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Research Article

**DEPRESSIVE SYMPTOMS Pervasiveness AMONG
PATIENTS SUFFERING FROM DM (DIABETES MELLITUS): A
CROSS-SECTIONAL STUDY**¹Dr. Hina Abbas, ²Dr. Mariam Noor, ³Dr. Fatima Rehman¹Pmdc 93360- P, THQ Shahkot²Quaid e Azam Medical College Bahawalpur³WMO, Govt Eye Cum General Hospital Gojra**Abstract:****Objective:** To evaluate the depressive symptoms in patients of Diabetes-mellitus visiting Jinnah Hospital, Lahore.**Materials & Methods:** This research adopted the cross-sectional method in which diabetic patients (N=196) participated at Jinnah Hospital, Lahore from February to September 2017. We opted DSM-IV criteria for Depression for measuring depressive symptoms.**Results:** In this research mean age was (53.35 ± 6.71) years. Most of the patients around 49.49% (97) were in the age group of (51 – 65) years. Among patients (196) around 54.59% (107) were female and around 45.41% (89) were male. Female to male ratio was (1.00:1.20). Most of the patients are of higher socioeconomic status. Depression was present in 23.98% (47) participants and three is no depression in 76.02% (149) participants.**Conclusion:** We concluded that the pervasiveness of depression was a lot higher in Type II diabetes-mellitus patients. It has a positive correlation with old age and length of the disorder.**Keywords:** Depression, Hyperglycemia, Complications, Socioeconomic Status (SES) and Complications.**Corresponding author:****Dr. Hina Abbas,**

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INTRODUCTION:

Diabetes-mellitus (Hyperglycemia) means having a high level of sugar in the blood. It may happen owing to reasons like when pancreas block the production of insulin or cannot generate sufficient insulin, it may because cells are not responding to the produced insulin. Hyperglycemia generates the standard symptoms like polydipsia means augmented thirst, polyphagia means augmented appetite polyuria means regular urination [1]. Presently there is no treatment of Diabetes mellitus, but we can manage the condition of patients for spending normal life. To retain the blood sugar level at a normal range and to avoid the growth of long-term problems is the main theme behind diabetes treatment. Expansion of long problems causes harm to blood vessels. Cardiovascular problems chances are higher in diabetic patients [2]. A major macrovascular disorder which is pertaining to atherosclerosis of large arteries is a stroke, ischemic heart disease i.e., angina & myocardial infarction (MI) and peripheral vascular disorder. Microangiopathy can also be the result due to diabetes [3]. Diabetics have double risk of depression, around 1 in 5 patients of diabetes [4]. There are two ways through which insulin resistance and hyperglycemia result into depression one is by its effects on symptoms like concentration problem and tiredness, problems and its fear. Secondly, it affects our physiology like the inflammatory process and lowering of neurotropic functions which cause a reduction in the plasticity of a network of neurons that later result in depression [5]. Depression also affects the diabetic management e.g., depression augments the occurrence of microvascular and macrovascular problems, augment the cardiovascular problems and hence increase in mortality rate of depressive patients, increase in unhealthy lifestyle and decreased habit of taking medicine regularly, reduced quality of life, and rise in health expenses [6 – 7]. Both biologically and psychologically, depression affects physical health. Psychological issues result in changes in neuro-hormones and immune system in our body, which increase the risk of disease. Moreover, depressive episodes of mood affect the patients' recovery. Depressed patients are not regular in taking medicine and in following a treatment plan than not depressed patients [8]. Hence diabetic and depressive patients are more prone to disease because of any of these diagnoses. There are fewer chances that they follow a treatment plan for mind and body. Availability of data on depression rate is much high but it has variance nationally and internationally. Hence, we did this research to reevaluate according to our system which will

increase the know-how of patients and his family and doctors regarding depression and diabetes. It will also help in managing these patients in our population.

MATERIAL AND METHODS:

This research adopted the cross-sectional method in which diabetic patients (N=196) participated at Jinnah Hospital, Lahore from February to September 2017. We did not include the patients of different disorders like mood, psychotic, anxiety, personality, patients with any systemic disease, drug addict, pregnancy cases, depression diagnosed patients before diabetes. We opted DSM-IV criteria for Depression for measuring depressive symptoms for all patients. Demographic information was obtained on form with all the findings. We defined the diabetes-mellitus as patients of Type II diabetes-mellitus getting oral treatment for the last five years with haemoglobin HbA1C under eight percent. We register the data on SPSS and analyzed on it. Definite data e.g., the frequency of depression (Y/N) and gender is calculated in percentage and frequency. We did stratification to lessen the impact of confound variables for gender, age, duration of diabetes and family gross income. We used the Chi-Square method to check the impact on primary outcomes. Significant Value of p was (< 0.05).

RESULTS:

Mean age was (53.35 ± 6.71) years in the age group of (18 – 65) years. Depression was present in 23.98% (47) participants and three is no depression in 76.02% (149) participants. There are three age groups of patients 18 to 35, 36 to 50, and 51 to 65 years. In the age group of 18 to 35 depression was present in 18.18% (6) patients, in 36 to 50 it was 22.73% (15) and in the age group of 51 to 65, it was 26.80% (26). There is a significant association among depression and age group which is $p= 0.580$. Overall 23.60% (21 patients) depressive and 24.30% (26 patients) are with depression. We evaluate the association of depression with SES. There are three groups as per SES i.e., G1 (Rs. < 10000), G2 (Rs. 10000 to 20000), and G3 (Rs. > 20000). In Group 1 Depression was present in 25% patients, in Group 2 it is was 25.40%, in Group 3 it was 22.47%, but statistically, the insignificant association was present with $p= 0.902$ between depression and SES. We made 2 groups as per length of DM i.e., ≤ 3 years group & > 3 years groups. In ≤ 3 years group depression rate was 17.33% (13) and in > 3 years group it was 28.10% (34). There is insignificant association among depression and length of DM with $p=0.086$.

Table – I: Depressive Stratification

No Depression	Number	Percentage
Yes	47	23.98%
No	149	76.02%

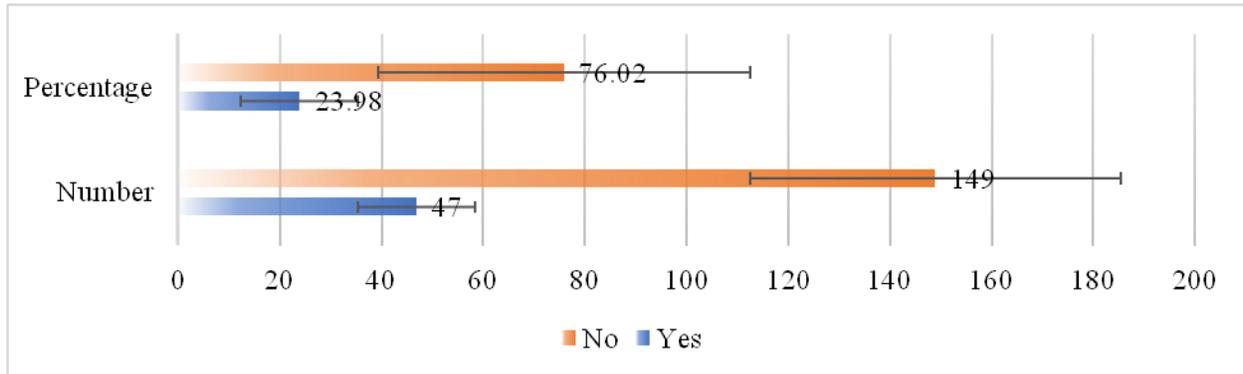


Table – II: Age and Gender Stratification

Age and Gender		Yes	No	P-Value
Age	18 – 35 Years	18.18	81.82	0.58
	36 – 50 Years	22.73	77.27	
	51 – 65 Years	26.80	73.20	
Gender	Male	23.60	76.40	0.909
	Female	24.30	75.70	

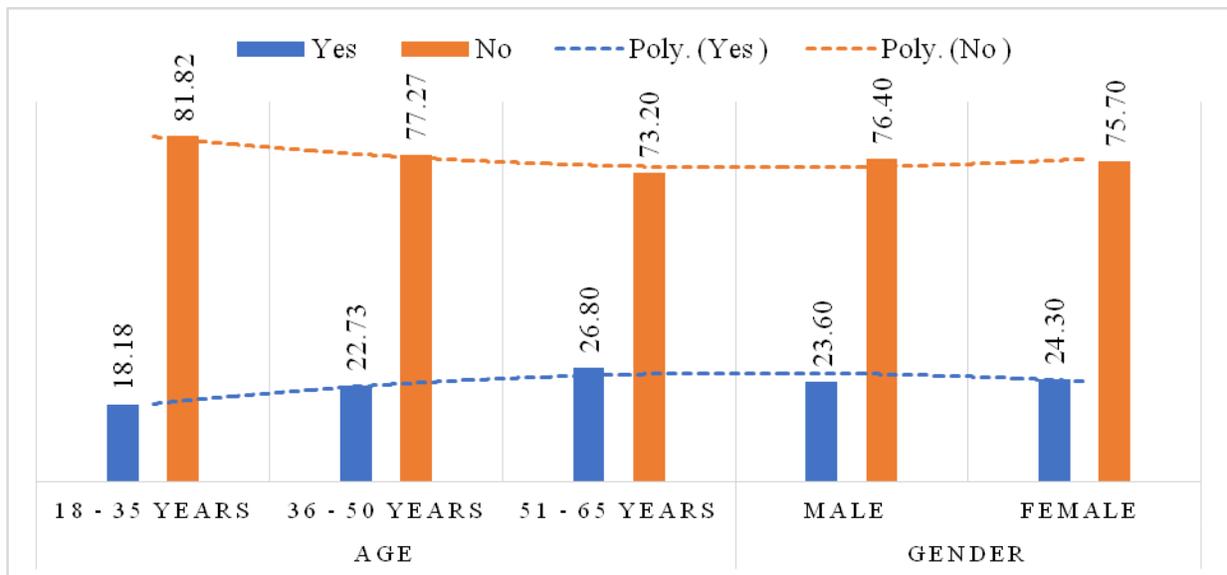
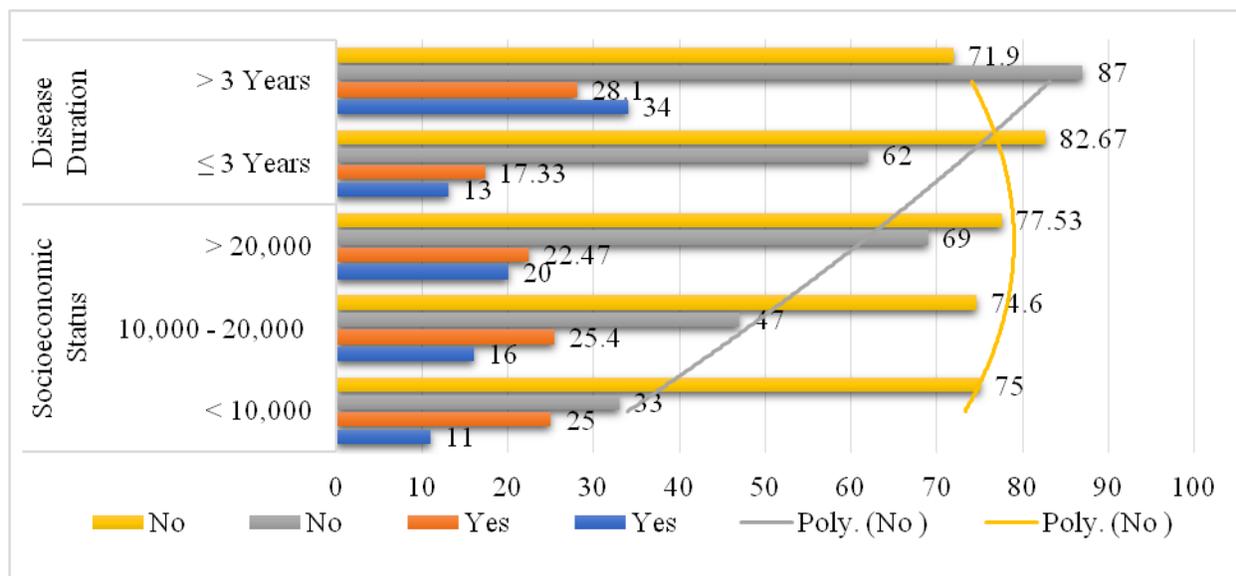


Table – III: Stratification of Disease Duration and Socioeconomic Status

Variables		Yes		No		P-Value
		Number	Percentage	Number	Percentage	
Socioeconomic Status	< 10,000	11	25	33	75	0.902
	10,000 – 20,000	16	25.4	47	74.6	
	> 20,000	20	22.47	69	77.53	
Disease Duration	≤ 3 Years	13	17.33	62	82.67	0.086
	> 3 Years	34	28.1	87	71.9	



DISCUSSION:

We did this research to know the occurrence of depression among diabetic patients. In this research mean age was (53.35 ± 6.71) years. Mean age was (53.35 ± 6.71) years in the age group of (18 – 65) years. Most of the patients around 49.49% (97) were in the age group of (51 – 65) years. Balhara YPS et. al, [9] and Mathew CS et. al, [10] found that age 54 was like present research. Das R et. al, [11] and James BO et. al, found much less mean age which is forty-six and forty-five years respectively are also like present research. Moreover, the majority of the female is also similar to many types of research. In our research among patients (196) around 54.59% (107) were female and around 45.41% (89) were male. Female to male ratio was (1:1.2) [9 – 12]. Diabetics have double risk of depression as compared to others. Several types of research show that depression pervasiveness was in diabetics extends from twelve percent to twenty-percent [13]. Mathew CS et al found that depression among (38.8%) patients with diabetes-mellitus (25%) had a mild

form of depression, (12.5%) had a moderate form of depression, and (1.3%) had severe form depression [10]. In the present research, depression was present 23.98% (47) patients having type II diabetes-mellitus. Blahara Y et. al, in North India, found that just sixteen percent of patients of diabetes have depression [14]. Raval A et. al, found that pervasiveness of depression is forty-one percent is also comparable to present research [15]. Zahid et. al, (2008) from Pakistan found modest form depression pervasiveness i.e., 14.7% among diabetics of rural areas [16]. Khawja AK et. al, (2010) found considerable pervasiveness of depression in type II diabetes-mellitus patients i.e., forty-four percent [17]. Das R et. al, found pervasiveness of major depressive disorder in type II diabetes-mellitus patients i.e., (46.15%). But Khamshet and his associates found major depressive symptoms in (71.8%) in 206 patients from Iran having type I and II diabetes-mellitus [18].

CONCLUSION:

In the present research, we concluded that pervasiveness of depression in type II diabetes-mellitus patients was much high. It has a positive correlation with old age and length of the disorder. Therefore, we endorse that appropriate assessment of the comorbidity of depression in diabetes patients must be carried out. Which will help in selecting the right counselling and psychotherapy strategy for the improvement in the quality of life and it will lessen the occurrence of disease.

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