Alcohol abuse in adolescence: an update

Recent reports justify a more considered look at alcohol abuse among adolescents and the risks associated with it. First, studies show that teenagers are more likely to have casual sex and less likely to use condoms when they are under the influence of alcohol, thereby increasing the risks of HIV infection. Second, although adolescents are aware of their particular vulnerability to road trauma and drink-driving, in many areas, road traffic accidents now account for more than half male deaths among 15-19 year olds and the most important factor in these cases is alcohol.

Alcohol is the most widely used and tried drug by adolescents in Western society. The only national survey of adolescent drinking in Britain was carried out in 1984. Self reports obtained from a nationally representative sample of 13-17 year olds suggest that about 80% had a ‘proper drink’ by the age of 13 and that only 10% were abstinent at the age of 17 years. The vast majority start at home and do not show a preference for drinking with friends until the age of 15 years. Despite the fact that the legal age for purchasing alcohol in public houses is 18, a quarter of 14 year olds and 40% of 16 year olds drink in there. About 30% of boys and 15% of girls aged 13 said they have been ‘very drunk’ at least once in the past year. Symptoms of intoxication such as blackouts, hangovers, vomiting, and falling over were reported by almost half the older adolescents. Antisocial behaviour associated with drinking was reported by many adolescents. About a quarter got involved in a fight and one in 10 were involved in vandalism or attracted the attention of the police. Another study found that 5% of convictions for drunkenness were in 14-17 year olds.

Gender differences that used to favour boys are now diminishing with girls almost just as likely as boys to be drinking. However, frequent and heavy drinking remains a pursuit of boys. Alcohol abuse is associated with high levels of tobacco smoking especially among girls (10 times more compared with six times in boys). The risk of drug use among those who have ever drunk is six times compared with non-drinkers. This rises to 17 times among those who drink at least weekly.

The age of initiation into alcohol use is getting increasingly lower, currently standing at 10-11 years, with many children having their first taste of alcohol before the age of 10 years. The age of initiation into drinking is influential in determining the extent of subsequent alcohol use. Early initiates usually report heavier drinking later on in adulthood and are more likely to develop alcoholism as adults.

Influences on attitudes to drinking and drinking patterns

The diversity of the factors influencing alcohol use reinforces the notion that, similar to problematic alcohol use and alcoholism in adults, the aetiology of alcohol abuse in adolescents is multifactorial. Such influences include the following:

The Media

Media effects, especially television, have been suggested as influential in shaping drinking patterns. In this respect, the pressures are immense. Content analysis of the portrayal of alcohol on British television showed that on average there was a reference to alcohol every six and a half minutes. That was estimated to be worth £487 million of free promotion per annum. Clearly, there is a debate as to whether advertising is encouraging young people to take up drinking. Boys aged 9-14 were able to report that a corporate television advertisement (promoting the company, not a particular product) was in fact promoting beer produced by that company. Furthermore, they said that the advert would encourage them to drink. Adolescent drinkers are more aware, attentive, and appreciative of alcohol advertising suggesting that advertising can operate as a reinforcer of under age drinking.

Although advertising per se may or may not encourage young people to drink, there is some agreement that it influences patterns of use and personal preferences of alcoholic beverages.

Parental Influences

Due to their vulnerability, an increasingly favoured group for study are children of alcoholic parents with many studies reporting increased alcohol use among the adolescent offspring of alcoholic parents. This vulnerability can be mediated through genetic mechanisms and/or environmental factors. Schuckit found that non-alcoholic sons of alcoholics showed greater tolerance for alcohol than matched controls, suggesting that this tolerance may constitute a risk factor of future alcohol abuse. The significance of findings on electroencephalography (reduced P3 voltage) in non-drinking sons of alcoholics as possible at-risk markers remains to be explored longitudinally. Role modelling may also be influential. Parental alcohol misuse is known to be associated with adolescent alcohol misuse, especially among heavy drinking parents.
PEER AND SITUATIONAL INFLUENCES
Adolescents consume more alcohol when they are drinking away from home, especially when they are with peers who drink or approve of drinking. Peer influence is such that an 'epidemic process' has been suggested as a model to account for the increasing use of alcohol among adolescents. Furthermore, individuals are more likely to be heavy drinkers in adulthood if they drank mainly at public houses in their adolescence. Adolescents who participate in 'drinking games' with their peers show substantially higher levels of consumption.

SOCIOCULTURAL FACTORS
Sociocultural factors, especially society's attitude towards alcohol use, availability of alcohol, and cultural and religious factors, can determine many aspects of alcohol use such as aetiological factors, prevalence, patterns, and treatment approaches. Countries that adopted a national health campaign, and the prohibition of alcohol advertising geared towards the young, saw a reduction in alcohol use and alcohol related problems that was most marked among adolescents and young adults.

Psychopathology
Alcohol abuse in adolescents should not be viewed as an isolated (and expected) phenomenon and physicians should be aware of the fact that it is often associated with evidence of psychopathology, especially that of an emotional nature. There is a strong link between alcohol use and stress and coping difficulty in adolescents in which alcohol operates as a mood regulator. Similar findings were reported in depressed adolescents, with depression predating alcohol use suggesting the possibility of 'self medication' as an initiating factor. Many adolescents who 'overdose' do so while under the influence of alcohol. Sometimes alcohol abuse follows sexual victimisation, as adolescent victims of sexual abuse report greater frequencies of substance abuse including alcohol. Eating disorders were found in 30% of young women with alcohol problems while 27% of women with eating disorders showed evidence of problem drinking.

A significant relationship between episodes of 'alcohol intoxication' and bulimia was also reported. Educational attainments can also suffer in alcohol abusing adolescents and studies often link alcohol abuse to poor scholastic achievement, school based problem behaviour, truancy/unemployment, delinquency, and relationship problems. The risk of alcohol abuse among adolescents increases with the level of psychopathology. Multiple, not single, adjustment problems in early adolescence significantly increase the risk for alcohol abuse.

Outcome
Longitudinal studies suggest that drinking per se in adolescence does not necessarily predict drinking patterns in adulthood. However, drinking patterns in adolescence such as drinking mainly in public houses, early initiation, and frequent drunkenness do predict serious alcohol problems in adulthood. A high loading of adverse personality factors, family background, and psychopathology in adolescent drinkers increase the risks of developing alcohol related problems in adulthood. Many studies suggest that there is a positive correlation between high alcohol use at school leaving age and unemployment in adulthood.

Treatment issues
At the stage of referral for treatment, alcohol abuse is most often associated with the abuse of other substances. Adolescent substance abusers differ from adults in the treatment approaches that interest them, and possibly in the types of treatment that are effective for them. Educational aspects, support for parents, and the involvement of the family have a larger role in the treatment of adolescents. Alford et al reported significant reduction in alcohol and drug use six months after completing an Alcoholic Anonymous/Narcotics Anonymous (AA/NA) based programme, although at one and two year follow up high rates of relapse were reported. They suggest that aftercare and relapse prevention should be an essential component of the treatment programme. Family therapy is an increasingly favoured approach to the treatment of adolescent drinkers.

The available literature suggests that a treatment approach which is most likely to have positive results can be described as that which is holistic in nature, that addresses substance abuse, psychopathology and other personal factors, employs individual, group and cognitive therapy, involves the family, has an aftercare component, and is carried out by specially trained staff.

Prevention
Alcohol education has been the most widely used preventative approach. However, while it does increase knowledge about alcohol, it shows less clear cut influences on attitudes and the effects on levels of consumption are modest. The biological factors involved in alcohol use and abuse, especially alcoholism in the family, have been studied extensively. One main conclusion is that there are adolescents who are at greater risk for developing alcoholism and alcohol related problems. Goodwin suggests that there ought to be educational campaigns to alert adolescents with alcoholism in their family of their increased risk of becoming alcoholic.

This can help adolescents monitor their drinking with special care. In most American states, raising the legal age for drinking to 21 was associated with a significant reduction in alcohol purchasing among that age group and a decrease in road traffic accidents, at least in the short term. Alcohol is here to stay. It is widely available, accessible, and is marketed in tastes, shapes, and forms designed to be attractive. Above all it is not illegal. Although the legal age for purchasing an alcoholic drink is 18 years, an 8 year old can drink in public with his/her parents. Alcohol certainly has a social role in Western society (and others); the years of prohibition proved the resilience of alcohol. Clinicians should be aware that alcohol abuse is often associated with psychological difficulties. Unlike drugs, the vast majority of adolescents will at some point try alcohol. It is, therefore, the ideal ground for the harm minimisation approach in prevention. The key to prevention seems to lie in the early introduction of prevention efforts to encourage a sensible attitude towards drinking, the reduction of the influences of adverse role models, and targeting those seen to be at a higher risk of alcohol abuse and developing alcohol related problems.
Androgen insensitivity syndrome

Numerous clinical syndromes are now recognised to be associated with resistance to the action of hormones in target tissues. There is no clearer clinical example of this phenomenon than the development of an external female phenotype in a genetic male, in whom there is total resistance to the action of androgens, the so-called androgen insensitivity syndrome. Approximately two thirds of cases of androgen insensitivity are familial with an X linked pattern of inheritance.

Clinical phenotypes

Two phenotypic forms of the androgen insensitivity syndrome are recognised. The complete form (CAIS), previously known as the testicular feminisation syndrome, is associated with normal female external genitalia. The condition may present in infancy or childhood with labial swellings or inguinal hernias that are found to contain testes. More typically, CAIS presents in late adolescence with primary amenorrhoea. There is absence of female internal genitalia on ultrasound scan or laparoscopy and testicular histology shows spermatogenesis to be incomplete or absent, although Leydig cells are abundant. Plasma testosterone concentrations are within the age appropriate male range or in some instances even higher as a result of the increased stimulation by luteinising hormone.

The partial form of the androgen insensitivity syndrome (PAIS) is associated with a wide range of genital abnormalities, and typically presents at birth with genital ambiguity. Severe hypospadias and associated abnormalities such as a microgenital, bifid scrotum, and bilateral cryptorchidism are common. Alternatively, the external genital phenotype may be predominantly female with partial labial fusion and clitoromegaly. Clinically milder forms of PAIS may also include isolated familial hypospadias and some cases of infertility in otherwise phenotypically normal males. The diagnosis of PAIS depends on demonstrating a normal testosterone response to human chorionic gonadotrophin (HCG) stimulation. Measurement of steroid precursors in plasma and their metabolites in urine after HCG stimulation should exclude other testosterone biosynthetic defects. Pelvic ultrasound generally shows absence of female internal genitalia, although vaginal remnants may persist. As male pseudohermaphroditism due to a number of different causes may present with a clinical phenotype similar to PAIS, careful evaluation is clearly important to optimise management.

Investigation

The following approach is suggested for the investigation of patients with male pseudohermaphroditism. Examination of the internal genitalia by ultrasound scan or by laparoscopy is needed to look for evidence of Mullerian structures such as a uterus. An opportunity should be taken at the time of any reconstructive surgery to examine, if possible, gonadal histology in case of dysplasia or true hermaphroditism. An HCG stimulation test (1500 units daily for three days) with normal testosterone production is a prerequisite if a diagnosis of PAIS is to be considered. Testosterone biosynthetic defects can be excluded by measurement of precursor steroids such as 17 hydroxyprogesterone, androstenedione, dehydroepiandrosterone and its sulphate. The autosomal recessive disorder, 5 alpha-reductase deficiency, can be excluded by measurement of testosterone and dihydروtedosterone in plasma together with 5 alpha- and 5 beta-reduced androgen metabolites in urine after HCG stimulation. Further information about possible androgen insensitivity can be obtained from androgen binding studies and molecular analysis of the androgen receptor gene.

Androgen binding studies

The evidence that androgen insensitivity occurs because of some abnormality in the androgen receptor was first obtained
Alcohol abuse in adolescence: an update.

H Swadi

Arch Dis Child 1993 68: 341-343
doi: 10.1136/adc.68.3.341

Updated information and services can be found at:
http://adc.bmj.com/content/68/3/341.citation

These include:

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/