



Disease Induced Depression: A Review

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ABSTRACT

This article mainly reviews the depression associated with a chronic medical illness, which often aggravates the condition, especially if the illness causes pain and fatigue or limits a person's ability to interact with others. The risk of getting depression is generally 10% to 25% for women and 5% to 12% for men. Although any illness can trigger depressed feelings, the risk of chronic illness and clinical depression increases with the severity of the illness and the level of life disruption it causes. However, those with chronic illness face a much higher risk between 25% and 33%. The combination of chronic illness and depression also can cause people to isolate themselves, which is likely to exacerbate the depression.

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1. Introduction

Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behaviour, feelings and physical well-being. Depression is an etiologically heterogeneous group of brain disorders characterised by a wide range of symptoms that reflect alternations in cognitive, psychomotor and emotional process. Depression is associated with a serious impairment of social, marital, and occupational functioning, as well as prominent personal and interpersonal distress.

Rates of depression in primary care patients are between 5% and 10%, whereas prevalence rates of depression in patients with diabetes and coronary heart disease have been found to be 12% to 18% and 15% to 23% respectively. People with chronic diseases presented a prevalence of depression that was found to be 1.58 times higher to those without disease.

2. Etiology

2.1. Genetic causes of Depression

It was not known in the earlier times that the depressive illness can be seen in the families, and the true cause of the disease was not found but some statements understood the disease to be inherited and some doubted the environment to be the culprit. However, some statements and researches showed that to an extent the disease was found to be inherited i.e., if we have any close relatives who has undergone depression then we might have a possibility to inherit the disease.

2.2. Environmental causes of Depression

Stress, traumatic events and some childhood difficulties was found to be the environmental causes of depression. These events are quite often seen in people during their daily lives.

The cause to the development of this illness seen in some people is the way by which they react to the various environmental factors in their daily lives.

3. Depression Induced By Chronic Diseases

Depression is found to be one of the most serious public health due to its leading prevalence in all populations of all continents (WHO, 2002). Depression is often unequally distributed in the population. It is seen more among women, younger individuals and also the ones having poor economic conditions and also those who have lived without a partner (Van de Velde et al., 2010). People having chronic disease showed a prevalence rate that was found to be 1.58 times higher compared to those without diseases.

Depression can be related to hormonal and physiological changes occurring in the organism that can lead to increase in the odds of developing some chronic diseases, depression can be a risk exposure for development of other chronic diseases (Babor et al., 2001). Depression can lead to insomnia and also to shorter sleep duration which can act as the cause for developing hypertension (Gangwisch et al., 2010). It is stated that depression has also been associated with lower adherence to drug therapy, special diets and health expenses (Lustman et al., 2005).

3.1. Depression induced by Lung Cancer

Patients undergoing lung cancer usually experience distress from physical signs and symptoms, mainly coughing, wheezing and shortness of breath. Weight loss and insomnia are commonly seen to be the physical symptoms, fatigue and chest pain are one of the most common symptoms in patients having multiple distressing symptoms. Any combination of treatments, such as chemotherapy, surgery or radiation can be the reason for the distress arising from the adverse effects of the treatment. The clinical symptoms can disturb the quality of life and it can lead to various cause of depressive disorder. Lung cancer is often seen as an aggressive disease, which cause the patients to face their own mortality and see their families starting to grieve at their situation (Daniels et al., 2013).

Lung cancer patient particularly those who are in an advanced stage suffer from poor physical conditions which can often negatively affect their quality of life (Chouaid et al., 2013). Patients with stage 4 disease of lung cancer, higher line of treatment, and more progressive disease substantially affect the patient's quality of life. Poor quality of life may lead to various psychiatric disorders including depression. Depression has been related with fatigue (Giacalone et al., 2013). Fatigue is one of the depressive symptoms in lung cancer. Insomnia can increase cancer symptoms and affect the quality of life it can increase the risk of depressive disorder in cancer including lung cancer (Induru et al., 2013). Sleep disturbance is able to increase frequency of depression and worsen wellbeing in patients with advanced disease like lung cancer (Delgado-Guay et al., 2011).

3.2. Depression induced by Systemic Lupus Erythematosus

Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that usually affects multiple organ system and also including central nervous system (Gurevitz et

et al., 2013). As their disease is potentially disabling it is hard to cope up with the disease and also its treatment regimen. Young individuals are mostly affected with SLE. This causes them to have serious hardships in achieving goals of their life (Julian et al., 2009).

Neuropsychiatric SLE (NPSLE) refers to the neurological manifestation and various psychiatric problems that are mainly seen to develop secondary to the involvement of CNS in patients seizures, mood affections, cognitive impairment, psychosis, headache, neuropathy and stroke has been reported (Gheita et al., 2011). Major depression is the most underlined psychiatric disorder observed in SLE patients.

Depression in SLE is seen to be multifactorial neurotransmitter dysfunction and immune activation is mostly linked by depression (Dantzer, 2006). Depression in SLE is seen to aggravate fatigue, pain and psychological stress, and also it reduces drug compliance which can further lead to impairment in quality of life and work disability. Severity of depression can also increase the risk of suicidal thoughts in patients (Ward et al., 1999). Early detection and intervention in management of depression can have impact in controlling disease activity and patient's quality of life (Raafat et al., 2015).

Depression has seen to associated with medication non-adherence in general population and also in some patients with immunodeficiency virus, kidney transplant, hypertension, diabetes and hyperlipidemia (Barker-Collo & Feigin, 2006).

3.3. Depression induced by Stroke

Post stroke depression (PSD) is one of the most common mood disorders seen following a stroke, and it is also the main factor limiting recovery and rehabilitation in stroke patients. It can also increase mortality up to ten times (Dafer et al., 2008). Stroke has traditionally been seen as a disease that mainly affects motor performance and as a result, rehabilitation, approaches to hospital care, and follow-up focuses almost exclusively in this area (Robinson & Spalletta, 2010). Some recent studies have shown that there are many other factors such as behaviour, cognition, and emotion that can greatly affect the impact that stroke will have on a patient's life (Spalletta et al., 2005).

The vascular depression hypothesis proposes that ischemic vascular lesions (acute, chronic, silent infarctions, leukoariosis, etc.) can damage mood and emotion regulations and provoke late-onset depression. Based on this hypothesis some authors have suggested that PSD can lead to cognitive dysfunction of vascular origin which can arise as a cause of new depressive symptoms (Quaranta et al., 2008).

PSD has negative impacts on patient participation in rehabilitation at the most crucial time to functional recovery and leads to poor outcomes. Some researchers have shown that depression and apathy could occur independently after stroke and can individually influence functional recovery (Barker-Collo & Feigin, 2006).

3.4. Depression induced by AIDS

AIDS is one of the most devastating diseases that human's ever faced. Depression is a common non-infectious condition encountered by HIV infected patients. In India, prevalence of depression among HIV-positive patients is about 58.75%. Des-

-pite its prevalence, depression is considered, under diagnosed and untreated in general population. In a cross sectional study performed among HIV-infected out patients, it was found that 26.67% showed symptoms of depression and 18.33% patients were diagnosed with depression. It was also found that prevalence of depression was diminished among patients undergoing long term anti-retroviral therapy (Beck & Steer, 1993).

HIV associated cognitive impairments extend the scope of emotional changes, memory. Attention, executive dysfunction and neuropsychiatric complications. These acute changes concomitant with altered mental status in delirium and neurobehavioral impairments commonly ascribed to MDD (Watkins & Treisman, 2015). HIV-infected patients have high viral load have been recognised as a group with high risk of physiological distress. The HIV virus has a direct impact on the brains subcortical areas and affect mood, behaviour, and stress response (Lyketsos et al., 1996).

3.5. Depression induced by Multiple Sclerosis

Depression is mainly co-morbid with multiple sclerosis; it is seen with elevated inflammatory markers. Neuro-inflammation in the hippocampus in the underlying cause which is responsible for the depression associated with multiple sclerosis (Colasanti et al., 2016). We can see a much higher prevalence rate of depression among patients with multiple sclerosis than in the general population (Kessler et al., 2003). The prevalence rate of depression associated with multiple sclerosis patients prove to be much more strongly tied up than observed in patients with other long term disabling condition, which suggest common pathophysiological mechanisms (Patten et al., 2003). Activation of the innate immune response in brain has been proposed as one such a potential common usual factor (Dantzer et al., 2008).

One of the studies shown by MRI has reported association between depressive symptom in patients having multiple sclerosis and the measures of disease burden, which also include the lesion load and accompany appearing white matter and brain atrophy (Feinstein et al., 2014). The association are arised from a common responsible factor that leads to pathophysiological changes in both multiple sclerosis and depression. In medically healthy individuals elevated inflammatory markers are associated with depression (Raison et al., 2006).

3.6. Depression induced by Diabetes Mellitus

Diabetes mellitus is known to be a heterogenous metabolic disease in which the central factor is hyperglycaemia (Beck et al., 1997). In some recent studies showed that the onset of diabetes mellitus complications are accelerated due to depression as well as it constitute to be major risk factor in the development of type 2 DM (Anonymous, 1998).

Diabetes patients along with depression depict more symptoms associated with diabetes than with the non-depressed counterpart (Anderson et al., 2001). Some sociocultural and medical factors are known to elevate the risk of depressed in DM patients (Anderson, 2002). A newly developed database studies showed that when in comparing non-depressed patients to patients with depressive symptom

or DM may be seen more susceptible to type 2 DM and or may be the complication from both type 1 and type 2 DM are mainly due to the pathophysiological alterations (Baxter et al., 1985).

Depression has seen to be related with abnormalities in metabolically significant biological pathways such as increased counter regulatory hormone release action, alteration in glucose transport function, and increased immune inflammatory activities (Baxter et al., 1989).

3.7. Depression induced by Chronic Kidney Disease

Depression is the most commonly seen physiological disorder among the patients during end stage renal disease. It is commonly associated with poor oral intake which leads to anaemia and malnutrition in chronic dialysis patients (Kimmel, 2001). 20-25% people undergoes dialysis therapy are seen to exhibit severe depression (Kimmel et al., 1993). Less food intake are seen to be common symptom in depressed people which will lead to malnutrition in chronic dialysis patients, patients with chronic kidney disease has anaemia, hypoalbuminaemia and also higher serum CRP and ferritin concentrations. Decreased serum albumin concentration used as an indicator of nutritional status in dialysis patients for the past years (Blumenkrantz, 1994). It is known that the prevalence of depression is high and ultimately leads to increased mortality rate in patients with ESRD (Ikizler et al., 1999).

4. CONCLUSION

There is convincing evidences on depression induced chronic illness. However, for some diseases the extent to which and the relations are not much clearly depicted in the contents. Some studies and researches carried out had shown the prevalence rate of depression on people with chronic illness. Standardised researches and studies can be carried out further to find the cause and extend to which it affects people with chronic illness.

CONFLICT OF INTEREST

Authors report no conflict of interest.

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