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## MEDICAL AND PSYCHIATRIC COMPLICATIONS

**A**lcohol/drug abuse causes general physical deterioration, in addition to affecting at least a few organs in particular. Mental health is also affected and safety risks are another issue for concern. Moreover, drug abusers generally eat poorly, have irregular sleep patterns and do not seek timely medical help which only worsens the situation.

The damage caused depends on the type of drug abused and the duration of abuse. The following factors also influence the severity of the problems that follow drug abuse:

- *Age:* The damage is greater among adolescents as well those who are above 50 years of age. As adolescence is a period during which the body is still in the process of growing, drug use can cause a lot of damage. Among the older age group, the body is already in the process of slowing down and the degeneration of the aging process is further hastened by drug abuse.
- *Nutrition status and living conditions:* Poor quality and inadequate quantity of food, unhygienic living conditions and poor access to health care which are generally seen among the economically weaker sections, compound the problems caused by drug abuse.

- *Health condition prior to abuse:* The damage is less among individuals whose physical condition is good, as compared to individuals whose health was poor even before the onset of addiction.
- *Genetic loading factor:* A family history of a specific medical or psychiatric problem makes the individual more susceptible to the same problems in comparison to another drug abuser who is not genetically prone to the disorder.

Medical and psychiatric complications can be studied under four major heads:

- Problems due to intoxication
- Problems due to withdrawal
- Psychiatric disorders associated with substance abuse
- Systemic disorders associated with substance abuse.

### Problems Due to Intoxication

Intoxication is a transient condition resulting from recent use of a psychoactive substance at a sufficiently high dosage level. Impaired attention, judgment and interference with personal functioning can cause any of the following problems.

## 1. Trauma or Other Physical Injury

- Mood changes caused by drugs reduce inhibitions as well as incite negative feelings leading to violence. Street brawls and gang fights are often initiated and carried out under the influence of drugs and alcohol.
- Driving vehicles or operating machinery under the influence of alcohol/drugs causes accidents and injury. Poor judgment, delayed reaction, poor coordination and a disregard for safety guidelines due to intoxication are the cause of about 50% of road accidents and a large number of industrial accidents in India.
- Poor judgment and poor coordination can cause physical injury or even death. Even everyday activities like crossing the railway tracks or climbing stairs can end in an accident. The user may participate in high-risk behaviour like climbing high places or handle fire recklessly under the notion that nothing can happen to him.

## 2. Perceptual Distortions

Perceptual distortions can also result in accidents. He may step off a fast moving bus under the mistaken impression that it is moving slowly, or may step off the parapet of a terrace and fall, as his sense of judgment related to space is also affected.

## 3. Acute Intoxication Reaction

When he is under the influence of a high dose of the drug, he may react in an unusual manner. The reaction depends on the type of drug abused, his mood prior to drug intake as well as his personality

style. Narcotic analgesics can cause apathy, sedation, and psychomotor retardation. He may remain unmoved and not respond even to a crisis like a fire. Cannabis can cause agitation, suspiciousness, hallucinations and feelings of depersonalization. He may feel that his body parts are changing in shape, suspect that his neighbors are responsible for this, and attempt to attack them. He may become very fearful, panic and try to hide himself.

Given time, the acute intoxication wears off. If he is agitated, he needs to be watched carefully as he may harm himself or others. Forcing him to eat or drink when he is in the stage of intoxication is risky. As his swallowing reflexes are poor, food particles can go down the wind pipe. The presence of food particles in the lungs can set off a severe lung infection. He may also get choked, and in rare cases this could lead to his death.

## 4. Coma and Overdose Deaths

Users steadily increase the drug intake as tolerance grows. While tolerance develops to effects like euphoria, the increased drug intake may be dangerously high and may lead to respiratory depression, coma and death.

The purity of illegal drugs like heroin can only be guessed at. A user may use the same quantity of drug as usual but may unknowingly take an overdose if the quality is superior to what he has been using so far. IV (intravenous) narcotic abusers are highly prone to overdose deaths of this kind.

A combination of alcohol and sleeping pills is particularly dangerous. While alcohol is readily absorbed and the effect is felt immediately, sleeping pills take longer to

act. The user may continue to drink alcohol under the impression that he is not 'high' enough. Later, when the sleeping pills begin to take effect on the brain, the resulting overdose can cause death.

## Problems Due to Withdrawal

Physical withdrawal symptoms of varying intensity occur as part of withdrawal, differing according to the drug abused. Withdrawal symptoms for each class of drugs have been discussed in detail in the first chapter. It is now understood that the intensity of withdrawal symptoms has been blown out of proportion and in reality they are not as painful and uncomfortable as was previously understood. Offering psychological support and symptomatic treatment is now seen as being most effective.

It must, of course, be remembered that the patient's age and physical condition need to be taken into consideration. Details of his medical history and physical examination by a medical professional can help one estimate the intensity of withdrawal symptoms that may set in. Appropriate intervention can be carried out to limit the intensity of problems and ensure that the process is gone through in a safe and comfortable manner. Delirium tremens, the most severe form of withdrawal, can be accompanied by medical emergencies and should be handled carefully.

## Psychiatric Disorders Associated with Substance Abuse

Psychoactive substances can induce psychotic disorders during or immediately after use. Cannabis in particular can trigger off psychiatric problems. There

have been instances where even one or two doses of cannabis have resulted in a psychiatric break down. With regular use of drugs or alcohol, both neurotic as well as psychotic disorders can set in. Mild anxiety, panic attacks and depression are quite common. Psychosis with one or more of the following symptoms may also develop:

- **Psychomotor disturbances:** The patient may be restless and agitated or may stay immobile.
- **Disorientation:** The user may not be able to identify people, the place where he is or the date, day or time.
- **Hallucinations:** Auditory hallucinations are the most common type. He may hear voices talking to him or discussing him. Visual hallucinations in which he may report seeing people or objects not present can also occur. Tactile (touch) or olfactory (smell) hallucinations, though rare, may occur.
- **Ideas of reference:** He may report that others are talking about him and making remarks about his behavior. He may state that he is being discussed in newspaper reports, books and television programs. He asserts that veiled, hidden messages about him are being sent, which may not be obvious to an outsider but are very clear to him.
- **Persecutory delusions:** He is sure that some people around him are trying to harm him. He may believe that they are trying to interfere with his work, mar his reputation or even kill him.
- **Abnormal emotional response:** His reactions may be very magnified

with little or no relationship to what is happening in reality. A mild reprimand from a fellow patient may make him terrified and intense fear can develop. Even when there are numerous problems, he may be exuberantly happy and ecstatic as if everything is just as it should be.

Drug induced psychotic states are usually of short duration. Most symptoms subside within the first month of abstinence. With continued medical help, the symptoms usually disappear fully within six months.

## Systemic Disorders Associated with Substance Abuse

### 1. Dermatological Complications

- When the same vein is used to inject the drug, repeated injections leave marks on the vein. The discoloration along the vein leaves dark lines called needle tracks.
- Tattooing and scarring: IV drug abusers sometimes heat the needle on fire to clean it; this may leave behind some carbon deposits. When injected, the carbon particles get deposited just under the skin causing these marks.
- Use of infected needles can cause infection at the injection site. When pus forms at these sites, abscesses develop. Medical attention is needed as this can lead to other complications.
- Cellulitis: Use of infected needles can cause infection of the skin layers. The infection spreads to the nearby areas too, and appears as a red inflamed patch and can be painful.

- Pruritis and dermatitis: Narcotic analgesics can cause itchy skin and scratching that lead to infection. Infection due to un-sterile needles, poor personal hygiene or allergic reactions to the drug or adulterants can also cause dermatitis.

### 2. Cardio-Vascular Complications

- Infection in the heart: Among IV drug abusers, use of unclean needles can lead to infection of the heart and valves (endocarditis) or cause inflammation of heart muscles (myocarditis). Both conditions can lead to permanent damage to the heart if the infection is very severe or if it is not treated adequately.
- Blocking circulation: Repeated injections at the same site can cause blood clots or air bubbles (emboli) that can block the blood supply in the veins. Reduced blood supply interferes with the functioning of that part of the body. The embolus can lodge itself in any part of the body including the heart and cause complications.
- Ventricular fibrillation: The intensity of the drug's effect on the heart can cause fibrillation wherein the heart beats very rapidly even while the pumping action of the heart is very poor. This may lead to hemorrhage and sudden death.

### 3. Pulmonary Complications

- Embolus formation: There are numerous tiny blood vessels in the lungs. When air bubbles or blood clots enter these blood vessels they can block air supply and a few cells may die, affecting the functioning of the lungs. Later, these cells may be

replaced by fibrous tissues that further reduces the respiratory capacity of the lungs. The reduced oxygen supply affects the functioning of the cells all over the body and the heart in particular.

- Pulmonary oedema: Due to the direct impact of drugs or the damage that follows, fluid may collect in the lungs causing breathlessness. If left unattended the condition can become fatal.
- Aspiration pneumonia: Due to effects of the drug, reflexes may be poor and food particles may enter the wrong way while eating, causing pneumonia.
- Pharyngitis, bronchitis, pneumonia and tuberculosis are common infective respiratory diseases among drug abusers. Reduced immunity, poor medical care, poor nutritional status and poor hygiene increase the risk of these infections.

#### 4. Hepatic Complications

- Hepatitis: Hepatitis B, C & D are blood borne infections that can be transmitted through sharing of needles. Nausea, vomiting and other typical signs of jaundice are seen. Intake of alcohol in excessive quantities can cause inflammation of liver cells leading to alcoholic hepatitis.

The liver plays a very important role in the breakdown of alcohol. When alcohol consumption is excessive, the work load of the liver is high, causing inflammation of liver cells and leading to alcoholic hepatitis.

- Fatty liver: Fat metabolism is an important activity of the liver. When

the liver is forced to deal with a large quantity of alcohol, it is unable to complete the fat metabolism process. The fat particles remain embedded amongst the liver cells causing fatty liver. Both alcoholic hepatitis and fatty liver are easily treated if the abuser stays off alcohol completely. But if alcohol abuse continues, it can lead to alcoholic cirrhosis.

- With continued excessive intake of alcohol, alcoholic cirrhosis can develop. Healthy liver cells are replaced by scar tissues and the liver slowly loses its ability to work, causing jaundice, accumulation of fluid in the abdomen and feet, wasting of muscles etc. The damage caused is permanent and cannot be reversed.

Among IV drug abusers, infections that pass through unclean needles can kill liver cells leading to post-necrotic cirrhosis (nausea, vomiting and signs of jaundice).

#### 5. Complications in the Reproductive System

- Drugs and alcohol cause lowering of inhibitions which can arouse interest in sexual activity, though sexual performance may be affected. Under the influence of drugs, risk-taking behavior is high, and the user may participate in unprotected or high-risk sexual activity. For both these reasons, the incidence of sexually transmitted diseases is higher among drug abusers. Moreover, drug abusers may enter into prostitution to procure money to buy drugs, which again increases the risk of infection.

- Drug abuse can reduce sex drive and cause impotence. It can also reduce

hormone levels, the sperm count and fertility level. Sexual performance can also be affected due to problems related to ejaculation.

- Reduced ovulation and menstrual abnormality are seen among female drug abusers.
- Children born to mothers who abuse drugs and alcohol during their pregnancy usually have low birth weight and other problems in their physical and mental development. Newborns can also go into withdrawal soon after birth.

## 6. Neuromuscular Complications

### *i) Non-infectious neurological problems:*

- Cerebrovascular accidents: The embolus (from air bubbles or thrombosed veins) can reach the brain and cause damage. Depending upon the place where emboli settle in, the neurological effects will be mild or severe.
- Chronic organic brain dysfunction (dementia): Repeated impact of drugs/alcohol on the brain cells can cause permanent brain damage. The abuser's cognitive function is reduced and new learning becomes difficult.
- Wernicke-Korsakoff's syndrome: Excessive alcohol intake and associated thiamine (vitamin B1) deficiency causes degeneration of the brain cells. Tremors, poor balance and coordination, involuntary movement of eyeballs and loss of memory occur.
- Neuritis: Tremors, tingling, numbness and pain in extremities develop

due to damage caused to the nerve fibers.

### *ii) Problems due to infections:*

- Bacterial meningitis: The covering layers of the brain can be infected by use of un-sterile needles.
- Abscesses can develop due to infected needle use and cause pus formation and degeneration of brain cells.
- Hepatic coma: Alcohol/drug abuse can cause dysfunction of the liver. Due to this, substances which are not metabolized completely by the liver are released into the blood stream causing an increase in the toxic level of the blood. The increased level of toxins (poison) in the blood can cause hepatic coma and affect all the other systems in the body, including the brain. This condition can lead to death.

## 7. Haematopoietic Complications

- As drug abuse affects the functioning of the liver, it can lead to reduced count of platelets in the blood. Platelets are necessary for blood clotting, and in the event of an injury the drug abuser may bleed excessively as the clotting process is delayed.
- Bone marrow depression: The count of both white and red blood corpuscles may fall, causing problems. Reduction in white blood corpuscles reduces the level of immunity and a low red blood corpuscle count leads to anemia.
- Poor nutritional status can cause folic acid deficiency, which leads to anemia, especially among alcoholics.

- ///➤ Bacteremia: Infections due to unsterile needles can spread anywhere in the blood and lymphatic system and can cause lymph node enlargements.

### 8. Endocrine System Disorders

- ///➤ Ganja, opiate and alcohol abuse lowers the testosterone levels in the body, causing sexual dysfunction.
- ///➤ Incidence of diabetes mellitus increases among alcoholics.

### 9. Renal Function Disorders

- ///➤ Nephropathy: Infection of the cells in the kidney can set in and damage the organ permanently.

### 10. Gastro-Intestinal Disorders

- ///➤ Gastritis (inflammation of the lining of the stomach) and peptic ulcers can develop due to poor food habits as well as due to the effect of the drugs abused.
- ///➤ Acute and chronic pancreatitis can develop in the alcoholic due to damage to the pancreas.
- ///➤ The incidence of cancer all along the gastro intestinal tract from the

mouth to the anus is higher among alcoholics. Cancers of liver, stomach and pancreas are particularly high.

### 11. Other Complications

- ///➤ Sharing of needles can lead to the spread of HIV, serum hepatitis, malaria and tetanus.
- ///➤ As most drug and alcohol abusers also abuse tobacco products, the risk of cancer is high.
- ///➤ Gout-like syndrome due to increase in uric acid level is common among alcoholics.

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It is clear that drugs and alcohol affect the physical and psychological functioning of the abuser. The damage can be mild or severe depending upon several factors. Being familiar with these problems helps the counselor play a supportive role in recovery. It is important that counselors provide hope and encouragement and remain optimistic about the client's recovery from these problems. ■