Responding to comorbid mental disorders and substance use disorders

Maree Teesson and Heather Proudfoot

Comorbidity of mental disorders and substance use disorders is common. Furthermore, comorbidity is often associated with poor treatment outcome, severe illness course, and high service utilisation. This presents a significant challenge with respect to the identification, prevention and management of people with comorbid disorders. The unmet need for treatment within this group is considerable, the lack of research is unacceptable and the person with comorbid mental disorders and substance use disorders is often left to fall in the gap between the relevant services.

The issue of comorbidity between mental disorders and substance use disorders is demanding attention from researchers, clinicians and policy makers. Despite this demand there is very little guidance to date regarding best practice for individuals with more than one disorder. Controlled trials of treatment for comorbid disorders are urgently needed, so that we can deliver services to this population on a sound evidence base. Given the frequency and the impact of comorbidity on both individuals and the community, training of health practitioners should routinely incorporate what we already know about the assessment and management of co-occurring mental disorders and substance use.

The questions are clear:

1. How common is comorbidity? Which are the most common and most disabling comorbidities from both an individual and public health perspective using the epidemiological evidence?

2. How would you prevent and treat comorbidity? What is the research evidence on the prevention and treatment of the most common and most disabling comorbidities?

3. What are the implications of comorbidity for service delivery? How do we improve our response to comorbidity and what is current good practice in treatment and service system models?

The following chapters aim to assist with answers to these important questions.

How common is comorbidity?

The US Epidemiological Catchment Area study (ECA) was the first large-scale epidemiological study to collect information on comorbidity in the community. The study was conducted between 1980 and 1984 on approximately 20,000 respondents aged 18 years and older in the US. Among those respondents with a lifetime alcohol use disorder (alcohol abuse or dependence) 37% had at least one
other mental disorder and 22% had another drug disorder (Regier et al., 1990). Highest levels of comorbidity were found for those with a lifetime history of any drug disorder other than alcohol; with 53% with comorbid mental disorders and 47% with comorbid alcohol disorders. Conversely, among individuals with any lifetime mental disorder, 29% had some addictive disorder — 22% had a lifetime history of an alcohol use disorder and 15% had a lifetime history of a drug use disorder. Highest rates of substance use disorders were found amongst those with an antisocial personality disorder (84%) and schizophrenia (47%). Lesser but still substantial rates of substance abuse disorders were also found amongst those with affective disorders (32%) and anxiety disorders (24%).

The more recent National Comorbidity Survey (NCS) was undertaken between 1990 and 1992 to examine the extent of comorbidity between substance use and non-substance use disorders in the US population (Kessler et al., 1994). The NCS was conducted on approximately 8,000 respondents aged between 15 and 54 years. This study measured both lifetime and current prevalences of mental disorders. Lifetime comorbidities were found to be comparable to those found in the ECA. The prevalence of any current (12 month) diagnosis was 29.5% (Kessler et al., 1994). Among those with a 12 month diagnosis of any substance use disorder, 36% had at least one anxiety disorder whilst 25% had at least one affective disorder. Among those with a 12 month diagnosis of any mental disorder, 15% had at least one co-occurring substance use disorder (Kessler et al., 1996).

**Australian National Survey of Mental Health and Wellbeing (NSMHWB)**

In 1997, the Australian Bureau of Statistics was funded by the Australian Government to undertake the NSMHWB, a survey of the mental health of the Australian adult population. Until this survey Australia was reliant on US studies for epidemiological data on mental health, substance use disorders and comorbidity. The survey provides the first national Australian data on the prevalence and patterns of mental disorders among Australian men and women, highlighting the extent of comorbidity in the general population. It was conducted on a nationally representative sample of 10,641 Australians and designed to answer three main questions: How many Australians have which mental disorders? How disabled are they by these disorders and what services have they used for these disorders? A modified version of the Composite International Diagnostic Interview (CIDI, WHO, 1997) identified the most common mental disorders (namely, anxiety, affective and substance use disorders) using the two major psychiatric classification systems, DSM-IV and ICD-10. The survey achieved a high response rate — 78% of eligible adults aged 18 and over, completed the survey interview and very few who agreed to begin the interview withdrew. Results of the survey were weighted to ensure that the estimates were representative of the total adult population (Henderson, Andrews, & Hall, 2000).
In the Australian mental health survey, about 18% of the respondents (aged 18–90 years) met criteria for a DSM-IV mental disorder in the past 12 months. This is somewhat lower than the NCS figure of 29.5%. This difference may be due to the age groups covered (younger ages in the NCS); the omission of certain disorders from the NSMHWB (in particular Antisocial Personality Disorder and Specific Phobias); and the use of DSM-IV diagnoses in the NSMHWB and DSM-III-R in the NCS.

Results of the survey show a considerable degree of comorbidity in substance use disorders and other mental health (Teesson, Hall, Lynskey, & Degenhardt, 2000). About one in four persons with an anxiety, affective or substance use disorder also had at least one other mental disorder. This meant that they had two or more different classes of disorder, such as an anxiety and affective disorder, or an anxiety and a substance use disorder. A small proportion of men (0.8%) and women (0.8%) had all three types of disorder (i.e. an anxiety, affective and substance use disorder) (Andrews, Hall, Teesson, & Henderson, 1999).

Figures 1 and 2 summarise the prevalence and comorbidity data found in the survey. Among those individuals with mental disorders, marginally more women than men had at least one other comorbid mental disorder (28% of women, as against 24% of men with any of these mental disorders). The patterns of comorbidity differed between men and women reflecting the differences in prevalence within the sexes for the individual disorders. Among women, affective and anxiety disorders most often occurred together, accounting for three quarters of women who had more than one mental disorder. Among men, comorbid disorders more often involved an anxiety or an affective disorder in combination with a substance use disorder. These combinations of disorders affected two thirds of men who had more than one mental disorder.

Figure 1: Prevalence (%) of single and comorbid affective, anxiety and substance use disorders amongst Australian males in the past year
The National Survey of Mental Health and Wellbeing included a low prevalence study of psychotic disorders. This study demonstrated that drug and alcohol use disorders were highly prevalent in those with psychotic illnesses. Nicotine was the most commonly used drug in this sample with 67% using nicotine in the previous 12 months. Lifetime diagnoses of alcohol use disorder were found in 30% of the sample and cannabis use disorder in 25%. Jablensky and co-workers (2000) also looked at a sample of people with psychoses who were marginalised or homeless and not seen by mainstream services. They found more than double the levels of comorbid substance abuse, which contributes to the intensification of psychotic symptoms found in this group.

The high rates of comorbidity have a number of implications for treatment and management. Mental disorders complicated by alcohol and other drug use disorders, and vice versa, have been recognised as having a poorer prognosis than those without such comorbid disorders. They are also more likely to become chronic and disabling, and result in greater service utilisation.

**Figure 2: Prevalence (%) of single and comorbid affective, anxiety and substance use disorders amongst Australian females in the past year**

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Single</th>
<th>Comorbid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>7.3</td>
<td>0.8</td>
</tr>
<tr>
<td>Affective</td>
<td>3.6</td>
<td>0.3</td>
</tr>
<tr>
<td>Substance use</td>
<td>2.4</td>
<td>0.9</td>
</tr>
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The recent WHO Burden of Disease Report estimates that mental health and drug and alcohol contribute 20% to the burden of...
disease in society (Murray & Lopez, 1996). Mental disorders are the third leading cause of burden in the developed countries after cardiovascular disease and neoplasms. Within the mental disorders, anxiety and depression account for 56% of the overall burden and substance use disorders account for 23%.

In all, 0.4% of the gross domestic product is spent on mental health and drug and alcohol in Australia. This is half of what Canada, the UK and New Zealand spend. We currently spend a considerable proportion of our health budget on people with chronic long-term disorders. While we have evidence that treatment for mental disorders can be effective (Issakidis, Sanderson, Teesson, Johnston, & Buhrich, 1999), there are substantial numbers of people disabled by mental disorders who do not get treatment and who also may benefit. Importantly, these disorders are amenable to care.

The epidemiology also demonstrates that comorbidity is of particular concern for young adults aged 15–24 years. The recent Australian burden of disease and injury study found that nine out of the ten leading causes of burden in young males, and eight out of ten leading causes in young females were substance use disorders or mental disorders (Table 1). Thus, apart from the burden resulting from road traffic accidents (and asthma in females), the disease burden in this group is the result of alcohol dependence, suicide, bipolar affective disorder, heroin dependence, schizophrenia, depression, social phobia, borderline personality disorder, generalised anxiety disorder and eating disorders (Mathers & Vos, 1999). Comorbidity of these disorders is high with over 50% having comorbid disorders.

Table 1: Ten leading causes of burden of disease and injury in 15–24 year olds in Australia in rank order

<table>
<thead>
<tr>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. road traffic accidents</td>
<td>1. depression</td>
</tr>
<tr>
<td>2. alcohol dependence</td>
<td>2. bipolar affective</td>
</tr>
<tr>
<td>3. suicide</td>
<td>3. alcohol dependence</td>
</tr>
<tr>
<td>4. bipolar affective</td>
<td>4. eating disorders</td>
</tr>
<tr>
<td>5. heroin dependence</td>
<td>5. social phobia</td>
</tr>
<tr>
<td>6. schizophrenia</td>
<td>6. heroin</td>
</tr>
<tr>
<td>7. depression</td>
<td>7. asthma</td>
</tr>
<tr>
<td>8. social phobia</td>
<td>8. road traffic accidents</td>
</tr>
<tr>
<td>9. borderline personality</td>
<td>9. schizophrenia</td>
</tr>
<tr>
<td>10. generalised anxiety disorder</td>
<td>10. generalised anxiety disorder</td>
</tr>
</tbody>
</table>

This high concentration of mental illness in the young suggests that early intervention and prevention may assist to reduce the burden of mental disorders and, in particular, those that may arise from pre-existing disorders resulting in comorbidity. Prevention is a crucial component in the breadth of interventions considered in the area of comorbidity. A report from the American Institute of Medicine noted that prevention of mental disorders has a low priority in the health
care agendas of most countries (Mrazek & Haggerty, 1994). The report suggests that a greater emphasis should be placed on prevention in mental health. The authors argue that several factors make this possible. Firstly there has been a substantial growth in the knowledge about both environmental and genetic risk factors for mental disorders and substance use disorders. Secondly, a number of promising models for early intervention now exist.

One prevention opportunity, which is fairly unique to mental health, builds on comorbidity. The large US epidemiological studies identified more than 80% of all severe current psychiatric disorders in the USA among the 13% of the population who have a lifetime history of three or more disorders (Kessler et al, 1994). These results suggest that the prevention of comorbidity (ie. prevention of the first onset of a second disorder) might reduce a proportion of lifetime mental disorders or substance use disorders. Thus the epidemiological data suggests that prevention of comorbidity would reduce a substantial proportion of all lifetime psychiatric disorders and an even greater proportion of ongoing disorders. Yet despite such evidence, comorbidity has been largely ignored in risk factor research.

Although some comorbidities would be difficult to prevent, there are others for which successful prevention is a plausible possibility. An example is substance use disorders that occur secondary to primary phobias. There are a number of clinical trials which highlight this comorbidity, with phobias almost always preceding substance abuse in age of onset. This comorbidity is often conceptualised in terms of self-medication or at least use of alcohol and drugs to manage fear. Based on this work, interventions might be aimed either at curing the phobia before secondary alcohol and drug use begins or at teaching alternative strategies to manage fears. Such interventions may have the potential to reduce a substantial percent of lifetime substance use disorders and an even greater percent of current disorders.

Similarly, prevention programs introduced in childhood and adolescence have shown potential to reduce the onset of disorders on follow-up. Research has shown that prevention of anxiety disorders is a reasonable possibility (e.g. Dadds et al., 1999). Therefore, it is also a possibility that such reduction in anxiety disorders may also result in a reduction in the initiation of substance taking. The Dadds study found that for children who were already highly anxious, the program succeeded in reducing the onset of disorder. However, whether programs can prevent anxiety more broadly is still to be demonstrated.

While prevention is crucial, so too is investing in treatments that work. It is a truism that we benefit from knowing what works. That psychological treatments (undefined) benefit the majority of patients (undefined) is already well established. There are three major types of evidence we must examine (Chambless & Hollon, 1998): Efficacy is proven when clearly specified interventions have been shown to be beneficial in controlled research with a delineated population. A treatment manual or equivalent must be available and used, the results replicated and valid outcome measures and appropriate data analysis conducted. An effective intervention is a specific intervention which, when used under ordinary clinical circumstances, does what it is intended to do. Effectiveness studies answer the question “is the intervention effective in applied clinical settings and, if so, with what patients and under what circumstances?” Finally, cost effectiveness determines the economic benefit of an intervention.
Nathan and Gorman (1998) used findings from replicated randomised controlled trials to show that 38 specific treatments were more efficacious than placebo in 14 psychiatric disorders. However, not all have been demonstrated to be effective, and very few have been trialled with individuals with comorbid disorders.

**What are the implications for service delivery?**

Comorbidity presents substantial treatment problems — standard interventions are complicated or even excluded in individuals with comorbid disorders. On the one hand comorbid substance use disorders can pose difficulties for treatments that are narrowly defined for specific symptoms, or those treatments may have been developed on pure diagnostic groups and therefore of unknown benefit for comorbid individuals. Conversely, anxiety and depression can complicate the treatment of a substance use disorder. Yet the treatment services have to deal with disproportionate numbers of comorbid individuals who are over-represented in treatment settings. Staff are trained within the one discipline and rarely have the skills to recognise, let alone deal with, these more complex presentations.

The challenges outlined in this introduction are those addressed in the following chapters by experts in both the drug and alcohol and mental health fields.

**References**


Introduction to the chapters in the monograph

The definitional issues surrounding comorbidity are in no way trivial. Degenhardt (Australia), Hall (Australia) and Lynskey (USA) provide a discussion of the definitional and methodological issues in the study of comorbidity in the second chapter. This chapter outlines the development of psychiatric diagnostic systems; the definition of what is meant by comorbidity; theories on the causes of comorbidity; and an outline of why comorbidity is important.

Chapter 3 by Andrews, Issakidis & Slade (Australia) is built on the strengths of recent national epidemiological studies in the USA, Australia, The Netherlands and Canada. The authors, from the WHO Research and Training Centre in Mental Health and Substance Abuse, provide an analysis of ‘How common is comorbidity?’ from a whole of population perspective. Most studies examining substance use and mental disorder comorbidity are in treatment settings. These studies provide valuable clinical information for the best estimates of comorbidity for individuals who are receiving treatment for at least one disorder. However, they overestimate the true level of comorbidity in the population because people with comorbid disorders are more likely to seek treatment simply because they have more disorders (Berkson’s bias). An analysis of associated burden and unmet need and comorbidity are addressed in this chapter.

Prevention is a crucial component in the breadth of interventions considered in the area of comorbidity. Dadds and Atkinson (Australia) provide a critical analysis of prevention in chapter four. The prevention of mental disorders has a low priority in the health care agendas of most countries. The Chapter outlines the substantial growth in the knowledge about both environmental and genetic risk factors for mental disorders and substance use disorders. Secondly, a number of promising models for early intervention now exist and are reviewed.

The treatment research is reviewed by Kavanagh (Australia), Mueser (USA) and Baker (Australia) in Chapter 5, and the service delivery implications in Chapter 6 by Proudfoot (Australia), Teesson (Australia), Brewin (UK) and Gournay (UK). The chapter by Kavanagh and colleagues addresses the treatment implications of comorbidity, including the finding that comorbidity is more common in treatment samples than in the general population; assessment issues; evidence for the effectiveness of treatment interventions in persons with comorbid mental health and substance use disorders; and evidence as to whether the presence of comorbidity influences treatment outcomes. Chapter 6 reviews the evidence for service delivery structures and provides a discussion of the organisation of services and the extent to which current service organisation and funding systems address comorbidity. Finally, Chapter 7 by Manns provides the crucial consumer point of view that is often overlooked in research on best practice for mental illness.