

# A Study on Prevalence of Depression among Diabetic Patients

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**Abstract:- This study has been conducted on the diabetic population, those people who have elevated blood sugar levels. It has been found that people with diabetes often suffer from other ailments as well, one of them being depression. Depression is a psychiatric disorder which involves a consistently depressed mood or loss of interest in day to day activities and mood which leads to a significant difficulty in conducting day to day activities. The following study has been conducted to detect the prevalence of depression in diabetic patients.**

**Keywords:-** Diabetes, Depression, Comorbidity.

## I. INTRODUCTION

In many developing countries such as India the severity of mental health disorders such as depression is often underestimated, as many people don't consider it an actual illness which requires medical intervention. Many people think the number of people suffering from depression is minute, however 1 in 20 Indian adults suffer from depression with the total population suffering from depression being 6 crores. Depressed people have to endure a lot during their day to day activities, putting aside the fact that the illness itself limits what one can do due to public opinion they tend to avoid going to a doctor to pursue treatment for the condition. It leads to severe complications such as suicide which is committed by 1,35,000 Indians every year. If that isn't enough employers tend to discriminate against employees who come forward with such issues. The worst part of depression is the fact that if there are other illnesses in conjunction, it tends to go neglected as adherence to treatment and follow up is hard in such patients is difficult due to the symptoms of clinical depression. Seeing the high incidence of depression and taking into account that diabetes is one of the diseases in which adherence to medication and follow up is absolutely vital. If there is inadequate follow up and adherence to medication, it can lead to severe issues in the future such as diabetic ulcers, diabetic neuropathy, etc. Which can further worsen the state of depression. This thus becomes a vicious cycle with diabetes and depression aggravating the other which has a severe impact on the health of the patient. As mental health and the state of mind is very important when it comes to ensuring the patient takes care of their diet, medication adherence and follow up of patients for any condition which they may have. This study has been done to

find the prevalence of depression in patients suffering from diabetes, to change the modality of treatment when it comes to diabetes by screening for other mental health disorders such as depression and thereby improve the mental health of people with chronic conditions by treating any coexisting depression so as to improve the outcome of the diabetes treatment.

## II. MATERIALS AND METHODS

The cross-sectional study was done on the diabetic population visiting the Saveetha Medical College and Hospital in Chennai from January 2020 to April 2020. Diabetes is defined as a chronic disease associated with abnormally increased levels of glucose in blood. Depression is defined as a mood disorder in which the person experiences persistent feelings of sadness and hopelessness and loss of interest in activities they once enjoyed. Taking a prevalence of 15% for prevalence of depression in diabetes with an allowable error of 5% the sample size was taken as 225.

For registering patients into the study, the universal sampling technique was used, where diabetic patients were acquired from people working at the hospital. All participants were informed of the objectives of the study and participated in their own free will. Informed consent was obtained from all the participants.

Whether the patient had diabetes or not was checked using their HbA1c score. Then to assess whether the patient with diabetes had depression was evaluated by the BDI-II questionnaire. The questionnaire had questions checking for the diagnostic criteria of depression such as sadness, pessimism, past failure, loss of pleasure, guilt, feelings of punishment and self dislike, self criticality, suicidal thoughts, crying, agitation, loss of interest, indecisiveness, worthlessness, loss of energy, change in sleeping pattern, irritability, change in appetite, concentration, fatigue and loss of interest in intercourse. These factors were studied in relation to age and sex. Data analysis has been done using SPSS software. Descriptive statistics were done for depression and variables associated with depression and was calculated using test of proportion. Chi square test was employed as the test of significance.

**III. RESULTS**

Out of the 225 participants, 96% of the patients were in the age group <=60 years. The mean age of the participants was 35 years with ages varying from 20-70 years

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-29	60	26.5	26.5	26.5
	30-39	55	24.2	24.2	50
	40-49	55	24.2	24.2	74.9
	50-59	48	21.1	21.1	96
	60-69	9	4	4	100.0
	Total	225	100.0	100	

The gender of most of the subjects were female, 90%

Sex					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	female	200	88.9	88.9	88.9
	male	25	11.1	11.1	100.0
	Total	224	100.0	100.0	

Out of the 225 patients, various diagnostic criteria for depression were observed

sadness  
46.4%

pessimism  
59.7%

past failure  
43.2%

loss of pleasure  
38.3%

guilt  
52.5%

feelings of punishment and self dislike  
61.3%

self criticality  
41.1%

suicidal thoughts  
52.7%

crying  
73.2%

agitation  
49.8%

loss of interest  
37.9%

indecisiveness  
54.2%

worthlessness  
25.6%

Sadness					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I do not feel sad	3	1.3	1.3	1.3
	I feel sad much of the time	5	2.1	2.1	3.4
	I am sad all the time	68	30.2	30.2	33.6
	I am so sad or unhappy that I can't stand it	58	25.7	25.7	59.3
	I am so sad i can't feel it	90	40.7	40.7	100
	Total	225	100.0	100.0	

Pessimism					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I am not discouraged about my feature	7	2.1	2.1	2.1
	I am more discouraged of my future	5	2.2	2.2	4.3
	I dont think things will work out	81	36	36	40.3
	The future will get worse	57	25.3	25.3	65.6
	The future is hopeless	76	34.4	34.4	100.0
	Total	225	100.0	100.0	

DEPRESSION PRESENT					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	126	56	56	56
	no	99	44	44	100.0
	Total	225	100.0	100.0	

All of the above variables were related to whether a person has dysphoria or not, apart from age or gender. The analysis shows that indicators of DEPRESSION were significantly more likely in DIABETIC individuals.

**IV. DISCUSSION**

The number of patients found to have depression was similar to other studies. This shows that the prevalence of depression is high in diabetic individuals and is often undiagnosed. A study that was held in the United States reported a prevalence rate of depression among adult diabetic patients ranging from 3.8% to 27.3%(Anderson, et al., 2001). A study in Jordan said that depression in diabetics was 19.7% (R. M. Al-Amer, Sobeh, Zayed, & Al-Domi). This shows that the prevalence of depression in diabetics is high ad patients with diabetes should be screened for depression.

**V. CONCLUSION**

This study shows that depression is very likely in patients with diabetes. The findings were similar to those in other similar studies. Due to decreased interest in ones own health and day to day activities these patients must be screened and treated for depression to ensure that there are no complications due to improper diabetic treatment. To make this possible questionnaires for depression should be administered when the patient is coming in for follow up for their diabetes treatment. The complications of diabetes due to inadequate treatment and suicide due to depression can be

prevented by this early screening. However, seeing as how most of these patients are undiagnosed and there is decreased awareness of mental health amongst medical health professionals first mental healthcare should be made more accessible, people should be educated and the stigma must be combated.

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