DIABETES AND MENTAL HEALTH: A RISING CONCERN

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ABSTRACT

More than 350 million people will have diabetes worldwide by 2030, up more than thrice from 2000, according to the World Health Organisation. The negative effects of this chronic condition and its consequences are being amplified globally by rising diabetes incidence among younger age groups. About one-third of diabetics have trouble managing their diabetes on their own as a result of psychological and social problems. By identifying particular signals that indicate a high chance of such disorders, it will be easier to recognise and treat co-morbid mental health concerns early. Ensuring that any mental health concerns are managed and that social obligations are met would be beneficial to the person's well-being. Reducing the burden of diabetes and its consequences on the individual and the larger health system can be accomplished by addressing the mental and psychological obstacles to maintaining excellent glucose control.

Keywords: diabetes, mental health, anxiety, exercise

INTRODUCTION

According to the World Health Organisation, the number of individuals with diabetes worldwide is expected to reach more than 350 million by 2030, more than tripling from the year 2000. The negative effects of this chronic condition and its consequences are being amplified globally by rising diabetes incidence among younger age groups [1]. Beyond individual impairment and increased mortality, diabetes has social consequences such as lost production and higher healthcare expenses [2]. A link between diabetes and a multitude of mental health issues has been steadily shown by research. In addition to extra problems particular to having diabetes, they include diagnosable mental illnesses. Diabetes distress is a term used to describe the negative emotions and self-management load brought on by having diabetes. This phrase refers to the depression and mental anguish that are uniquely associated with having diabetes, including the requirement for ongoing care and medication, ongoing worries about complications, and the possible damage to relationships with family, friends, and coworkers."Psychological insulin resistance" is the term used to describe reluctance or unwillingness to start insulin therapy, which may temporarily postpone the start of necessary treatment [3]. The anxiety of hypoglycemia is another common concern associated with diabetes. Mental and diabetes-specific psychosocial illnesses are more common and may have a negative impact on quality of life if self-management practises are not as actively practised. Psychological disorders increase the risk of diabetes complications and early mortality [4].

Recent research suggests that anxiety problems in adults with diabetes may also be linked to less favourable glycemic management. 40% of diabetic patients who took part in clinical investigations had higher anxiety symptoms, according to a comprehensive study. Up to 14% of diabetic individuals have been observed to have generalised anxiety disorder [5], a prevalent anxiety condition. Estimates of the size of the relationship between diabetes and depression in population-based research vary, with estimates ranging from small changes to a two-fold increase in risk [6]. The sample size, diabetes and depression case identification procedures, sample characteristics, and use of a prospective or cross-sectional design were among the methodological variations between these research. Of course, chance variation in estimates of the degree of connection might also play a role in explaining why some research differs from others [7].

EPIDEMIOLOGY

Over the past 13 years, the volume of research supporting the link between diabetes and mental illness has grown. Rustad et al. have shed light on the bi-directional pathophysiological relationship between diabetes and depression, but other important proposed aetiologies include the activation of the innate immune system and increased activity of the hypothalamic-pituitary axis [8]. The correlations between non-adherence to treatment, poor glycemic control, and increased complications (such as diabetic retinopathy, nephropathy, neuropathy, macrovascular issues, and sexual dysfunction) highlight the significance of a dual diagnosis of diabetes and depression. The odds ratio (OR) for anxiety disorder was 1.20 (1.10-1.31) and for anxiety symptoms was 1.48 (1.02-1.93) in a meta-analysis by Smith et al. in 2012, whereas the pooled OR was 1.25 (1.10-1.39). It has also been demonstrated that anxiety disorders identified by diagnostic interviews are highly related to inadequate glycemic control. [9]

PSYCHOLOGICAL EFFECTS OF DIABETES

DIABETES DISTRESS- It consists of four interrelated domains: the emotional toll of having diabetes; the stress associated with diabetes self-management; the anxiety associated with social interactions; and the stress involved with the relationship between the patient and the physician. High glycated haemoglobin (A1C levels), higher diastolic blood pressure (BP), and higher levels of low-density lipoprotein cholesterol (LDL-C) are all linked to diabetes discomfort [10]. Additionally, people with greater levels of diabetic distress were shown to have worse quality of life, a 1.8-fold higher death rate, and a 1.7-fold higher risk of cardiovascular disease (CV) illness [11].

FEAR OF HYPOGLYCEMIA- It happens frequently. Both the person experiencing the hypoglycemia and their family members may suffer from traumatic effects, particularly if the episode is severe or occurs at night. A common strategy to allay fears of hypoglycemia is compensatory hyperglycemia, in which individuals either maintain a higher blood glucose (BG) level as a preventative measure or treat hypoglycemia in response to perceived somatic symptoms without objective confirmation by capillary blood glucose concentrations. Over time, allowing this maladaptive process to continue unchecked can have negative impacts on diabetes control, increase the risk of cardiovascular issues, and reduce quality of life [12].

MAJOR DEPRESSIVE DISORDER- About 30% of persons with diabetes report having clinically significant depression symptoms. In comparison to those without a chronic medical condition, MDD affects 10% of people, which is twice as many. A person's risk of MDD increases with the duration of their diabetes [13]. Contrary to undiagnosed diabetes, clinically acknowledged diabetes was not connected to a rise in antidepressant prescriptions, bolstering the theory that factors relevant to diabetes treatment may be involved in the relationship between diabetes and depression. Type 2 diabetes is more likely to develop in those with depression by 40% to 60% [14].

BIPOLAR DISORDER- According to one study, poor glucose metabolism was detected in more than 50% of bipolar disorder patients, which was proven to exacerbate several important elements of mood illness's progression. Impaired glucose tolerance (IGT) was identified as an etiologic component in the development of bipolar illness in the same investigation (80). Diabetes and metabolic syndrome are believed to be twice as common in people with bipolar illness as they are in the general population [15].

SCHIZOPHRENIA SPECTRUM DISORDER-Diabetes risk may be independently attributed to schizophrenia and other psychotic diseases. Prior to the development of antipsychotic medications, people with psychotic illnesses were reportedly more likely to have insulin resistance or glucose intolerance, however, this claim is still debatable. Metabolic syndrome was almost twice as common as the overall population [16].

PERSONALITY TRAIT DISORDER-Type 2 diabetes risk has been reported to rise with personality characteristics or illnesses that cause persons to be hostile or in frequent confrontations with others. People with social inhibition and persistent, severely negative mood states were less likely to maintain a healthy diet or seek medical help if issues arose with their diabetes treatment. They detail increased obstacles to taking medications, diabetes-specific social anxiety, loneliness, and depressive and anxious symptoms [17].

ANXIETY-Depressive symptoms frequently coexist with anxiety. In one study, patients with diabetes made up 14% of the population with generalised anxiety disorder, twice as many had subclinical anxiety disorder, and three times as many had at least some anxiety symptoms. Anxiety issues were present in one-third of people with type 2 diabetes and severe mental illnesses, and these issues were associated with increased depressive

symptoms and decreased levels of function. An increased risk of type 2 diabetes has been linked to persistent worry [18].

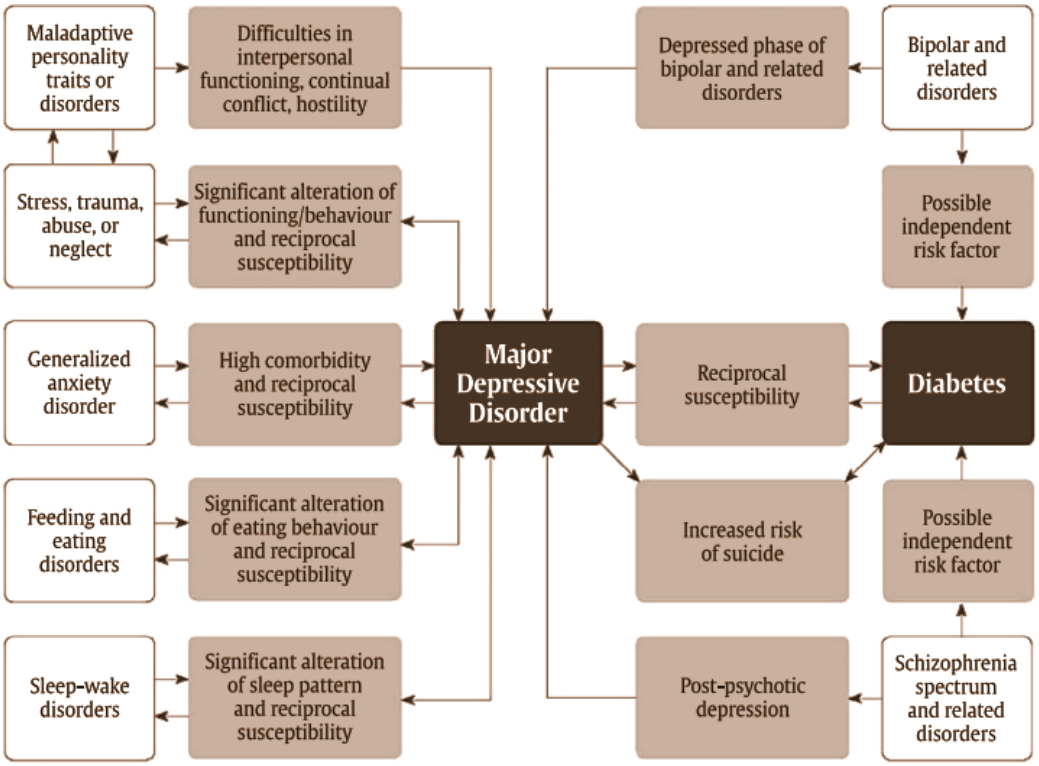

Figure 1- Diabetes and mental disorders interact with one other

REHABILITATION TREATMENT

All people with diabetes should get diabetes treatment that includes actions to enhance well-being and lessen discomfort. It has been demonstrated that family treatments, stress management, coping mechanisms, self-efficacy development, and motivational interventions are all beneficial [19].

Cognitive behaviour therapy (CBT) decreased diabetic distress and depressive symptoms in persons with type 2 diabetes and subclinical depression compared to controls. Over the course of a year, increases in medication adherence, physical activity, and A1C were made as a result of lower diabetes regimen distress (caused by an intervention combining education, problem-solving, and support for responsibility).

According to recent studies, CBT can directly target the beliefs that underlie psychological insulin resistance in order to treat it [20]. Many people who exercise assert that it has positive impacts on their mental health. This claim is supported by the meta-analysis's findings by Gillison et al. They found that exercise enhances a healthy person's self-reported quality of life [21]. However, as Reid et al. noted [22], there is little or conflicting evidence that patients' self-reported quality of life has improved.

The quality of life for people with peripheral neuropathy and type 2 diabetes was reportedly improved by a moderate-intensity aerobic exercise routine, according to Dixit et al. Nicolucci et al. [24] found a relationship between changes in quality-of-life indicators related to physical and mental health and the level of exercise or physical activity engaged in. They added that, when exercise was done under supervision, it seemed to amplify these benefits [25]. Regardless of the results of a future study specifically focused on people with diabetes mellitus (DM), exercise has been shown to have positive effects on diseases like major depressive disorder, which is often co-occurring in DM patients [26]. Patients with diabetes mellitus (DM) who exercise regularly can increase their adherence to treatment regimens by learning self-control skills. Patients' perceptions of their bodies may also change as a result of weight loss, improvements in body composition, and improvements in appearance that come from exercise.

CONCLUSION

A person's behaviour and psychological well-being are both impacted by diabetes mellitus. From the very beginning of the condition, patients with diabetes mellitus need early psychosocial therapy in addition to medications and exercise in order to reduce co-morbidities.

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