Chapter 8

Alcohol, Cannabis and Other Substances

Key points

Alcohol

- Studies suggest that most New Zealand children have their first taste or sip of alcohol between the ages of six and 10 years.
- On average, children have their first full drink of alcohol at about 12 or 13 years of age.
- In the Christchurch Health and Development Study, 7 percent of young people were drinking alcohol at least once a week by age 15. Around a quarter of 15-year-olds did not drink alcohol and another quarter drank only once or twice a year. Twelve percent of 15-year-olds reported drinking more than the equivalent of three standard-sized bottles of beer at their last big drinking session. About 5 percent met criteria for alcohol abuse.
- In the same study, young people who, compared to their peers, drank more frequently, or regularly consumed high amounts of alcohol in a drinking session, or had more alcohol-related problems, were more likely to:
  - drink with their peers in venues away from their family and parents
  - have their own money to spend
  - come from lower socioeconomic status families
  - have their first drink of alcohol before 13 years of age
  - use other substances like tobacco and cannabis
  - be sexually active at a relatively early age (that is, by age 15 years)
  - engage in unprotected sexual intercourse
  - experience episodes of depression
  - have contact with the police.

Cannabis

- In the Dunedin Multidisciplinary Health and Development Study in 1985, about one in a hundred 13-year-olds reported using cannabis.
- By age 15 years, between 10 and 15 percent of children in the study had used cannabis at least once.
- Of the 15-year-olds in the Christchurch Health and Development Study who had tried cannabis, 23 percent had used it on more than 10 occasions. Ten percent had used it at school.
- Cannabis use becomes increasingly prevalent as young people approach the middle and late teenage years. At age 15 years, over half the cannabis users in the Christchurch study said they would definitely or probably use cannabis again.
- Young people in the Christchurch study with higher cannabis use at age 16 were more likely than their low cannabis using counterparts to come from socially disadvantaged backgrounds. They were also more likely to have been exposed to family adversities during childhood. In addition, they were more likely to have formed affiliations with delinquent or substance-using peers by 16 years of age and to report poorer parental attachment and social adjustment difficulties.
- Cannabis use before age 16 is associated with later problems in adolescence such as juvenile offending, mental health disorders, leaving high school without qualifications and unemployment. The Christchurch study concluded that these adolescent problems mainly arise because of earlier childhood social and behavioural factors. However, cannabis use in the early teenage years could exacerbate the negative impact of these factors.

Other substances

- There is little reliable information available on young New Zealanders' use of other psychoactive substances.
- In the Dunedin Multidisciplinary Health and Development Study, 5.8 percent of 15 year-old girls and 3.2 percent of 15 year-old boys had used inhalants (petrol, glue) in the last 12 months. 2.6 percent of girls and 3.4 percent of boys had tried other drug substances such as opiates or cocaine.

Introduction

Alcohol

Alcohol use can increase young people's risk of experiencing a range of health and social problems (Maskill 1991). In infants and young children, alcohol consumption can lead to serious adverse effects including hypoglycaemic brain injury. For all age groups, alcohol intoxication can increase the risk of death or injury while undertaking technically demanding or hazardous activities such as swimming, boating or operating heavy machinery. Consuming very large amounts of alcohol in a single drinking session can be highly toxic and, in some cases, fatal. Other hazards include those linked to alcohol's function as a disinhibitor, with drinking triggering the expression of ideas, emotions or behaviours that in other situations would be concealed. The negative health consequences of this disinhibition can include the physical and psychological results of unprotected sexual intercourse (unwanted pregnancies, sexually transmitted diseases) or violence. Finally, because alcohol is often used to help generate feelings of conviviality, euphoria and wellbeing, it has the potential to produce dependence or addiction in vulnerable individuals.

The health of children can also be significantly affected by adult alcohol misuse. One example is the injuries to children caused by alcohol-impaired motor vehicle drivers. Another is the foetal alcohol syndrome. This occurs when pregnant women drink heavily and damage the development of their unborn child. Sixty-three children under 10 years of age were reported to be under paediatric care for foetal alcohol syndrome in New Zealand in 1993. This figure is considered to be an under-estimate (Leversha and Marks 1995).

Children's early social development may also be compromised by prolonged exposure to home environments where a parent has a serious alcohol problem. In the Dunedin Multidisciplinary Child Development Study, 35 percent of nine-year-olds with a parent with severe alcohol problems were rated by their teacher as showing high levels of classroom behaviour problems, compared to 12 percent of the nine-year-olds whose parents did not have severe alcohol problems (Connolly et al 1993).

Cannabis

Cannabis is thought to produce psychological dependence when taken in large daily doses over an extended period of weeks or months. Although the long-term effects are not yet fully understood, inhaled cannabis smoke is probably injurious to the lungs in much the same way as tobacco. A source of concern is its regular use by children and teenagers. Cannabis intoxication can alter thinking and interfere with young people's learning (Ministry of Health 1997).

Other substances

Apart from alcohol, tobacco and cannabis, five other types of psychoactive substances are used in New Zealand for recreational or non-medical purposes (Black and Casswell 1993; Chetwynd 1997). These are the opioids (such as, heroin, morphine), sedative-hypnotics (for example, barbiturates such as sleeping pills, minor tranquillisers such as diazepam), stimulants (for example, cocaine, amphetamines), hallucinogens (for example, LSD) and inhalants (for example, glue, petrol, aerosols).

The use of these psychoactive substances can be hazardous to health in many ways. In the short term, because they alter body chemistry, they can impair a person's ability to think or react properly when driving or working with other dangerous machinery or equipment. Taking toxic levels of a drug, or using drugs that have impurities in them, can damage vital organs and, in some instances, lead to coma or death. Injecting drugs increases the risk of transmission of the human immunodeficiency virus (HIV) and hepatitis B and C if equipment is shared. Prolonged daily use of drugs such as cocaine and amphetamines can produce psychotic symptoms similar to those of schizophrenia. Many drugs, especially if used regularly over a long period, produce a physiological addiction. Users can experience quite severe and disabling withdrawal symptoms when the drug is suddenly no longer available. The desire or craving to experience a drug's effects, or to avoid the sensations of psychological or physiological withdrawal, can also lead some drug users to engage in theft or prostitution to obtain the money to buy expensive illicit drugs. Criminal prosecutions, whether for possessing drugs or for the criminal behaviours associated with obtaining money for drugs, can lead to imprisonment, unemployment and ostracism by family and friends.

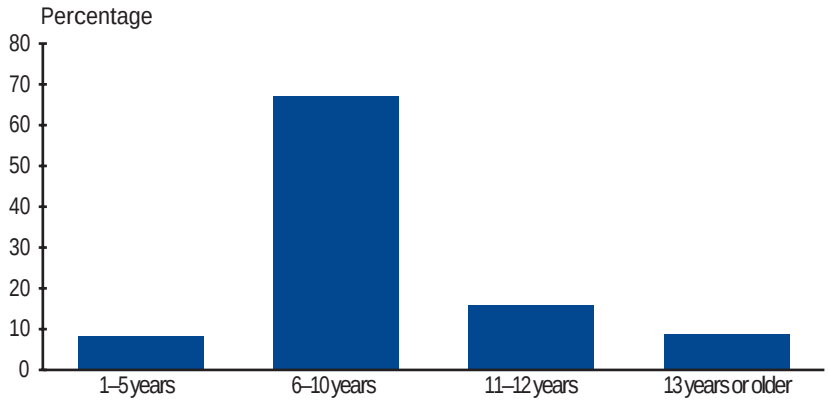
Prevalence

Alcohol

First tastes of alcohol in early and middle childhood

Most children in the Dunedin Multidisciplinary Health and Development Study remembered having their first taste of alcohol when they were about seven years old (Casswell 1996). This was typically a sip of alcohol given to them at home by their father. The Christchurch Health and Development Study identified similar trends, with most children saying they received their first drink of alcohol sometime between the ages of six and 10 years. It was uncommon for children in the Christchurch study to have their first drink either before six years of age or after 12 years of age (Fergusson et al 1994b).

Figure 8.1: Age when Christchurch 15-year-olds had their first sip or drink of alcohol



Source of data:
Christchurch Health and Development Study, Fergusson et al 1994b.

When assessed in 1981 at age nine, over 90 percent of the children in the Dunedin study had tasted alcohol. Again, this was usually only a sip taken from someone else's glass (Casswell 1996). One in four of the nine-year-olds (25 percent) said they received a sip or their own glass of alcohol about once every month. Just over one in 20 (6 percent) said they had a drink of alcohol every week.

More recent surveys have asked young people to identify when they had their first full glass of alcohol, rather than their first sip or taste. Findings suggest that the average age when New Zealand children have their first full drink of alcohol is likely to be about 12–13 years old (Business Research Centre 1997; Children's Research Unit 1994).

Drinking frequency

In assessments completed in 1992, the Christchurch Health and Development Study found that most 15-year-olds (73 percent) had consumed alcohol either very rarely (none or 1–2 occasions in the last year) or infrequently (more than 1–2 occasions in the last year but less than once a month). A smaller group, 7 percent, reported having a drink of alcohol at least once every week over the past year (Fergusson et al 1994a).

Table 8.1: Number of drinking occasions experienced by Christchurch 15-year-olds in the previous year

Occasions	*Number*	*Percent*
None	274	28.4
1–2 occasions	231	23.9
Less than one a month	197	20.4
At least one a month	198	20.5
At least one a week	65	6.7

Source:
Christchurch Health and Development Study, Fergusson et al 1994a.

In a 1992 study of patterns of alcohol consumption in a sample of 4662 Auckland people, 76 percent of 14–15-year-old boys and 61 percent of 14–15-year-old girls reported drinking alcohol in the last 12 months. In the 18–19 year age group, a much higher proportion of respondents – over 90 percent of males and over 80 percent of females – were drinkers (Wyllie et al 1993).

More recent surveys in Auckland suggest that the proportion of teenagers who drink has declined in the three years from 1994 to 1996, with over 80 percent of 14–19-year-olds drinking alcohol in 1994 but only about 66 percent doing so in 1996. However, these studies also found that the 14–19-year-olds who were drinkers in 1996 were consuming greater quantities of absolute alcohol during a typical drinking occasion than the 14–19-year-olds who were drinkers in 1994. In addition, the 14–19-year-old drinkers in 1996 were more likely to report a greater number of occasions when they felt drunk and a greater number of problems associated with their own drinking (Alcohol and Public Health Research Unit 1998).

Amounts consumed at drinking sessions

Fifteen-year-olds in the Dunedin Multidisciplinary Health and Development Study reported consuming the equivalent of about two to three cans of beer on average in each drinking session (Casswell 1996).

When asked to identify the largest amount of alcohol they had consumed at any drinking session in the last three months, 12 percent of the 15-year-olds in the Christchurch Health and Development Study who were drinkers recalled drinking more than 90 millilitres of pure alcohol – the equivalent of three standard-sized bottles of beer (Fergusson et al 1994a).

In the period from age nine to age 15, boys in the Dunedin study usually consumed much the same amounts of alcohol as the girls during a drinking occasion. It was not until 16 years of age that boys started drinking markedly larger amounts of alcohol than girls (Casswell 1996). In addition, 68 percent of the 15-year-olds in the Dunedin study thought they would definitely or probably get drunk in the future.

Survey data from Auckland in 1992 confirms that 16 is the age when boys generally begin to consume significantly larger quantities of alcohol during a typical drinking occasion. The greatest volumes of alcohol per typical drinking occasion were consumed by young men and women in the 18–19 and 20–24-year age groups (Wyllie et al 1993).

Problems associated with alcohol use

Self-reported problems

About one in five of the 15-year-olds in the Christchurch Health and Development Study who drank alcohol reported experiencing some kind of alcohol-related problem in the past year. Eighteen percent of drinkers reported physical problems (that is, hangovers, vomiting, passing out) and 7 percent of drinkers reported social problems (that is, behaving in socially embarrassing or inappropriate ways, or behaving aggressively).

In a 1997 study of over 500 adolescents aged 14–18 years commissioned by the Alcohol Advisory Council of New Zealand (ALAC), nearly half the respondents reported sometimes vomiting after drinking and a third reported episodes of memory loss associated with heavy alcohol consumption. A third also reported falling over or hurting themselves as a result of drinking, while one in eight indicated that they had got into a sexual situation they were not happy with while drinking (Alcohol Advisory Council of New Zealand 1997).

Alcohol dependence/abuse

The Christchurch Health and Development Study assessed the proportion of young people who appeared to be drinking in ways that conformed to standard international diagnostic criteria for alcohol abuse. The study concluded that 5 percent of 15-year-olds met criteria for alcohol abuse (Fergusson et al 1994a).

Results from the Dunedin Multidisciplinary Health and Development Study for age 18 years suggest that 10 percent of 18-year-olds fulfilled the criteria for alcohol dependence (Feehan et al 1994).

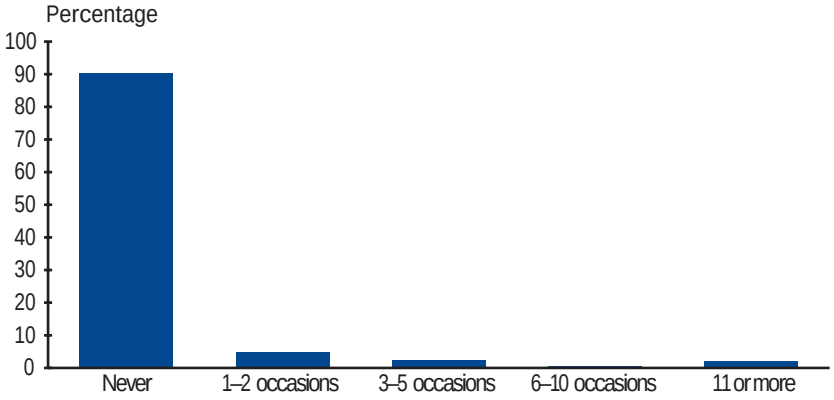
Prevalence of cannabis use

New Zealand studies suggest that cannabis use becomes increasingly prevalent in young people from about the ages of 14 or 15 years. When assessed in 1985 at age 13, only about one in a hundred of the young people in the Dunedin Multidisciplinary Health and Development Study reported ever having used cannabis. However, two years later, at age 15, about one in seven (15 percent) had used cannabis at least once in the last 12 months. By age 18, 44 percent reported using cannabis in the last year. By age 21 this figure had increased to 52 percent (Poulton et al 1997).

In the Christchurch Health and Development Study, assessments of the sample at 15 years of age in 1992 revealed that 9.8 percent had used cannabis at least once before the age of 15 (Fergusson et al 1993b). Nearly half the cannabis users (49 percent) said they had tried cannabis only once or twice. One in four (23 percent) of the users said they had used cannabis on more than 10 occasions. Seven of the 949 children in the study (just under 1 percent) said they had used cannabis on more than 50 different occasions before age 15 years of age.

When assessed again a year later at age 16, one in five (20 percent) of the Christchurch sample reported using cannabis in the previous year (Fergusson and Horwood 1997).

Figure 8.2: Number of occasions Christchurch children had used cannabis by age 13–15 years



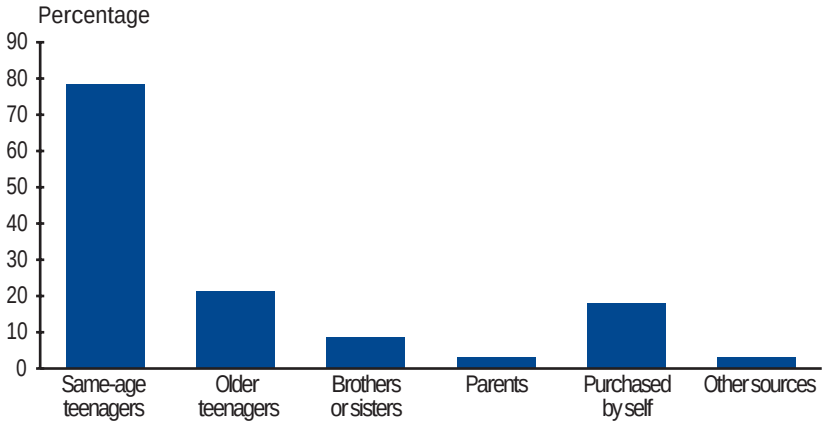
Source of data:
Christchurch Health and Development Study, Fergusson et al 1994a.

These trends are similar to those identified in a survey of drug use in a sample of 5126 Auckland and Bay of Plenty 15–45-year-olds, including over 600 Māori and Pacific respondents, undertaken in 1990 by the Alcohol and Public Health Research Unit (Black and Casswell 1993). Here a quarter of the 556 15–17-year-olds surveyed had tried cannabis. Across the sample as a whole, cannabis use was most common in the 18–19 and 20–24 age groups, with young men more likely than young women to be users.[1]

In the Christchurch study it was relatively rare for children to purchase their own cannabis (Figure 8.3). Between 13 and 15 years of age, their most common source of cannabis was other teenagers the same age as them or older (Fergusson et al 1993a).

1 In keeping with the wishes of the Māori and Pacific communities consulted during the development of the study, the results of the study were not analysed by ethnic group.

Figure 8.3: Christchurch children's sources of cannabis at age 13–15 years



Source of data:
Christchurch Health and Development Study, Fergusson et al 1993b. Figures sum to over 100 percent because some children used more than one cannabis source.

Just under one in 10 of the 15-year-old Christchurch cannabis users (7.8 percent) reported using cannabis at school.

Problems associated with cannabis use

User reports

The Christchurch 15-year-olds who used cannabis described mainly positive rather than negative experiences after using the drug. Over half the users (58 percent) said they would definitely or probably use cannabis again. One in five (21 percent) said they definitely would not (Fergusson et al 1993a).

Among 18-year-olds in the Dunedin Dunedin Multidisciplinary Health and Development Study the most commonly reported problems were: use where there was a risk of injury, using more cannabis than they intended, the quantity of time spent obtaining and using cannabis, recovering from the drug's effects, and tolerance to the drug's effects (McGee 1993).

Cannabis dependence

Estimates of the prevalence of cannabis abuse or dependence are not available for New Zealand teenagers under 15 years old.

In the Dunedin study, 6.6 percent of the 18-year-olds, mainly males (8.6 percent), met standardised psychiatric diagnostic criteria for cannabis dependence. This rate increased to 9.6 percent by 21 years of age. Two-thirds of those who were cannabis dependent were also alcohol dependent (Poulton et al 1997).

At 18 years of age, 7.3 percent of the Christchurch sample met criteria for a diagnosis of cannabis abuse or dependence (Fergusson and Horwood 1997).

Prevalence of use of other substances

Only a small amount of reliable survey information is available on young New Zealanders' use of other psychoactive substances such as inhalants and opioids.

Inhalants

In assessments undertaken in 1985, the Dunedin study found that 1.2 percent of 13-year-old girls and 2.5 percent of 13-year-old boys had used inhalants at some time in their life (mainly glue and petrol). By age 15, 5.8 percent of girls and 3.2 percent of boys had used inhalants in the last 12 months.

In a 1990 survey of drug use among Auckland and Bay of Plenty 15–45-year-olds, solvent use was most prevalent among teenagers, with two percent of 15–17-year-olds reporting that they had tried solvents or inhalants (Black and Casswell 1993).

Opiates and cocaine

Less than a third of 1 percent of 13-year-olds in the Dunedin Multidisciplinary Health and Development Study reported having tried drugs such as opiates or cocaine at some time in their life. However, by age 15 years, 2.6 percent of girls and 3.4 percent of boys had tried one or more of these kinds of drugs some time in the last 12 months.

Use of drugs such as opiates or cocaine at age 15 does not mean that young people necessarily will go on to use these same drugs throughout adolescence. Of those 15-year-olds in the Dunedin study who had tried drugs like opiates or cocaine at age 15 years, 61 percent had not recently used these drugs when surveyed again at 18 years of age.

Problems associated with using other substances

There are no known community studies that clearly identify the level of health or social problems that New Zealand young people experience as a result of using illicit substances before the age of 15 years. However, it is well accepted that persistent drug use or drug dependence in adulthood is likely to be accompanied by a range of psychological problems including depression, anxiety and personality disorders (Chetwynd 1997).

Changes over time

Alcohol

The use of different survey questions and sampling methods makes it difficult to compare results from the Dunedin Multidisciplinary Health and Development Study and the Christchurch Health and Development Study with those of other New Zealand surveys of teenage drinking. However, generally it seems that levels of childhood and early teenage exposure to alcohol have remained broadly similar over the last two decades. A 1977 survey found 90 percent of Form Two students (usual age 12 years) and 95 percent of Form Four students (usual age 14 years) had tasted or drunk

alcohol (Routledge and Taylor 1981). A 1985 survey of 374 Hastings fifth formers (usual age 15 years) found that 16 percent classified themselves as non-drinkers (Cullen 1985)

Cannabis and other substances

There is a lack of reliable data on the prevalence of cannabis and other substance use among New Zealand young people. This makes it difficult to identify if teenagers are currently using these substances in greater quantities, or at an earlier age, than the teenagers assessed by the Dunedin and Christchurch studies in the 1980s and early 1990s.

International comparisons

Comparing rates of alcohol, cannabis and other substance use between countries is generally very difficult. Reasons for this include differences in survey methodology, sample characteristics and assessment periods.

Alcohol

A nationally representative survey of United States adults found that just under 12 percent of drinkers had their first drink at age 15 or younger (Chou and Pickering 1992). The average age of having a first drink for the 18–29-year-olds in the survey was 17 years. Given recent survey research indicating that New Zealand young people are having their first full drink of alcohol on average at around 12 or 13 years of age, this suggests New Zealand teenagers begin to drink alcohol somewhat earlier than their North American counterparts (Children's Research Unit 1994; Business Research Centre 1997).

The same United States study found that the earlier in their teens people had started to drink, the more likely they were to experience symptoms of alcohol dependence at some time in their life. Compared to those who started drinking between ages 15 and 20, those who started drinking before they were 15 years old were significantly more likely to report subsequent symptoms of alcohol dependence (Chou and Pickering 1992).

Cannabis and other substances

The prevalence estimates for early teenage cannabis and other substance use identified in the Dunedin Multidisciplinary Health and Development Study and the Christchurch Health and Development Study are similar to those found in North American community studies. In Ontario, Canada, a 1983 survey found that 13 percent of 14–16-year-old boys and 18 percent of 14–16-year-old girls had used marijuana (Boyle and Offord 1986). Five percent of the boys and 7 percent of the girls had tried hard drugs.

Comparing findings from their 1990 survey of drug use in the Auckland and Bay of Plenty regions with those from similar overseas studies, Black and Casswell (1993) concluded that the lifetime use of cannabis among New Zealand 17–18-year-olds (39 percent) was very similar to that of Australian (39 percent) and the United States (44 percent) 17–18 years. However, cocaine use in this age group was much higher in the United States (10 percent) than in New Zealand (under 1

percent), and the reported use of solvents/inhalants was considerably greater in both Australia (23 percent) and the United States (19 percent) compared to New Zealand (2 percent). Rates of reported lifetime use of the hallucinogens (for example, LSD) were similar in the United States (10 percent) and New Zealand (8 percent).

Risk factors

Common factors

The Christchurch and Dunedin studies corroborate overseas studies indicating that teenagers who engage in one kind of problem behaviour, such as daily cigarette smoking, are also more likely to engage in other problem behaviours, such as alcohol misuse, cannabis use and early or unprotected sexual intercourse (Jessor 1987). Compared to non-problem behaviour teenagers, problem behaviour prone teenagers are more likely to have been exposed to a diverse array of potentially destabilising individual, family, and social circumstances during childhood. Problem behaviour prone teenagers are also more likely to associate with like-minded peers, who tend to help sustain and reinforce a young person's commitment to engaging in problem behaviours (Fergusson et al 1996).

Factors associated with children's alcohol use

Parents' drinking styles

Childrens' patterns of alcohol use during late childhood and early adolescence tend to reflect the drinking styles modelled by adult family members. In the Dunedin Multidisciplinary Health and Development Study, children who remained abstainers in the seven years from age nine to 15 were more likely to have mothers and fathers who drank infrequently or mothers who drank only very small amounts of alcohol (Casswell et al 1991).

Other social factors

In the Dunedin study, young people tended to drink alcohol more often, and in greater quantities, when they drank with their peers in venues away from their family and parents, when they had their own money to spend, and when they purchased alcohol for themselves or had it given to them by other young people (Casswell et al 1991; Connolly et al 1992).

This finding is consistent with observations by some Pacific researchers and commentators that Pacific young people are more likely to misuse alcohol in situations where, for various reasons such as employment or education, they end up living apart from their families and away from the influence of traditional family, community or religious authority structures (PHC 1994; Sector Analysis 1997).

Other broader social factors thought to play a hand in shaping patterns of alcohol consumption among young people include media images (such as advertising), server intervention practices and licensing laws and their enforcement (Stewart 1997).

Quantities of alcohol consumed

The 15-year-olds in the Christchurch Health and Development Study who drank more often than their peers, or in greater quantities, were more likely to report experiencing alcohol-related problems. Compared to those who consumed less than three standard-sized bottles at their biggest drinking session in the last three months, those who consumed more than the equivalent of three standard-sized bottles of beer at their biggest drinking session were seven times more likely to experience alcohol-related problems (Fergusson et al 1994a).

Age of first introduction to alcohol

In contrast to children who did not drink alcohol before age 13, children in the Christchurch study who had been introduced to alcohol before six years of age were up to 2.4 times more likely to report frequent, heavy or problem drinking at age 15 (Fergusson et al 1994b). This finding suggests that children who grow up in home environments with permissive attitudes to alcohol, and who are encouraged to sip or drink alcohol at a very early age (that is, under six years old), are perhaps more prone to experience alcohol-related problems by age 15 years.

Early childhood environment

When the Christchurch study compared the features of the abusive or hazardous drinkers at age 16 with those of their non-drinking or non-abusive drinking peers, three factors were found to be significant predictors of abusive or hazardous drinking. One of these was gender (16-year-old boys were more likely than 16-year-old girls to misuse alcohol). Another was being affiliated with other substance using peers at age 15 years. The third was drinking relatively large amounts of alcohol at drinking sessions at age 14 years (Fergusson et al 1995).

A closer analysis of factors associated with drinking large amounts of alcohol at age 14 found that the risk of heavy drinking at this age was highest among children from disadvantaged homes, children who exhibited conduct problems early in childhood, children who were introduced to alcohol before age five, children whose parents reported heavy alcohol consumption, and children who had a number of different adult caregivers (Fergusson et al 1995).

The Dunedin Multidisciplinary Health and Development Study found that children from lower socioeconomic status families were more likely than children from higher socioeconomic status families to drink frequently or in greater quantities by age 15 (Connolly et al 1992).

Use of other substances

In the Christchurch study, 15-year-olds who used alcohol frequently, or consumed large amounts of alcohol at their last drinking session, or reported alcohol related problems, were between six and 18 times more likely to report cannabis use or daily cigarette smoking (Fergusson et al 1994a).

Sexual activity

In the Christchurch study, 15-year-olds who used alcohol frequently or consumed large amounts of alcohol at their last drinking session, or reported alcohol-related problems, were eight to 12 times more likely to report having had sexual intercourse before age 15 (Fergusson et al 1994a).

Similarly, the study found strong correlations between patterns of alcohol misuse in 16-year-olds and reported high rates of early onset sexual intercourse and unprotected sex. Compared to the 16-year-olds who did not misuse alcohol, the 16-year-olds who misused alcohol were 4.5 to 6.9 times more likely to engage in unprotected intercourse (Fergusson and Lynskey 1996).[2]

Depression

In the same study, 15-year-olds who consumed large amounts of alcohol at their last drinking sessions, or reported alcohol-related problems, or who met criteria for alcohol abuse were two to five times more likely to have been depressed in the previous year (Fergusson et al 1994a).

Factors associated with early or high cannabis use

Family and social factors

The Christchurch Health and Development Study found clear differences between the backgrounds of the 16-year-olds who were high cannabis users and the 16-year-olds who were low cannabis users. High cannabis users (that is, those who used cannabis on 10 or more occasions) were more likely to come from socially disadvantaged backgrounds (for example, mother with no formal educational qualifications, semi-skilled or unskilled socioeconomic status families, child in lower 25 percent of IQ distribution by age eight years). They were also more likely to have been exposed to family adversities during childhood (such as high parental conflict, high parental history of offending, high parental history of illicit drug use, exposure to childhood sexual abuse). On top of this, by age 16 years the high cannabis users were more likely to have formed affiliations with delinquent or substance using peers and to report poorer parental attachment and social adjustment difficulties (that is, mood disorder, anxiety disorder, alcohol abuse, illicit substance use, daily smoking, and a history of property or violent offending) (Fergusson and Horwood 1997).

Early history of childhood conduct disorder

Children in the Christchurch study with a history of major conduct problems were 2.8 times more likely to use cannabis before they were 15 years old than children with no history of conduct disorder (Fergusson et al 1993b). On the other hand, the majority of the young people who had conduct problems early in childhood did not go on to use cannabis by age 15. Children prone to early conduct problems tended to come from lower socioeconomic status families and families with a high level of parental discord.

Results from the Dunedin Multidisciplinary Health and Development Study suggest it may be a history of depression, rather than conduct disorder, which makes some young people more prone to use cannabis by age 15 years (Henry et al 1993).

Early cannabis use and later problems in adolescence

The Christchurch study found that early cannabis users (that is, before age 16 years) were more likely to experience a range of problems later in adolescence. These problems included juvenile offending, mental health disorders, leaving high school without qualifications, and unemployment.

2 See also Chapter 9, Sexual and reproductive health.

The study concluded that early cannabis users were more likely to experience these problems largely because of the impact of early childhood social and behavioural circumstances (that is, social disadvantage and an early family life marked by disharmony and poor relationships between and with parents). However, cannabis use before age 16 could exacerbate the negative impact of these childhood circumstances (Fergusson and Horwood 1997).

Risk factors for other substance use

The Dunedin study concluded that tobacco, rather than alcohol, was the major 'gateway drug' to the use of harder drugs in adolescence (Stanton 1996). Young people who regularly smoked cigarettes early in adolescence were more likely than their non-smoking counterparts to try inhalants and other drugs such as opiates. For boys, there was a high correlation between smoking by age 13 and the use of these other substances by age 15.

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