

SUBSTANCE USE DISORDERS

Introduction

The presentation of alcohol and drug misuse is not limited to any particular psychiatric or indeed medical specialty. Alcohol and drug use may play an important part in all aspects of psychiatric practice, and is relevant, for example, to the assessment of a patient with acute confusion on a medical ward, a suicidal patient in the accident and emergency department, an elderly patient whose self-care has deteriorated, a troubled adolescent, or a disturbed child who may be inhaling volatile substances.

Definitions

Intoxication: a transient syndrome due to recent substance ingestion that produces clinically significant psychological and physical impairment. These changes disappear when the substance is eliminated from the body. The nature of the psychological changes varies with the individual as well as with the drug

Abuse: refer to maladaptive patterns of substance use that impair health in a broad sense (The widely used term misuse carries a similar meaning.) Some individuals show definite evidence of substance abuse but do not meet the criteria for substance dependence

Dependence: certain physiological and psychological phenomena that are induced by the repeated taking of a substance. The criteria for diagnosing dependence include the following

- a strong desire to take the substance

- progressive neglect of alternative sources of satisfaction

- the development of tolerance

- a physical withdrawal state

Tolerance: This is a state in which, after repeated administration, a drug produces a decreased effect, or increasing doses are required to produce the same effect

Withdrawal state: refers to a group of symptoms and signs that occur when a drug is reduced in amount or withdrawn, which last for a limited time. The nature of the withdrawal state is related to the class of substance used

Alcohol-related disorders

Terminology

Alcoholism. In the past, the term alcoholism was generally used in medical writing. Although the word is still widely used in everyday language, it is unsatisfactory as a technical term because it has more than one meaning. It can be applied to habitual alcohol consumption that is deemed excessive in amount according to some arbitrary criterion, and it may also refer to damage, whether mental, physical, or social, .resulting from such excessive consumption

s that relate to classification

Excessive consumption of alcohol. This refers to a daily or weekly intake of -1
.alcohol that exceeds a specified amount


Alcohol misuse. This refers to drinking that causes mental, physical, or social -2
.harm to an individual

Alcohol dependence. This term can be used when the criteria for a dependence -3
.syndrome are met

Problem drinking. This term is applied to those in whom drinking has caused an -4
.alcohol-related disorder or disability

The moral and medical models

According to the moral model, if people drink too much, they do so of their own free will, and if their drinking causes harm to them or their family, their actions are morally bad. The corollary of this attitude is that public drunkenness and associated criminal activity should be punished. In many countries this is the official practice; public drunks are fined, and if they cannot pay the fine they go to prison. Many people now believe that this approach is too harsh and unsympathetic. Whatever the humanitarian arguments, there is little practical justification for punishment, since .there is little evidence that it influences the behaviour of dependent drinkers



However, it is possible that social disapproval could play a role in dissuading non-dependent drinkers from excessive consumption. According to the medical model, a person who misuses alcohol is ill rather than wicked

Although it had been proposed earlier, this idea was not strongly advocated until 1960, when the physiologist and alcohol researcher, E. Morton Jellinek (1890–1963), published an influential book, *The Disease Concept of Alcoholism*




.The disease concept embodies three basic ideas

.Some people have a specific vulnerability to alcohol misuse .1

Excessive drinking progresses through well-defined stages, at one of which the .2
.person can no longer control their drinking

.Excessive drinking may lead to physical and mental disease of several kinds .3

One of the main consequences of the disease model is that attitudes towards excessive drinking become more humane. Instead of blame and punishment, medical treatment .is provided



The disease model also has certain disadvantages. By implying that only certain people are at risk, it diverts attention from some important facts. First, anyone who drinks regularly for a long time may become dependent on alcohol. Secondly, the best way to curtail the misuse of alcohol may be to limit consumption in the whole population, and not just among a predisposed minority. Thirdly, it may suggest that excessive drinking, at least initially, is not a product of a personal choice

Perhaps a useful way to resolve these two approaches is to apply the moral model to excessive drinking in the population in the hope of decreasing the number of people who put themselves at risk of alcohol-related disability. However, once dependence has occurred, with its attendant loss of control over drinking, a medical approach may be more appropriate

Excessive alcohol consumption

Is usually defined in terms of the level of use associated with significant risk of alcohol-related health and social problems. It is usually expressed in units of alcohol consumed per week. For example, in the UK, government advice published in 2015 suggests that men and women should not regularly drink more than 14 units a week and that those drinking towards the higher end of this range should spread their .drinking over 3 days or more

Epidemiological aspects of excessive drinking and alcohol misuse

Gender

Rates of alcohol misuse and dependence are consistently higher in men than in women, but the ratio of affected men to women varies markedly across cultures. In western countries, about three times as many men as women suffer from alcohol misuse and dependence, but in Asian and Hispanic cultures a higher ratio of men to women are affected

highest reported consumption of alcohol is generally among young men who are unmarried, separated, or divorced. However, over the past 15 years drinking by women has increased

Age

Early use of alcohol is an important determinant of later use. A cross sectional survey of over 10,000 US adolescents showed that 15.1% met criteria for lifetime abuse of alcohol with the median age at onset of 14 years

Religion, culture, and ethnicity

The followers of certain religions which proscribe alcohol (e.g. Islam, Hinduism, and the Baptist Church) are less likely than the general population to misuse alcohol. It is also worth noting that the non-Caucasian population in the UK and the USA are less likely to drink excessively than the Caucasian population, and therefore have a lower rate of alcohol-related disorders. In some instances, the low consumption of alcohol in a particular ethnic group may be due to a biologically determined lack of tolerance to alcohol. For example, some Asian populations with a particular variant of the isoenzyme of aldehyde dehydrogenase experience flushing, nausea, and tachycardia owing to accumulation of acetaldehyde when they drink alcohol

Occupation


The risk of alcohol misuse is much increased among several occupational groups. These include chefs, kitchen porters, bar workers, and brewery workers, who have easy access to alcohol, executives and salesmen who entertain on expense accounts, actors and entertainers, seamen, and journalists. Doctors have been said to have an increased risk of harmful drinking, but whether this is in fact the case has been .questioned

The alcohol withdrawal syndrome

Withdrawal symptoms occur across a spectrum of severity, ranging from mild anxiety and sleep disturbance to the life-threatening state known as delirium tremens, .a specific form of delirium


The symptoms generally occur in people who have been drinking heavily for years .and who maintain a high intake of alcohol for weeks at a time

The symptoms follow a drop in blood alcohol concentration. They characteristically appear on waking, after the fall in concentration has occurred during sleep. Dependent .drinkers often take a drink on waking to stave off withdrawal symptoms



In most cultures, early-morning drinking is diagnostic of dependency. With the increasing need to stave off withdrawal symptoms during the day, the drinker typically becomes secretive about the amount consumed, hides bottles, or carries them in a pocket. Rough cider and cheap strong beers may be drunk regularly to obtain the most alcohol for the minimum cost

The earliest and commonest feature of alcohol withdrawal is acute tremulousness affecting the hands, legs, and trunk ('the shakes'). The sufferer may be unable to sit still, hold a cup steady, or fasten buttons



They are also agitated and easily startled, and often dread facing people or crossing the road. Nausea, retching, and sweating are frequent. Insomnia is also common. If alcohol is taken, these symptoms may be relieved quickly; otherwise they may last for several days

As withdrawal progresses, misperceptions and hallucinations may occur, usually only briefly. Objects appear distorted in shape, or shadows seem to move; disorganized voices, shouting, or snatches of music may be heard. Later there may be epileptic seizures, and finally, after about 48 hours, delirium tremens may develop



Other alcohol-related disorders

Physical damage

.Excessive consumption of alcohol may lead to physical damage in several ways

.First, it can have a direct toxic effect on certain tissues, notably the brain and liver

Secondly, it is often accompanied by poor diet, which may lead to deficiency of
.protein and B vitamins

Thirdly, it increases the risk of accidents, particularly head injury. Fourthly, it is
accompanied by general neglect, which can lead to increased susceptibility to
.infection

Gastrointestinal disorders

Gastrointestinal disorders are common, notably liver damage, gastritis, peptic ulcer, oesophageal varices, and acute and chronic pancreatitis. Damage to the liver, including fatty infiltration, hepatitis, cirrhosis, and hepatoma, is particularly important and is occurring at younger ages. For a person who is dependent on alcohol, the risk of dying from liver cirrhosis is almost 10 times greater than the average. However, only about 10–20% of alcohol dependent people develop cirrhosis

Nervous system

Alcohol also damages the nervous system. Neuropsychiatric complications are described later; other neurological conditions include peripheral neuropathy, epilepsy, and cerebellar degeneration. The last of these is characterized by unsteadiness of stance and gait, with less effect on arm movements or speech

Cardiovascular system and other general medical conditions

Alcohol misuse is associated with hypertension and increased risk of stroke. Paradoxically, low to moderate alcohol consumption (up to about 10 units a week) appears to have modest cardiovascular protective effects. Alcohol use, even at low levels, has been linked to the development of certain cancers, notably of the mouth, pharynx, oesophagus, liver, and breast. Other physical complications of excessive consumption of alcohol are too numerous to detail here. Examples include anaemia, myopathy, episodic hypoglycaemia, haemochromatosis, cardiomyopathy, vitamin deficiencies, and tuberculosis

Alcohol misuse in women

Studies suggest that women progress more rapidly than men to problem drinking, and tend to suffer the medical consequences of alcohol use after a shorter period of exposure to a smaller amount of alcohol


Psychiatric disorders

:Alcohol-related psychiatric disorders fall into four groups

Intoxication phenomena

The severity of the symptoms of alcohol intoxication correlates approximately with the blood alcohol concentration. As noted above, there is much individual variation in the psychological effects of alcohol, but certain reactions, such as lability of mood and belligerence, are more likely to cause social difficulties. At high doses, alcohol intoxication can result in serious adverse effects, such as falls, respiratory depression, .inhalation of vomit, and hypothermia

The pleasurable effects of alcohol use could be mediated by release of dopamine and opioids in the mesolimbic forebrain, while the anxiolytic effects could reflect .facilitation of brain gamma-aminobutyric acid (GABA) activity




Memory blackouts or short-term amnesia are frequently reported after heavy drinking. At first the events of the night before are forgotten, even though consciousness was maintained at the time. Such memory losses can occur after a single episode of heavy drinking in people who are not dependent on alcohol. If they recur regularly, they indicate habitual excessive consumption. With sustained excessive drinking, memory losses may become more severe, affecting parts of the day or even whole days

Withdrawal phenomena

The general withdrawal syndrome has been described earlier under the heading of alcohol dependence. Here we are concerned with the more serious psychiatric syndrome of delirium tremens

Delirium tremens occurs in people whose history of alcohol misuse extends over several years. Following alcohol withdrawal there is a dramatic and rapidly changing picture of disordered mental activity, with clouding of consciousness, disorientation in time and place, and impairment of recent memory



Perceptual disturbances include misinterpretations of sensory stimuli and vivid hallucinations, which are usually visual but sometimes occur in other modalities. There is severe agitation, with restlessness, shouting, and evident fear. Insomnia is prolonged. The hands are grossly tremulous and sometimes pick up imaginary objects; truncal ataxia may occur

Autonomic disturbances include sweating, fever, tachycardia, raised blood pressure, and dilatation of pupils. Dehydration and electrolyte disturbance are characteristic. Blood testing shows leucocytosis and impaired liver function

The condition lasts for 3 or 4 days, with the symptoms characteristically being worse at night. It often ends with deep prolonged sleep from which the patient awakens with no symptoms and little or no memory of the period of delirium. Delirium tremens carries a significant risk of mortality and should be regarded as a medical emergency

Neurological damage

Neurological syndromes include Korsakov's psychosis and Wernicke's .encephalopathy

It is worth noting that cognitive impairments in severe alcohol use disorders often have a multifactorial aetiology, which can include effects of head injury, vascular changes, and metabolic and nutritional impairments as well as direct alcohol neurotoxicity. The neurotoxicity of alcohol is magnified by concomitant thiamine .deficiency, which is common in heavy drinkers



Associated psychiatric disorder

.Personality deterioration

.Mood and anxiety disorders

.Suicidal behaviour

.Pathological jealousy

Alcoholic hallucinosis. This is characterized by auditory hallucinations, usually involving voices uttering insults or threats, which occur in clear consciousness. The hallucinations are not due to acute alcohol withdrawal, and can indeed persist after several months of abstinence. It is an alcohol-induced organic psychosis, which is .distinct from schizophrenia and has a good prognosis if abstinence can be maintained

Social damage

Family problems

Work difficulties and road accidents

Crime

The causes of excessive drinking and alcohol misuse

Individual factors

Genetic factors: It is well established that alcohol dependence aggregates in families, and twin studies show a higher concordance in monozygotic than dizygotic twins, with an estimated heritability of about 50%

Learning factors: Alcohol use. Children tend to follow their parents' drinking patterns, and from an early age boys tend to be encouraged to drink more than girls. Non-genetic familial factors appear to be important in determining levels of alcohol use

Reward dependence. It has also been suggested that learning processes may contribute in a more specific way to the development of alcohol dependence. Thus the ability of alcohol to increase pleasurable feelings and decrease anxiety could lead to behavioural reinforcement, particularly in people who for physiological or social reasons overemphasize the positive effects of alcohol while ignoring its negative consequences



Personality factors

Childhood factors

Psychiatric disorder: Alcohol misuse is commonly found in conjunction with other psychiatric disorders, and sometimes appears to be secondary to them. For example, some patients with depressive disorders use alcohol in the mistaken hope that it will alleviate low mood. Those with anxiety disorders, particularly panic disorder and .social phobia, who use alcohol to relieve anxiety are also at risk

Recognition of alcohol misuse

Detection

Alcohol misuse may go undetected because patients conceal the extent of their drinking. However, doctors and other professionals often do not ask the right questions. It should be a standard practice to ask all patients (medical, surgical, and psychiatric) about their alcohol consumption


Brief screening questionnaires can be helpful—for example, the CAGE questionnaire, which consists of the following four questions

?Have you ever felt you ought to Cut down on your drinking ●

?Have people Annoyed you by criticizing your drinking ●

?Have you ever felt Guilty about your drinking ●

Have you ever had a drink first thing in the morning (an 'Eye-opener') to steady your nerves or get rid of a hangover ●



In hospital practice, the alcohol-dependent patient may be noticed if they develop withdrawal symptoms after admission. Florid delirium tremens is obvious, but milder forms may not be recognized as such

In both general and hospital practice, at-risk factors include physical disorders that may be alcohol-related. Common examples are gastritis, peptic ulcer, and liver disease, but others, such as neuropathy and seizures, should be borne in mind.
.Repeated accidents should also arouse suspicion

Drinking history

:Laboratory tests

like MCV and Gamma-glutamyl-transpeptidase (GGT)

The treatment of alcohol misuse

- Raise awareness of problem
- Increase motivation to change
- Support and advice
- Withdraw alcohol (or controlled drinking)
- High-intensity psychological treatments
- Alcoholics Anonymous
- Medication (disulfiram, acamprosate, naltrexone)

Prevention of alcohol misuse and dependence

In seeking to prevent excessive drinking and alcohol-related disorders, two approaches are possible. The first is to improve the help and guidance available to the individual, as already described. The second is to introduce social changes that are likely to affect drinking patterns in the population as a whole. It is this second group that we are concerned with here

Consumption within a population might be reduced by four methods: 1. The pricing of alcoholic beverages

.2 Controls on advertising

.3 Controls on sale

.4 Health education