Review Article

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Comorbid Medical and Substance Use Disorders in Persons with Bipolar Disorder

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Abstract

This paper reviewed and discussed co-occurring medical and substance use disorders in persons with bipolar disorders and the effect of comorbidity in terms of hospitalization, outcomes of treatment, life time expectancy, independent living, and quality of life. Bipolar disorder is common, disabling and severe and persistent mental illness. It is one of the most severe disabling, heterogeneous and economically catastrophic medical disorders. The complexity of bipolar disorder is often caused by the presence of comorbid conditions. Medical and substance use comorbidities are common among patients with bipolar disorder, with an estimated prevalence of 60% and associated with complicated treatment increased time of hospital stay and increase risk of death. The life time expectancy of persons with bipolar disorder is shorter than general populations. Persons with bipolar disorder die roughly 7 years earlier than those without the disorder. Alcohol use disorders are particularly common among persons with bipolar disorder, with a lifetime prevalence of roughly 50%. It is estimated that comorbid medical disorders occurs in 67% of persons with Bipolar disorder, of which most of them remain undetected.

Keywords: Bipolar disorder; Comorbidity; Substance use disorders; Physical illness; Life time expectancy; Diabetes; Cardiovascular disease

Background

Bipolar disorder is common, disabling and severe and persistent mental illness. It is one of the most severe disabling, heterogeneous and economically catastrophic medical disorders. The complexity of bipolar disorder is often caused by the presence of comorbid conditions. Medical and substance use comorbidities are common among patients with bipolar disorder. The presence of comorbidities in bipolar disorder (BPD) has negative prognostic implications for psychological health and for medical well-being and longevity [1,2]. Comorbidity refers to the occurrence of two syndromes in the same patient. In this review comorbidity is defined broadly as the co-occurrence of substance or physical disorders in persons with bipolar disorder, regardless of the chronological order in which they occurred or the causal pathway linking them [1-3]. Co-occurring disorder, also known as dual diagnosis, commonly refers to a person who meets Diagnostic and Statistical Manual of Mental Disorders [1] criteria for bipolar disorder and one substance use disorder (abuse and dependence) or medical conditions. These disorders must be independent of each other, not merely a cluster of symptoms resulting from a single disorder [2]. The term "substance use disorders" encompasses both abuse and dependence. Substance abuse, according to diagnostic and statistical manual text revised (DSM-IV-TR) criteria is defined as use of any drug, usually by self-administration, in a manner that deviates from approved social or medical patterns while; substance dependence is the repeated use of a drug or chemical substance, with or without an altered physiologic state caused by repeated administration of a drug, the cessation of which results in a specific syndrome [1]. Substance dependence, often commonly referred to as "addiction," is more severe and is additionally marked by the development of compulsive drug seeking behavior, tolerance, and withdrawal symptomatology [1].The term "substance abuse," although

referring to a distinct clinical diagnosis, is often informally used to describe substance use disorders in general [3]. Substance and medical comorbidities in person with bipolar disorder are an anticipated complication of a life-long illness. In additions the presence of the comorbidities in bipolar disorder will affect the course, severity and its treatment.

Comorbid substance use disorders (SUD) are very common throughout the course of illness in persons with bipolar disorders, with an estimated prevalence of 60% [4,5]. Alcohol use disorders are particularly common among persons with bipolar disorder, with a lifetime prevalence of roughly 50% [8,9]. Substance use disorder co-morbidity is eventually associated with worse bipolar disorder outcome and higher suicidal risk [6,7].

In additions in persons with bipolar disorder comorbid medical illness are common. It is estimated that comorbid medical disorders occurs in 67% of persons with Bipolar disorder, of which most of them remain undetected [10]. The outcomes of persons with co-occurring, physical illness and mental health problems are poor as compared to persons without comorbidity [10]. The presence of medical comorbidities in persons with bipolar disorder is an anticipated complication of a life-long illness. While it is known that the presence of the comorbidities will affect the course and severity of bipolar disorder and its treatment [11-13].

Persons with bipolar disorder are differentially affected by several 'stress-sensitive' medical disorders notably circulatory disorders, obesity and diabetes mellitus. Neurological disorders (e.g. migraine), respiratory disorders and infectious diseases are also prevalent [13,14]. Individuals with bipolar disorder are at increased risk for potentially life-threatening communicable and non-communicable diseases, such as influenza or pneumonia, diabetes, chronic obstructive pulmonary disease (COPD), human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), stroke and cancer [14].

In general the available scientific evidences have shown that substance abuse and medical comorbidity is remarkably common in persons with bipolar disorder. Understanding the comorbidities with bipolar disorders could have a profound effect on prevention and treatment [15,16].

This paper reviewed and discussed co-occurring medical and substance use disorders in persons with bipolar disorders and the effect of comorbidity in terms of hospitalization, outcomes of treatment, life time expectancy, independent living, and quality of life.

Substance Use Disorders in Bipolar Disorder

Comorbid substance use disorders are common among patients with bipolar disorders compared with the general population. The presence of substance use disorders in persons with bipolar disorder (BPD) is known to complicate treatment, increase risk of hospitalization and suicide [8]. According recent scientific evidences up to two third of persons with bipolar disorder (BPD) have comorbid substance use disorders and more than 50% are alcohol dependent [4-8]. Of those who have co morbid substance use disorders more than one third of them are poly substance disorder patients (two or more substance use disorders together in the same patients). Alcohol and Khat dependence are the common poly substance disorder which co-occurs in more than one third of patients with comorbid substance use disorders followed by nicotine and khat use disorders [8].

Researchers identified that the three common substance use disorder in bipolar disorder are alcohol, khat and nicotine use disorders [8,9,16]. According to different studies 50%-60% of persons with bipolar disorder (BPD are alcohol dependent [8,16]. According to most studies addiction to alcohol is the most common form of substance abuse in people with bipolar disorder [8,16]. According to DSM-IV-TR, 55% to 90% of patients with mental disorders and 22% of the general population smoke cigarette [16]. In additions according to different evidences up to 50% of persons with bipolar disorder have khat use disorder which commonly occurs together with other substance use disorders including alcohol, nicotine and cannabis use disorders [8]. Researchers also identified that of bipolar disorder patients up to 40% them have alcohol use disorders [8] and up to 1.5% have cannabis use disorders [8].

Comorbid substance use disorder in persons with bipolar disorder was higher among males, younger, separate and divorce and among patients with lower educational status [8,9,17]. In additions persons with bipolar disorder who have history of multiple admission, relapse and suicide are at greater risk of comorbid substance use disorders as compared to their counter parties [8,17].

Evidences indicated that substance abuse can make treatment for bipolar disorder (BPD) less effective. The presence of substance use disorders among persons with bipolar disorder is known to complicate treatment and lengthen hospital stay [16,18,19]. In addition to this, people who abuse drugs are less likely to follow their treatment plan.

Medical Comorbidity in Bipolar Disorder

Comorbid medical illness is very common throughout the course of illness in persons with bipolar disorders, with an estimated prevalence of 67%. Co-occurring medical illnesses in persons with bipolar disorder is known to complicate treatment, lengthen hospital stay and increase risk of death [11,12]. The life time expectancy of persons with bipolar disorder is shorter than general populations. Persons with bipolar disorder die roughly 7 years earlier than those without the disorder [14].

People with in bipolar disorder compared with the general population both women and men with bipolar disorder had an increased risk of death from heart disease, diabetes, chronic obstructive pulmonary disease (COPD), flu, or pneumonia. The odds were highest for death from flu or pneumonia (fourfold for both women and men), diabetes (fourfold for women and threefold for men), and COPD (threefold for both genders) [14].

Evidence from different scientific studies has shown that persons with bipolar disorder (BPD) have greater medical comorbidity, mortality and shorter life expectancy than general populations [14]. Evidences indicated that persons with bipolar disorder (BPD) are reported to have a life expectancy of 7 years less than that of the general population [14]. Importantly the leading cause of these early deaths is heart disease [14].

Persons with bipolar disorder (BPD) are associated with increased rate of hospitalization due to physical disease and are associated high risk of within-hospital mortality [11,12]. The most common systemic illnesses in bipolar outpatients were Endocrine and Metabolic Diseases (13.6%), cardiovascular diseases/hypertension (10.7%), COPD/asthma diabetes (6.1%), HIV infection (2.8%), and hepatitis C infection (1.9%) [10,20]. These diseases occur at rates higher than the general population, and contribute to the high morbidity and mortality seen in people with bipolar disorder (BPD).

The most common cause of death in persons with bipolar disorder (BPD) is physical illness followed by suicide [14]. Evidences indicated that large percentage premature deaths of people with bipolar disorder are caused by physical illness, with cardiovascular disease and cancer being the most common cause of death [10,14]. As compared to the general population People with bipolar disorder have shorter lifespan. People with bipolar disorder are reported to have a life expectancy of 7 years less than that of the general population [14].

Cardiovascular disease (CVD) in bipolar disorder

Cardiovascular disease (CVD) is among the most common medical conditions in persons with bipolar disorders [11] It includes coronary heart, cerebrovascular, and peripheral vascular disease is the leading cause of death in the United States and most developed countries, accounting for about 50% of all deaths. The prevalence of modifiable cardiovascular risk factors) that can be prevented and/or minimized explains much of the excess cardiovascular mortality in persons with bipolar disorder. Obesity, hypertension, smoking, diabetes, hyperlipidemia, insufficient exercise and poor diet are among the common modifiable risk factors [10,20-23]. Antipsychotic especially second generation antipsychotics forms an essential component of the treatment of people with bipolar disorder (BPD) and overall reduces mortality they are another risk factors for cardiovascular disease (CVD) [14].

Cardiovascular disease comorbidities occur in 10.7% of patients with bipolar disorder (BPD [14]. It is also the leading cause of mortality in individuals with bipolar disorder, who are even more likely to experience premature cardiovascular mortality than individuals in the general population. Evidences indicated that Compared with non-bipolar disorder (BPD), patients with bipolar disorder (BPD) have a 7 years shorter life expectancy. Persons with bipolar disorder (BPD) have rates of cardiovascular disease (CVD) 1.4-3.8 times higher than that of the general population [14].

Diabetes mellitus (DM) in bipolar disorder

Diabetes mellitus (DM) is among the most common medical conditions in persons with bipolar disorder [11]. Evidences have shown that diabetes-related morbidity and mortality has a major effect on the general population, an effect that is increasing over time as rates of overweight and obesity increase in developed countries. The prevalence estimates of diabetes mellitus are two to four times higher than the general population. Evidence from different studies shown that between 10% and 15% of people with severe mental illness, such as bipolar disorder has diabetes compared with an overall prevalence of approximately 4% in the general population [24]. This is three times higher than that of the general population [25]. In persons with severe mental illness, such bipolar disorder the prevalence of known diabetes is grossly underestimated [26], that approximately 25% of cases of type 2 diabetes are undiagnosed in the general population but this situation is exaggerated in people with severe mental illness, among whom as many as 70% of cases are undiagnosed [26-29]. The common risk factors associated with diabetes include family history of the disease, physical inactivity and poor diet [30]. Diabetes mellitus requires a strict daily routine, and individuals frequently need to make extensive changes to their life in order to manage the illness. This can cause substantial stress and negative affect which impacts on the person's quality of life and the ability to adhere to the new lifestyle changes [30,31].

The life time expectancy of persons with bipolar disorder is shorter than general populations. Evidence from different studies shown that the mortality rate of persons with bipolar disorder (BPD) who have diabetes mellitus is relatively higher compared with those with diabetes alone. People with bipolar disorder and diabetes have a significantly increased risk of death. This suggests that diabetes either progresses more rapidly or is less well controlled in these individuals, or that they have higher levels of co-morbidity and so are more likely to die of other causes [14,20].

Pulmonary disease in bipolar disorder

Another common medical condition in persons with bipolar disorder is a pulmonary disease. Persons with bipolar disorder (BPD) have greater comorbidity with respiratory illness compared to the general population. In addition evidences have shown that individuals with mental illness have higher rates of hospitalization and death, due to respiratory illness such as Chronic Obstructive Pulmonary Disease (COPD), bronchitis and emphysema [32]. Bipolar disorder compared with the general population both women and men with bipolar disorder had an increased risk of death from chronic obstructive pulmonary disease (COPD), flu, or pneumonia. The odds were highest for death from flu or pneumonia (fourfold for both women and men), diabetes and COPD (threefold for both genders) [14].

Conclusion

There is clearly an increased prevalence of medical and substance use disorders in patients with bipolar disorders that occurs in excess of that in the general population. The presence of comorbid substance use disorders and physical illness which associated with increased mortality and reduced life expectancy. The majority of patients with bipolar disorder of all ages and both genders have at least one comorbid psychiatric or medical disorder and many have more than one. Comorbidities with medical and substance use disorders are generally associated with more severe psychopathology and with poorer outcomes. Comorbid substance use disorders (SUD) are very common throughout the course of illness, with an estimated prevalence of 60%. Alcohol use disorders are particularly common among persons with bipolar disorder, with a lifetime prevalence of roughly 50%. It is estimated that comorbid medical disorders occurs in 67% of persons with Bipolar disorder, of which most of them remain undetected.

In order to close the gap in co-occurring substance use disorders and poor physical health conditions there is clearly a need for specifically targeted programs, particularly in those areas, including heart disease, diabetes, obesity and tobacco use where prevention strategies for the general population are a national priority. Pharmacotherapy should maximize therapeutic gain while minimizing the risk of developing or exacerbating a comorbid condition.

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