



## ASSESSMENT OF ANXIETY AND DEPRESSION LEVELS IN PATIENT WITH DIABETES MELLITUS REPORTING FOR DENTAL TREATMENT- A PILOT STUDY

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### Abstract

**Aim:** To assess the levels of Anxiety and Depression in type 2 diabetic mellitus patients seeking dental care.

**Method:** A pilot study with 20 type 2 diabetic mellitus patients reporting for dental care were subjected to hospital anxiety and depression scale (HADS) to evaluate the anxiety levels. HADS questionnaire analysis anxiety and depression levels based on a set of 14. Based on HAD scoring, anxiety levels are categorised as According to the scoring patients are classified into normal, borderline abnormal, abnormal cases.

**Results:** Mean anxiety score of the diabetic mellitus participants was 11.4 and depression score was 12. Higher scores of anxieties and depression was significant in female gender, older patients, individuals with longer duration of diabetes, patients who have diabetics and other comorbidities. The original HADS scale in English was translated into local regional language.

**Conclusion:** The Incidence of depression and anxiety among diabetic patients visiting for dental treatment is high. The quality of life is compromised due to diabetes, it is very important to diagnose and manage anxiety and depression in patients with type 2 diabetic mellitus patients to ensure higher quality of life.

**Key words:** Hads scale, depression, anxiety, diabetes mellitus, type 2 DM.

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## 1. Introduction

One of the most popular emotional distress self-report questionnaires used in endocrinology, oncology and other physical health is the Hospital Anxiety and Depression Scale (HADS). The two most common distress components are anxiety and depression which were first intended to be detected in order to screen for emotional distress in patients in non-psychiatric settings. Since it only applies to individuals with organic disorders, HADS disallows somatic emotional distress symptoms (such as headache, weight loss, and insomnia) that might actually be caused by the illness and its therapies rather than simply being manifestations of emotional anguish [1]. HADS is a 14-item self-report screening measure that was initially created to identify potential anxiety and depressive states in the context of a medical non psychiatric outpatient clinic. The HADS has a 7-item depression subscale and a 7-item anxiety subscale. HADS is an effective and dependable method for outpatient general hospital screening for psychiatric diseases. With high sensitivity and specificity, the questionnaire has strong external validity and internal consistency [2]. A lifetime prevalence of depression ranges from 11% in low-income countries to 15% in high-income countries, making it a common and extremely significant medical condition. About 50% of people will experience mental health issues at some point in their lives, which will negatively impact their ability to work and productivity. In developed countries, diabetes is the 8th cause of disability adjusted life years (DALYS), while depression and anxiety are the fourth and fifth cause for DALYS [3]. Researchers have hypothesised about the part that hormones and endocrine issues play in the aetiology of psychiatric diseases. Multicentric research is trying to look into endocrine associated physiological pathways to explain classical psychiatric illness. Owing to the relation between hormone function and its feedback mechanism on CNS. One of the most prominent instances in this area is the connection between depression and diabetes mellitus, but this connection is complex and diverse [4]. Our team has extensive knowledge and research experience that has translate into high quality publications<sup>1-</sup>

<sup>10</sup>.To understand this ideology, this study was conducted in the dental college for patients with a medical history of Type 2 diabetes mellitus.

## 2. Materials and Methods:

### Study design

The pilot study was conducted in the Department of Oral Medicine and Radiology, Saveetha Dental College, from April -June 2022. 20 Patients who reported for dental treatment with systemic history of type 2 Diabetes Mellitus and Diabetes mellitus with other comorbidities were included in the study. For all 20 patients, Glycaemic status was assessed with random blood glucose values greater than 200 mg/dl.

Hospital anxiety and depression scale (HADS) was used to assess the frequency of anxiety and depression in these patients. HADS is a 14 items self-administered instrument that has two subscales to assess anxiety and depression. Each subscale has seven items. A combined score of 0-7 represents "no anxiety/depression", score of 8-10 indicates "moderate anxiety/depression), and score of 11 -21 indicates "severe anxiety/ depression". Along with HADS, a Demographic Performa was created which included patient gender, age, duration of disease, Anti Diabetic medication, patient with co-existing other comorbidities. The original version of HADs scale was translated to local region language with help of google translator to overcome the difficulty of understanding conventional HADS scale.

## 3. Results

Mean anxiety score of the participants was 11.4 and depression score was 12. Type 2 diabetes mellitus female patients with age 50-60 years with disease duration of more than 10 years show higher chances of anxiety and depression, Comorbidities like Hypertension was seen in 9 patients. Hypertension and Coronary heart disease in 7 Patients. History of Carcinoma in 4 patients. From these 20 patients, only 1 patient was under insulin therapy, other patients were under oral antihyperglycemic medication.

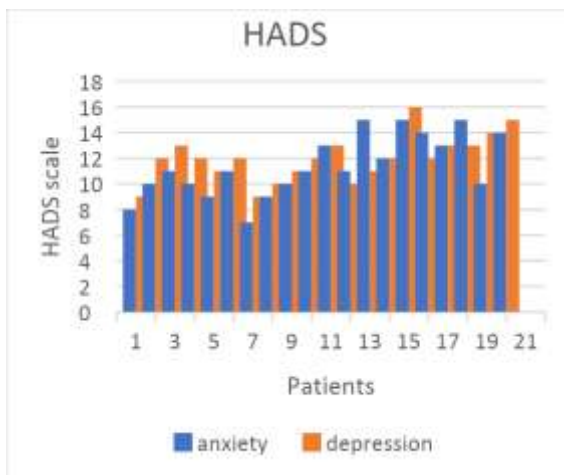


FIG: 1

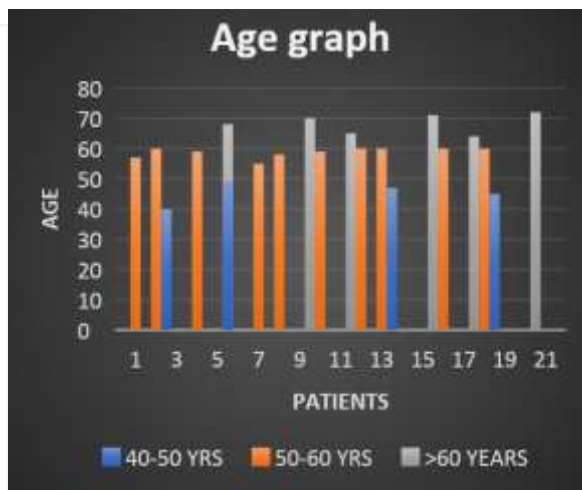


FIG: 2

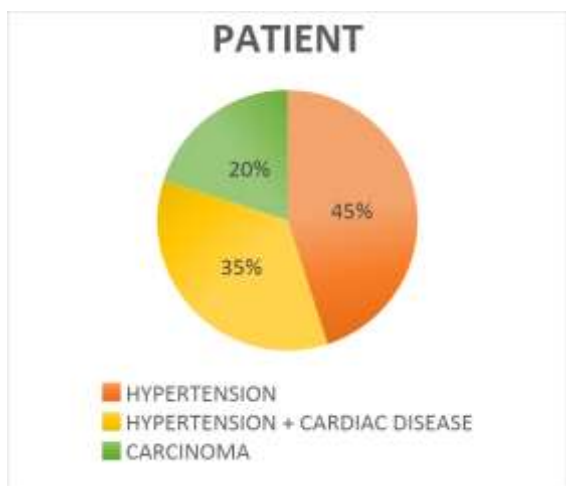


FIG: 3

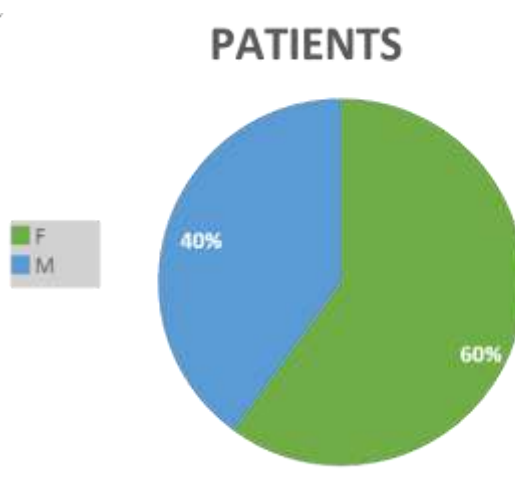


FIG 4

**4. Discussion:**

Diabetes is a mood disorder that combines multiple symptoms that affect a person's functionality, according to the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders (DSM-5). Emotions, thought, and behaviour are all impacted by depression. The diagnostic criteria for a major depressive disorder, according to the DSM-5, include a core symptom, either a diminished/irritable mood or decreased interest/pleasure, or both, and at least four of the following symptoms: feelings of guilt or worthlessness, fatigue or loss of energy, concentration issues, suicidal thoughts or thoughts about death, weight gain or loss (5% change in weight), psychomotor retardation or activation (change in activity)[1] [3]. For a number of reasons, the connections between endocrine disorders and mental health issues have attracted a lot of attention. [6] A complex and neglected clinical issue is the coexistence of diabetes and depression. Up to one-

third of persons with diabetes develop depressive symptoms, which not only lower quality of life but also make it more difficult to control diabetes. Healthcare professionals have a responsibility to recognize depression in diabetic patients when it occurs and to promptly and effectively treat it in order to maximize therapeutic outcomes for these patients.[2] In order to address this significant public health issue, novel care routes are required because the majority of health facilities are under equipped to handle comorbidity.[5] Integrated care, which includes elements of psychotherapeutic and pharmacotherapeutic treatment and provides care to patients who present themselves in the primary care daily practice setting, had an impact on the severity of depressive symptoms but not on glycemic control, indicating that in order to improve the latter, a treatment strategy that combines psychotherapy and pharmacotherapy is necessary. However, additional study is required to determine the most effective treatment for depression that coexists with Type 1 and Type 2 diabetes.[8-10]Although there are

certain limitations, this study aids in understanding how depression and diabetes are related. It is unclear, however, whether connected comorbidities with diabetes also affect the psychological state. Small sample size was analysed because it was a pilot study.

## 5. Conclusion:

Chronic illness definitely affects quality of life. Poor systemic health has a role in poor oral hygiene amongst these patients. This study adds knowledge to current literature of high levels of anxiety and depression in Diabetes Mellitus patients which can serve as an hindrance for seeking dental care.

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