Substance misuse in adolescents
Harith Swadi

There is increasing evidence that substance misuse among British adolescents is escalating (Miller & Plant, 1996; Sutherland & Willner, 1998). Swadi (1992) found that, among adolescents aged 12–17 years referred to mental health services, the prevalence of drug use was 13.1% (16.3% among boys and 9.3% among girls). Despite this relatively high prevalence, there are very few organised treatment services for adolescents in the UK. Instead, there is extensive emphasis on prevention even though there is no universal agreement on what prevention can achieve. This approach also overlooks the fact that a significant number of adolescents fail to respond to preventive measures in any form.

Why treat adolescents?

Some have viewed substance use in adolescence as a normative behaviour during that period of development given the fact that alcohol use and experimentation with drugs are so widespread among adolescents (Miller & Plant, 1996; Johnston et al., 1998). With that in mind, a potential point of contention is whether or not we should concern ourselves with treatment. Is it not possible that adolescents may just grow out of the habit of using psychoactive substances? There are several reasons for early and possibly vigorous intervention:

(a) While it is true that most adolescents using psychoactive substances will eventually grow out of it, some will not – they will become substance-dependent adults (Crome et al., 1998).
(b) Substance misuse has an epidemic character through peer influence.
(c) It is associated with significant comorbidity, and psychosocial and health risks (see Zeitlin, 1999).
(d) Clinical experience suggests that substance misuse is possibly more likely to be treated successfully in adolescence than in adulthood.
(e) The preventive value of treating adolescent substance misusers can be realised through a reduction on the demand for adult substance misuse services and the associated reduction in human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) morbidity.

Substance misuse in adolescents is, on the whole, significantly dissimilar to that in adults. The aetiological factors, the patterns of use, the context of use and the therapeutic approaches can be different:

(a) In adults attending substance misuse clinics, drug use is primarily a need to counter the effects of not taking drugs (i.e. the effects of the withdrawal syndrome). Adolescents take drugs because they provide them with something that they perceive as positive. Dependence is unusual among adolescents.
(b) Multiple drug use is the rule rather than the exception in adolescents (Martin et al., 1996) and the idea of a favourite substance is somewhat uncommon in adolescents. They are less likely to be involved in higher-tariff substances and rarely inject. They are more involved in binges and are usually affected by the consequences of acute intoxication rather than chronic use.
(c) Motivation towards treatment is more likely to be an adult characteristic. Adults are particularly motivated by severe adverse consequences. Adolescents are usually reluctant...
patients and help-seeking behaviour is seldom their characteristic. They usually have fewer adverse consequences and are less motivated to change.

(d) Developmental differences make it necessary to take different approaches. Adolescents are still in the process of shaping their values and attitudes and have different coping strategies from adults. For example, experience in handling stress, dealing with interpersonal conflict and negotiating change are more likely to be adult characteristics. Many adolescents have great difficulties in relationships and personal and social skills – issues which almost always have to be addressed. Choice and decision-making are skills that have not yet fully developed in adolescents.

(e) Adult substance misusers often present to services at the later stages of the addiction process – usually physical and/or psychological dependence. Adolescents are usually at an earlier stage in the process. Therefore, detoxification is rarely needed in adolescents but rehabilitation is often needed because substance misuse seriously affects the development of many basic life skills – education, social relationships, employment skills, etc.

In conclusion, the needs of adolescent substance users are different from those of adults. Furthermore, they present to services with a complex pattern of psychological, personal and social problems and needs, including delinquent behaviour, homelessness, family problems and educational and vocational needs.

**Detailed assessment**

If the screening process indicates that some kind of intervention/treatment is necessary, then the key to the latter lies in a comprehensive assessment of the referred adolescent (see Appendix 2 for a detailed assessment scheme). This will almost invariably be carried out by a number of professionals from different disciplines. The objective of the assessment is to determine the meaning and significance of the (substance-using) behaviour to the adolescent and in relation to his or her family and environment. The type of intervention, its focus and its outcome depend to a large extent on the result of the assessment. The assessment also aims at identifying the deficits that need to be addressed (such as social and life skills deficits, family communication problems, educational difficulties, etc.) and the assets that could be potentiated. An important issue is matching patients with treatment. The main factor in deciding this is the degree of handicap, the level of use and the adolescent’s circumstances. For example, less affected adolescents, with a relatively short period of use and less severe or absent psychopathology, respond better to cognitive–behavioural approaches than those with antisocial problems, who respond better to interactional therapy, particularly group therapy. Clinical experience suggests that those using socially often need less-intensive treatment – family intervention or individual counselling may suffice. The treatment process should have a well-defined and realistic goal and should address all the therapeutic needs of the adolescent, including substance misuse problems.

The assessment should also determine the most suitable treatment setting for the adolescent. The
possibilities include out-patient, residential and day programmes. Most cases that are not severe and chaotic can be dealt with on an out-patient or day basis, with particular attention to educational needs. However, most will need input from different professionals with different skills and the support and collaboration of a number of agencies such as social services, voluntary organisations, education and health.

The main components of a comprehensive assessment are described below.

**Pattern of use and its significance**

Unlike adult addicts who mainly use psychoactive substances just to feel ‘normal’, adolescents use psychoactive substances for many different reasons. It is essential to determine the context of use, as it has a crucial bearing on the intervention process. There are five different clinical contexts of adolescent involvement (Nowinski, 1990):

**Exploratory or experimental**

The primary motive in this type of substance misuse is curiosity and risk-taking. The mood-altering effects are secondary to the adventure of use. Use takes place mostly with others. The user may try more than one substance, but usually not more than a few times. The adolescent is experimenting with the ‘mood swing’ caused by psychoactive substances.

**Social**

The context here is strictly social, for example, parties, friends’ houses, car parks, bicycle sheds, etc. The primary motive is social acceptance. The peer group plays a large role. Substances are shared freely or sold at cost. The aim is to fit in with the crowd and to loosen up. The adolescent is usually still experimenting with the mood swing.

**Emotional or instrumental**

In this context, the adolescent learns to use substances purposefully to manipulate feelings, emotions and behaviour, that is, to elicit or to inhibit certain behaviours and feelings. The adolescent is generally seeking the mood swing. There are two types of instrumental use:

*Generative\hedonistic* The purpose is to seek pleasure and to have fun. Use is characterised by binges motivated by the desire to ‘get high’ and feel good. The purpose is to elicit pleasurable feelings or to explore new feelings or emotions.

*Suppressive\compensatory* The purpose is to cope with stress and uncomfortable feelings, that is, to suppress negative and distressing emotions. Mostly, use is solitary but also takes place with the peer group.

**Habitual**

Typically, the frequency of use begins to show a characteristic of compulsiveness and preoccupation. Lifestyle and activities begin to converge around psychoactive substances. Former relationships, activities and friends begin to be replaced by new substance-related ones. Sleep and concentration difficulties begin to appear. Withdrawal symptoms appear occasionally, especially after periods of heavy sustained use. Craving may occur, tolerance may increase and the adolescent may begin to think about use most of the time. Behavioural problems increase and school performance becomes seriously affected. The adolescent is preoccupied with the mood swing.

**Dependent or addictive**

This is the stage at which physical and psychological addictions become the main feature. Tolerance, craving, withdrawal symptoms and the compulsion to use become prominent. The adolescent is completely preoccupied with use and life centres around the substance and the next ‘fix’. The adolescent takes substances only to feel normal.

Adolescents in the first two categories of use (exploratory and social) tend to be primarily involved with lower-tariff substances such as volatile substances, cannabis and amphetamines, whereas those using habitually could be involved in a variety of substances, including opiates and crack cocaine.

Substance misuse has different consequences depending on the individual, the patterns of use and the environment. These consequences must be documented. Problematic substance use can be defined as that which has resulted in demonstrable or documented evidence of sustained adverse consequences, with evidence of continued use despite these consequences. This would be in areas related to education (e.g. being expelled or having left school prematurely), delinquency (e.g. being arrested or getting involved in theft), intra-familial relationships (e.g. running away from home or violence towards family members) and psychiatric symptomatology (e.g. severe conduct problems or depressive symptoms). Such consequences make treatment and/or intervention extremely desirable if not necessary.
Associated psychopathology (comorbidity)

Psychopathology is increasingly emerging as a very influential factor, in relation not only to initiation into substance use but also to response to intervention and outcome (Scourfield et al., 1996). Clinicians should be able to recognise and treat coexisting psychopathology. Conduct problems have long been recognised as associates of substance misuse. The strong links with emotional problems are now universally accepted. Consistently, reports indicate that affective symptoms predominate in females whereas conduct problems are more common in males. In an earlier paper (Swadi, 1992), I stressed the need to be aware of the existence of mood disorders among substance users, as they are easy to miss, particularly when associated with conduct and anti-social behaviour. Substance misuse is also related to increased suicidal ideation and attempted suicide. Many adolescents who ‘overdose’ do so while under the influence of alcohol or other drugs. A major risk factor for completed suicide after parasuicide in adolescents is substance misuse (Hawton et al., 1993).

Young substance misusers also show higher rates of psychosomatic complaints, anxiety, relationship problems and social dysfunction. Adolescents with poor coping skills tend to use psychoactive substances to deal with stress (Labouvie, 1986) and as a means of emotional self-regulation. There is also an emerging link between eating disorders (both anorexia and bulimia) and substance misuse, particularly alcohol use (Lavik et al., 1991). American literature consistently reports strong links between attention-deficit hyperactivity disorder and substance misuse in adolescents (e.g. Milberger et al., 1997). A psychiatric assessment must include a good account of adverse life events, particularly victimisation and loss.

Another important point in the assessment is the need to ascertain the temporal relationship between existing psychopathology and substance misuse. Particular care should be taken when assessing adolescents with coexisting affective problems and substance misuse. Psychiatric problems may be the result of substance misuse, particularly in the case of central nervous system depressants. On the other hand, many adolescents with psychopathology may turn to psychoactive substances for psychological relief.

Functioning

The primary objective is to determine the adolescent’s strengths/assets and weaknesses/deficiencies. Building on assets and addressing deficiencies is an essential part of the intervention process.

Family assessment

This is almost a ‘must’ given the many different ways in which family factors play a role in adolescent substance misuse. Family background and parenting styles, including parental divorce, parental discord, family disruption, negative communication, inconsistent parental discipline, and lack of closeness, have been identified as influential risk factors in adolescent drug use (Stoker & Swadi 1990; Isohanni et al., 1991). Families of children who misuse drugs were characterised as being those whose fathers were distant and disengaged and whose mothers were too involved (Kaufman & Kaufman, 1979; Stoker & Swadi, 1990). Families can also behave in a way that increases the risk of maintaining substance use. Commonly, clinicians refer to ‘enabling behaviour’ (Nowinski, 1990). This is a natural response by the family to stay intact and to survive. It motivates families to compensate for one dysfunctional member and to avoid issues that threaten its integrity. It may involve all family members – siblings may conspire to keep parents in the dark or parents may avoid the subject. Bailing out, minimising and avoiding are the most frequent enabling behaviours. The family assessment should focus on family dynamics, communication patterns, cohesion, affect and value transmission.

Treatment options

The need for treatment and the type and intensity of treatment depend on the stage of involvement and the degree of impairment or handicap caused by substance use. However, the treatment plan should involve addressing the complex of the personal and environmental needs of the adolescent, including any concurrent psychiatric illness, social skills and educational deficits, physical health and family problems. It should take the form of a multi-disciplinary and inter-agency (usually involving social services and education) package that is agreed with the adolescent and his or her family.

Detoxification

Alcohol

By the time they are referred, adolescents are unlikely to have developed an alcohol dependence syndrome.
that requires detoxification. However, if the assessment confirms the presence of dependence, then detoxification along the conventional lines used in adults is indicated. Benzodiazepines are useful in this respect as they have been shown to reduce withdrawal severity and the likelihood of delirium (for a detailed account see Lejoyeux et al, 1998). The dosage and the type of benzodiazepine and the duration of the detoxification regimen depend on the severity of the withdrawal syndrome and the motivation of the adolescent. However, guidance can also be gained from the use of withdrawal scales. Other drugs that may be helpful in reducing the severity of withdrawal syndrome include phenothiazines, clonidine, acamprosate, naltrexone, carbamazepine and beta-blockers, but they are not as effective as benzodiazepines in dealing with the risk of delirium and convulsions.

**Opiates**

Regarding opiates, detoxification usually follows the same lines as with adults. It may be carried out on an out-patient or residential basis depending on the severity and the presence of a supportive environment in the community. Methadone is the drug of choice. Studies in adult populations suggest that other drugs such as clonidine and naltrexone may also be useful. Symptomatic relief from signs of the withdrawal syndrome (such as diarrhoea and central nervous system arousal) may also be useful. The dose and duration of treatment with methadone depend, as in alcohol dependence, on the severity of dependence and the adolescent’s motivation. However, the aim should be rapid reduction – long-term methadone maintenance is not advisable in young people.

**Other substances**

Detoxification programmes for dependence on other drugs such as benzodiazepines and cocaine also follow the same lines as with adults. No pharmacological substitutes are available for them and the objective should be graded reduction of use. However, the use of antidepressants such as desipramine and fluoxetine may help, particularly in adolescents with coexisting affective disorders (Kaminer, 1992; Riggs et al, 1997).

**Individual counselling**

A recent development in individual counselling is the use of brief intervention techniques. This began with the use of simple advice in primary care settings leading to significant reduction in use, particularly in relation to alcohol use. However, a major new approach is that based on the theory of change (Prochaska & DiClemente, 1982); motivational enhancement interviewing (Miller & Rollnick, 1991). This approach is becoming increasingly popular and has added a new and exciting dimension to therapeutic intervention.

The cycle of change identifies 5–6 stages – intervention begins with identifying where in this cycle the person is. The objective is to help the young person move along from one stage to another through increasing motivation to change behavioural patterns, including substance use. This approach is particularly useful with resistant clients (such as adolescents). Different stages require different techniques. The stages and main objectives of the therapist at each stage are:

**Stage I**

*Pre-contemplation* User is not thinking about stopping drinking – raise doubt; increase perception of risks and problems with substance use.

**Stage II**

*Contemplation* User is thinking about change: “Maybe I should stop drinking” – tip the balance; evoke reasons for change; strengthen self-efficacy for change.

**Stage III**

*Determination* User is determined to change: “I must stop drinking” – help to determine the best course of action for change.

**Stage IV**

*Action* User actually changes: “I stopped drinking” – help client to take steps towards maintaining change.

**Stage V**

*Maintenance* User continues not to drink – help client to identify and use strategies to prevent relapse.

**Stage IV**

*Relapse* User goes back to drinking – help to renew contemplation.

In essence, people who misuse substances who are not sufficiently motivated to change, or who do not appear ready to use treatment to deal with their drug problem, are at higher risk for early relapse (DeLeon et al, 1997).
Family work and therapy

Families can be helpful in the process of therapy. They can also be obstacles. Families and family dynamics have been shown to be influential as risk factors for initiation and progression (the process of moving from experimentation to chronic use). On the other hand, most recovered addicts report family systems as being very helpful in their recovery. In particular, the family can help improve compliance with treatment that involves medication.

Family therapy can take the form of structural, strategic or behavioural work. It should be time-limited and goal-oriented, especially using goals identified by the family. Family tasks are very useful in this sense. The therapist should keep the issue of drug use alive and avoid getting into other ‘red herring’ issues. If the family members wish to discuss other issues, they should be advised that they might wish to discuss these after the ‘current’ goal is achieved. Parents’ roles should be enhanced and given a major advisory and decision-making capacity vis-à-vis the treatment process. Family therapy should also help to reduce conflict among family members and help the adolescent replace friendships that encourage deviant behaviour with others that encourage social conformity (Knight & Simpson, 1996).

A recent approach in family therapy is multidimensional family therapy (MDFT). This is an outpatient, family-based, behaviourally–strategically oriented approach (Liddle, 1998). It views adolescent drug use in terms of a matrix of influences (i.e. individual, family, peer and community). Behavioural changes occur via multiple pathways, in differing contexts and through different mechanisms.

The MDFT model includes individual and family sessions (which may include others outside the family). The therapist helps to organise treatment by introducing several generic themes. These are different for the parents (e.g. feeling abused and without ways to influence their child) and adolescents (e.g. feeling disconnected and angry with their parents). The therapist uses these themes of parent–child conflict as assessment tools and as a way to identify workable content in the sessions.

During individual sessions, the teenager is helped to acquire communication skills and problem-solving skills to deal better with life stressors. Job skills and vocational training are also part of treatment. At the same time, sessions with the parents address parenting styles and belief systems. The parents are helped to examine their particular parenting style, to distinguish influence from control, and to develop parenting approaches that lead to positive influence on their child (Liddle et al, 1998).

Group work (therapy)

This can be substance misuse-oriented or non-substance misuse-oriented. The latter can deal with social skills, relationships and can have an element of education and catharsis. Group therapy, particularly that which involves peer confrontation, seems to be effective for adolescents, at least in the short term (Wheeler & Malmquist, 1987). However, most substance misuse-oriented work has really been based on the Alcoholics Anonymous (12-step) model (Alford et al, 1991). The basic objective is self-help and relapse prevention. However, although this model of work can be beneficial for adults, there are some problems with adolescents. The concept of self-help has to be modified to take into account the process of adolescent development.

External support network, education and employment

For adolescents in treatment, abstinence is a major change in lifestyle, and needs support to be maintained. Once treatment is completed, it is important for the adolescent, in order to function satisfactorily and ‘stay off’ drugs, to be able to return to an environment that will support this. The nature and degree of support must be explored as part of the continued review and assessment process. Such support will inevitably involve opportunities for adequate accommodation, education, training and employment. Often, it is also useful to provide psychological support either on a regular or an ad hoc basis. Most well-developed treatment programmes have included an element of extended day or community follow-up and support.

‘Staying off’

Staying off psychoactive substances can sometimes be difficult. It depends on external support resources to a significant degree, but much can be achieved by the adolescent him/herself with pharmacological and psychological support.

Pharmacological methods of relapse prevention have been used mostly with alcohol dependence and aim at dealing with and reducing craving, which is the main cause of short-term relapse. Apart from the use of disulfiram (which has not been evaluated in adolescents), adult studies seem to indicate that some relatively new drugs such as naltrexone and acamprosate show some promise in reducing craving for alcohol, particularly in those with...
comorbid disorders (Bonn, 1999). However, there are no similar studies among adolescent populations.

Cognitive–behavioural therapy is increasingly gaining credence in relapse prevention. This approach aims to help generate mechanisms to cope with situations of high risk for relapse. Social pressure is the most important high-risk situation for adolescents. The indications are that abstinence is directly related to the ability of the adolescent to develop coping strategies to deal with social pressure. The most successful strategies are those characterised by a cognitive–behavioural approach, such as avoiding high-risk situations, refusal and engaging in alternative activity (Myers & Brown 1990).

### Appendix 1. Substance Misuse in Adolescence Questionnaire (SMAQ; Swadi, 1997)

Answers with a ‘yes’ score 1 and answers with a ‘no’ score 0. A total score of 5 or more is a strong indication for further detailed assessment.

1. Are the effects of the drug more important to you than the adventure of use?
2. Do you have a favourite drug?
3. Do you ever use alone?
4. Do you use to suppress feeling sad, bored, lonely, confused or anxious?
5. Are you thinking a lot about drugs and drug use?
6. Do you plan your day to make sure you can use?
7. Do you need to use more to get high now than before?
8. Do you feel depressed, irritable, or anxious if you do not use?
9. Do you crave for or ‘miss’ your favourite drug?

### Appendix 2. Suggested assessment scheme

A suggested scheme (the questions to ask) for the assessment of adolescents who misuse psychoactive substances. Information will inevitably come from multiple sources including parents, teachers, social workers and the assessor’s own observations.

### History data

1. Reasons for referral
2. Recent events
3. Personal history
4. Family structure and situation
5. Life events within last year
Patterns of use

1. Substance
2. Route
3. Type
4. Quantity
5. Weekly expense

(Make a list of and inquire about all possible substances, by name.)

Clinical contexts of substance misuse (the questions to ask)

1. Which is more important – the effects of the drug or the atmosphere of use?
2. What is remembered more – the effects of the drug or the atmosphere of use?
3. How often does he or she use?
4. Is use regular or occasional?
5. Most of the time, does he or she use alone or with others?
6. Where does most of ‘use’ take place? Home, pub, school, etc.
7. Does he or she tend to use more often at social events such as parties?
8. Does use help him or her fit in with the crowd?
9. Do he or she use more often under the influence of friends?
10. When using with others, does it help him or her to relax and loosen up?
11. Does he or she participate in drinking or drug use games?
12. If the drug of choice is not available, would he or she use an alternative drug?
13. Does he or she use combinations of substances?
14. Does he or she use one substance to counter some effects of another?
15. Does he or she feel physically/psychologically normal the following day after use?
16. Has use affected school work and behaviour?
17. Has use affected his or her family relationships?
18. Does he or she use to make him or her feel in a certain way, e.g. high, happy or relaxed?
19. Does he or she plan.seek to use to feel like that?
20. Does he or she ever use alone?
21. Does he or she use to feel less restrained, shy or inhibited?
22. Does he or she use to suppress feeling sad, bored, lonely, confused or anxious?
23. Does he or she plan/seek to use to feel like that?
24. How does he or she get on with his or her parents?
25. Has he or she made new friends since started using?
26. Do any of the new friends use? If yes, heavily or frequently, or harder drugs?
27. Has he or she lost some of his or her old friends?
28. Does he or she think a lot about use? Is he or she preoccupied with the idea of use?
29. Does he or she plan his or her day to make sure he or she can use?
30. Is he or she losing interest in usual activities or hobbies?
31. Does he or she need to use more to get high now than before, say a year ago?
32. Does he or she suffer from physical withdrawal symptoms?
33. If yes, what? How severe?
34. If yes, does he or she use to get over these symptoms?
35. Does he or she feel depressed, irritable or anxious if he or she does not use?
36. Does he or she use to get over these feelings?
37. Has he or she ever put limits or rules for use, e.g. only weekends, no mixing, etc.?
38. How often does he or she break these limits?
39. Does he or she crave for or ‘miss’ his or her favourite substance?
40. If so, what does it feel like?
41. How many negative consequences has he or she had because of use?

Physical: Social: Legal: Psychological:

Functional assessment

Attitude towards referral

1. Is he or she agreeable with the referral?
2. Does he or she think there is a problem? If yes, where does he or she think the problem lies? In him- or herself? In others? If no, Why does he or she think he or she is here?
3. Does he or she think there is a problem with his use? If yes, who is it a problem for?
4. Where does he or she think the solution lies?

Education

1. What was his or her attitude towards schooling earlier in life?
2. How did he or she do at school then? Grades?
3. Did he or she have any concentration problems then?
4. What is his or her attitude towards schooling now?
5. How is he or she doing at school now? Grades?
6. Does he or she have any specific learning problems now?
7. Does he or she have any concentration problems now?
8. What does he or she see as his or her best subjects?
9. What does he or she see as his or her worst subjects?
10. Has his or her schoolwork declined?
11. At what grade did his or her schoolwork start to decline?
12. Does he or she have any academic aspirations? College?

**Life skills**
1. How does he or she communicate and relate to the interviewer?
2. Can he or she express him- or herself clearly?
3. Is he or she outgoing or shy?
4. How assertive or timid is he or she?
5. Is he or she passive or aggressive?
6. What does he or she do to relax?
7. What does he normally do to cope with stress?
8. What does he or she do recreationally and to have fun?
9. What interests and hobbies does he or she have?

**Emotional adjustment**
1. What emotions trigger use and how often?
2. What situations trigger these emotions?
3. Is he or she aware of the process/temporal link between triggers, emotions and use?
4. Has he or she tried to develop strategies to avoid setting this process off? If yes, what?

**Self-esteem**
1. Does he or she appear to take care of appearance, hair and clothes?
2. What does he or she believe he can do well?
3. What is he or she most proud of?
4. What is he or she least proud of?
5. What does he or she hope to achieve in life?
6. How does he or she see himself in 5–10 years time?
7. What does he or she not like most about himself or herself?
8. What does he or she think other people dislike about him or her?
9. What does he or she think other people like about him or her?
10. Does he or she feel guilty or ashamed about anything to do with him- or herself?

**Psychiatric assessment**
(Record any evidence of psychopathology.)

**Physical health**
Record the results of a full physical examination (and necessary investigations).

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**References**


*indicates articles of particular interest

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**Multiple choice questions**

1. The following are recognised components of the cycle of change:
   - a contemplation
   - b revision
   - c determination
   - d action
   - e realism.

2. Recognised stages of an addiction in adolescents include the following:
   - a seeking the mood swing
   - b using drugs to feel normal
   - c sensory cues
   - d curiosity about the mood swing
   - e social acceptance.

3. The pharmacological treatment of substance misuse in adolescents may include the following:
   - a beta-blockers
   - b clonidine
   - c naltrexone
   - d barbiturates
   - e antidepressants.

4. The motivational enhancing technique in treating adolescents with substance misuse problems originates from the:
   - a cognitive–behavioural theory
   - b theory of subliminal stimulation
   - c theory of change
   - d Milan school of family therapy
   - e work of Skinner.

5. When they present to treatment services, adolescent substance misusers differ from adults in the following ways:
   - a adults are usually more motivated
   - b adults usually show fewer signs of dependence
   - c polydrug use is more common in adolescents
   - d rehabilitation is less important in adolescents
   - e methadone maintenance is a viable option for adolescents.

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**MCQ answers**

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