Perspectives on co-morbidity of substance misuse and mental illness among youth

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As in the rest of the Western World,[1] there is evidence of increasing levels of mental illness among young people in New Zealand. In the Dunedin Health and Development Study (DHDS) the prevalence rates for mental illness for the same population were 17.6% at 11 years old, 22% at the age of 15, and 36.6% by the age of 18 years.[2] Similarly in the Christchurch Health and Development Study (CHDS), the prevalence rates of any mental disorder were 24% at 15 years of age, and 35% at 18 years of age.[3] The most common mental disorders for young people are anxiety disorders, depression and conduct disorders. In particular, New Zealand youth seem to show high rates of suicide, particularly among males.[2]

Substance use disorders among youth in New Zealand seem to be largely related to alcohol and cannabis, although other drugs, particularly amphetamines, are also implicated. Almost one third of 14–17 year olds and 52% of Mäori youth aged 14–18 could be defined as heavy drinkers.[4] The CHDS found that 5% of 15-year-olds met the DSM-III R criteria for alcohol abuse[5] while the DHDS found a corresponding rate of 10% among 18-year-olds.[3] The National Drug Survey indicated that 23% of 15- to 17-year-olds had used cannabis in the previous year; a rate which increases to 40% in the 18- to 19-year-old group.[6] The DHDS study found that cannabis dependence increased from 6.6% at the age of 18, to 9.6% at the age of 21.[7] About 10% of cannabis users develop dependency.[8]

Co-morbidity

Substance misuse and mental health disorders are strongly associated. The rates of co-morbidity vary according to the population and methodology of different reports. However, it can reasonably be stated that co-morbidity is common and significant. Conduct problems have long been recognised as associated with substance use and the strong links with emotional problems are now universally accepted. Consistently, reports indicate that affective symptoms predominate in females while conduct problems are more common in males.

Clinicians 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.[9] Substance use 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.[10] In fact, substance use disorders have been reported to distinguish between those who attempt suicide or have repeated attempts and those who only think about it.[11,12]

Young substance users also show higher rates of psychosomatic complaints, relationship problems and social dysfunction. Adolescents with poor coping skills tend to use psychoactive substances to deal with stress[13] and as a means of emotional self regulation. There is also a consistent link between eating disorders (both anorexia and bulimia) and substance use, particularly in relation to alcohol use.[14]

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Studies from inpatient populations seem to indicate that for the majority of cases, co-morbidity is more likely to be between mood disorders and substance use disorders.[15] However, our own data indicate that about two-thirds of inpatient youths with a severe psychiatric disorder (mainly mood disorders and psychotic disorders) have a co-morbid substance abuse disorder according to the DSM IV criteria (Bobier and Swadi, personal communication). Among patients with schizophrenia, Dervaux et al[16] found that 41% of the patients had a lifetime history of substance abuse or dependence, including 30% on a drug other than alcohol. An English study found a rate of 16% in a similar population.[17]

A major risk factor for completed suicide after parasuicide in adolescents is substance misuse

How co-morbidity operates

Co-morbidity can determine aetiology, cause a diagnostic dilemma and may influence the clinical presentation, the course, the treatment strategies and the outcome of both co-morbid conditions.

The complexities of the issue of co-morbidity is best typified by the co-existence of Attention Deficit Hyperactivity Disorder (ADHD) and substance use disorders. The links are well reported,[18,19] but while some studies do not show any evidence to support cause or direction, many do[20] and suggest that ADHD is a risk factor for early initiation into drug use as well as more severe drug use. Drug use was said to improve self image. However, the effect on self image may not be as specific as suggested, as membership of the drug using group may increase self esteem generally in young people who have identity problems. Furthermore, co-morbid disorders may also be related by commonality of precipitating factors. For example, depression and conduct disorder co-exist. Conduct disorder and ADHD co-exist. Conduct disorder and ADHD may both be responsible for induction into substance use. All of these predispose to depression and depression may also be followed by substance misuse.[21]

Treatment of ADHD in the presence of substance use disorder gives a special difficulty. Medication of choice is usually for stimulant drugs, particularly Methylphenidate. Amphetamine related drugs are hazardous because of their potential for misuse although some suggest that there is an unjustified caution about the use of stimulant drugs in young people with ADHD and co-morbid substance misuse.[22] Clonidine, although less effective than methylphenidate, is used as a substitute. Tricyclic antidepressants are said to be effective and there should be greater emphasis on non-pharmacological means such as individual and family therapy, and behavioural therapy. Recent reports indicate that Adderall[23] and Modafinil[24] show significant promise as alternatives too.

Clinical experience demonstrates the complexity of that relationship and the influences of co-morbidity. Psychiatric problems may be the result of substance misuse particularly in the case of CNS depressants. On the other hand, many adolescents with psychopathology turn to psychoactive substances for psychological relief. Furthermore, worsening of psychotic symptoms, poor response to antipsychotics and prolonged psychotic episodes among patients with co-morbid cannabis or amphetamine use are frequently encountered. In fact, heavy cannabis use can lead to psychotic episodes and aggravates the symptoms and course of schizophrenia.[25,26]

At the first point of contact

Given the importance of co-morbidity and its implications, early detection is

paramount. At the first point of contact it is essential to determine whether substance use is problematic or not and whether any signs of psychiatric disorder are present. This will in turn determine the need for further detailed and/or specialist assessment. The use of screening instruments can be very useful in this respect. It is recommended that the SMAQ is used as a screening instrument for substance misuse and the SDQ for psychiatric disorder.

Substance Misuse Assessment Questionnaire (SMAQ)

The Substance Misuse Assessment Questionnaire (SMAQ)[27] is a short questionnaire (nine yes/no items) which helps child welfare workers identify adolescents who need a detailed multidisciplinary assessment (see Appendix 1). Psychometric evaluation in a community-based British population of substance misusing adolescents[28] suggests that a total of five 'yes' answers or more is a strong indication for referral. Other more detailed screening instruments tend to be rather long and require some specialist training beyond what is available for most agencies of first contact in New Zealand.

Strengths and Difficulties Questionnaire (SDQ)

The SDQ is a brief questionnaire (around 30 items) that can be administered by parents and teachers of 4- to 16-year-olds. A self-report version for 11- to 16-year-olds is also available.[29–32] It covers areas of emotional and behavioural difficulties and also enquires about problems in these areas and, if so, asks about resultant distress and social impairment. Further information on the SDQ and copies of the questionnaire in over 40 languages can be obtained free from http:\www. sdqinfo.com.

Clinical management

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 youth. The type of intervention, its emphasis and its outcome depend to a large extent on the result of the assessment.

Zeitlin[21] eloquently outlined the essential elements for management of co-morbid disorders and substance abuse, and indicated that, *'at the very least, must include:*

1. *Systematic mental health appraisal for all accessible substance abusing young people.*
2. *Assessment for Comorbid Disorder irrespective of drug use.*
3. *Active treatment of the comorbid condition 'in its own right'.*
4. *Identification of positive attributes that are not related to illness or substance misuse.*
5. *Family support therapy to give structured environment.*
6. *Risk Assessment for future physical and mental health from the combined impact of comorbidity'.*

Service implications

While mental illness in youth shows a lot of similarities to that in adults, many aspects of substance misuse in young people are significantly different from those in adults. An adult model of intervention is therefore unsuitable. The aetiological factors, the patterns of use, the context of use, and the therapeutic approaches can be different.

1. Dependence is unusual among youth. Detox is seldom necessary.
2. Youth are more involved in binges and are usually affected by the consequences of acute intoxication rather than chronic use.
3. Motivation regarding treatment is not common among youths.
4. Youths are still in the process of shaping their values and attitudes and have different coping strategies from adults.
5. Rehabilitation is often essential for youths as substance use would have seriously affected 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 and thus cannot be met with existing adult-oriented services. Existing services are at a disadvantage in terms of what they can offer for treatment and need to be reviewed. Given the complexities outlined above, the need for specialist services for young people with co-morbidity cannot be over-emphasised.

Appendix 1. Substance Misuse in Adolescence Questionnaire (SMAQ)

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. Is 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?

References

1. Rutter and Smith, 1995.
2. Fergusson D, Horwood J, and Lynskey M. Children and adolescents. In: PM Ellis and SCD Collings (eds). Mental health in New Zealand from a public health perspective. Wellington: Ministry of Health, 1997.
3. Feehan M, McGee R, Nada Raja S, et al. DSM-III-R disorders in New Zealand 18-year-olds. Australian and New Zealand Journal of Psychiatry, 1994; 28:87–89.
4. Kalafatelis E, Fryer M. Youth and Alcohol. ALAC Youth Drinking Monitor. Wellington: BRC Marketing and Social Research for The Alcohol Advisory Council of New Zealand, 2001.
5. Fergusson D, Lynskey M and Horwood J. Alcohol consumption and associated problems in a birth cohort of 15-year-olds. New Zealand Medical Journal, 1994; 107:167–170.
6. Field A and Casswell S. 1999. Drugs in New Zealand, National Survey, 1998. Auckland: Alcohol and Public Health Research Unit.
7. Poulton R, Brooke M, Moffitt T, et al. Prevalence and correlates of cannabis use and dependence in young New Zealanders, New Zealand Medical Journal, 1997; 110:68–70.
8. Fergusson D and Horwood J. Cannabis use and dependence in a New Zealand birth cohort. New Zealand Medical Journal, 2000; 113:225–242.
9. Swadi H. Psychiatric symptoms in drug abusing adolescents. Drug and Alcohol Dependence, 1992; 31:77–83.
10. Hawton K, Fagg J, Platt S and Hawkins M. Factors associated with suicide after parasuicide in young people. British Medical Journal, 1993; 306:1641–1644.
11. Gould M, King R, Greenwald S, et al. Psychopathology associated with suicidal ideation and attempts among children and adolescents. Journal of the American Academy of Child Adolescent Psychiatry, 1988; 37:915–923.
12. Walrath C, Mandell D, Liao Q et al. Suicide attempts in the 'comprehensive community mental health services for children and their families' program. Journal of the American Academy of Child Adolescent Psychiatry, 2001; 40:1197–205.
13. Labouvie E. Alcohol and marijuana use in relation to adolescent stress, International Journal of the Addictions, 1986; 21:333– 345.
14. Lavik N, Clausen S and Pedersen W. Eating behaviour, drug use, psychopathology and parental bonding in adolescents in Norway. Acta Psychiatrica Scandanavica, 1991; 84:387–390.
15. Grilo CM, Becker DF, Fehon DC et al. Conduct disorder, substance use disorders, and coexisting conduct and substance use disorders in adolescent. American Journal of Psychiatry, 1996; 153:S914–S920.
16. Dervaux A, Bayle F-J, Laqueille X et al. Is substance abuse in schizophrenia related to impulsivity, sensation seeking or anhedonia? American Journal of Psychiatry, 2001; 158:492–494.
17. Duke PJ, Pantelis C, McPhillips MA et al. Comorbid non-alcohol substance misuse among people with schizophrenia. Epidemiological study in central London. British Journal of Psychiatry, 2001; 179:509–513.
18. Biederman J, Wilens T, Mick E et al. Is ADHD a risk factor for psychoactive substance use disorders/Findings from a 4-year prospective follow-up study. Journal of the American Academy of Child Adolescent Psychiatry, 1997; 36:21–29.
19. Milberger S, Biederman J, Faraone SV et al. Associations between attention deficit hyperactivity disorder and psychoactive substance use disorders. American Journal on Addictions, 1997; 6:318–329.
20. Horner BR and Scheibe KE. Prevalence and implications of attention deficit hyperactivity disorder among adolescents in treatment for substance misuse. Journal of the American Academy of Child Adolescent Psychiatry, 1997; 36:30–36.
21. Zeitlin H. Psychiatric comorbidity with substance misuse in children and teenagers. Drug and Alcohol Dependence, 1999; 55:225–234.
22. Spier
23. Grcevich S, Rowane W, Marcellino B and Sullivan-Hurst, S. Retrospective comparison of Adderall and methylphenidate in the treatment of attention deficit hyperactivity disorder, Journal of Child and Adolescent Psychopharmacology, 2001; 11:35–41.
24. Taylor F and Russo J. Efficacy of modafinil compared to dextroamphetamine for the treatment of attention deficit hyperactivity disorder in adults. Journal of Child and Adolescent Psychopharmacology, 2001; 10:311–320.
25. Hall W and Degenhardt L. Cannabis use and psychosis: a review of clinical and epidemiological evidence. Australian and New Zealand Journal of Psychiatry, 2000; 34:26–34.
26. Johns A. Psychiatric effects of cannabis. British Journal of Psychiatry, 2001; 178:116–122.
27. Swadi H. Adolescent Substance Misuse Questionnaire (SMAQ): Pilot Study. Child Psychology and Psychiatry Review, 1997; 2:63–69.
28. Willner P. Further validation and development of a screening instrument for the assessment of substance misuse in adolescents. Addiction, 2000; 95:1691–1698.
29. Goodman R. The Strengths and Difficulties Questionnaire: a research note. Journal of Child Psychology and Psychiatry, 1997; 38:581–586.
30. Goodman R. The extended version of the Strengths and Difficulties Questionnaire as a guide to child psychiatric caseness and consequent burden. Journal of Child Psychology and Psychiatry, 1999; 40:791–801.
31. Goodman R. Psychometric properties of the strengths and difficulties questionnaire. Journal of the American Academy of Child Adolescent Psychiatry, 2001; 40:1337–1145.
32. Goodman R, Meltzer H and Bailey V. The Strengths and Difficulties Questionnaire: a pilot study on the validity of the self-report version. European Child and Adolescent Psychiatry, 1998; 7: 125–130.