Alcohol use disorders

James Bell

Abstract

Alcohol causes end-organ damage in drinkers, and alcohol dependence is associated with poor self-care, complicating chronic disease management. A drinking history and index of suspicion for alcohol misuse is part of comprehensive medical assessment. Identification of hazardous and harmful drinking, and provision of brief advice and/or referral, should occur in all healthcare episodes. In hospital settings, prevention and management of alcohol withdrawal and Wernicke's encephalopathy are key priorities. In ambulatory settings, regular monitoring and feedback is effective for managing many alcohol-dependent patients.

Keywords Alcohol; alcohol dependence; alcohol withdrawal; brief intervention; harmful drinking; hazardous drinking; Wernicke–Korsakoff syndrome

Key points

- Drinking history is an essential part of medical history
- People identified as drinking above recommended levels should be offered brief advice
- Judgemental or confronting approaches to drinking are unlikely to be effective
- Hospitalized patients in whom heavy drinking is suspected should be given parenteral thiamine and be monitored for alcohol withdrawal
- Dependent drinkers and drinkers with alcohol-related disease should be offered advice, follow-up monitoring, and referral if they continue to drink at harmful levels

Definitions

Hazardous drinking is a pattern of drinking that increases the user's risk of harmful consequences. Current guidelines recommend not regularly drinking more than the daily unit guidelines of three to four units of alcohol for men (equivalent to a pint and a half of 4% beer) and two to three units of alcohol for women (equivalent to a 175-ml glass of wine).

Harmful drinking is defined by NICE (2011) (see Further reading) as a pattern of alcohol consumption causing health problems directly related to alcohol. The most common consequences of harmful drinking relate to acute intoxication, which is estimated to contribute to 1 million alcohol-related attendances at emergency departments in England on Friday and Saturday nights alone. The top 10 presentations are fall, collapse, head injury, assault, accident, feeling generally unwell, gastrointestinal symptoms, cardiac symptoms, psychiatric problems (especially self-harm) and frequent attendance.

Not everyone who drinks alcohol progresses to dependence, and not everyone who drinks heavily develops end-organ damage or adverse social consequences. Around 60% of vulnerability to alcohol problems is attributable to genetics. However, from current knowledge, the best advice is 'universal precautions' – people should keep their intake within recommended levels.

Alcohol use disorder is diagnosed by patients meeting three of the 11 criteria outlined in the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; Table 1).

Alcohol dependence – although this diagnosis has been dropped from DSM-5, it remains important clinically, as the severity of dependence has management and prognostic relevance. It refers to the changes by which alcohol comes to play a prominent role in an individual's consciousness and behaviour, and is a predictor of likelihood of withdrawal. In particular, drinkers who exhibit tolerance to alcohol and develop withdrawal symptoms on abstaining appear to have a more adverse prognosis.

This paper focuses primarily on four issues of importance to all medical practitioners – identification and brief intervention, management of withdrawal, prevention of Wernicke–Korsakoff syndrome, and referral of people not responding to brief advice.

Epidemiology

Globally, alcohol consumption causes 1.8 million premature deaths each year (3.2% of the total) and is the third leading preventable cause of ill-health in Europe, after smoking and high blood pressure. This substantial burden of disease reflects the popularity of alcohol as a recreational drug. In the UK, as in most developed countries, around 90% of adults consume alcohol, usually without problems. UK survey data suggest that approximately 7.1 million people in England (23% of the population aged 16–64 years) drink hazardously or harmfully, and 1.1 million people are dependent on alcohol.

It has been claimed for decades that the relationship between alcohol use and all-cause mortality follows a 'J-shaped' curve, with light drinkers having lower risk of death than abstainers. However, recent meta-analysis has challenged this observation.[1]

A study from London, UK, estimated that alcohol-specific admissions made up only 26% of all alcohol-attributable admissions – admissions for conditions in which alcohol is a contributing factor. Three conditions represented 68% of all alcohol-attributable admissions: hypertensive diseases accounted for 35% of all admissions, mental and behavioural disorders caused by alcohol for about 20%, and cardiac arrhythmias for 15%.[2]

In the UK, the prevalence of alcohol-related violence and injuries is related to the number and density of alcohol outlets and the licensing hours (see Babor, 2003, in the Further reading list). Deprived areas suffer higher levels of alcohol-related mortality, hospital admissions, crime, absence from work, school

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DSM-5 criteria for alcohol use disorder

- Taking alcohol in larger amounts and for longer than intended
- Wanting to cut down or quit but not being able to do it
- Spending a lot of time obtaining alcohol
- Craving or a strong desire to use alcohol
- Repeatedly unable to carry out major obligations at work, school, or home due to alcohol use
- Continued use despite persistent or recurring social or interpersonal problems caused or made worse by alcohol use
- Stopping or reducing important social, occupational or recreational activities due to alcohol
- Recurrent use of alcohol in physically hazardous situations
- Consistent use of alcohol despite acknowledgement of persistent or recurrent physical or psychological difficulties from using alcohol
- Tolerance as defined by either a need for markedly increased amounts to achieve intoxication or desired effect or markedly diminished effect with continued use of the same amount
- Withdrawal manifesting as either characteristic syndrome or the substance is used to avoid withdrawal

Adapted from American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5).

Table 1

exclusions, teenage pregnancy and road traffic accidents linked to greater levels of alcohol consumption.

Pathology and pathogenesis

Alcohol, and other reinforcing drugs, activates the brain 'reward pathway', an array of neural systems involving dopaminergic transmission and endorphin release. These drugs reduce anxiety and cause a sense of well-being and confidence. These reinforcing effects contribute to the popularity of alcohol — and to the risks of persisting use despite harm. With repeated exposure, higher doses are required to achieve the same subjective effects (tolerance), and in some individuals a withdrawal syndrome develops on stopping drinking after prolonged exposure.

The chronic administration of alcohol and other drugs produces enduring changes in brain neurotransmitter systems that leave the user vulnerable to relapse after abstinence has been achieved. It has therefore been suggested that alcohol dependence should be viewed as a chronic, relapsing brain disease (see Gunzerath, 2011, in the Further reading list).

Course of alcohol dependence

Some dependent drinkers neglect themselves and progress to developing poor physical health, mental health problems and social marginalization; these factors predict a poorer prognosis. Recurrent exposure to these patients in emergency departments and hospital contributes to the stigma — doctors and nurses develop pessimistic views about alcohol-related problems.

Contrary to prevailing medical pessimism, longitudinal population surveys indicate that many dependent drinkers stop drinking or return to controlled, low-risk drinking (see Dawson, 2005, in the Further reading list). Although the prognosis tends to be for a relapsing, remitting condition in a proportion of more severely affected individuals seeking treatment, follow-up studies suggest quite good outcomes for the treatment of alcohol dependence: 50–60% of men and women with alcohol dependence abstain or show substantial improvements in functioning in the year after treatment.[3]

In general, the course of alcohol-related problems depends on whether people stop drinking. Neurological damage from alcohol is usually considered irreversible, although cessation of drinking can slow or halt disease progression. The 10-year survival of patients presenting with compensated alcohol-related cirrhosis who remained abstinent or substantially reduced their intake was around 60%, compared with around 30% in those continuing to drink. The respective figures in those with decompensated cirrhosis were 50% and less than 10%.

Diagnosis

Most people with alcohol-related problems have jobs and families, and present with general complaints such as insomnia, anxiety, sadness or a range of medical problems.[3] Patients, particularly those who drink excessively, are often defensive and understate their intake. History-taking must be undertaken sensitively, with respect for patients' privacy, dignity and confidentiality (NICE 2011) (see Further reading).

The best validated and most widely used screening test to identify people potentially drinking at risk is the Alcohol Use Disorders Identification Text (AUDIT) questionnaire, which takes a little over 1 minute to administer. Questionnaires are not a substitute for a medical assessment — a drinking history, knowledge of the potential adverse health effects of alcohol, and ability to interpret laboratory investigations. Useful biological markers of alcohol misuse include a raised γ-glutamyl transferase (GGT) concentration, which has a sensitivity and specificity approaching 60% in men and 50% in women. Raised mean corpuscular volume (MCV) on a full blood count is also a useful, widely available marker. Although not reliable as screening tests in hospitalized patients, GGT and MCV values are commonly available, suggesting that further screening and assessment for alcohol problems be undertaken.

Differential diagnosis: alcohol misuse is often occult and can present or contribute to epilepsy, or present as anxiety or depression, or a range of illnesses. The differential diagnosis of alcohol withdrawal is alcohol intoxication, Wernicke's encephalopathy and other causes of delirium, particularly hepatic encephalopathy, post-ictal state, head injury and effects of other psychoactive drugs.

Management

Management of dependence/harmful drinking

The medical practitioner's role is to identify, monitor and give feedback on alcohol use and health consequences in their patients. Such brief intervention has been ranked as the most effective treatment for drinking problems (see Miller, 2002, in the Further reading list). In the UK, all health professionals are advised to implement early Identification and Brief Advice (IBA), using presentation for healthcare as a 'teachable moment'. A useful structure for such intervention is the FRAMES mnemonic:

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