

Assessment of Prevalence of Depression and its Correlation with Disease Duration among Patients of Diabetic Foot Ulcer

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ABSTRACT

Background: Diabetic foot complications are common and estimated to affect 15% of all diabetic individuals during their lifetime. The co-existence of mental disorders and physical illness and the role of each of them to perpetuate the other are highlighted in the research literature. Hence; the present study was undertaken for assessing prevalence of depression and its correlation with disease duration among patients with diabetic foot ulcer.

Materials & Methods: A total of 100 diabetic patients were enrolled in the present study. Ethical approval was obtained from institutional ethical committee and written consent was obtained from all the patients after explaining in detail the entire research protocol. Prevalence of diabetic foot ulcer was evaluated in all the patients. Complete demographic details of all the patients were obtained. Further, prevalence of depression was assessed among diabetic patients with diabetic foot complication. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software chi-square test was used for assessment of level of significance.

Results: Depression was found to be present in 36 percent of

the patients with diabetic foot ulcer. Significant results were obtained while correlating the presence of depression with duration of diabetes.

Conclusion: Depression significantly affects the diabetic foot patients. Also, prevalence of depression increases with increase in duration of disease.

Keywords: Depression, Diabetic Foot Ulcer.

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INTRODUCTION

Diabetes is a common and potentially disabling chronic disease. Diabetes is fast gaining the status of a potential epidemic in India with more than 62 million diabetic individuals currently diagnosed with the disease. Diabetic foot complications are common and estimated to affect 15% of all diabetic individuals during their lifetime. It is now appreciated that 15 – 20% of patients with such foot ulcers go on to need an amputation. Almost 85% of the amputations are preceded by diabetic foot ulcers.¹⁻³ The co-existence of mental disorders and physical illness and the role of each of them to perpetuate the other are highlighted in the research literature. Diabetic patients are approximately twice more likely to suffer from anxiety and depression than the general population. Symptoms of generalized anxiety disorder include excessive worry, restlessness, being easily fatigued, trouble concentrating, irritability, sleep disturbance, and muscle tension.⁴ If the patients experienced these symptoms most days for more than 6 months, it may cause distress in the patients. Other types of anxiety disorders include separation anxiety, panic disorder, or phobias, among others.⁵

Hence; the present study was undertaken for assessing prevalence of depression and its correlation with disease duration among patients with diabetic foot ulcer.

MATERIALS & METHODS

The present study was conducted in the Department of Psychiatry, Career Institute of Medical Sciences, Lucknow, UP (India) and it included assessment of psychiatric illness among patients with diabetic foot ulcer. A total of 100 diabetic patients were enrolled in the present study. Ethical approval was obtained from institutional ethical committee and written consent was obtained from all the patients after explaining in detail the entire research protocol. Prevalence of diabetic foot ulcer was evaluated in all the patients. Complete demographic details of all the patients were obtained. Further, prevalence of depression was assessed among diabetic patients with diabetic foot complication. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software chi-square test was used for assessment of level of significance.

Table 1: Prevalence of diabetic foot complications

Diabetic foot disease	N	%
Ulcer	25	25

Table 2: Duration of diabetes in patients with diabetic foot ulcer

Duration of diabetes	Patients with Diabetic foot complications	
	N	%
Less than 10 years	9	36
More than 10 years	16	64
Total	25	100

Table 3: Prevalence of depression

Parameter	N	%
Depression	9	36

Table 4: Correlation of presence of depression with duration of diabetes

Duration of diabetes	Number of patients with depression	Number of patients without depression	p-value
Less than 10 years	3	6	0.002
More than 10 years	7	9	
Total	10	15	

RESULTS

In the present study, a total of 100 diabetic patients were enrolled. Diabetic foot ulcer was found to be present in 25 percent of the patients. Among these 25 patients, duration of diabetes was more than 10 years in 64 percent of the patients, while duration of diabetes was less than 10 years in 36 percent of the patients.

In the present study, depression was found to be present in 36 percent of the patients with diabetic foot ulcer. Significant results were obtained while correlating the presence of depression with duration of diabetes.

DISCUSSION

Diabetes mellitus (DM) is among the most common chronic metabolic illnesses and is characterized by elevated plasma glucose levels. Individuals living with DM become more prone to health complications, have an overall reduced quality of life, and result in higher burden on the economy due to their medical care expenditure.⁶⁻⁹

Hence; the present study was undertaken for assessing prevalence of depression and its correlation with disease duration among patients with diabetic foot ulcer.

In the present study, a total of 100 diabetic patients were enrolled. Diabetic foot ulcer was found to be present in 25 percent of the patients. Among these 25 patients, duration of diabetes was more

than 10 years in 64 percent of the patients, while duration of diabetes was less than 10 years in 36 percent of the patients. Depression is a major risk factor in hospital admissions among diabetic patients and out-patient presentations with diabetes-related complications. Symptoms of major depression include depressed mood, lack of interest in enjoyable activities, increase or decrease in appetite, insomnia or hypersomnia, slowing of movement, lack of energy, feelings of guilt or worthlessness, trouble concentrating, suicidal thoughts or behaviors.^{8,9}

In the present study, depression was found to be present in 36 percent of the patients with diabetic foot ulcer. Significant results were obtained while correlating the presence of depression with duration of diabetes. Ahmedani MY et al assessed depression symptoms among patients with diabetic foot ulcer and compared the outcome of diabetic foot ulcer between normal participants and participants with depressive symptoms. Patients who were attending the foot clinic were invited to participate in the study. Diabetic foot ulcers were classified according to the University of Texas classification criteria. Depression was assessed using the Patient Health Questionnaire-9 (PHQ-9). Both groups were given standard diabetes and foot care treatment. In addition, antidepressant treatment was given to the participants with depressive symptoms for 3 months. Of the total participants (n = 105), nearly half of them were found to have depressive symptoms (n = 53, 50.4%). At baseline, no significant difference was found in the distribution of hypertension, history of smoking and duration, grading and type of ulcers between normal participants and participants with depressive symptoms. Three months of antidepressant treatment brought significant improvement in the mean depression score (P ≤ 0.05). After 3 months, healing time of ulcers, rate of minor and major amputations, patients on treatment and patients who lost to follow-up were comparable between the groups. Every second patient with diabetic foot ulcer was found to have depressive symptoms. Anti-depressive treatment alleviated depression and made foot ulcer outcome comparable to non-depressed patients.¹⁰

Ahmad A et al determined the prevalence rates of anxiety and depression, and to examine the associated risk factors among diabetic foot patients. A total of 260 diabetic foot patients in the Diabetic Foot Clinic at the National Center for Diabetes, Endocrinology and Genetics (NCDEG), Amman, Jordan, participated in the study. Sociodemographic and health data were gathered through review of medical charts and a structured questionnaire. Depression and anxiety status were also assessed. The Generalized Anxiety Disorder Scale (GAD-7) was used to screen for anxiety and the Patient Health Questionnaire (PHQ-9) was used to screen for depression. A cutoff of ≥ 10 was used for each scale to identify those who tested positive for anxiety and depression. Prevalence rate of anxiety was 37.7% and that of depression was 39.6%. Multiple logistic regression analysis showed that anxiety is positively associated with duration of diabetes of < 10 years (P = 0.01), with ≥ three comorbid diseases (P = 0.00), and HbA1c level of > 7% (P = 0.03). Multiple logistic regression analysis also showed that depression is positively associated with patients of < 50 years of age (P = 0.03), females (P = 0.01), current smokers (P = 0.01), patients with foot ulcer duration ≥ 7 months (P = 0.00), with ≥ three comorbid diseases (P = 0.00) than their counterparts. Anxiety and depression are widely prevalent among diabetic foot patients.¹¹

CONCLUSION

From the above results, it can be concluded that depression significantly affects the diabetic foot patients. Also, prevalence of depression increases with increase in duration of disease.

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