

Alcohol & Substance Misuse

Introduction

The phrases substance use disorder or disorders due to psychoactive drug use refer to conditions arising from the abuse of alcohol and psychoactive drugs.

Alcohol and other substances can have varied physiological and psychological effects. In the short term, the individual may perceive these effects as quite desirable. For example, the anxiety-relieving properties of alcohol, the alerting effects of caffeine and the sense of well being induced by options. However, prolonged and heavy usage may result in physical harm, dependency and withdrawal problems and long term psychological damage or social harm.

In this handout, problems related to alcohol will be discussed first under the general heading of alcohol use disorders. The problems related to drugs would be discussed subsequently under the general heading of substance use disorders.

Alcohol Use Disorders

Alcohol taken in any amount may be harmful if the time and situation are inappropriate, for example when driving. The risk of sustaining alcohol-related injuries begins to increase with blood ethanol concentrations as low as 20mg / 100mls. It is therefore difficult to identify a level of alcohol consumption that can be considered 'safe'.

However, the Department of Health specifies what is generally regarded as safe drinking limits for the adult population. It should be noted that these levels are higher than those specified by the Royal College of Psychiatrists.

Safe Drinking(Units per week)	Males	Females
Department of Health	28	21
Royal College of Psychiatrists	21	14

One Unit of alcohol : 10mls or 8gms absolute alcohol approximately.
 ½ pint (284mls) ordinary strength beer or lager
 1 glass (125mls) average strength wine
 1 glass (50mls) of fortified wine; eg. Sherry
 1 single measure (25mls) spirits.

Women are more sensitive than men to the harm-inducing effects of alcohol.

The legal limit for driving a motor vehicle, (80mg/100 ml) roughly corresponds to the level achieved after 3 units of alcohol have been consumed over the space of a few minutes. However, individuals vary and there are gender differences. It is also important to note that a substantially lower consumption and resultant blood alcohol impairs driving ability and judgement.

Problem Drinking

It is now recognised that levels of alcohol consumption (and alcohol-related problems) exist within a continuum, ranging from low risk to harmful.

Low risk	'Safe drinking', where intake is unlikely to be associated with harm	Males \leq 21 units/week Females \leq 14 units/week
Hazardous drinking	Intake likely to increase risk of developing alcohol related harm	Males = 22 - 50 units/week Females = 15-35 units/week
Harmful drinking	'Alcohol Misuse'. A pattern of drinking associated with the development of alcohol related harm (physical or psychological).	Males > 50 units/week Females > 35 units/week

Alcohol Dependence

The term dependence refers to certain physiological and psychological phenomena induced by the repeated taking of a substance.

- Alcohol dependence syndrome is characterised by the presence of three or more of the following:
- A strong desire or compulsion to drink
- Difficulty in controlling the onset or termination of drinking or the levels of alcohol use
- A physiological withdrawal state on cessation of alcohol or its use to avoid withdrawal symptoms
- Increasing tolerance to alcohol *
- Progressive neglect of other interests
- Persisting use of alcohol despite awareness and clear evidence of the harm it is causing.

* Tolerance is the need to consume more alcohol to achieve the same effect produced originally by smaller amounts.

Alcohol related problems

About 27% of men and 11% of women drink over the 'safe' limits.

Cost of alcohol is probably the major determinant of the level of alcohol consumption in society with the prevalence of alcohol related difficulties matching it well. Customs and moral beliefs and formal governmental controls are also important factors.

At the individual level multiple causes determine the levels of consumption, including genetic and personality factors and psychiatric disorders.

The scale of alcohol related problems in the United Kingdom

Each year alcohol use plays a role in up to 40,000 deaths (including 500 young people) and 15 million lost working days. Alcohol related problems account for 25-35% of all general hospital admissions, 33% of domestic accidents, 26% of domestic deaths, 40% of fatal domestic fires, 15-29% of serious accidents in the workplace, 50% of homicides and 80% of domestic violence.

Psychiatric disorders

Intoxication phenomena

Such as lability of mood, belligerence and memory black outs.

Alcohol withdrawal phenomena

Withdrawal symptoms occur in people who have been drinking heavily for years and who maintain a high intake of alcohol for weeks at a time. They occur when alcohol consumption is abruptly discontinued or substantially reduced. The first symptoms usually appear within 8-12 hours of the last drink and progression to a state of delirium may occur within 2-3 days. The withdrawal symptoms may be:

- **Mild** such as tremor, nausea, sweating, insomnia, mood disturbances, restless, agitation, anxiety and fear. Other recognised symptoms include tinnitus, cramps and noise sensitivity. Many heavy drinkers continue with drinking to alleviate these symptoms.
- **Severe** namely:
 - i) Alcohol withdrawal seizures, which can occur in the first 12-48 hours after substantial reduction in alcohol consumption or abrupt discontinuation.
 - ii) Delirium Tremens (DT's), which is an acute confusional state usually occurring about 3 days after the last drink and may go on for up to 7 days. It is characterised by disorientation, visual hallucinations (e.g. snakes in the bed), agitation, fearfulness, sweating and tremors. It has a significant mortality rate. It constitutes a medical emergency.

Depression

Alcohol is a CNS depressant and the biological changes induced by it can mimic those seen in depressive disorders. It is also clear that the life of a problem drinker with anxieties and guilt about their behaviour and possible social repercussions all contribute to feelings of depression. In some patients alcohol misuse is a symptom of underlying depressive illness.

Suicide and deliberate self-harm are significant risks in-patients with serious alcohol problems particularly when associated with depression or impulsive behaviour.

Anxiety

Alcohol can be used as a means of coping with anxiety. In addition, symptoms of alcohol withdrawal state may mimic an anxiety state.

Alcoholic Hallucinosi

This is usually characterised by auditory hallucinations occurring in clear consciousness. They can occur during heavy drinking or following withdrawal or a sudden reduction in alcohol intake. Sometimes they resemble those in schizophrenia.

Morbid jealousy (Othello Syndrome)

The excessive drinker develops the delusion that his or her partner is unfaithful which may result in domiciliary violence and death of the partner.

Psychotic illnesses

Alcohol problems may be associated with or may precipitate psychotic illnesses such as schizophrenia.

Alcoholic dementia

Specific cognitive deficits are demonstrable in problem drinkers that may or may not be accompanied by non-progressive impairment of intellectual capacity.

Wernicke's encephalopathy and Korsakoff's syndrome

This is caused by thiamine deficiency resulting in haemorrhage in the mammillary bodies of the posterior hypothalamus and nearby midline structures.

Wernicke's encephalopathy is characterised by ophthalmoplegia, ataxia and a confusional state, which can be reversed to a large extent by administration of thiamine.

Korsakoff's syndrome is characterised by profound short-term memory loss with relative preservation of other intellectual abilities. The gaps in short term memory are filled in by confabulation. Its resolution is less predictable.

Physical disorders.

Physical risks to health can be due to intoxication, e.g. accidents or long term physical disorders resulting from heavy alcohol usage. These relate to organ systems as follows:

- GI: Hepatitis; hepatic cirrhosis and its complications; pancreatitis; Mallory-Weiss tears;
- CVS: Hypertension; alcohol cardiomyopathy
- CNS: Seizures, peripheral neuropathy; cerebellar degeneration; dementia; myopathy.
- Others: Malnutrition and vitamin deficiency; damage to foetus in pregnant women.

Details of these can be found in medical textbooks (e.g. Oxford Textbook of Medicine).

Social disorders

These are multifactorial and relate partly to several of the physical and psychiatric consequences of alcohol misuse, listed above. In addition other factors such as poverty, poor performance at work and difficulties in interpersonal relationships lead to a self-perpetuating vicious cycle.

Some of the adverse social consequences of alcohol misuse identified include domestic violence, poor parenting, unemployment, involvement in crime and public disorder and drink driving.

Assessment

Many individuals are unaware of how much they drink and its potential impact on their health. It is therefore important to obtain an alcohol history from all patients, during the first encounter and periodically thereafter. While history taking:

1. Be aware of clues to heavy drinking, e.g. unexplained trauma, marital violence, history of drink driving, and repeated work absenteeism,
2. Know those who are at high risk on epidemiological grounds, e.g. doctors, pub and brewery workers, sales executives, seamen, journalists and police officers.
3. A quick screening questionnaire such as the CAGE questionnaire is a useful tool:
 - Cut down on drinking - do you need to?
 - Annoyed by anybody criticising your drinking?
 - Guilty about drinking too much?
 - Eye opener - do you need a drink first thing in the morning?

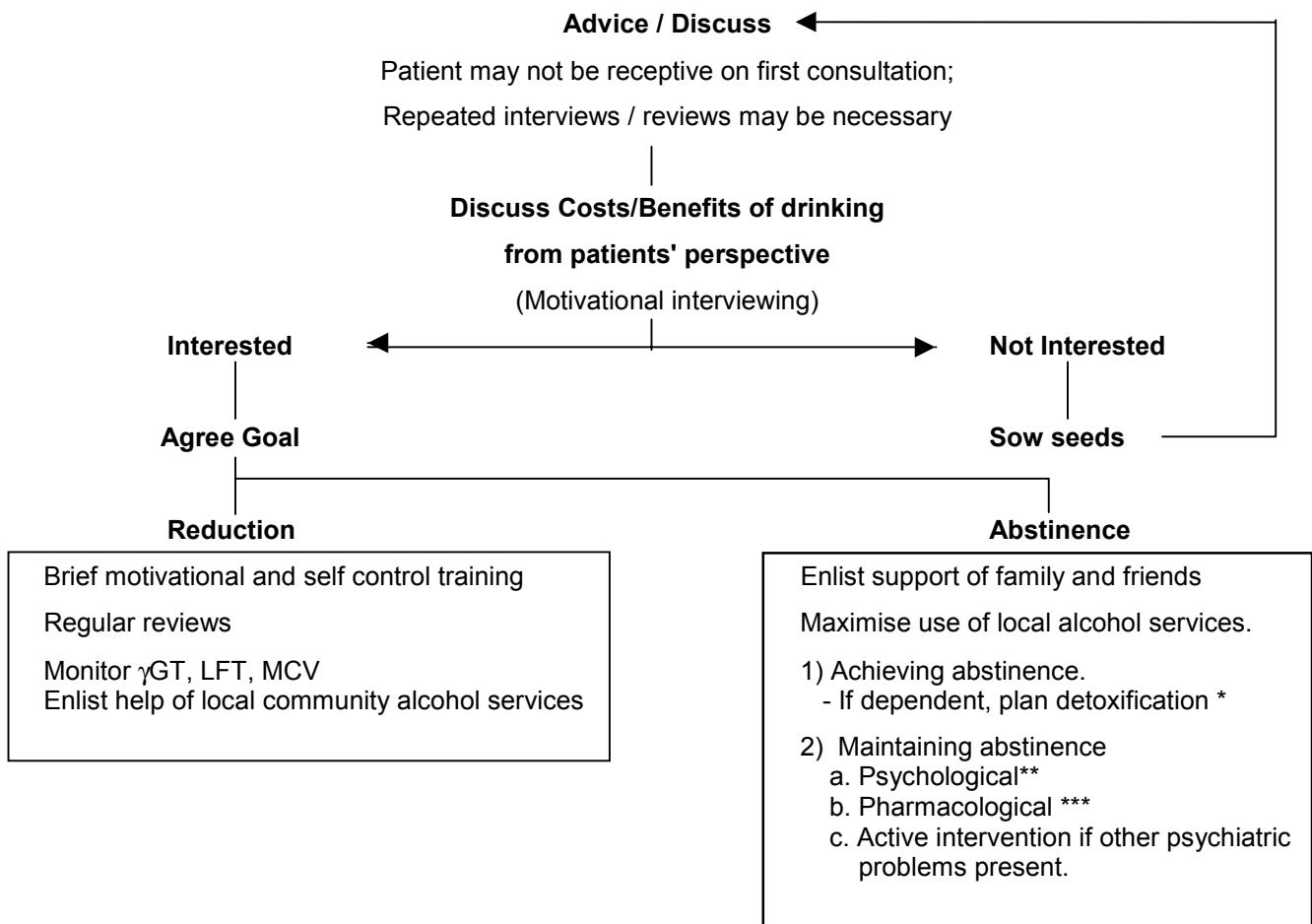
The 'AUDIT' questionnaire is a reliable, validated tool developed by the WHO to identify persons whose alcohol consumption has become hazardous or harmful to their health.

If you have any suspicions, you should elicit and record:

- A Consumption over past 3 months:
 1. Typical day's drinking
 2. Frequency
 3. Maximum / day
- B Severity of dependence
 1. Morning drinking to stop shakes and
 2. Previous failed attempts to control drinking
- C Alcohol related physical, emotional and social problems.
- D And consider Lab investigations: Raised γ GT, LFT's and MCV.

Treatment of alcohol use disorders (A flow chart for management)

Early detection of excessive consumption of alcohol is important because treatment of established cases is difficult.



Key to interventions achieving and maintaining abstinence:

* Detoxification

This can range from:

- Intensive, rapid in-patient programme. The patient stops drinking and receives medication e.g. diazepam to alleviate the suffering of the withdrawal state and to prevent life-threatening withdrawal fits. Thiamine is administered to prevent neurological damage.
- A supervised out-patient detoxification when the dependency and withdrawal problems are expected to be small. Diazepam is used in smaller doses for the withdrawal period.
- Slow, progressive reduction in alcohol consumption

** Psychological

- Long term counselling and support, e.g. Alcoholics Anonymous
- Cognitive Behaviour Therapy (CBT)
- Relapse prevention.

***Pharmacological:

To help dependent drinkers, pharmacological support is sometimes used, namely:

- Disulfiram
- Acamprosate.

Note: Treatment of co-morbid physical problems, when identified, is part of management plan.

Prevention

In seeking to prevent excessive drinking, two approaches are possible.

1. Improve the help and guidance available to the individual as already described.
2. Introduce social changes likely to improve drinking patterns in the population as a whole, including
 - Putting up the price of alcohol
 - Controlling advertising of alcoholic beverages
 - Controlling the sale of alcohol
 - Health education

The above have varying degrees of success, as would be expected.

Substances Use Disorders

The variety of substances abused is very wide, but common ones are stimulants (cocaine, amphetamine and ecstasy), sedatives (temazepam and diazepam), hallucinogens (LSD, magic mushrooms), opioids, cannabis and tobacco.

Experimentation with one or more drugs (polydrug abuse) is particularly common amongst teenagers. Some people use drugs recreationally (e.g. at weekends only). Regular use (e.g. daily) may lead to dependence (e.g. opiates) where continued use is required to prevent withdrawal symptoms.

Common drugs of misuse.

Cannabis

(Dope, Hash, Weed, Skunk and Tack.) The active element is Tetrahydrocannabinol. It is usually smoked, producing a profound sense of relaxation and mild euphoria. Its use is widespread and subject to controversy about whether it should be legalised.

It may produce mild paranoid ideation. There are some suggestions that it can produce an acute confusional state with delusions and hallucinations. It is now being used increasingly by those suffering chronic disorders such as multiple sclerosis allegedly for pain relief.

Stimulants

(Amphetamine, MDA family (MDMA - Ecstasy/E, MDEA, MDA)

When ingested they produce an elevation of mood, increased alertness and physical activity. They may be taken orally or injected intravenously (amphetamine). Rapid tolerance is common.

Amphetamine can cause what is known as Amphetamine Psychosis - a florid, schizophrenia like illness. The condition usually subsides in about a week though it can occasionally persist for months.

Sedatives

(Benzodiazepines especially Temazepam - 'Wobbly Eggs')

Many problems with benzodiazepines were, until recently iatrogenic.

Though benzodiazepines were initially considered safe hypnotic and anxiolytic drugs their capacity to produce tolerance, dependence and withdrawal states is now widely recognised. Hence, they are now used only for short courses of treatment and short acting variants e.g. Lorazepam should be avoided in most circumstances.

In more recent times, injecting the short-acting drug, Temazepam has become widespread practice, leading to it being rescheduled under the Misuse of Drugs Act.

Hallucinogens

(LSD - 'acid'; Phencyclidine - 'Angel Dust'; Magic Mushrooms)

These have been known and used for many years. They are usually taken orally, giving rise to heightened perceptions, vivid imagery, illusions and hallucinations and often a state of euphoria. Sometimes a 'bad trip' occurs with terrifying hallucinations and delusional thinking.

Those who use the drug regularly may experience 'flash backs' to a 'bad trip'. Neurological damage can occur.

Cocaine (and Crack Cocaine)

This stimulant is derived from the leaves of the Coca plant. It is usually smoked or snorted although it can also be injected intravenously. In the North East of England, its use has been limited by its very high price but this is changing.

It rapidly produces CNS stimulation and a sense of euphoria. Persons often develop a craving for cocaine, tolerance and psychological dependency. Chronic usage can lead to paranoid psychosis. Cocaine abusers sometimes experience Formication (Cocaine bugs), a feeling as if insects are crawling under the skin.

Opiates

These are a group of alkaloids, diamorphine (heroin) being the most commonly abused among them. They are frequently inhaled (smoked) but may be taken intravenously. They produce a sense of euphoria, detachment and well being in addition to analgesia. They are rapidly fatal in overdose - often by respiratory depression, which leads to cardiac arrest.

Prolonged use leads to the development of tolerance and dependence. Cessation of use leads to an unpleasant though not life-threatening (c.f. alcohol) withdrawal state ('Cold Turkey') characterised by:

Restlessness, insomnia, piloerection, pupillary dilatation, nasal discharge, sweating, vomiting, diarrhoea, abdominal pain, hyperaesthesia, paraesthesia and cramps.

Harmful effects of drug use

Drug users, particularly injecting drug users, have high morbidity and mortality rates. Complications of drug use may be related to:

- Drugs effects (intoxication, dependence/withdrawal, accidental overdose)
- Social problems related to the drug use (legal, financial, family problems and occupational).
- Method of administration (needle sharing, unsterile injecting techniques and contaminants like talc) which can cause infections such as tetanus, abscesses, endocarditis, hepatitis B/C/D, HIV, HTLV and septicaemia.
- Miscellaneous non-infectious medical problems, pertaining to different organ systems:
 - a) Vascular: Track marks, thrombophlebitis, venous thrombosis and arterial insufficiency.
 - b) Pulmonary: Respiratory failure (excess sedatives/opiates/stimulants), pulmonary oedema (opiates, cocaine), polyarteritis nodosa (due to hepatitis B), pulmonary hypertension (talc granulomas), pulmonary emboli.
 - c) Neuropsychiatric: Psychosis, depression, neuropathy and brain damage.

Treatment of substance misuse

The key to successful intervention is to bring about change; in the individual, his/her life situation or the availability of drugs, otherwise continued drug taking is likely. The first step is a thorough and accurate assessment. General measures of intervention aim at long term change and may involve one or more of the following:

- Establishing a therapeutic/supportive relationship
- Motivational interviewing
- Behavioural techniques
- Cognitive behavioural therapy
- Contingency management
- Cue exposure
- Relapse prevention
- Group/family therapy, drug counselling

In addition, specific drug related problems might require treatment (e.g. physical or psychiatric illness).

Specific Treatment Approaches:

Detoxification

Although opiate withdrawal is not fatal it can be very unpleasant deterring the client from abstaining. Detoxification can be carried out relatively rapidly as an in-patient, or more slowly (sometimes after a period of stabilisation) as an outpatient using, for example, methadone (an opioid with long duration of action).

Harm reduction /minimisation

Many clients will choose to continue using drugs despite intervention. For these limiting harm may be the aim and includes needle/syringe exchange facilities and methadone maintenance programmes.

Rehabilitation/therapeutic communities

Self-help groups e.g. narcotics anonymous