CHAPTER VI

ALCOHOLISM AND DRUG DEPENDENCE

Definition of drug dependence
Types of drug dependence
Treatment and rehabilitation
ALCOHOLISM AND DRUG-DEPENDENCE.

Alcoholism is increasing rapidly due to the psychological stress imposed on the individual in a competitive complex society. It is becoming a medical and social problem. Probably because of the natural tendency of progression to hard drugs alcoholism is becoming apparently of secondary importance to drug addiction. Since the latter causes far greater damage to the individual's physical health, psychological stability, social relationship and personal work record. As alcoholism and drug-dependence are closely related they should be discussed together. It is not uncommon for an alcoholic to be abusing other drug substance as well and this should be borne in mind when making the diagnosis of alcoholism. There is also some cross-tolerance between alcohol and other drugs producing dependence of the barbiturate type. Thus alcoholism and drug-dependence can co-exist.

Alcohol itself is a drug (ethyl alcohol CH₃ OH) and taken initially for socialisation or relief of psychological tension there is a great tendency for abuse of the substance. The modern society has introduced among other things the wide spectrum of drugs of addictive quality ranging from Hypnotics «sleeping pills» cerebral stimulants like «amphetamine derivatives» or Hallucinogenic drugs like LSD. There is now a great empire of drug-pushers and smugglers working in an organised network all over the world with drug trafficking and marketing. Young people are becoming the primary victims of such booming trade.

The WHO defined the problem of addiction and dependence in more precise terms though Psychiatrists working in this field especially in the third world still prefer to retain the term of addiction besides dependence because of its special appeal to the workers in this field as
well as its well-understood nature by the patient and the public. The WHO Expert Committee of Addiction - Producing Drugs (1957) defined drug addiction and drug habituation but later (WHO 1964) recommended their replacement by the term drug dependence. The 1957 definition included:

**DRUG ADDICTION:** Drug addiction is a state of periodic or chronic intoxication produced by the repeated consumption of a drug (natural or synthetic). Its characteristics include:
1. An overwhelming desire or need (compulsion) to continue taking the drug and to obtain it by any means.
2. A tendency to increase the dose.
3. A psychic (psychological) and generally a physical dependence on the effects of the drug.
4. Detrimental effect on the individual and the society.

**DRUG HABITUATION:**

Drug habituation is a condition resulting from the repeated consumption of a drug. Its characteristics include:

a. A desire (but not a compulsion) to continue taking the drug for the sense of improved well-being which it engenders.
b. Little or no tendency to increase the dose.
c. Some degree of psychic dependence on the effect of the drug but absence of physical dependence and hence of an abstinence syndrome.
d. Detrimental effects, if any, primarily on the individual.

**DRUG DEPENDENCE:**

Drug dependence is a state of psychic or physical dependence or both on a drug arising in a person following administration of that drug on a dperiodic or continuous basis. The characteristics of the drug dependence often vary with the drug used. The WHO had described eight type of drug dependencies:

1. Alcohol type
2. Amphetamine type
3. Cocaine type
4. Morphine type
5. Barbiturate type
6. Cannabis type
7. Khat type
8. Hallucinogenic type
CHARACTERISTICS OF DRUG DEPENDENCE:

1. Psychic dependence characterised by a psychological need to continue taking the drug either to produce a feeling of pleasure or well-being or to avoid discomfort.

2. Physical dependence characterised by a physiological state which is expressed following withdrawal of drug or administration of specific antagonists.

3. Tolerance characterised by a diminution in the effect of the drug after repeated use of the same dose and a tendency to increase the dose to produce the same initial effect.

4. Detrimental effect on the individual and society.

DEFINITION:

Alcoholism and drug dependence is a condition where the state of dependence on alcohol or drug has gone beyond the patient’s ability to control his desire to exceed or to stop once started drinking and has led to a physical destruction of health, psychological disturbance, disruption of social life and deterioration of personal relationship.

The danger of any drug abuse is the progression to hard drugs such as amphetamine, producing schizophrenia-like-psychosis or a paranoid state or heroin leading to a considerable misery and destruction of total life of the individual. In alcoholism there is a substantial affinity with the barbiturate type of dependence.

The incidence of alcoholism is increasing rapidly over the past few years and thus it is difficult to assess with any degree of precision the magnitude of the problem due to the scarcity of statistics, the changing pattern of drug traffic and the secretiveness of the alcoholics as well as the attitude of the society towards such a sensitive moral, social and medical issue.

Generally, alcohol and drug abuse account for more than 5% of all mental illness requiring admission to hospitals. This is only the tip-of the iceberg as these patients are very resistant to hospital admission and occasionally even to out-patient treatment due to absolute secretiveness until they are dangerously affected by the problem of addiction.
AETIOLOGY:

1. Constitutional factors
2. Environmental factors

Constitutional Factors:

a. Specific predisposition due to inherited biochemical need which can only be satisfied by alcohol intake thus the incidence of alcoholism is found high in the patient’s family, especially the father.

b. General: This is an individual readiness to indulge in alcohol intake due to psychological immaturity or personality failure to develop satisfactorily to resist an impulsive desire to resort to alcohol to relieve tension.

c. The symptomatic use of alcohol or drug to alleviate pain or relieve suffering during a serious illness, i.e. carcinoma or in crisis following surgical operation.

Environmental Factors:

a. Occupation: The type of job held by the individual contributes to the intake of alcohol or drug as well as relapse following treatment, because of easy access, lack of supervision, temptation of trial, etc. Examples of these are:
   1. Barmen
   2. Commercial travellers
   3. Professional people having access to drugs, like doctors, pharmacists, nurses or else due to social isolation.

4. Family Background: There was a high incidence of profound disturbance in the home during childhood. The rate of psychiatric disturbance, addiction to other drugs, alcoholism and criminal behaviour was more common in these families. The parents of the addicts were more often absent from home.

5. The addict personality: There was a profound disorder of personality in young people. This was associated with poor school performance and persistent truancy or frequent involvement with gang behaviour and social deterioration. There was also a high incidence of psychiatric disorder not only due to drug abuse with multiple appearances before the court for other offences of delinquent behaviour. Sexual disorder is a fairly constant feature and homosexuality is not uncommon.
CLINICAL FEATURES:

Drunkenness is readily recognised by the layman but lesser forms of drinking can only be recognised chemically when the concentration of alcohol in the blood reaches 0.2% by volume. There is a great individual variation depending on the personal tolerance. There is synergic effect between alcohol and other drug like sedatives and hypnotics. They potentiate the effect of each other so it is dangerous to take drugs with alcohol. The clinical picture of the drunk alcoholic is grouped into five stages:

1. Initial stimulation (social drinking)
2. Elation of mood or euphoria
3. Retardation or slowing down of movement due to central nervous system depressant effect.
4. Quarrellousness where the patient becomes aggressive and abusive.
5. Stupor or even intoxication and coma.

EFFECTS OF ALCOHOL ON CENTRAL NERVOUS SYSTEM:

1. Direct toxic effect, i.e. Pathological intoxication.
2. Vitamin deficiency, i.e. Wernick’s Encephalopathy.
3. Neurological disorder, i.e. Cerebellar Syndrome or ataxia, slurred speech and nystagmus or peripheral neuropathy.

SYMPTOMS AND SIGNS OF ALCOHOL WITHDRAWAL:

1. MOTOR: Tremor, ataxia, overactivity, restlessness and muscle cramps.
2. AUTONOMIC: Sweating, fever, dilated pupils, tachycardia.
3. SLEEP: Insomnia, nightmares, vivid dreams.
4. GASTRO-INTESTINAL: Anorexia, nausea, vomiting, diarrhoea
5. PERCEPTUAL: Visual and auditory perceptions, illusions and misinterpretations, visual auditory, gustatory and olfactory hallucinations.
6. CONFUSION: Disorientation for time, place and person.
7. OTHERS: Severe anxiety, delusions and epileptic attacks.

The common types of drug dependence that are of special interest in this part of the world are the opiate (morphine type), stimulants (amphetamine type), barbiturate, cannabis, sedatives and hypnotics and the solvents like glue sniffing or petrol inhalation.
1. **Morphine Type**: Dependence on opium or its preparations mor-
phine, heroin and other morphine derivatives or on synthetic subs-
tances with morphine like effects such as pethidine, methadone etc.
This is characterised by:
   a. Strong psychic dependence, an overpowering drive or compul-
sion to continue to take the drug.
   b. The development of tolerance and a notable tendency to increase
the dose.
   c. The early development of physical dependence which increases in
intensity as the dose increases with a specific abstinence
syndrome on withdrawal or on administration of a morphine
antagonist such as nalorphine.
   d. Detriment of the individual (personal neglect, physical compli-
cation etc) and to society (disruption of interpersonal relations-
hips, economic loss, crime, etc.)

2. **Stimulants** (Amphetamine type): Dependence on amphetamine,
dexamphetamine etc is characterised by:
   a. Psychic dependence on variable degree
   b. No definite physical dependence although some mental and
physical symptoms may develop on withdrawal.
   c. The slow development of tolerance to certain of its pharmacolo-
gical actions.
   d. An adverse effect on the individual (mental and physical compi-
lications) and on society.

3. **Barbiturate Type**: Dependence on pentobarbiturate, amylobarbitu-
rate, quialbarbiturate and other barbiturate, paraldehyde, chloral
hydrate, meprobamate, glutethimide, methaqualone (Mandrax),
chlorodiazepoxide (librium) diazepam (valium) etc. This is charac-
terised by:
   a. Strong psychic dependence
   b. The development of tolerance and of some cross-tolerance with
alcohol.
   c. Very slowly developing physical dependence with specific absti-
enence syndrome similar to that associated with alcohol depen-
dence.
   d. An adverse effect on the individual (impairment of mental abil-
ity, confusion, emotional instability etc) and a slightly detri-
mental effect on society.
Barbiturates are very notorious for cases of accidental overdose or attempted suicide. As far as possible they should be avoided unless there is a strong indication. Also withdrawal fits are common following cessation of the drug. Cross-tolerance with alcohol is another complication.

**Cannabis Type:** Dependence on cannabis leaf and resin and its preparations (marijuana, hashish etc) is characterised by:

a. Moderate to strong psychic dependence  
b. Absence of physical dependence, and  
c. Absence of tolerance.

There is no definite evidence of a detrimental effect on the individual or on society, but it possibly predisposes to the morphine type of dependence. Although it is stated that there is no detrimental effect on the individual in practice many of those using cannabis show psychotic episodes or criminal behaviour under the effect of cannabis. But whether it is a release phenomena of an underlying psychotic illness triggered by cannabis or a disturbance precipitated by it is not clear, although the causal relationship is not yet fully established there is a strong evidence of progression to hard drugs.

**Hypnotic and Sedative Type:** The Benzodiazepine groupe of sedatives are the most commonly type of drugs. They are more freely prescribed by general practitioners because they are safer than hypnotics and given in big doses they have got a hypnotic effect. Patients tend to abuse the drug by increasing the dose and over a prolonged period they might develop moderate dependence. Withdrawal psychosis closely resembling delerium tremens have been reported following use of other sedatives like Meprobamate, Methoqualone (Mandrox) etc. In addition withdrawal was a possible cause of some mental disturbance or seizure in some patients following prolonged use of chlordiazepoxide (librium) and Diazepam (Valium).

The benzodiazepine groups of drugs are very effective in phobic anxiety state and they are used very frequently by psychiatrists for the relief of tension and fear. Even in therapeutic doses they can cause dependence in some patients. They are becoming a common cause of overdoses or attempted suicide especially in young age group particularly females who use them far more than other dependence-producing drugs.

Nitrazepan (Mogadon) is usually prescribed as hypnotic in sleep disturbance as well as barbiturate (sodium amylobarbitone) when other
anxiety relieving drugs have failed. These account for a high proportion of dependence in general medical practice.

**The «Solvents» Type:** The problem of glue sniffing and petrol inhalation is becoming increasingly alarming to families, educational authorities, police and society at large. Increasing number of young children and adolescents are getting involved in the problem of glue sniffing and petrol inhalation. As a result, they abscond from school or join gangs in criminal behaviour of stealing, breaking or assaulting others to get the substance. This is very frequently associated with other delinquent behaviour. The danger of this problem is the disruption of school career, social maladjustment, court convictions and family disharmony. It causes some degree of dependence, physical complications like respiratory tract infection, loss of appetite, mild drowsiness and confusion with consequent memory disturbance and learning problem. The tendency to abuse other drugs is not uncommon.

**Complications of Drug-dependence:**

These complications can be divided according to the criteria of dependence into:

1. Physical
2. Psychological
3. Social

1. **Physical Complications of Drug Abuse:**
   a. Septic complications, i.e. abscess, Septicaemia, Pyrexia or Syringe-transmitted syphilis.
   b. Hepatitis - hepatotoxic effect of drug with chronic liver dysfunction.
   c. Overdose of drugs.
   d. Others, i.e. Needles broken, tuberculosis, barbiturate withdrawal fits, cocaine rash, nerve palsy due to self-injection.

2. **Psychological Complications:**
   a. Impotence with marital disharmony, separation or divorce.
   b. Morbid jealousy
   c. Psychiatric disorder, i.e. anxiety or depression or paranoid delusions.
   d. Criminal behaviour
   e. Abuse of other drugs
   f. Absence from home

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3. Social Complications:
   a. Disrupted personal and family relationships
   b. loss of job
   c. broken homes.

Alcohol Complications:
1. Alcohol tremulousness, i.e. morning shakes in advanced stage
2. Alcohol hallucinations: mainly auditory voices like those of Schizophrenia in 30 - 50% of cases often called alcoholic paranoia
3. Alcoholic epilepsy: to the extent of 10 - 12% higher than general population associated with head injury, focal cortical lesion or idiopathic epilepsy and withdrawal of alcohol (withdrawal fits).
4. Alcoholic delerium tremens - this is discussed with confusional states in other chapter. often coined D.T.
5. Alcoholic dementia.

Apart from acute alcohol intoxication which needs immediate measures of resuscitation, the chronic case may lead to deterioration of memory or Korsakov Psychosis with loss of recent memory and the catastrophic reaction characteristic of a form of dementia. Alcoholism could lead to a release phenomena whereby inherent personality traits which have been commonly suppressed gradually come to the surface due to removal of inhibitory cortical control. Sexual and aggressive tendencies become very often. Chronic alcoholism might lead to impotence either due to the physical effect of alcohol on central nervous system (Neuropathy) or due to psychological effect of disrupted social relationships. Cases of pathological amnesia where patients commit acts of violence or crime with total loss of memory to the incidence is very common in court cases. Alcoholic psychosis as witnessed in cases of severe excitement and violence or murder is a common example and conditions similar to schizophrenic psychosis have been reported in chronic alcoholism.

DIAGNOSIS:

This can only be made by taking a good history from a cooperative motivated patient and an informed sympathetic friend or relative. In the absence of characteristic symptoms or signs and the readiness of these patients to deny and refuse help it could be difficult to establish the diagnosis regarding the duration and severity of the condition. It is always important to elucidate the type of alcohol, the amount taken, the frequency and the duration as well
as the ability to stop once started drinking. A detailed social history is important. Physical and especially neurolological examinations are vital. Laboratory investigation for impaired liver function and electrolyte disturbance should be carried out immediately in hospital.

TREATMENT:

It is no use treating an alcoholic patient who has been brought by his relatives or friends and denies that he has got a drinking problem. The patient must be personally motivated and looking for help to give up alcohol. There are many ethical issues involved. The cases which are referred by the police or those seeking medical opinion or individuals coming in crisis need help in their own rights. Effective treatment means complete abstinence from alcohol in hospital from the start. The rationale of the treatment consists of short and long term policy.

The short term plan is to detoxicate or dry up the patient and deal with the toxic confusion or withdrawal symptoms. General measures include nursing in a well-lit room with high potency parentovable intravenously, anti-convulsant drugs, correction of electrolyte disturbance as well as treatment of co-existing injury or infection.

The long term plan would include:
1. Psychotherapy - Supportive and interpretive in individual and group sessions.
2. Vitamine Saturation - with vitamine C and B-complex or Thiamine B1 given in high doses.
3. Specific measures to reinforce abstinence include two types of treatment:
   a. Drug Therapy:
      1. Drugs that are incompatible with the metabolism of alcohol like (antabuse) - Tetra ethyl thirum disulphide or (abstem) - i.e. Citrated calcium carbamide. These would lead to violent side effects if later taken with alcohol within 48 hours.
      2. Drugs that are involved in a conditioned reflex reaction with alcohol, i.e. Aponorphine by mouth or injection leading to nausea and vomiting with consequent aversion to alcohol.
   b. Aversion Therapy: These are conducted by giving electrical shocks in association with intake of alcohol or drug. It is a cha-
racteristic form of therapy by deconditioning. Treatment of alcoholism should be initiated in hospital to regulate the dose, monitor the side effects and assess the resources of the patient to cooperate with the treatment.

REHABILITATION:

The treatment of alcoholism in hospital is usually a sort of crisis intervention. The long term management and reinstatement of the individual in the society should be the ultimate objective of any successful treatment. This would include follow up in a day hospital where the patient comes for regular follow-up. The set up of the specialised drug addiction unit in every Psychiatric hospital is becoming a very essential part of rehabilitation, as well as the establishment of small detoxification centre in every psychiatric unit in a general hospital. The idea of Alcoholic Anonymous (A.A.) should be encouraged to enroll the cooperation of ex-addicts in the treatment programme as well as the Samaritan Groups to help the patient in crisis and to get them for treatment. The Alcoholic Anonymous (A.A.) is a voluntary organization whose members have considerable knowledge of alcoholism through previous personal experience and have become experts in preventing recurrence. They hold meetings and discussions with new members to help them restore confidence and self-esteem and tide the patient over crisis on certain social occasions. The Samaritan Organization is a voluntary agent which helps the socially isolated the drifting, impoverished, unemployed, depressed alcoholics who resort to alcohol during crisis or contemplate suicide following a depressive episode. They provide counselling and social help and arrange for hospital admission or medical advice. Regular home visits by a domiciliary team of experts like experienced social workers, welfare officers and health visitors is important for the social support of the patient. The single most important factor in the effective management of the alcoholic is the care-taker or the concerned person who would take the reponsibility of looking after the patient following discharge and serve as the link between the patient and the various agencies involved in the treatment programme.

PROGNOSIS:

This is generally guarded as 30 - 40% relapse. It depends on the following factors:
1. Individual's motivation for treatment.
2. Basic personality
3. Environmental factors
4. Social rehabilitation and adjustment programmes.