DEPRESSION PREVALENCE IN TYPE 2 DIABETES MELLITUS PATIENTS: INSIGHTS FROM A TERTIARY CARE HOSPITAL CROSS-SECTIONAL ANALYSIS

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Abstract

Introduction: Diabetes, a chronic ailment, mandates major lifestyle modifications and diligent self-care. The essentiality of controlled glycated hemoglobin (HbA1c) levels is well-known; however, half of the patients do not achieve this, resulting in various complications, including depression. The Center for Epidemiologic Studies Depression Scale (CES-D) has demonstrated utility in quantifying depressive symptoms in those with diabetes.

Materials and Methods: A cross-sectional research design was employed from January to December 2022 at a tertiary care facility. We assessed 116 participants diagnosed with diabetes mellitus based on the American Diabetic Association standards. These participants were sourced from the Department of General Medicine at Eeshan Hospital, Hyderabad, Telangana.

Results: Three-quarters of the participants reported living with diabetes mellitus for over five years. A majority (56.7%) did not engage in substance use, while others reported using nicotine (13%), alcohol (11%), or both (2%). Systemic hypertension was the predominant medical co-morbidity, observed in 88.3%. Over 60% had no familial depression history. Significantly, 21.7% expressed feelings of worthlessness, while 8.3% harbored death wishes or suicidal inclinations, and 1.7% had attempted suicide.

Conclusion: The rising prevalence of depressive disorders among diabetes mellitus patients necessitates timely screening to facilitate early intervention and enhance patient well-being.

Key Words: Diabetes, Glycated Hemoglobin (HbA1c), Depressive Disorders, Co-Morbidity

INTRODUCTION

Diabetes presents significant lifestyle challenges, compelling individuals to restructure their daily routines.[1] Yet, a substantial proportion, up to 50%, cannot maintain optimal HbA1c levels, leading to several health ramifications, most notably, depression. The CES-D is recognized as an efficacious instrument for gauging depressive manifestations in this cohort.[2]

Depression, often termed mental health's "common cold," afflicts 350 million globally. The World Health Organization underscores its role as a primary disability factor. In nations like

India, the cultural stigma surrounding mental health can hinder accurately estimating depression prevalence.[3] Its symptoms are diverse, ranging from persistent desolation to incapacitating functional impairments and, in severe cases, suicidal tendencies.[4,5]

This research emphasizes meticulous depression screening among diabetic patients using the Hamilton Depression Scale, highlighting symptomology and suicidality. The aim is proactive detection and intervention, potentially elevating patient life quality and curtailing suicidal tendencies.

MATERIALS AND METHODS

This study spanned a year (2022) in a tertiary care institution, encompassing 116 diabetes mellitus patients diagnosed following the American Diabetic Association guidelines. These individuals were a subset of Eeshan Hospital's Department of General Medicine patients in Hyderabad.

Inclusion Criteria:

- Diabetic individuals, irrespective of gender, aged 18-70, who provided informed consent.
- Type 2 diabetes mellitus patients attending the relevant outpatient departments.

Exclusion Criteria:

- Non-diabetic individuals.
- Those with a prior depression diagnosis or treatment.
- Consent refusals.
- Juvenile diabetes patients.
- Patients with severe medical complications.

All consenting participants underwent an evaluation using the Hamilton Depression Scale. The assessment encompassed the history of presenting complaints, family, and personal histories. This comprehensive data and socio-demographic details were captured in a dedicated proforma.

Hamilton Depression Scale, a widely respected instrument since the 1950s, was used in its 17-item version for this study.

Statistical Analysis: Data compilation utilized MS Excel 2010, while SPSS Version 22 facilitated statistical assessment. We utilized means and proportions for outlining baseline characteristics, with the chi-square test determining statistical variances in the captured data. A p-value of <0.05 indicated statistical significance.

RESULTS

Gender-wise, the study revealed parity among participants. Predominantly, they belonged to the lower-middle socio-economic class and had semi-urban origins. A significant 67.25% had been managing diabetes mellitus for over five years. While most (56.7%) abstained from substance use, a portion admitted to nicotine (13%), alcohol (11%), or both (2%). A staggering 88.3% identified systemic hypertension as a medical co-morbidity. Notably, 60% lacked a familial history of depression. Indicators of psychological distress were evident in 31.7%: feelings of worthlessness (21.7%), suicidal ideations (8.3%), and suicide attempts (1.7%).

Duration of illness	No of patients	Percentage
Less than 5 years	78	67.25
More than 5 years	38	32.75
Total	116	100

Table 1: Duration of illness

Insomnia early in night	No of patients	Percentage
No difficulty falling asleep	37	31.89
Complains of occasional difficulty falling asleep, i.e. more than 1/2 hour.	53	45.68
Complains of nightly difficulty falling asleep	25	21.55
Total	116	100

Table 2: Study Participants distribution According to Insomnia-Early in night

Insomnia- Middle of the Night	No of patients	Percentage
Patient complains of being restless and disturbed during the night	72	62
Waking during the night – any getting out ofbed rates 2 (except for purposes of voiding)	44	38
Total	116	100

Table 3: Study Participants distribution According to Insomnia-Middle of the night

Insomnia: Early Hours of the Morning	No of patients	Percentage
No difficulty	84	72.42
Waking in early hours of the morning but goes back to sleep	24	20.68
Unable to fall asleep again if he/she gets out of bed.	10	8.62
Total	116	100%

Table 4: Study Participants distribution According to Insomnia-Early hours in morning

Suicide	Frequency	Percentage
Absent	70	60.34
Feels life is not worth living	30	25.86%
Wishes he/she were dead or any thoughts of possible death to self	13	11.20
Ideas or gestures of suicide	3	2.58
Total	116	100%

Table 5: Study Participants distribution According to Suicide

DISCUSSION

Depression, given its rising incidence, is progressively becoming a focal point in healthcare systems, especially in the developed world. Its pervasive reach, impacting an estimated 350 million people globally, has warranted the designation of being "the common cold" within outpatient settings. Recognized by the World Health Organization as a primary contributor to disability, the actual reach of depression remains underestimated, more so in countries like India, where societal misconceptions and a lack of focus on mental health often hamper genuine understanding and intervention.

Our study's findings revealed a startling 60% of participants exhibiting depressive symptoms. This prevalence is relatively high when compared to other investigations, which often report a prevalence rate ranging between 40 to 50% in individuals with type 2 diabetes mellitus.[6] Interestingly, our data indicated no gender disparity in depression rates, underscoring the ubiquity of this ailment across both male and female patients. A cause for concern was the 10% of our study participants who resonated with suicidal tendencies or actions, a statistic that is congruent with other scholarly works noting rates of about 6-10%.[7]

Sleep disturbances were prominently evident among our depressed cohort. A significant 68.3% experienced early insomnia, while 63.4% dealt with middle insomnia, and a smaller subset of 21.6% faced late insomnia.[8,9] These statistics corroborate other studies' findings on the matter. Such disrupted sleep patterns have been identified as detrimental to the quality of life, especially for those juggling both diabetes mellitus and depression. Furthermore, it's noteworthy that 50-60% of type 2 diabetes patients who also present depressive symptoms often have systemic hypertension as an associated co-morbidity. In our study, a staggering 88.3% of the participants were diagnosed with systemic hypertension, alluding to its plausible role in amplifying depressive symptoms.[10]

CONCLUSION

Initiating timely screening coupled with bespoke interventions can substantially enhance both mental and physical well-being, minimizing suicide occurrences within this population. The burgeoning prevalence and severity of depressive conditions among those with diabetes mellitus warrant immediate and focused action. We fervently champion the routine screening for depression in all patients diagnosed with diabetes mellitus, as it ensures early identification, precise diagnosis, targeted management, and most critically, the potential prevention of suicidal actions.

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