

SUBSTANCE USE DISORDERS

'Our country is faced with a growing problem of substance abuse. This has implications for millions of citizens because it contributes to crime, domestic violence, family disintegration and other social problems.' – Nelson Mandela, National Drug Master Plan, March 1999

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The problem of substance abuse is not a new one. Certain substances have been used for their mind-altering properties for millennia. There is evidence that the early Egyptians used wine and that narcotics were used from about 4000 BC. Cannabis was already used medicinally around the third millennium BC in China. Various hallucinogens have been used for thousands of years by indigenous tribes around the world in tribal rituals.

The list of substances of abuse has grown since these early days. Substances of abuse no longer only include natural, plant-derived substances, but we now see many custom-designed synthetic drugs.

Substance use disorders are common and costly to the individual's physical and mental well-being, their families, friends and employers, the legal, health and welfare services and to the country at large. It has been estimated that alcohol alone costs South Africa about 1% of its Gross Domestic Product. It is essential that every doctor has a good working knowledge of the substances of abuse and the management of clients who abuse them.

A SPECTRUM OF DISORDERS

It is important to understand that substance use disorders occur as a spectrum. A person may experiment with a substance for various reasons including peer pressure, curiosity, rebelliousness, to make an occasion more memorable or to dampen anxiety, stress or other emotional pain.

If they like the effects, they may continue to use it for recreational purposes. During this phase, the person can stop at any time or control the amount used, their use does not cause harm and there is no physical adaptation of the body to the substance (tolerance and withdrawal). Most users want to believe that they can remain indefinitely in this phase.

When use is associated with harm (physical, emotional, legal or social), it becomes a problem. The *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* classifies this as Substance Abuse. The user fails to fulfil important obligations at work, school or home, has legal problems or social or interpersonal problems due to substances or use substances in hazardous situations. The problem is however still reversible.

In some the use develops into a disorder. *DSM-IV* classifies this as substance dependence. This is associated with functional and structural changes in certain brain areas, like the reward pathway (a mesolimbic dopaminergic path) and amygdala. Users lose control over their intake (they take more of the substance or for longer than intended, with unsuccessful efforts to cut down or control use), there may be physical adaptation of the body to the substance (tolerance, withdrawal), and the substance takes over the person's life. A great deal of time may be spent obtaining, using or recovering from the substance; important activities may be given up because of the substance; and substance use may continue despite knowledge that it is harmful.

It is not clear why some individuals can use substances in a controlled manner for years without developing problems while others develop this chronic, irreversible brain disease. The choice of substance, genetic vulnerability and personal factors all probably contribute. Once a person is dependant on a substance, they are never able to use that substance in a controlled manner again. Addicts, even those who have been sober for years, are usually not able to resist the uncontrollable cravings that the substance evokes, even when having taken in only a tiny amount. Tolerance and withdrawal will develop very rapidly again – this is called reinstatement.

Although the decision to experiment with drugs is usually voluntary, it is important to remember that *no one uses*

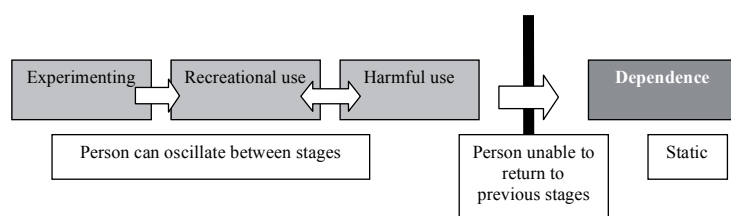


Fig. 1. Spectrum from experimentation to dependence.

Table I. **A classification for substances of abuse**

Class	Examples
Stimulants ('uppers')	Cocaine, crack cocaine Amphetamines (including crystal methamphetamine) Methcathinone Appetite suppressants Stay-awake substances
Depressants ('downers')	Alcohol Mandrax Benzodiazepines Barbiturates Opiates, including heroin, morphine Volatile solvents
Hallucinogens ('psychedelics')	LSD Ketamine Psilocybin ('magic mushrooms')
More than one effect	Ecstasy (stimulant and hallucinogen) Cannabis (depressant and hallucinogen)
Other	Laxatives Steroids

substances with the intent of ending up addicted. We do not always understand the genetic loading, social pressures, emotional pain and deficits in coping that contributed to substance use. It is not wise to judge or reject these clients. Fig. 1 depicts the spectrum from experimentation to dependence.

CLASSIFICATION OF SUBSTANCES OF ABUSE

Substances of abuse are often classified on the street according to their effect on the user. 'Uppers' or stimulants (e.g. caffeine, cocaine, amphetamines, ephedrine, etc.) may cause autonomic arousal and

suppressed appetite and may make the user feel more alert, energetic and confident. 'Downers' or depressants (e.g. alcohol, benzodiazepines, mandrax, opiates, volatile substances, etc.) are often initially disinhibiting and may be associated with feelings of euphoria. It then tends to depress the central nervous system, thus providing relief from stress and anxiety, and in higher doses escape from reality, drowsiness and sedation. 'Psychedelics' or hallucinogens (e.g. LSD, ketamine, 'magic mushrooms', etc.) are a diverse family of drugs that may cause perceptual distortions and alter mood and thought processes. Some drugs have more than one effect (e.g. ecstasy has both stimulant

and hallucinogenic properties; cannabis has both mild depressant and hallucinogenic effects). Some other drugs of abuse do not fall into any of these categories (like laxatives or steroids). Many addicts use combinations of different drugs (poly-substance abuse). Table I gives a classification of substances of abuse.

New drugs

- 'Tik' or crystal methamphetamine is a long-acting, smokable potent stimulant with profound physical and mental health complications that is abused especially in the Western Cape.
- 'Sugars' is a mixture of heroin and cocaine, along with various adulterants (allegedly including rat poison!) that is smoked. It is used mostly in the Durban area.
- 'Cat' or methcathinone is also a synthetic stimulant that has recently become popular in Gauteng and Cape Town. It is used as a club drug and is usually snorted, but can be taken via other routes.

MANAGEMENT OF SUBSTANCE USE DISORDERS

The substance use disorders are managed on 3 levels:

- **Primary prevention.** This involves preventing the initiation of substance misuse. Primary prevention includes strategies such as educational campaigns about the dangers of substances (limited efficacy), careful prescribing of and education about habit-forming medications, legislation such as licensing of liquor outlets, legal age for buying cigarettes and alcohol, taxation of alcohol and policing of the illegal drug trade.
- **Secondary prevention.** This involves the early detection and appropriate and effective treatment to prevent harm from substance misuse. Every medical practitioner has the responsibility to identify substance problems early and to ensure that they know what to do if they identify such a problem. Secondary prevention is appropriate for recreational and harmful use.

When use is associated with harm (physical, emotional, legal or social), it becomes a problem. DSM-IV classifies this as substance abuse.

It is not not clear why some individuals can use substance in a controlled manner for years without developing problems while others develop chronic, irreversible brain disease.

Clients rarely present with their substance problem and often do not see the need for change. A high index of suspicion is necessary. Collateral history from a relative may also be useful. Useful interventions include 'brief interventions' or 'motivational interviewing' (see below). Sometimes referral to a specialist outpatient programme is indicated.

- **Tertiary prevention.** This involves limiting harm from substance dependence by effective rehabilitation. Tertiary prevention is a specialised field and is usually offered by specialised rehabilitation programmes (it may be an outpatient or residential programme). This should always be followed by long-term aftercare (usually offered by self-help organisations like AA, NA or CAD).

The medical practitioner's role in tertiary prevention includes motivating clients to get help ('motivational interviewing'), ensuring they have contact details of local substance services for referral, ensuring they are up to date with the latest pharmacotherapy for detoxification and maintenance of sobriety, and knowing what to do if a client refuses treatment (harm reduction strategies or committal).

Detoxification may be required as a first phase of treatment but on its own it is very unlikely to be successful. Even when patients go through rehabilitation, it is important to remember that substance dependence is a chronic and relapsing disease and many clients need more than one intervention before they reach their ultimate goal of sobriety. Each intervention increases the likelihood of success of further interventions. One should not feel discouraged if a client is not able to stay sober after a single rehabilitation programme.

USEFUL SKILLS FOR THE MEDICAL PRACTITIONER

Brief interventions

A structured brief intervention can be extremely valuable in reducing harmful use and improving the chances of success for further intensive programmes. Research has shown that doctors in primary care in particular have more opportunities to intervene

in the lives of users. Doctors may feel that they have little time and are unskilled to deal with these problems and may want to ignore them. However, Drummond *et al.* have shown that 5 - 10 minutes of advice may have a 25 - 35% effect in reducing drinking at 6 - 12 months.

Bien *et al.* described important elements of effective brief interventions by using the acronym FRAMES (see Table II for details). He suggested that doctors should offer patients a brief follow-up appointment after this intervention. This offers an opportunity to monitor the patient's progress and provide encouragement and support. It also emphasises that the doctor views the substance habit as a serious problem. (Surely you would offer a patient follow-up if you diagnose a raised blood pressure or high blood glucose level!)
Motivational interviewing (MI) is

MOTIVATIONAL INTERVIEWING

an extremely useful interpersonal communication style, not only restricted to formal counselling sessions, which was described by Miller *et al.* It has changed our way of dealing with substance problems (and various other undesired behaviours like non-adherence with medication or lifestyle changes). MI is both a directive (focused on exploring and resolving ambivalent feelings that clients may have about their habit),

Table II. **Brief interventions as described by Bien - FRAMES**

Feedback	Feedback of personal risk or impairment	'Your liver is enlarged and not working properly and too much alcohol is the most likely cause for this'
Responsibility	Emphasis on personal responsibility for change	'I feel care about your wellbeing and therefore feel concerned about you, but it is really up to you to do something about this'
Advice	Clear advice to change	'I suggest that you stop drinking'
Menu	A menu of alternative change options	'I would like to help and support you as far as possible. If you believe that you can stop by yourself, you can try on your own. If you don't manage or want help, I could arrange for you to see someone to talk more about this'
Empathy	Therapeutic empathy as a counselling style	Warm, caring, non-judgmental
Self-efficacy	Enhancement of patient self-efficacy or optimism	'I know that if you put you mind on something, you mean serious business. I believe that you can do this'

and a client-centered counselling style (looking at the client's reasons for ambivalence and change, not the therapist's).

MI is based on the model for the stages of change as described by Prochaska and DiClemente (Fig. 2).

They describe 5 stages:

- **Pre-contemplation** – A stage where people are unaware of their problem and do not see any need in changing their behaviour.
- **Contemplation** – a stage where the person begins to weigh up pros and cons of their habit and begin to experience some ambivalence about it.
- **Determination** – a stage where the balance is tipped and the person decides to do something (or nothing) about their habit.
- **Action** – a stage where a strategy for change is chosen, which the person then pursues.
- **Maintenance** – a stage where efforts are made to maintain the gains made in order to avoid returning to previous undesired behaviours. A person can either maintain gains and permanently exit the cycle or lapse (the self-imposed restriction is briefly violated, but the person rapidly returns to new behaviour patterns) or relapse (a return to the old undesired behaviour patterns).
- **Relapse** – this is recognised as a frequently occurring event. It is not viewed as failure, but rather as a positive learning experience that increases the chances of success next time round.

If a person needs to change any undesired behaviour, they need to have insight into its undesirability. When a person perceives his behaviour as being different to his beliefs, attitudes and feelings, there is a tendency to restore this conflict by changing the behaviour.

In MI, the therapist aims to create and explore such a state of ambivalence, which the patient would then

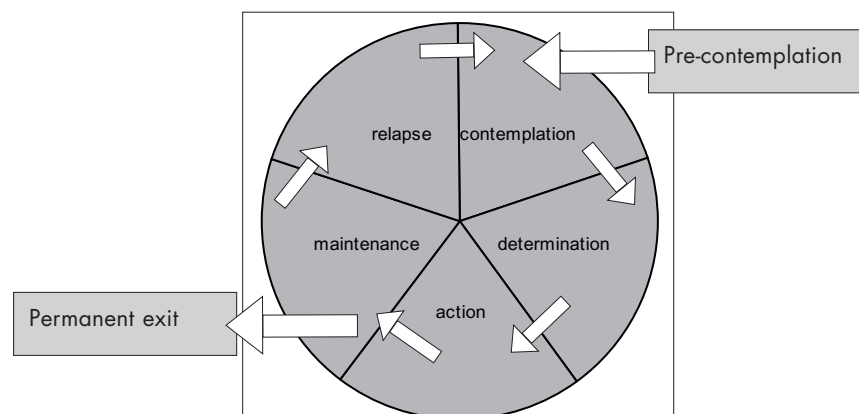


Fig. 2. The cycle of change.

(hopefully) resolve by changing the undesired behaviour (stopping the drinking or drugging).

Resistance to change is normal. It is extremely painful for anyone to admit their imperfections, even to themselves. We use unconscious defence mechanisms, like denial, rationalisation, minimisation, and projection to protect our fragile egos from the horrible truths about ourselves. During MI an effort is made to reduce this resistance by providing a safe and non-threatening therapeutic milieu for the client to explore and resolve this conflict. This is done using principles of respect, warmth, empathy and a friendly, collaborative relationship. There is no real hierarchy for the client to fight against, and the therapist disengages from negative emotional pulls like silence or hostility. Change is best enhanced through positive re-inforcement and the counsellor expresses acceptance and affirmation. An authoritative, punitive, critical or hostile stance is likely to increase resistance and is counter-productive. There is a de-emphasis on labelling. 'You are an alcoholic' is often perceived as threatening and judgemental. This approach is often counter-intuitive; we feel angry with our patients and want to scare, argue or force them into doing what we think is right.

It is important to avoid power struggles or arguments. Statements demonstrating resistance are not challenged, but instead the counsellor

'rolls with resistance' ('...and it may very well be that when we're through, you'll decide to keep on drinking ... that will be up to you...'), shifts the focus ('You're getting way ahead of things here. I'm not talking about your quitting smoking here, and I don't think you should get stuck on that concern right now. Let's just stay with what we're doing here – talking through the issues – and later on we can worry about what, if anything, you want to do about it...') or invites a new perspective ('...how would you know when your drinking is a problem...'). This way resistance tends to decrease and situations do not escalate.

Clients are encouraged to develop their own solutions to the problems that they themselves have defined, and the therapist actively recognises and respects the client's capacity to make their own decisions and does not impose answers on the client.

With MI, one does not measure success by what the client says, but by his/her actions. Agreeing with the therapist does not imply motivation, and disagreeing does not exclude motivation. Clients who perceive that they have a problem in need of change may still 'resist' change if they believe they cannot successfully complete the change process. The therapist should always increase the client's hope that they can make substantial changes.

The essential elements of motivational interviewing are set out in Table III.

Table III. **Essential elements of motivational interviewing**

- Express empathy – acceptance reduces resistance and facilitates change
- Avoid arguments – arguments are counterproductive and increase resistance
- Develop discrepancy – discrepancy between behaviour and goals motivate change, the patient should present the arguments for change
- Roll with resistance – use momentum, invite new perspectives, the client finds solutions to problems
- Support self-efficacy – the client will only attempt to change if he/she believes there is a fair chance of success

CONCLUSION

The substance use disorders are here to stay. Our country is under-resourced in terms of substance services and if we want to prevent the substance use epidemic from escalating any further, we all have a responsibility to ensure we are skilled to help these patients. Henry Nouwen said ‘...anyone who willingly enters into the pain of a stranger is a truly remarkable person...’.

Further reading

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IN A NUTSHELL

Substance use disorders are common and costly, but treatable disorders.

Substance use disorders are best viewed on a spectrum and include abuse (harmful use) with eventual progression to dependence (addiction).

Substance dependence is an irreversible, chronic, relapsing brain disease, marked by functional and structural brain changes and an inability to control the use of a substance despite negative consequences.

Addicts do not have a realistic understanding of their problem (it is too painful); denial is not manipulative deception.

Substances of abuse can be classified according to their effect on the CNS, e.g. stimulants, depressants, psychedelics.

Substance use disorders should be approached by addressing the problem at various levels, including primary, secondary and tertiary prevention.

Even substance abuse deserves an intervention in order to prevent disease progression to dependence.

Detoxification is only a small part of the treatment process and is unlikely to be successful on its own.

Brief interventions and motivational interviewing are useful skills in the management of substance use disorders.