

Depression and substance abuse

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Abstract

Several studies have shown a significant association between forms of depression and substance abuse. Different substances have been implicated, alcohol being the most prominent. Individuals with depression are twice as likely to have a substance use disorder. Substance use complicates the prognosis of depression and creates a challenge to treatment planning and compliance. There is an increased risk of suicide when depression occurs in association with substance abuse. A multidisciplinary biopsychosocial approach would most probably give the best results in terms of efficacy and effectiveness of management.

Keywords: depression, substance use disorder, alcohol, prognosis, suicide, biopsychosocial

Introduction

Depression and substance use disorder (SUD) are two major mental health issues that affect many individuals in society. They frequently co-exist. The prognosis of depression is worse and the chances of relapse increased in the context of SUD.

Epidemiology

Studies show a direct link between depression and substance use. Patients with depression are approximately twice as likely to be suffering from SUD. A study by Quello et al. observed that approximately 20-67% of individuals seeking help for their alcohol dependence suffered from at least one previous episode of depression. These figures ranged between 30-40% in cocaine-dependent individuals. In individuals with long-term major depression, 32% had a co-existing SUD: 16.5% alcohol dependence and 18% other drug dependence (1). Another study observed that alcohol dependence followed the onset of depression by 4.7 years, while cocaine dependence occurred approximately 6.8 years following onset of depression in a polydrug user. All the drugs abused in a polydrug user followed the onset of depression (except LSD which commenced at the onset), and alcohol and cocaine dependence in this group was associated with a pattern of self-medication (2).

When managing depression and substance abuse, the importance of psychosocial factors that may leave the patient vulnerable and exposed should never be underestimated. There is a significant increase in the risk of depression after a major life event such as receiving bad news (3), and risk increases in elderly life (4).

The association between depression and substance abuse

It may be quite challenging to decide whether the substance abuse problem precedes depression or whether it conforms to a pattern of self-medication. Several studies, however, show that substance abuse in individuals with a depressive disorder usually takes the form of self-medication (2, 5). Depression at a young age presents with an even higher risk of SUD and thus, one of the preventive measures of SUD is tackling depression at its onset (6). However, this may prove to be very difficult. Several epidemiological studies analysed the families of substance users and observed how the rate of SUD was significantly elevated among relatives of drug abusers when compared to controls. Adoption studies also showed significant familial predisposition in substance users (7). Similarly family, twin and adoption studies on major depressive disorder (MDD) show how genetic factors play a significant role in the development of depression (8). This may be one of the reasons why both substance use disorder and depressive disorders

co-exist in families.

There are several models that explain how depression and substance abuse are associated (9).

a. **Primary substance use disorder and secondary co-occurring model**

This disease model explains how the substance use problem causes most co-existing depressive disorders.

b. **Primary co-occurring disorder and secondary use disorder model**

Also known as the 'self-medication' model, it explains how substance use is used in a way to decrease the suffering of the depressive episode (10).

c. **Common pathway**

Shared genetic and environmental factors may cause both the SUD and the depressive disorder to emerge in parallel.

d. **Bidirectional models**

Interpersonal factors, such as poverty and social structure, play a significant role in the aetiology of disease, and thus a complex interaction forms between genetic susceptibility and the environmental factors involved.

Age - does it make a difference?

The causes of both SUD and mood disorders differ with age, and may also present differently at different ages. A study by Buckstein et al. performed on adolescent substance abusers aged 13-18 years showed that 30.7% of those with SUD suffered from comorbid major depression. Most of these dual diagnosis patients had secondary MDD rather than primary depressive disorder (11). This may be due to problems at school, such as bullying, family upbringing and other elements that contribute to the nature and nurture of the individual. This study also described how depression is less likely to remit with abstinence in adolescents compared with adults (11). This may be due to motivational influences and hope at a younger age. In the adolescent years, there are several risk factors, such as peer pressure, bullying and negative stereotyping that may predispose to a dual diagnosis. In adolescents, dual diagnosis is the case in 70-80% of individuals (12).

Management options

In dual diagnoses, an integrated approach is likely to give the best results. In order to treat the depressive disorder the aim should be also to manage the SUD, and vice-versa. The use of a multidisciplinary team is favoured to manage each component of the problem in a specific and effective way.

- **Pharmacotherapy:** If the depressive disorder is thought to be the main cause for the dual diagnosis then the necessary antidepressant medication should be prescribed. Priority should be given to medications that have already achieved a good response in the individual. Treating the co-existing mood disorder may help the SUD (1).
- **Psychotherapy:** The aim should be to maximise the effective use of psychotherapeutic intervention. Interventions may include cognitive behavioural therapy (CBT), motivational interviewing and many others. Group therapy can be very effective in individuals with a dual diagnosis. In the study by Watkins et al. (13), at three-month follow-up, depressed individuals who were managed with CBT had better results (fewer symptoms, better functioning) than individuals who received usual care.
- **Social:** The use of psychosocial interventions has been very effective in treating depression, and is therefore also used as a preventive measure for SUD (14). A good social support structure will help the individual tackle both the SUD and the co-existing mental health problem, and promotes a more successful recovery (15).

An interesting project recruited adolescents from treatment facilities where they were undergoing a programme to address alcohol misuse. Adolescents with MDD had an earlier relapse to alcohol use (median survival 19 days) than adolescents who did not have MDD (median survival 45 days) (16). The same pattern was observed in marijuana-dependent adolescents where co-existing depression led to a higher rate of relapse (17). Such studies may help clinicians who manage SUD to identify those who are most prone

to relapse and non-compliance.

The risk of suicide

Suicide rates have been increasing in the past few decades, both in developed and in developing countries. Suicide rates have also markedly increased in the younger population. Depression is often associated with suicide; however, suicidal intent, which may lead to suicide, is usually a complex psychosocial state. There is usually more than one reason for suicide to occur and these can include socioeconomic stress, family crises and many others. Suicide risk is higher in depressed individuals, particularly in those who are not compliant to treatment or who are treatment-resistant (5). Treating the depressive disorder and SUD can act as preventive measures against suicide, and good risk-management can be life-saving.

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