to repeated arousal with the same stimulus.

The contextual cues like drug ingestion ritual or environmental stimuli associated with alcohol intake can be conditioned through repeated pairing.

Inadequate individuation and expectancy for social facilitation are other psychological factors associated with development of alcoholism. In the formative period of adolescence due to dysfunctional family background when the individual is not prepared for the tasks of maturation and healthy ways of coping and seeking outlets of pleasure, a vacuum will left that may be filled by the bottle. Cognitive expectation that alcohol will increase their popularity and acceptance by peers can influence adolescents’ drinking (Christiansen et al., 1989).
2.5.3. Socio-cultural Factors

There are numerous cultural factors that contribute to social conditioning of alcohol use; for e.g., advertising which equates alcohol with pleasure, relief, fun, fashion, social acceptability, friendship and happiness.

In a classic study Bales (1946) pointed out 3 cultural factors that play an important role in the development of alcoholism.

1. The degree of stress and inner tension produced by the culture.
2. The attitude toward drinking fostered by the culture.
3. The degree to which the culture provides substitute means of satisfaction and other ways of coping with tension and anxiety.

It is reported that religious values of Muslims and Mormons prohibit the use of alcohol. Jews have limited its use largely to religious rituals. Alcoholism is high in Europe (Sulkunen, 1976). France has both the highest per capita alcohol consumption and the highest death rate from cirrhosis of the liver (Noble, 1979).
2.6. TREATMENT FOR ALCOHOLISM

2.6.1. Getting the Patient to Seek Treatment.

Once a diagnosis of alcohol dependence is made, the next important step is to get the patient seek treatment. This is a difficult task process. Many alcoholics may not admit that they have a problem and need professional help. Di Clemente (1993) rightly describes addiction as a ‘disease of denial’.

Besides denial, dropping out of treatment is another problem. In a survey among 60,000 treated alcoholics, 11 percent left before completion of therapy (Booth, Cook & Blow, 1994).

It is the task of the family, friends or counselor to motivate the patient to seek help and continue till the end of treatment. Personal intervention by friends or family members and employer intervention by employer are indicated to be effective methods to promote alcoholics to seek help (Nidus, 2001).

Motivating the patient is a difficult but an important task. It is done by pointing out the negative consequences of drinking (Miller et al., 1993) and providing feedback about how far his drinking departed from national norms (Sobel & Sobel, 1973).
2.6.2. The Setting of Treatment

There is a growing controversy over whether inpatient treatment is required or whether alcoholics can be treated successfully as outpatients. If equally effective, outpatient treatment has certain evident advantages. It is more cost-effective. Patients could remain in the community with their families and jobs. However, the relative effectiveness of both inpatient and outpatient treatment for alcoholism remains controversial. Research supports both sides.

Studies by Wickizer et al. (1994) has brought about the result that inpatient treatment has a completion rate of 75 percent against the completion rate of 18 percent for outpatient treatment programs.

Removing the alcoholic from the existing life situation was formerly considered essential for control over his behaviour. But now alcohol addicts are also treated in community clinics. One study found that most alcoholics are treated in community clinics. Another study found that most alcoholics are treated on an out-patient basis, which is considered as effective as inpatient treatment (Miller & Hester, 1986). There is also the indication that more intensive the inpatient treatment, the better the results (Bunn & Colleagues, 1994). A camp approach to treatment of alcoholism viz., treating a group of addicts in their own village setting is presented by T.T.K. hospital, located at Chennai, in South India, as a viable cost-effective method of treatment (Ranganathan, 1996).
Margaret McCann (1997) gives a list of indicators for inpatient treatment. According to him inpatient treatment should be preferred if the patient has a history of:

- Failed outpatient treatment
- Severely unstable or chaotic living conditions—family instability, few personal or social resources,
- Current psychiatric co-morbidity,
- Serious medical complications—threatening or existing

Regarding the question whether there are more effective and cost effective alternatives to inpatient alcoholism treatment a review of literature published in 1986 concluded that:

a. Inpatient alcoholism programs lasting four weeks to a few months showed no higher success rates than did periods of brief hospitalization for a few days.

b. Some patients could be safely detoxified without pharmaco-therapy and in non-hospital based environments.

c. Partial hospitalization programmes (day hospitalization with overnight stays) had results equal or superior to inpatient hospitalization, at one half or one third the cost, and

d. In some populations outpatient programmess produced results comparable to those of inpatient programmes (Annis, 1986).
A recent analysis reviewed 14 additional studies comparing inpatient with outpatient treatments (Finney et al., 1996). Of these, seven studies found no significant differences in treatment outcomes between inpatient and outpatient regimens, five found effects favoring inpatient treatment, and two found effects favoring outpatient treatment. In both of these the regimen was a day hospitalization programme and an intensive form of outpatient treatment. When the intensity of therapy across programmes was investigated it was found that the most intensive therapy almost always produced better treatment results. Because outpatient treatment is substantially less expensive than inpatient treatment the researchers offered the following policy recommendations.

1) Encourage outpatient treatment for most individuals with sufficient social resources and no serious medical psychiatric impairment.

2) Promote the development and availability of less costly, non-medical, residential and intensive outpatient treatment options.

In a randomized clinical trial, outcome was studied over a period of two years for discharged patients. More achieved continuous abstinence with inpatient treatment together with A.A. (37 percent), compared with A.A. alone (17 percent) or a choice of options (16 percent).

In terms of cost-benefit the more costly inpatient treatment produced superior results (Walsh et al., 1991). Shaw and Colleagues (1990) reported a 53 percent abstinent or improved rate at one-year follow-up after inpatient treatment for severely dependent patients.
Cater Registry reported that 63 percent of over 1,800 treatment completers were totally abstinent for one year with improved quality of life. In a ten-year follow-up study of 158 patients completing inpatient treatment, 61 percent of patients reported complete or stable remission of alcoholism. Completing an extended inpatient programme was associated with significantly lower mortality among alcoholic patients.

However, many such studies have methodological limitations like inadequate control groups, insufficient or selective follow-up, and selection bias due to the characteristics of patients who successfully complete voluntary treatment programmes (Emrick et al., 1993; Thurston et al., 1986).

According to the general criteria for choosing the setting for treatment given by American Psychiatrists Association, the choice of the setting depends on the clinical characteristics of the patient, the treatment needs and the available alternatives.

Patients with severe alcohol withdrawal must be detoxified in a setting that provides for frequent clinical assessment and the provision of any necessary treatments, preferably in a hospital setting.

Some out-patient setting may be appropriate for patients deemed to be at low risk of a complicated withdrawal syndrome (A.P.A., 2001).
2.6.3. The Goal of Treatment

Another issue of continuous debate pertains to the goal of treatment itself. Are we to aim a complete abstinence from drinking as an outcome of treatment or just a reduction in drinking viz., controlled drinking?

A study by Polich and Colleagues (1981) has shown that 18 percent of the subjects had been able to drink without problems.

Controlled trials have shown that minimal interventions, offering advice and facilitating reduction strategies have been effective for stable abusers of alcohol with brief histories (Chic, 1992). According to Chic this is a sensible first step for those who are without severe problems.

The study conducted by Sobell and Sobell (1970) claimed success with controlled drinking of alcoholics. But contradictory findings were brought out by the study of Pendery. He found no evidence that alcoholics could control their drinking (Pendery, 1982).

Vaillant (1983) and Helzer and Colleagues (1985) have found that less than 6 percent of alcoholics maintained stable pattern of problem-free drinking. Patients who were successful had low levels of dependence and less pervasive problems.

Researchers are discovering that, while some patients require complete abstinence, others can drink in moderation. Abstinence remains the preferred, safer outcome for individuals with alcohol
dependence. However several studies report resumption of controlled drinking.

Two patient characteristics have been proposed as factors predicting those individuals most likely to achieve controlled drinking. They are severity of dependence and personal persuasion combined with the individual’s belief system. The outcome is influenced by the degree to which an alcoholic believes in the necessity of abstinence and the degree to which the person is persuaded that controlled drinking is attainable. Over 95 percent are unlikely to achieve the sustained control. Free drinking is seen as part of the natural history of alcoholism. And it is difficult to identify the possible 5 percent who can control their drinking. Abstinence is therefore the preferred goal for many alcoholics (Mc Cann, 1997).

Alcoholism promotes the idea that alcoholism is a disease, which cannot be cured. Complete abstinence is necessary because it is believed that a single drink can trigger a complete relapse. Research has shown that A.A. can be an effective treatment method but dropout rate is high (Emrick et al., 1987).

Heather and Robertson (1981) in their book “Controlled Drinking” describes a concept of alcoholism, which contradicted the dominant concept of alcoholism as an irreversible disease, characterized by loss of control i.e., the inability to stop once drinking commenced.

Heather and Tebbutt (1989) proposed that the definition of controlled drinking should include some limit on the amount and
frequency of consumption (i.e., a minimum of 3 oz of alcohol daily) and the condition that the drinking does not result in signs of dependence (that is, withdrawal syndrome) or social, legal and health problems.

According to Jill Nelmark (1994) “abstinence is no longer the gold standard, it’s simply one standard”. There is a growing understanding among mental health professionals that alcohol abuse occurs on a continuum and must be treated accordingly.

Over the last 27 years a harm reduction strategy emphasizing the outcome of reduced harm and improved psychological function as an alternative to a sole focus on abstinence has gained prominence (Wodak, 2003). A harm reduction outcome is often an initial prognostic strategy for individuals with alcohol dependence and severe psychiatric co-morbidities. A goal of abstinence is often perceived at least initially as forbidding. Hodgins and others (1997) reported that, when given a choice of outcome at the initial assessment, 46 percent of 106 subjects with chronic alcoholism chose abstinence, 44 percent chose moderate drinking, and 9 percent were unsure. After 4 weeks of treatment two thirds of the subjects chose abstinence.

The goal of harm reduction model is not to stop people from drinking but to teach them how to drink without creating physical, legal, financial or social problems for themselves and others. Abstinence is not a requirement in harm reduction methods, but it is always presented as an option. According to this approach clients cannot be forced to do something which they do not want to do, they have the right to choose
what they want and a reduction in problems is better than no change at all (Korhonen, 2004).

2.6.4. Various Treatment Methods for Alcoholism

Treatment for alcohol dependence includes pharmacological and non-pharmacological methods. Five major drug classes used in the management of alcohol use disorders are disulfiram, naltrexone, acamprosate, serotonergic agents and lithium. Disulfiram is widely used as an aversive medication, to deter the client from drinking by causing an unpleasant reaction when alcohol is ingested. Naltrexone (also used to treat opiate disorders) and acamprosate are less commonly used antie craving medications that prevent alcohol from causing pleasant effects (Agency for Health Care Policy and Research, 1999).

Non-pharmacological treatment methods include various types of psychotherapy and counseling. Family intervention, known as ‘Cognitive-Behavioral Therapy’ (C.B.T), reflects the assumption that substance use is a learned behaviour. The interventions are designed to help the patient identify high risk situations for relapse, learn and rehearse strategies for coping with these situations and recognize and cope with craving (Finney et al., 1996).

In addition to the professional treatment the 12-step, self-help movement-Alcoholics Anonymous (A.A)- is the most widely used resources for people with alcohol problems (Fuller & Sturmhofel, 1999).
Another strategy is Motivational Enhancement Therapy (M.E.T.), which strives to motivate the clients to use their own resources to change their behavior.

2.6.4.1. Physiological Treatment for Alcoholism

Physiological treatment for alcohol dependence includes detoxification and medication. Detoxification is the elimination of alcoholic substances from the body. Medication is intended to eliminate withdrawal symptoms and to reduce the physiological symptoms like insomnia, headache, gastrointestinal distress and tremulousness, to prevent heart arrhythmias seizures and delirium.

Valium is found to be very effective in alleviating withdrawal symptoms and anxiety associated with them. Mild dose of tranquilizers are administered to help sleep. A widely used antabuse is disulfiram. Its use is a controversy. It is an alcohol deterrent medication that inhibits the lower enzyme, aldehyde dehydrogenase, which assists in the breakdown of acetaldehyde, the major alcohol metabolite (Fuller, 1986). It causes violent vomiting when followed by ingestion of alcohol. It may be administered to prevent an immediate return to drinking (Chic et al., 1992).

Hence disulfiram should be administered under medical supervision, preferably in a hospital setting.
2.6.4.2. Psychosocial Interventions for Alcohol Dependence

Psychosocial Interventions include various measures like individual family and group therapies, cognitive behaviour therapy, assertive training etc. (A.P.A., 2001).

a) Individual Counseling

Individual counseling is series of interviews in which the counselor and client work together to define problems, explore possible solutions, and identify resources with the counselor providing support, encouragement and feedback to the client as he takes action.

The alcoholic may be ambivalent in seeking help or even resist treatment. He has to be enabled to realize the need for help. Issues of denial, feelings, guilt and rebellion, and defenses have to be dealt. In a very patient, accepting and non-judgmental atmosphere, the counselor has to educate the client, enable him to take self-responsibility for his action, identify and solve his problems using techniques like confrontation, summarizing and feedback.

b) Family Counseling

Alcoholism is described as a family disease. On one hand the entire family suffers due to the excessive drinking of any one of its members. Family can greatly contribute to the recovery of an alcoholic as well.
Interpersonal conflicts with the spouse of the alcoholic and other members have to be settled, open and free interpersonal communication has to be encouraged. All these are skillfully attempted in family therapy.

In family therapy the alcoholic is seen as member of a disturbed family in which all the members have a responsibility for co-operating in treatment.

c) Group Therapy

In group therapy group experiences are effectively used to promote change in the members. It paves the way for learning more effective methods of coping and dealing with their drinking problem. Major group focuses in group therapy with alcoholics groups include education, self-awareness, problem solving, re-socialization etc.

2.6.5. Models of Alcohol Disorder Treatment.

Currently employed important non-medical strategies for alcohol disorders are 12-step model, cognitive behaviour model, bio-psycho-social model, harm reduction model, multidimensional model etc.

2.6.5.1. The Twelve-Step Model

Twelve-step model is the most widely used model. This model, also known as the disease model or Minnesota model, is a comprehensive multidisciplinary model which is abstinence oriented and
based on the disease concept of Alcoholism and the principles of Alcoholics Anonymous. Elements of this model include group therapy, lectures, involvement of recovering persons as counselors, a multidisciplinary staff, a therapeutic milieu, therapeutic work assignments, family counseling, the use of a 12-step program, daily reading of 12-step literature groups, the presentation of a life history, attendance at A.A./N.A. meetings and opportunity for recreation and physical activity. These elements are usually integrated into a structured daily routine.

This model focuses on chemical dependency as the primary problem. According to this model disease of alcoholism has different stages with the final stage having several physical damages including liver and nervous damages. The final stage requires medical monitoring of withdrawal symptoms, which develops when alcohol intake is stopped.

This model of treatment includes:

- hospital-based detoxification and rehabilitation services and
- attending to the physical/health/medical needs of the patients.

Patients are guided through a process of understanding:

- The nature and extent of their alcohol/drug problem,
- How their unique characteristics create barriers and/or strengths for recovery,
The importance of relying on a power or powers greater than themselves rather than willpower. It emphasizes:

- Admitting one’s powerlessness over alcohol.
- Adherence to abstinence as a treatment goal.
- Adopting the norms and values of a new social group, the self-help group (A.A.), to achieve total abstinence.
- Treatment activities like attending twelve step meetings
- Participating in psychotherapy groups and
- A solid aftercare plan for an ongoing recovery.

It incorporates:

- Securing a safe sober living environment
- Attending A.A. or other Twelve Step support meetings regularly
- Securing a sponsor in A.A. and
- On-going support and counseling sessions (Alcoholics Anonymous World Services, 1991).

2.6.5.2. Cognitive Behavioural Treatment

Cognitive behavioural treatment model is based on cognitive therapy, which attempts to reduce excessive, emotional reactions and self-defeating behaviour by modifying the faulty or erroneous thinking and maladaptive beliefs that underlie these reactions.
Cognitive behavioural treatment for alcohol problems is a short-term focused approach to help the chemically dependent individual to abstain from alcohol and other substances. The basic assumption is that learning processes play a key role in the development of alcohol and drug dependence. The patient is enabled to recognize the situations in which he is prone to use alcohol and drugs and to avoid these situations. The therapist and the patient together do a functional analysis in which they identify the patient’s thoughts, feelings and circumstances before and after the alcohol and drug use. The patient is enabled to gain insight into some of the reasons the individual may use alcohol and/ or drugs. The counselor helps the person analyze his or her environment and ways of responding to cues to use alcohol or drugs and establish new patterns of response to those cues. Training in interpersonal skills and strategies help the patient to expand his social support networks and build lasting, drug-free relationships.

Cognitive behavioural treatment is usually offered in twelve to sixteen sessions. It is not appropriate for those who have psychotic or bipolar disorders and not stabilized on medication. But it is compatible with a number of other treatments like pharmaco-therapy, self-help groups such as A.A., family and couples therapy, vocational counseling, and parenting skills training (Beck et al., 1993).

2.6.5.3. Bio-Psycho-Social Model of Treatment for Alcoholism

Bio-psycho-social model or social model of treatment for Alcoholism is an experimental, peer-oriented process. The underlying concept is that alcohol problems stem from life-time socialization in a
social and cultural milieu that implicitly or explicitly encourages alcohol consumption. Like A.A., social model practitioners believe that alcoholism is a multifaceted disease caused by moral, spiritual, biological, psychological, social and environmental factors. Chemical dependency is believed to result from environmental, cultural, social, peer or family influences like poverty, drug availability, peer pressure, and family dysfunction.

Social Model Programmes evolved in the late 1940’s out of the A.A. 12th Step of reaching out to help other alcoholics. The Social Model structure is based on the Twelve Traditions of A.A. The social of treatment is to improve the social functioning of substance abusers by either altering the social environment or altering the individuals’ coping responses to environmental stresses. Strategies include family or couple therapy, attendance at self-help groups where one is surrounded by non-users, residential treatment and avoidance of stressful environments where substances are available. This model also attempts to change the norms, values, policies and practices regarding alcohol in the community and society (Hayes et al., 1993).

2.6.5.4. Harm Reduction Model

According to the proponents of this model, though abstinence is the ideal goal, ambivalence is such a strong factor that when abstinence mandate is in effect many people will just avoid addiction services. They recognize that there will always be illicit drug use and that many people are simply unwilling or unable to give up drugs entirely but could benefit from intervention. Harm reduction strategy is put forward
because when abstinence mandate is in effect, many people will avoid addiction services. The priority is to decrease the negative consequences of drug use.

Harm, reduction can be viewed both as a goal and a strategy. All drug policies and programmes aim to reduce the harm associated with drug use. As a specific strategy, harm reduction generally refers to the policies and programmes aimed at reducing drug related harm without requiring total abstinence.

Needle exchange, methadone programmes, promotion of responsible drinking, controlled drinking interventions, avoidance of drinking and driving, low alcohol content beverages, safer route of drug use, reduction of frequency of drug use, reduction of the duration of drug use, facilities such as tolerance zones, injection rooms, health rooms, or contact centres where drug users can get together and obtain clean injection equipment, condoms, advice or medical attention etc. are examples of harm reduction strategies.

Harm reduction approaches to addictive behaviours are based on three central beliefs:

1) Excessive behaviours occur along a continuum of risk ranging from minimal to extreme; they are not all or nothing phenomena.

2) Changing addictive behaviors is a step-wise process, complete abstinence being the final step.

3) Sobriety is not for everybody (Miller & Kurtz, 1994).
2.6.5.5. Multi dimensional Model

NIMHANS Journal proposes a multidimensional approach to treatment of alcohol dependence. Alcohol dependence is viewed from a behavioural perspective. It takes into account the following factors behind alcohol dependence:

- Pre-disposing factors (such as personality)
- Acquisitioned factors (such as psychological cues), and
- Maintaining factors (such as alcohol related expectancies).
- In the light of this broad spectrum, a multi therapeutic programme is described (Rangaswami, 1997).

2.6.6. Other Specific Approaches to Psychosocial Interventions

Specific approaches to psychosocial intervention for helping alcoholics include behaviour therapy, cognitive behaviour therapy, rehabilitation, Alcoholics Anonymous etc.

2.6.6.1. Behavioural Therapy Techniques

Various behaviour therapy techniques like aversive conditioning, assertive training are effectively used to treat alcoholism. Aversive conditioning involves presentation of noxious stimuli with alcohol consumption to suppress drinking behaviour. Noxious stimuli that are paired with alcohol consumption may be electric shock or pharmacological methods like injection of emetine hydrochloride. A
conditioned aversive feeling of nausea is associated with taste and smell of alcohol.

Assertive training is another behavioural technique which aims at enabling the alcoholic to withstand peer pressure.

2.6.6.2. Cognitive Behavioural Techniques

Cognitive Behavioural Approach recommended by Marlatt (1985) and Lang & Marlatt (1983) tries to combine cognitive behavioural strategies with social learning and modeling of behaviour. It aims to impart specific knowledge about alcohol, develop skills situations associated with increased risk of alcohol use, to modify cognitions and expectancies and acquire stress management skills.

2.6.6.3. Alcoholics Anonymous

To sustain change in awareness, attitude and behaviour of alcoholics there is the organization called Alcoholics Anonymous. It was started in 1935 at Akron, Ohio, by Bill W. and Dr. Bob-two recovered addicts. It is a non-professional counseling programme intended to help alcoholics who wish to lead a life free of alcohol.

A.A. wants to foster sobriety through spiritual transformation, it is not affiliated to any particular religion. It is informal in nature. A.A. does not have office bearers, it does not involve in other socio-political causes, it does not collect fees or keep case histories. To ensure anonymity only first name of the members is in mentioned.
A.A. meets regularly. The main agenda is sharing by participants in which the participants introduce themselves as alcoholics. Problems with alcohol dependent life, experiences of success and failure in the attempt to lead an alcohol free life etc are shared in the gatherings. Participants usually contrast their lives during alcohol dependence and present lives without alcohol.

A.A. believes that once an alcoholic, one is always an alcoholic. If one could lead an alcohol free life today it is due to the grace of God and the support of A.A. Whole-hearted acceptance of this belief and submitting to a higher power, God, and through constant review of life one makes constant and conscious effort to remain sober and to be witness to fellow alcoholics that an alcohol free life is possible. These basic tenets and process of change are reflected in the 12 steps of A.A.

Related movements like Al-Anon (fellowship of spouses of alcoholics) and Al-a-teen (fellowship of children of alcoholics) are aimed at bringing the whole family members of alcoholics to involve in the process of transformation.

According to the Big Book of Alcoholics Anonymous, alcoholism is a physical, spiritual and emotional illness for which there is no recovery except through an entire psychic change. Alcoholic’s behaviour is viewed as an allergy that the ingestion of alcohol sets up a craving for more and more. A.A. asserts that nothing is found that contributes to rehabilitation that is better than A.A. (Alcoholics Anonymous, 1976).
Alcoholics Anonymous is both a fellowship and a rehabilitation programme. The fellowship provides alcoholics with a supportive peer group. It is designed to instill in them the level of trust necessary to risk exposing their vulnerable selves to honest examination and correction of their dysfunctional behaviours and beliefs (Kurtz, 1979).

2.7. RELAPSE AFTER TREATMENT

As already mentioned, relapse after treatment for alcohol dependence is a matter of great concern for patients, their family and those involved in treatment. Thus relapse is the central issue of alcohol treatment. It is estimated that about 90 percent of alcoholics are likely to experience at least one relapse over the 4-year period following treatment.

2.7.1. Relapse and Craving

Several relapse theories make use of the concept of the term craving. The term craving suggests that the person who has not yet drunk alcohol feels the need for it.

According to Ludwig and Associates the alcoholics experience classical conditioning (Pavlovian), by pairing external (e.g. familiar bar) and internal (e.g. negative mood states) stimuli to the reinforcing effects of alcohol. They explain this craving as an appetitive urge, similar to hunger, which varies in intensity and is characterized by withdrawal-like symptoms. The symptoms are elicited by internal and external cues, which evoke memory of the euphoric effects of alcohol and of the

There are certain physiological responses to alcohol cues. Experimental studies have shown that exposure to alcohol, without having consumed, can stimulate an increased salivary response in alcoholics. Kaplan and Associates (1983) have found correlation between skin conductance levels and self-reported desire for alcohol in alcoholic subjects in response to alcohol cues.

Dolinsky and others (1987) report that alcoholics demonstrated significantly greater and more rapid insulin and glucose than non-alcoholics following the consumption of a placebo beer.

2.7.2. The Process of Relapse

Alcoholic’s relapse is slipping again to alcohol use following abstinence. The initial drink following abstinence is called lapse and the transition to excessive drinking is called relapse.

The disease of alcoholism is said to have 2 edges. It is described as a double-edged sword. When one drinks excessively there are problems in several areas. When one struggles to abstain from drinking also he is not free from problems. There are problems in several areas—memory problems, problems in thought process, emotional problems, physical coordination problems etc. When stress strikes, these problems become worse.
When these problems cannot be dealt effectively relapse occurs. Relapse begins in the mind; it begins earlier than taking the first drink. Relapse is a process, which creates an irresistible craving in mind (Ranganathan, 1996).

The relapse process is compared to knocking over a line of dominos. The first domino hits the second, which hits the third and soon a progressive chain reaction, has started. In the sequence of problems that lead from stable sobriety to relapse, the first dominos are too small to recognize. As one moves along in recovery, one tips over one small domino. That domino hits the next and then the next. Thus a chain reaction gets started. All of a sudden a huge domino falls from behind, crushing him to the floor, causing serious pain and injury.

Gorski (2001) describes the process of relapse as having 9 steps. The person gets stuck in recovery, denies that his stuck, uses other compulsions like overworking, overeating, dieting or over-exercising. A trigger stress event occurs. The person goes out of control. When emotion gets control of the intellect the person becomes dysfunctional on the inside; can’t remember things, experiences emotional numbness. Internal dysfunction leads to external dysfunction. The person starts making mistakes at work, creates problems with friends, family and workers, and neglects recovery programmes. The person makes some kind of patch with the worst problem and tells himself that the problem is solved. But when one problem is solved two new ones pop up. He gradually goes out of control.
The person engages in addictive thinking. He feels that the new sober friends do not understand him and goes back to addictive people, places and things. Things get so bad that the person believes that there are only three choices left: collapse, suicide or self medication. Often the third choice is followed and loses control over use.

2.7.3. **Dry Drunk Syndrome**

In between relapse and complete recovery there is a stage of partial recovery in which many people stay for years. These people neither drink nor get really well either. They remain in that stage until they have a stress collapse, develop a stress related illness or have a nervous breakdown (Gorski, 2001).

Some treatment agencies personnel call this stage as a ‘dry drunk period’. It is the state of an alcoholic who is uncomfortable when he is abstaining. The unproductive behaviour patterns and attitudes persist even after giving up of drinking i.e., there is no improvement in the quality of life (Ranganathan, 1996).

2.7.4. **Warning Signs of Relapse**

There are a number of progressive warning signs that develop automatically and unconsciously which lead to the completion of the process of relapse. The personnel engaged in the rehabilitation and follow-up services after treatment can clearly notice these from the experience sharing by the patients as well as their relatives and friends.
They are:

1. Thoughts about the pleasure associated with drinking.
2. The recovering alcoholic sometimes feels non-confident to manage without alcohol, which has so far been his long trusted friend.
3. Having left the company of drinking friends the person finds it difficult to socialize and form new friends. The consequent loneliness leads to depression.
4. Irritation and anger, which are impediments to recovery. In return to his ‘sacrifice’ through abstinence he expects that others must heed to all his demands. When others do not comply with his demands he becomes irritable and angry.
5. When things are not happening fast enough, the person becomes impatient.
6. The person starts to engage in self-pity.
7. Compulsive behaviours like gambling.
8. Impulsive behaviours. Major decisions are taken without proper thinking, which leads to problems and consequent stress.
9. Tunnel vision. Too much concentration on one area of life, thereby neglecting other areas.
10. Denial and defensiveness. The person denies the fact that he requires a change in life.
11. Overconfidence is a very clear warning sign of relapse. The person wrongly feels to have sufficient will power, that he can go to places where people drink
12. Progressive loss of daily structure. E.g. Irregular eating and sleeping, too much strain or idling time etc.

13. Thoughts of social drinking. The person thinks that he could drink in a controlled manner (Ibid).

Marlatt (1985) has formulated a cognitive behavioural analysis of relapse. According to him relapse is influenced by the interaction of conditioned high risk environmental situations, skills to cope with the high risk situations, level of perceived personal control (self-efficacy) and the anticipated positive effects of alcohol.

By analyzing 48 episodes he concluded that most relapses were associated with 3 high-risk situations.

1) Frustration and anger
2) High-risk situations and
3) Inter-personal temptation

Cooney and associates (1987) supported this model by demonstrating that among alcoholics, exposure to alcohol cues was followed by diminished ambience in the ability to resist drinking.

2.7.5. Relapse Prevention Measures

Psychologists and researchers have suggested various relapse prevention measures. Those worth mention are cognitive-behavioural approach to relapse prevention by Marlatt and Colleagues and the relapse prevention measures suggested by Terrence T. Gorski.
Marlatt and Colleagues believe that relapse behaviour should be seen beyond the view that people resume drinking because of a “craving” based on physiological needs. Relapse behaviours are “indulgent behaviours” that are based on the individual’s learning history. When an individual is able to keep abstinent he gains control over the indulgent behaviour and his sense of self-efficacy is increased. This general rule of abstinence is violated through a gradual, and sometimes an unconscious process. Even during the period of abstinence the person may begin a chain of behaviours through a series of mini decisions making the relapse inevitable. Through a process called “abstinence violation effect” very trivial acts of abstinence are attributed to have drastic effect; the person feels guilty, loses sense of self-efficacy and confidence and finds justification for further indulgent behaviors.

According to Marlatt and Colleagues relapse prevention measures should focus on examining the thought processes that lead to relapse. Patients are taught to recognize the seemingly insignificant decisions that serve as early warnings of the possibility of relapse, assess their own vulnerability to relapse and trained not to become discouraged following minor acts of relapse (Marlatt, 1985, Marlatt & Gordon, 1980).

Relapse prevention measures teach the clients to recognize early warning signs of relapse and stop them before using alcohol or other drugs. Gorsky (1996, 2003) explains a relapse prevention plan consisting of nine steps. They are:
1. **Stabilization:**

Detoxification and a few good days of sobriety are needed to make relapse prevention planning. Intense therapy is not recommended in early abstinence. Focus is on the basic issue, namely what is needed to avoid drinking on each day.

2. **Assessment:**

In this step the effort is to identify the recurrent pattern of problems that caused past relapses and resolve the pain associated with them. It is done by reconstructing the presenting problems, the life history, the alcohol and drug use history and the recovery relapse history.

3. **Relapse Education**

It involves the family of the alcoholic and 12-step sponsors to learn abort the relapse process and now to manage it. Here the recovering person is reminded that:

1. Relapse is a normal part of recovery
2. There is a progressive pattern of warning signs
3. The identification can help to learn to manage these signs, and
4. Relapse prevention therapy can teach how to recognize and manage warning signs without a return to chemical use.
4. **Warning Sign Identification.**

These series of warning signs are built one on the other. All of them starting from the first and the most subtle one are important and need to be identified.

5. **Warning Sign Management.**

Non-chemical problem solving strategies have to be learned.

6. **Identification.**

Ways of coping with irrational thoughts, unmanageable feelings and self-defeating behaviours which accompany each warning sign are to be identified.

7. **Inventory Training.**

It includes a morning inventory to recognize and manage warning signs and an evening inventory to review progress and problems.

8. **Family Involvement**

A supportive family, which gets involved in Al anon, recovering from its own codependency and working together with the recovering person, can be greatly helpful.
9. Follow-up

The warning signs will be changed with patient’s progress in recovery. They are unique to each stage of recovery. Hence the relapse prevention plan needs to be updated regularly.

To prevent relapse Marlatt and Gordon (1980) advise the individual to achieve three basic goals:

- Modify life style to enhance the ability to cope with stress and high-risk situations (increase self-efficacy);
- Identify and respond appropriately to internal and external cues that serve as relapse warning signals and
- Implement self-control strategies to reduce the risk to relapse in any situation.

Chaney and Associates (1978) investigated the effectiveness of skill training intervention to help alcoholics to cope with relapse risk. Skill training includes problem solving skills and rehearsal of alternative behaviours specific for high-risk situations.

Relapse prevention strategy proposed by Marlatt (1985) draws a distinction between lapse and relapse. Patients are reminded that a lapse does not signal a total relapse. The conviction that a single lapse is not necessarily losing the game altogether will impart confidence in the patients so that it may not lead to total relapse.