Original Article

Frequency of Depression in Patients with Diabetes Mellitus

Depression in Patients With Diabetes

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ABSTRACT

Objective: In this study, we will determine the prevalence of depression in diabetes and its association with gender and duration of diabetes.

Study Design: Cross Sectional Study

Place and Duration of Study: This study was conducted at the OPD of diabetes in Civil Hospital Karachi from June 2019 to Jan 2020.

Materials and Methods: 273 previously confirmed diabetic patient for 2 or more years of either gender between age group 21-65 were enrolled after informed consent. Diagnosis and sternness of depression was evaluated through Hamilton rating scale for depression (HAM-D).

Results: Out of 273, 92 (33.6%) patients had depression according to HAM-D scale. Depression was more common in females in comparison to male; though, the disparity was not adequate (60.9% vs. 39.1%. p value: 0.07). Men had 22.2% mild depression, 50% moderate depression and 27.8% severe depression. Female had 18% mild depression, 48% moderate depression and 34% severe depression.

Conclusion: Depression is very prevalent in diabetic population, particularly in female and participants with recent duration of diabetes. It is important that psychological evaluation of diabetic patient should be done periodically, and appropriate treatment should be common after diagnosis.

Key Words: Depression, prevalence, diabetes, Pakistan

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INTRODUCTION

The international diabetic federation in 2017 ranked Pakistan in second number among twenty-one countries in MENA region for the prevalence [1]. Pakistan has approximately 28 million case of diabetes above the age of 20 [2]. Diabetes mellitus (DM) affects patient's quality of life and management of diabetes also puts huge financial burden on them [3,4].

Numerous studies have studied the psychological implications of patients suffering from diabetes. And found that depression is quite prevalent in patients suffering from diabetes [5.6].

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De Groot M et al. showed that depression may be responsible for diabetes rather than diabetes causing depression. [7].

Globally, frequency of depression has been described in diabetes as 25-25% [8].

Despite diabetes being very prevalent in Pakistan, management of diabetes is only focused on maintaining blood glucose level and preventing complications. Psychological impact of diabetes is rarely considered. In this study, we will determine the prevalence of depression in diabetes and its association with gender and duration of diabetes.

MATERIALS AND METHODS

This cross-sectional study was accomplished within OPD of diabetes in civil hospital Karachi from June 2019 to Jan 2020. 273 previously confirmed diabetic patient for 2 or more years of either gender between age group 21-65 were enrolled after informed consent. Sample size was calculated using online calculator (medcalc) using 23% prevalence of depression is [9].

Patient with history of comorbid or complications of diabetes, patients with history of substance abuse and patient with history of psychiatric illness were excluded from study. After informed consent, all relevant information was recorded on the case report form. Diagnosis and severity of depression was assessed through Hamilton rating scale for depression (HAM-D).

Score were categorized as mild 8-17, moderate 8-15 and severe 26 and above [10].

Statistical Package of Social Sciences (SPSS) v. 21.0 (IBM Corporation, Armonk, New York, United States) was used for the statistical analysis. Continuous variables were represented as means and standard deviations (SDs) while categorical variables were represented as percentages and frequencies. Chi square test was applicable. P value of ≥ 0.05 indicated that null hypothesis was not valid and there was difference between the groups.

RESULTS

The mean age of participants in this study was 40.3 ± 9.05 years. The mean duration of diabetes mellitus is 4.7 ± 2.03 years. There were 110 (40.3) males and 163 (59.7%) females. Out of 273, 92 (33.6%) patients had depression according to HAM-D scale. Depression was more common in females compared to male; however, the difference was not significant (60.9% vs. 39.1%. p value: 0.07) (table 1).

Table 1: Frequency of Depression Gender wise

Gender	Diagnosis of Depression		P value
	Yes	No	
Male	36 (39.1%)	74 (41%)	0.07
Female	56 (60.9%)	107 (59%)	

Men had 22.2% mild depression, 50% moderate depression and 27.8% severe depression. Female had 18% mild depression, 48% moderate depression and 34% severe depression (table 2).

Table No.2: Severity of Depression gender wise

Gender	HAM-D Score			P value
	Mild n (%)	Moderate n (%)	Severe n (%)	
Male	8 (22.2%)	18 (50%)	10 (27.8%)	0.49
Female	10 (18%)	27 (48%)	19 (34%)	

Fifty nine (64.1%) participants who had depression had recent diagnosis (less than 5 years) (table 3).

Table No.3: Severity of Depression based on Duration

Years since diagnosis	HAM-D Score			P value
	Mild n (%)	Moderate n (%)	Severe n (%)	
Less than 5	9 (50%)	29 (64.4%)	21 (72.4%)	0.29
5 or more	9 (50%)	16 (35.6%)	8 (27.6%)	

DISCUSSION

Psychiatric disturbances are common in patients suffering from diabetes. This predisposition to psychiatric disorders is because of chronic nature of disease and individuals with this condition are highly predisposed of impediments, likewise, nephropathy, retinopathy, and cardiovascular problems [11]. Furthermore, an extensive period of stringentregimenedge, glucose scrutinizing, and taking medicine can cause psychosomatic instability. Research reports have revealed higher prevalence of depressing indicators in diabetic patients that goes up with disease chronicity and complications [12-14].

Our study reports prevalence of 33.6% depression in diabetic patient. Sabira et al. reports a prevalence of 40% in their study [15]. In our study, female had more depression compared to male. This was also comparable to result of Sabira et al [15].

In this study the high incidence of depression in early years of diagnosis of diabetes (64%) as compared to latter years (36%) may be explained by that diabetes may escalate chances of depression because of logic of risk and damage associated with getting this diagnosis and the significant daily life changes essential to prevent emerging devastating problems.

Patients with complications may have more depressive symptoms compared to those without it. Sabira et al. reported that diabetic retinopathy, diabetic nephropathy, and diabetic neuropathy also were associated with significantly higher rate of depression compared to diabetic patient without depression [15]. Depression in diabetes is also associated with increase mortality. A recent study reports 2.5 times more death in diabetic patient who are depressed compared to diabetic patients who are not depressed [16].

It is important to understand the role of depression in diabetes. Management of diabetes should include frequency psychological evaluation by trained psychiatrist. This recommendation is in line with American Diabetic Association guideline [17]. Diabetic educator plays a huge role in screening for depression. They should educate diabetic patients and clarify misconceptions regarding diabetic management, especially in under-resourced country like Pakistan [15].

Our study adds to limited data that is available on prevalence of depression in diabetes. However, it has its limitation as well. Firstly, this study was conducted in tertiary care centre, which mostly cater to people with severe illness. Furthermore, this study was conducted in government funded hospital and its clientele comes from poor economic states, which is also associated with depressive disorder. Finally, the sample of study was from clinical population visiting hospitals, which has high prevalence of depression than the people residing in the community. All of these factors could have led us to report higher prevalence of depression in diabetes. It is important that community based large-scale survey should be done to determine the prevalence of depression in diabetes and risk factors associated with it.

CONCLUSION

This study suggests that the prevalence of depression is much higher in Pakistani patients with type 2 diabetes mellitus. We suggests that diabetic educator and nurses should be trained to administer screening test like PHQ-9 or HAM-D questionnaire to diabetic patient. Patients with positive PHQ-9 and HAM-D score should be send to psychiatrist for further evaluation.

Author's Contribution:

Concept & Design of Study:	Bharat Kumar
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Conflict of Interest: The study has no conflict of interest to declare by any author.

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