Chapter 29: Comorbidity Between Mental and Substance Use Disorders

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Introduction

Comorbidity is when an individual experiences the co-occurrence of problematic substance use and a mental health condition. Dual diagnosis refers to the situation where a person is diagnosed with both a substance use disorder and a mental disorder. Comorbidity has the potential to considerably impair a person's wellbeing, treatment progress, and overall quality of life. It can be challenging to discern the intricacies of this complex relationship as problematic substance use can be the result of a mental disorder (e.g., where an individual uses alcohol or other drugs to cope with mental health symptoms such as distress), or even the catalyst for a mental disorder (e.g., methamphetamine induced psychosis). While outside the scope of this chapter, it is important to recognise the additional possibility of "multimorbidity"; i.e. substance use and mental health disorders may also co-occur with common physical disease (e.g., liver, heart, and metabolic conditions), as well

as intellectual disabilities and cognitive impairment (Bruijnen et al., 2019; Didden et al., 2020; John and Wu, 2020; Monds et al., 2017; Schulte and Hser, 2013).

When a person experiences symptoms of both mental disorder and substance use disorder simultaneously, it can pose challenges for diagnosis and treatment, as well as increase the likelihood of relapse. Therefore, it is crucial for treatment approaches to consider the interplay between these conditions to facilitate long-term recovery and overall well-being.

Prevalence

Amongst people with substance use disorders there is a very high co-occurrence of mental disorders. Some estimates indicate that up to 84% of people receiving treatment for substance use disorder meet diagnostic criteria for a mental disorder (Davis et al., 2023). Additionally, there are very high rates of problematic substance use amongst people with a mental disorder diagnosis. Based on data from the 2007 Australian National Survey of Mental Health and Wellbeing (N=8841) it was found that pre-existing mental disorders were significantly associated with increased risk of developing a substance use disorder specifically for alcohol, cannabis and stimulants (Marel et al., 2019). Rates of comorbidity for common mental disorders include:

- Attention Deficit and Hyperactivity Disorder (ADHD): It is thought that ADHD doubles the risk of substance use disorder and around one quarter of people with substance use disorder have co-occurring ADHD (Young et al., 2021). Lifetime prevalence rates of up to 27.7% substance use disorder have been reported in people with ADHD, with the most reported substance of concern being amphetamines (19.1%) (Anker et al., 2020).
- Anxiety disorders (see Chapter 18): It is thought that up to 12% of people with an anxiety disorder will have a co-occurring substance use disorder in the same 12 month period (Marel et al., 2019), with similar rates of people with a substance use disorder having an anxiety disorder (~12%; (Melchior et al., 2014)).
- Eating disorders (see Chapter 21): The pooled lifetime prevalence of a substance use disorder in an eating disorder population is estimated to be 21.9%, with current prevalence estimated at 7.7% (Bahji et al., 2019).
- Mood disorders (see Chapters 16 and 17): A recent meta-analysis found that alcohol use disorder is the most common comorbid substance use disorder in major depressive disorder, with approximately 20% of people with major depressive disorder having alcohol use disorder, with a higher prevalence rate in males (36%); other substance use disorders were estimated at up to 12% in

major depressive disorder (Hunt et al., 2020). It is thought that up to 50% of people with a bipolar disorder will also experience a substance use disorder in their lifetime (Messer et al., 2017).

- Personality Disorders (see Chapter 22): Up to 50% of people with a personality disorder also have a substance use disorder (Köck and Walter, 2018) and up to 60% of people with a substance use disorder are thought to have a personality disorder (McMain and Ellery, 2008).
- Schizophrenia (see Chapter 15): One recent review indicates that up to 90% of people with schizophrenia will be diagnosed with a substance use disorder in their lifetime including nicotine or 61.5% excluding nicotine (Ayano, 2019).
- Trauma disorders (see Chapter 20): It is estimated that 45% of people with post-traumatic stress disorder (PTSD) also have a substance use disorder (Pietrzak et al., 2011), and between 36-50% of people with substance use disorder also meet diagnostic criteria for PTSD (Gielen et al., 2012).

It is also important to note that many people present to an alcohol and other drugs service with coexisting psychiatric symptoms. Even if not meeting the full diagnostic criteria of a disorder these symptoms can still impact functioning and the treatment of the substance use disorder (Cross et al., 2018).

Models of Illness

There is a range of terminology and classification regarding comorbidity of substance use disorders and mental disorder. Commonly used terms include "comorbidity", "dual diagnosis" and "co-occurring conditions". "Dual diagnosis" remains commonly used within Australia, although there has been a recent shift towards "co-occurring conditions" to reflect the fact that individuals often have multiple co-occurring substance use disorders or mental disorders, and that people often present with symptoms of disorders without meeting the full diagnostic criteria (Marel et al., 2022).

A number of models have been proposed to explain the high rates of co-occurring substance use and mental health conditions, which can be broadly split into three main categories: The Common Factors Hypothesis, the Direct Causal Hypothesis, and Indirect Causal Hypothesis (Marel et al., 2022). Figure 29.1 shows a summary these models.

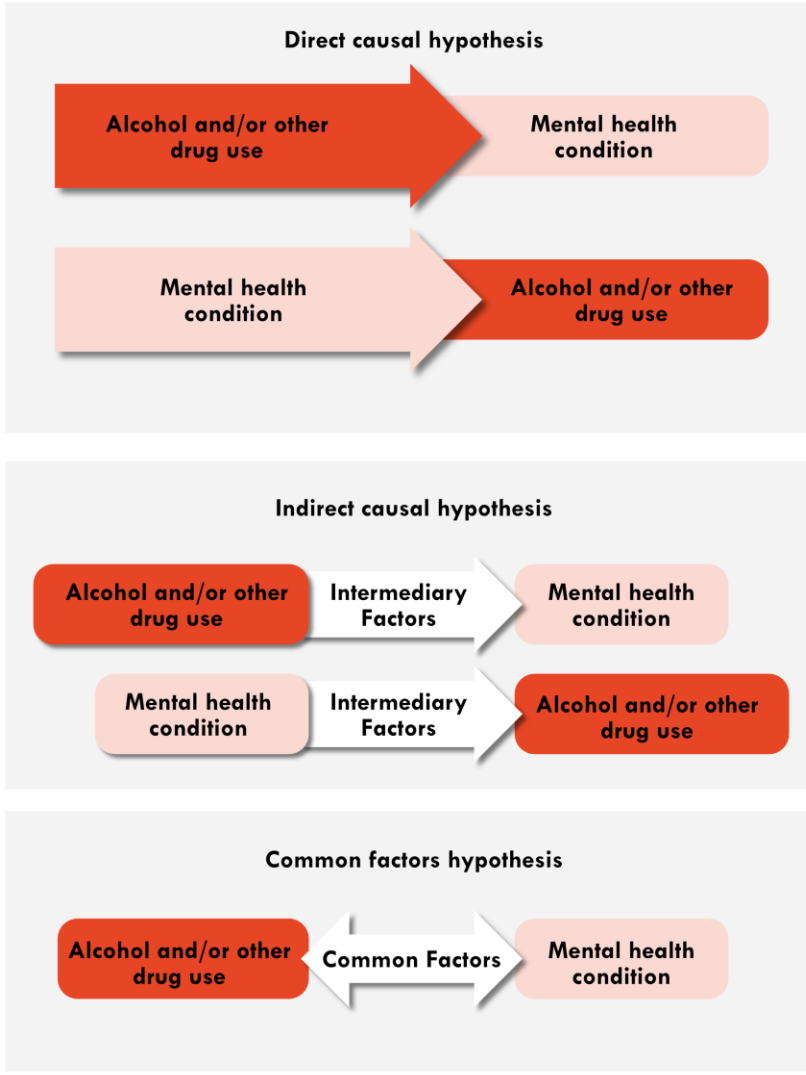

Figure 29.1. Proposed models to explain the high rates of co-occurring substance use and mental health conditions.

Common Factors Hypothesis

Substance use disorders and mental disorders share biological, psychological and social risk factors that may contribute to their co-occurrence. For example, adverse childhood experiences which are stressful and potentially

traumatic, such as abuse, neglect, housing problems or parental mental health issues, are associated with increased rates of developing both substance use disorders and mental disorders in adults (Mersky et al., 2013). Genetic risk factors may also be shared between conditions. A study investigating genetic vulnerabilities in patients with substance use disorders found a strong association between any substance use disorder diagnosis and the polygenic risk score for schizophrenia, suggesting shared polygenic liability (Hartz et al., 2017).

Direct Causal Hypothesis (Mental Health Condition Causes Substance Use Disorder)

Substances are often used to help manage symptoms of mental health conditions, and this behaviour is often referred to as "self-medicating". For example, a person with an underlying anxiety disorder may drink alcohol to help manage their symptoms given the anxiolytic effect of alcohol. Regular use of alcohol to manage anxiety may result in larger amounts being consumed with increasing frequency with the risk of developing tolerance and dependence, ultimately resulting in a substance use disorder in addition to their underlying anxiety disorder.

Substance Use Disorder Causes Mental Health Condition (Secondary Mental Health Condition)

This model theorises that substance use disorders can directly cause the development of mental health conditions. For example, there is increasing evidence that people who experience stimulant-induced psychotic episodes are at increased risk of transitioning to a diagnosis of schizophrenia with ongoing stimulant use (Medhus et al., 2015).

Indirect Causal Hypothesis

This model posits that substance use may precipitate a mental health condition (or vice versa), but that intermediary factors are the cause, rather than a direct biological or psychological cause. For example, a person with a major depressive disorder may develop difficulties maintaining employment due to their depression, and this unemployment may trigger alcohol use (Marel et al., 2022).

Assessment

Assessing people with co-occurring substance use and mental health conditions is challenging as many signs and symptoms of substance intoxication or withdrawal are the same as those for mental health conditions. For example, symptoms of generalised anxiety disorder such as excessive anxiety, restlessness,

irritability, sleep disturbance and muscle tension, are all also symptoms of alcohol withdrawal in the absence of an underlying anxiety disorder. Ideally, patients can have a comprehensive psychiatric assessment during a period of abstinence once withdrawal symptoms have resolved, in order to minimise confounding symptoms. However, given the high risk of comorbidity, it is important not to repeatedly delay assessment and treatment of a patient's mental disorder until their substance use disorder resolves. Detailed assessment of the time course of their conditions, particularly during times of abstinence, can help determine if symptoms of mental disorder persists when patients were not acutely intoxicated or in withdrawal.

Approaches to Treatment

The approaches to treating co-occurring substance use and mental health conditions can be categorised into four methods: sequential treatment, parallel treatment, integrated treatment, and stepped care (Marel et al., 2022).

Sequential Treatment

The individual's primary condition is addressed first (typically, the substance use disorder), followed by treatment of the secondary condition.

Parallel Treatment

Drug and mental health conditions are treated simultaneously, however treatment is provided by separate drug health and mental health services.

Integrated Treatment

Drug and mental health conditions are addressed simultaneously by the same service or health provider. This allows exploration of the complex relationship between the co-occurring conditions.

Stepped Care

A flexible approach. The least intensive and expensive treatment is trialled first and, if ineffective, increased in intensity in a stepwise fashion according to the severity of the individual's condition.

While there is debate regarding the relative merits of each approach, there is a lack of robust research in this area (NSW Ministry of Health, 2015). Integrated approaches are widely endorsed for the treatment of co-occurring conditions due to intuitive advantages in providing holistic care, however further research is required

regarding treatment outcomes with this approach (Glover-Wright et al., 2023; Yule and Kelly, 2019). Clinicians need to weigh the advantages of each approach as it applies to the individual's circumstances.

Patients with comorbid conditions often find it challenging to access treatment, given the complexity of their conditions and the difficulty in determining the specialty or service to take primary responsibility. It is important to regularly assess and screen for co-occurring conditions when patients are receiving treatment for mental health conditions or substance use disorders, and provide a patient-centred and trauma informed approach to their management.

Psychosocial Interventions in Addiction

Psychosocial interventions encompass a range of therapeutic strategies which aim to enhance an individual's physical, psychological and social wellbeing. Interventions can be offered as part of a holistic treatment plan which should be developed in collaboration with the patient in relation to their unique social context (NSW Ministry of Health, 2023).

Brief Intervention

This is a short and often opportunistic counselling strategy. Clinicians raise awareness and provide education on harm reduction for patients who are identified as "at risk" substance users through screening and assessment. A commonly used structure for brief intervention is the "FRAMES" approach (Feedback, Responsibility, Advice, Menu for change, Empathy, Self-efficacy) (NSW Ministry of Health, 2023).

Motivational Interviewing

Motivational Interviewing is a non-confrontational counselling strategy which utilises an individual's own ambivalent attitudes (e.g., towards the negative impacts of substance use) as a tool to elicit motivation for change. The four steps in Motivational Interviewing are engagement, focus, evoking and planning for change (Miller and Rollnick, 2002). Motivational Interviewing has been proven to improve treatment adherence and engagement (DiClemente et al., 2017).

Cognitive Behavioural Therapy

Cognitive behavioural therapy (see Chapter 33) examines the interrelationship between thoughts, emotions and behaviours. Specific techniques are used to challenge unhelpful thoughts and maladaptive behaviours which are

thought to contribute to distress or psychological symptoms of the individual's condition (Graham, 2004). Techniques include cognitive restructuring, goal setting and event scheduling (Graham, 2004).

Relapse Prevention

Relapse prevention strategies are an integral part of treatment planning. Strategies include normalising relapse, planning for high-risk situations, enhancing commitment to change and ensuring social supports (NSW Department of Health, 2008).

Self-Help Groups

Numerous self-help groups are available and may be helpful for individuals with co-occurring conditions. This includes Alcoholics and Narcotics Anonymous, SMART Recovery as well as specific "dual diagnosis" recovery groups (Kelly et al., 2020). There can be diversity in the ethos of groups, and it is important to ensure that groups are conducted in a non-confrontational manner which re-enforces formal treatment messages. Note that the use of medications (e.g. opioid treatment programs) can be controversial in 12-step programs which encourage complete abstinence in recovery (Roth et al., 2014) It is also important to consider whether an individual suffers from social anxiety or impairments which may preclude group participation (Peros et al., 2021).

Mindfulness Training

Mindfulness is a meditative technique which encourages individuals to focus on the present, and allow thoughts and feelings to occur without judgment (Ostafin et al., 2015). This improves awareness of unhelpful patterns of thinking which may feed into cycles of substance use and mental disorder (Carmody, 2015).

Contingency Management

This involves positive re-enforcement of desired behaviour. Examples include providing vouchers in exchange for clean urine samples and treatment adherence (Davis et al., 2016). Contingency management has been proven to be particularly effective in encouraging substance abstinence (Ginley et al., 2021).

Pharmacotherapy in Addiction

Medications can be used in conjunction with psychosocial interventions to support the aims of relapse prevention and/or harm minimization.

Pharmacotherapy options for alcohol use disorder and opioid use disorder are discussed in this section. Note – for information on the use of medications and approaches to managing acute withdrawal syndromes, please refer to the NSW Health Handbook on the Management of Withdrawal from Alcohol and Other Drugs (NSW Ministry of Health, 2022).

Alcohol Use Disorder

In Australia, pharmacotherapies which are TGA-approved for the treatment of moderate to severe alcohol use disorder include acamprosate, naltrexone and disulfiram. The recommended approach is to utilize pharmacotherapies as part of a comprehensive treatment plan, which typically includes psychosocial interventions (Haber and Riordan, 2021).

- Acamprosate: a GABA analogue which is thought to modulate GABA and glutamate pathways associated with withdrawal cravings. Acamprosate is used in maintaining abstinence.
- Naltrexone: an opioid receptor antagonist, which reduces levels of dopamine (and therefore reward mechanisms) associated with alcohol consumption. Indications include maintaining abstinence and reducing excessive consumption ("controlled drinking").
- Disulfiram: interferes with the metabolism of alcohol by inhibiting acetaldehyde dehydrogenase. This results in the accumulation of acetaldehyde, which is responsible for the unpleasant "disulfiram reaction" with exposure to alcohol. This includes flushing, dizziness, nausea and vomiting, palpitations and headaches. Given this potentially severe reaction, disulfiram has a strong deterrent effect and is indicated only for those committed to maintaining abstinence.

Other pharmacotherapies which are used off-label in alcohol use disorder include baclofen and topiramate. Evidence supporting their use is less robust, but they may be considered as second-line treatments where approved pharmacotherapies have failed or are contraindicated. Further information and specific prescribing considerations can be found in Guidelines for the Treatment of Alcohol Problems (Haber and Riordan, 2021).

Opioid Use Disorder

Opioid agonist treatment refers to the provision of long-acting opioid medications as part of a structured intervention, which involves regular review and psychosocial supports. The primary goal of opioid agonist treatment is the reduction of harm associated with illicit opioid dependence. This includes diverse short and

long-term health, economic and social harms for the individual and community (e.g., overdose, disease transmission, psychological instability, homelessness, crime, incarceration). Long-term stabilisation and engagement allow individuals to address comorbid health concerns, as well as implement lifestyle changes and strategies that can help improve control over their substance use. Over time this can lead to safer or reduced patterns of use, improved psychosocial function and health, and ultimately abstinence. (NSW Ministry of Health, 2018)

Approved opioid agonist treatments in Australia for treatment of opioid use disorder include:

- Methadone: full opioid agonist
- Sublingual buprenorphine ("Subutex"): partial opioid agonist
- Sublingual buprenorphine-naloxone ("Suboxone"): partial opioid agonist & opioid antagonist
- Long-acting injectable buprenorphine ("Buvidal" and "Sublocade"): partial opioid agonist, available in weekly and monthly formulations

Some patients may seek opioid antagonist treatment with naltrexone as a relapse prevention strategy. Although this may be cautiously considered in select circumstances, evidence supporting the safety and efficacy of naltrexone treatment interventions is limited and naltrexone is not currently PBS-approved for use in opioid use disorder. See NSW Clinical Guidelines – Treatment of Opioid Dependence (NSW Ministry of Health, 2018) and Clinical Guidelines for Use of Depot Buprenorphine (NSW Ministry of Health, 2019) for further information.

Pharmacotherapy in Co-Occurring Conditions

Medications can be indicated in the treatment of both drug and mental health conditions. Given the complexities of co-occurring presentations, there are several important factors to consider, including medication adherence, abuse potential, polypharmacy and drug interactions. See Comorbidity Guidelines for further considerations in specific co-occurring addiction and psychiatric conditions (Marel et al., 2022).

Conclusion

The management of co-occurring drug health and mental health conditions is challenging. It has been shown that individuals with co-occurring conditions have poorer health outcomes and more severe psychosocial dysfunction than those with separately occurring conditions. This includes greater severity of drug use, poorer

physical health, increased risk of suicide and self-harm, unemployment and homelessness (Marel et al., 2022). The complexity and heterogeneity of co-occurring presentations further make it difficult to draw definitive conclusions about universally effective treatment approaches.

These challenges, while significant, are not absolute barriers to meaningful engagement or progress. The general principles for providing addiction treatments to patients with co-occurring conditions emphasise individualised and comprehensive care. Adopting collaborative, client-centred and trauma-informed approaches can help facilitate engagement, build trust in the therapeutic relationship and optimise treatment outcomes (Marel et al., 2022).

Further Reading

Guidelines on the management of co-occurring alcohol and other drug and mental health conditions in alcohol and other drug treatment settings: **comorbidityguidelines.org.au/pdf/comorbidity-guideline.pdf**

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