

Alcohol dependence – what actually works

Alcohol dependence is the most common addiction that a generalist will encounter.

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This article focuses on a pragmatic approach to the assessment of alcohol dependence and an overview of some of the most effective interventions. The acute medical management of the withdrawal process is beyond the scope of this article. This article concentrates on alcohol dependence, as this is the most common addiction. In turn, as most of the non-pharmacological interventions can be used in the general management of all addictions, regardless of the specific drug of abuse, we also focus on some of these interventions that have an established evidence base. In South Africa the goal of treatment is usually abstinence, but there is ongoing debate about moderation in alcohol use versus abstinence, particularly in managing the young individual on the path to dependence.

Substance use disorders can be viewed as a cluster of disorders that result from multiple interacting factors (genetic, social, psychological, environmental) and vary in their onset, course and outcome just like many other chronic diseases. This article mainly addresses the management of what is classed as harmful use and dependence according to ICD-10 (Table 1).

Over the last 20 years, in most developed countries, there has been an increase in alcohol consumption. In Britain this figure for per capita alcohol consumption increased by 31%.

This has had an impact on the economy in the areas of healthcare, premature deaths, accidents and absenteeism. As many as 13% of the British population have a lifetime dependence problem and at any one time 5 - 6% of the population are actively dependent. The pattern of drinking is also

Table 1. Summary of ICD-10 Criteria

Harmful use: drinking that is damaging to an individual's health, be it physical or mental, but criteria for dependence are not met.

Dependence: diagnosis if three or more of the following have been present together at some time during the previous year

- Strong desire to drink
- Difficulties in controlling drinking
- Continuing to drink despite clear evidence of harmful consequences
- Prioritising drinking over other activities or obligations/large amounts of time spent trying to obtain, take or recover from the effects of alcohol
- Evidence of tolerance resulting in increased consumption
- Physiological withdrawal symptoms

Source: World Health Organization (http://www.who.int/substance_abuse/terminology/icd_10/en/index.html)

changing, with more individuals exhibiting a binge-type pattern.¹ It has been suggested that South African consumption rates are very similar to those in Britain and so it can be inferred that South African dependence rates are similar.²

In South Africa the goal of treatment is usually abstinence, but there is ongoing debate about moderation in alcohol use v. abstinence, particularly in managing the young individual on the path to dependence.

With regard to the management of alcohol dependence, there is cause for some optimism. In seven large community studies in the USA and Europe, individuals seeking treatment (action phase) at 1-year follow-up, reported an 87% reduction in alcohol

consumption and abstinence on 80% of days.¹ Although there are dozens of available therapies, there is still uncertainty about the efficacy and cost-effectiveness of many these treatments. William Miller and his research group³ have been reviewing and continue to rate the available addiction literature and regularly update lists of therapies with an evidence base of demonstrated efficacy (the MesaGrande project).

General practitioners (GPs) often have a negative and pessimistic attitude about treating addictions. In general they feel untrained and unable to manage these patients. Many don't enjoy working with these patients and so it is important to indicate that with fairly basic skills and the help of professional colleagues, it is possible to achieve positive outcomes in managing patients with mild to moderate alcohol dependence.

So what actually works? Miller's group³ has highlighted the effectiveness of the following: brief interventions (BIs), motivational enhancement therapy, community reinforcement, self-change

Table 2. William Miller *et al.*'s³ suggested most effective treatment modalities

Brief interventions
Motivational enhancement/counselling
Community reinforcement
Self-change manuals
Behavioural self-control training
Social skills training
Pharmacotherapy (acamprosate and naltrexone)

manuals, behavioural self-control training, social skills training and pharmacology such as GABA agonists (acamprosate) and opiate antagonists (naltrexone) in mild to moderate dependence (Table 2).³ All of these therapies can be implemented by the GP and the patient's family, together with a psychologist, nurse and occupational therapist and back-up from a psychiatrist – so it is important to build these colleagues into your practice framework.

Over the last 20 years, in most developed countries, there has been an increase in alcohol consumption.

The treatment process starts with a comprehensive assessment. This assessment includes establishing a rapport with your patient followed by screening for the presence of a substance use disorder. The CAGE questionnaire is a brief screening instrument consisting of four simple questions about drinking behaviour. A score of 2 - 3 provides a high index of suspicion that the patient is dependent and 4 positives is virtually diagnostic (Fig. 1). This can be followed by the AUDIT questionnaire (Fig. 2) which is more specific with regard to diagnosis and can also give an indication of the severity of the disorder. Even a single question, 'How often do you have 4 or more drinks in a day?', can pick up a substantial proportion of individuals at risk. It is important to try to detect problems at earlier stages of development while the problem is

CAGE questionnaire

- Cut down – have you ever felt the need to cut down or decrease drinking?
- Annoyed – have you ever felt annoyed at criticism from others about drinking too much?
- Guilt – have you ever felt bad or guilty about drinking?
- Eye-opener – have you ever needed to have a drink first thing in the morning?

Fig. 1. CAGE questionnaire.

preventable and easier to treat. If one doesn't make alcohol screening part of a routine medical assessment the clinician will most likely only detect the more severe and entrenched substance use problems.⁴

If harmful use or dependence is detected, it is important to get a more detailed history of the patient's past and present alcohol use and its effects on cognitive, psychological, behavioural, and physiological functioning. This includes evidence of a more chaotic lifestyle, financial problems, somatic complaints, fatigue, withdrawal from social obligations, family tension, conflict and infidelity, poor grooming, unreliability at home or work, memory problems, absenteeism, increased irritability and feelings of depression. If the patient is agreeable it is important to get collateral from spouse and family and their experience of the changes in functioning.

Include a general medical examination and special investigations (gamma glutamyl transpeptidase (gamma GT), alanine aminotransferase (ALT), aspartate transaminase (AST), full blood count (FBC) with mean corpuscular volume (MCV) – the best predictor of withdrawal complications – and mean corpuscular haemoglobin concentration (MCHC)). Psychiatric history should look for comorbid depression, anxiety disorders and use of other substances including analgesics. Also inquire about previous treatment for alcohol or substances.

Once you have completed the assessment you and the patient will be in a better position to decide on which effective interventions to include in the package of care, what will suit the patient, what you can do and who of your colleagues will need to be involved (this process is actually one

of the first steps in a BI). The practitioner in many instances acts as the co-ordinator (case manager) of the treatment package, ensuring that there is ongoing monitoring, support and encouragement for the patient to continue with care.

The interventions

Brief interventions (BIs)

BIs are time-limited (usually less than 15 minutes), structured interventions directed toward a specific goal. Each patient's specific goal will be determined by their consumption pattern, the consequences of their use and the setting in which the BI is delivered.⁵ Six components have been identified in providing an effective BI. In order to remember each treatment component the word 'FRAMES' can be used:

Alcohol Use Disorders Identification Test (AUDIT)

Please circle the answer that is correct for you

1. How often do you have a drink containing alcohol?

- (0) Never
- (1) Monthly or less
- (2) 4 times a month
- (3) 2 - 3 times a week
- (4) 4 or more times a week

2. How many standard drinks containing alcohol do you have on a standard day when drinking?

- (0) 1 or 2
- (1) 3 or 4
- (2) 5 or 6
- (3) 7 to 9
- (4) 10 or more

3. How often do you have six or more drinks on one occasion?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

4. During the past year, how often have you found that you were not able to stop drinking once you had started?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

5. During the past year, how often have you failed to do what was normally expected of you because of drinking?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

6. During the past year, how often have you needed a drink in the morning to get yourself going after a heavy drinking session?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

7. During the past year, how often have you had a feeling of guilt or remorse after drinking?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

8. During the past year, have you been unable to remember what happened the night before because you had been drinking?

- (0) Never
- (1) Less than monthly
- (2) Monthly
- (3) Weekly
- (4) Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?

- (0) No
- (2) Yes, but not in past year
- (4) Yes, during the past year

10. Has a relative or friend, doctor or other health care worker been concerned about your drinking and suggested you cut down?

- (0) No
- (2) Yes, but not in past year
- (4) Yes, during the past year

Note: A total score of 8 or more is associated with harmful drinking, and a score of 13 or more in women, and 15 or more in men, is likely to indicate dependence.

Source: Saunders, Aasland, Babor et al., 1993.

Fig. 2. AUDIT questionnaire.

- Feedback – highlighting certain aspects of the patient’s behaviour and providing them with the substance use disorder diagnosis
- emphasis on personal Responsibility – it is not the patient’s fault that they have this disorder but it is their responsibility to manage it
- Advice – what the patient can do and what you can do together to help the patient receive the best treatment
- Menu of options to change behaviour

- inpatient/outpatient, choice of the interventions, Alcoholics Anonymous (AA)
- an Empathic counselling style – to reassure the patient that you are there to help and support the patient
- support for Self-efficacy – the patient is expected to take the lead role.⁶

The goals of a BI with mild to moderate users is to educate the patient about low-risk use and potential problems of

increased use and binge drinking. It is also important to educate the patient about possible warning signs of dependency. One should encourage the patient to stay within the guidelines for low-risk drinking. In a BI with a patient who is considered an at-risk user, drinking above the recommended guidelines, one needs to address the level of use and how the patient is placing him/herself at risk. One needs to encourage moderation or abstinence and educate about the risks of increased use.

One should not only address the medical consequences of increased use but also the social consequences. If dependence is diagnosed one should encourage abstinence and encourage the patient to consider treatment. It is important to note that a BI is not a substitute for specialised care required by patients with high levels of dependence.

The advantage of a BI is that it allows for substance use to be addressed in the course of an ordinary primary care visit.⁵

Motivational interviewing (MI)

In the 1980s William Miller and Stephen Rollnick began to develop an empathic client-centred model that focused on behavioural change: motivational interviewing (MI) and counselling. The guiding principles of MI are a collaborative rather than authoritarian approach; to have the patient, rather than the clinician, voice arguments for change and to honour the patient's autonomy. After 3 decades of research it has been shown that MI is a psychotherapeutic method that is evidence based and applicable across a wide variety of problem areas. It has also been shown recently that when MI is added to another active treatment the positive effects are greater and more enduring. It should be noted that not all trials have been positive as unfortunately the success of MI is considerably influenced by the clinician's ability to provide MI-based treatment.⁶ Both BI and MI rely heavily on the stages of change model (developed by James O Prochaska) to guide the clinician in what is required to meet the patient's needs. Patients' require motivational support appropriate to their stage of change. In the pre-contemplative stage patients may not be aware that they have a problem or, if they are aware, they have no intention of changing. For patients to consider change, an awareness of the consequences of their drinking needs to be established. The clinician can perform a BI at this stage, hopefully to raise awareness. Clinicians need to maintain a good doctor-patient relationship, encourage follow-up and assess the patient's stage of change with repeated BIs at follow-up visits.

In the contemplative stage the patient is aware that there is a problem and is thinking

about making a change. It is important to help resolve the patient's ambivalence and help the patient to choose positive change instead of current circumstances. It is once again very important to maintain the relationship. In the action stage the clinician's role is to help the patient identify potential change strategies and to choose the most appropriate course of action. Withdrawal and suicide risk need to be assessed and inpatient treatment needs to be arranged for patients who require it. In the maintenance stage BI can help maintain motivation to continue on the course of change by reinforcing personal decisions made at earlier stages. Self-help meetings/AA, family counselling and individual therapy can all be of use.

The treatment process starts with a comprehensive assessment. This assessment includes establishing a rapport with your patient followed by screening for the presence of a substance use disorder.

Social skills training

Social skills training is a treatment method that aims to discourage addictive behaviour by showing the individual how to meet the demands of life without the use of substances, and is best provided by psychologists or occupational therapists. It relies on programmes that provide individuals with training in anxiety management, problem solving, social skills, job skills and job interviewing skills, building assertiveness and self-confidence.¹

Community reinforcement

The community reinforcement approach (CRA) is a treatment approach that aims to achieve abstinence by eliminating the positive reinforcements for drinking and enhancing the positive reinforcements for sobriety – making abstinence more

rewarding than drinking. This is done by providing incentives to stop drinking rather than punishments for continuing drinking. It involves building motivation for change, initiating sobriety, setting goals for achieving abstinence, analysing drinking patterns for avoidance of high-risk drinking situations and increasing positive reinforcements for sobriety that are unrelated to drinking. Several studies have demonstrated the efficacy of CRA in the treatment of alcohol addiction. Several treatment components are integrated in this approach – learning new coping behaviours, particularly those involving interpersonal communication, involving the family, work and social environment in the recovery process. It can be offered in an inpatient and outpatient setting and can be successfully integrated with a variety of other treatment approaches such as MI.⁷

Self-change manuals

Self-change manuals are mostly aimed at moderation as a goal of therapy and provide practical steps and advice on achieving this objective. In South Africa abstinence is emphasised as the desired goal of therapy. This is an area of debate, particularly in

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managing the young alcoholic. Self-help manuals should probably not be considered if there are comorbid psychiatric conditions or severe dependence. Suggested manuals are: *Responsible Drinking: A Moderation Management Approach for Problem Drinkers*,⁸ *Sex, Drugs, Gambling and Chocolate. A Workbook for Overcoming Addictions*⁹ and the web-based programme Down your Drink (www.downyourdrink.org.uk).¹⁰

Behavioural self-control training

Behavioural self-control training is an intervention aimed at controlled drinking as a treatment goal. It typically consists of the following: self-monitoring of drinking and urges to drink, goal setting, controlling the rate of alcohol consumption and encouraging drink refusal, emphasis on rewards for goal adherence, identification and management of triggers for excessive drinking and relapse prevention training.¹¹ Controlled drinking should certainly not be used in individuals with severe dependence or in individuals with protracted alcohol problems.

Pharmacotherapy

Numerous medications have been tested in the treatment of alcohol problems,

including medications that are designed to treat psychiatric and neurological disorders such as depression, anxiety, epilepsy and psychosis. Recent studies have shown two medications that appear to be effective in the treatment of alcohol dependence: naltrexone (an opiate antagonist), which reduces the desire for alcohol and reduces the positive pleasurable effects of intoxication, and acamprosate (Campral – a GABA agonist), which reduces the craving experienced during early abstinence.³ Both seem to be effective for periods of up to 6 months following abstinence but longer term benefits are doubtful. This early abstinent period is very important in the recovering

alcoholic and so these products should be considered. Naltrexone is not currently marketed in South Africa.

Medications for the treatment of psychiatric disorders (e.g. selective serotonin reuptake inhibitors (SSRIs)) may be useful especially if the patient is suffering from a comorbid mood and anxiety disorder, but they typically have very little direct effect on drinking.

Other agents may have niche benefits but do not fulfil the criteria to be used as evidence-based agents in dependence.

References available at www.cmej.org.za

IN A NUTSHELL

- Alcohol dependence is common in our country.
- Assessment is important and includes CAGE and AUDIT questionnaires and a thorough history.
- The earlier alcohol misuse is picked up and treated, the better the prognosis.
- The management of mild to moderate dependence can be undertaken by a GP, together with input from a psychologist, nurse and occupational therapist.
- Use Miller's best treatment modalities singly or in combination, including brief interventions, motivational interviewing/counselling, social skills, community reinforcement, self-change manuals, behaviour self-control and pharmacotherapy.
- Intensive therapy is initially for 3 months followed by regular interventions or support groups.
- Pharmacotherapy – there is some benefit with acamprosate and naltrexone.

SINGLE SUTURE

Exercise instantly boosts fat-busting genes

Now there is no excuse to avoid the gym: just 1 hour of exercise instantly changes your genes to boost the breakdown of fat.

Juleen Zierath and Romain Barrès and colleagues at the Karolinska Institute in Stockholm, Sweden, looked for epigenetic changes – the addition of a methyl group to genes – in muscle cells during strenuous exercise. To do so, the team collected biopsies from the thigh muscles of eight men who led relatively sedentary lives, both before and after an hour of exercise.

Several genes involved in fat metabolism that were methylated before the exercise lost their methyl group. Such demethylation allows genes to more easily make proteins, which suggests that more proteins involved in the breakdown of fat are being made after exercise, says Zierath.

The group was surprised to see these effects happen so quickly. They think calcium, produced in muscle cells during exercise, may be involved since subjecting the same biopsies to caffeine – which also increases calcium in muscles – caused the same demethylation.

Unfortunately, you would get caffeine intoxication before gaining the same effects from coffee as an hour-long work-out, says Zierath.

New Scientist, 6 March 2012