

RESEARCH ARTICLE

Assessment of depression, anxiety, and stress in Type 2 diabetic patients: A case–control study

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ABSTRACT

Background: Diabetes is one of the most common diseases throughout the world that leads to the highest mortality and morbidity. **Aim and Objectives:** The present study was undertaken to observe depression, anxiety, and stress levels in Type 2 diabetic patients and compare them with healthy controls. **Materials and Methods:** A total of 30 diabetic patients with Type 2 diabetes and 30 age and gender-matched healthy controls were part of the study after obtaining written informed consent. The assessment of depression, anxiety, and stress was performed using the standard questionnaire DASS 21. **Results:** There was a significantly higher level of depression scores observed in the cases when compared with the control group. Anxiety scores were significantly higher in diabetic patients when compared with the control group. Stress scores were significantly higher in diabetic individuals when compared with the control group. **Conclusion:** The levels of depression, anxiety, and stress were significantly higher in the diabetic group compared to the control group. Further detailed studies are recommended in this area to adopt the diagnosis and management of depression, anxiety, and stress levels in diabetic patients.

KEY WORDS: Diabetes; Depression; Anxiety; Stress

INTRODUCTION


Diabetes is one of the most common diseases throughout the world that leads to the highest mortality and morbidity. India is not an exception. In fact, India will become the diabetic capital of the world in the near future. Diabetes is of two types that is Type 1 diabetes mellitus and Type 2 diabetes mellitus. It may be due to a lack of insulin secretion or the development of insulin resistance due to the conditions such as obesity. The treatment of diabetes includes multimodal therapy that constitutes the management of the symptoms

of diabetes using pharmacotherapy and change in lifestyle. Psychological conditions such as depression, anxiety, and stress hurt the treatment outcome of diabetes. That is the reason, these negative psychological emotions have to be assessed as a part of the management of diabetes and also they should be managed effectively by psychological therapies. Earlier studies suggested assessment of the negative psychological emotions while diagnosing and treating cases of diabetes.^[1-5] Hence, the present study was undertaken to observe depression, anxiety, and stress levels in Type 2 diabetic patients and compare them with healthy controls.

MATERIALS AND METHODS

Study Design

This was a case–control study.

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Study Population

A total of 30 diabetic patients with Type 2 diabetes and 30 age- and gender-matched healthy controls were part of the study after obtaining written informed consent. The following criteria were adopted to recruit the cases.

Inclusion Criteria

Type 2 diabetic male and female patients within the age group of 30–60 years and with fewer complications were recruited in the study.

Exclusion Criteria

Patients with severe complications and those not willing to participate in the study were excluded from the study.

Study Site

Assessment of depression, anxiety, and stress

The assessment of depression, anxiety, and stress was performed using the standard questionnaire DASS 21. This is a self-administered questionnaire and it takes a minimum of 15 min for filling out the questionnaire.^[6]

Ethical Considerations

The study protocol was approved by the Institutional Human Ethical Committee. The study was conducted as per the guidelines of ICMR.

Statistical Analysis

Data were analyzed using SPSS 20.0 version. Student t-test was administered to observe the significance of the difference between the groups. A probability value of <0.05 was considered significant.

RESULTS

Results were presented in Table 1. There were significantly higher levels of depression scores observed in the cases when compared with the control group. Anxiety scores were significantly higher in diabetic patients when compared with the control group. Stress scores were significantly higher in diabetic individuals when compared with the control group.

Table 1: Comparison of depression, anxiety, and stress levels among the cases and controls

Parameter	Cases (n=30)	Controls (n=30)	P-value
Depression	21±1.28	10±0.73	<0.0001***
Anxiety	19±1.46	8±0.37	<0.0001***
Stress	26±1.48	15±0.73	<0.0001***

Data were expressed as mean and SEM. * $P < 0.05$ was significant, ** $P < 0.01$ is significant, *** $P < 0.001$ is significant

DISCUSSION

The present study was undertaken to observe depression, anxiety, and stress levels in Type 2 diabetic patients and compare them with healthy controls. There was a significantly higher level of depression scores observed in the cases when compared with the control group. Anxiety scores were significantly higher in diabetic patients when compared with the control group. Stress scores were significantly higher in diabetic individuals when compared with the control group. Diabetes is a global issue that needs attention from all health-care individuals.^[7-9] Psychological negative emotions such as depression, anxiety, and stress hurt the management of diabetes.^[10] For example, excessive stress in the diabetic patient leads to the release of epinephrine and this epinephrine causes an increase in blood glucose levels. Hence, there is a strong need to assess these negative psychological emotions along with the diagnosis of diabetes and those patients with higher levels of stress have to be counseled and adequate management methods have to be suggested. The study results are from earlier studies where it was observed that excess levels of depression, anxiety, and stress in diabetic patients.^[11-15]

Limitations

The major limitation of the study was its lower sample size. Hence, the results cannot be generalized.

CONCLUSION

The levels of depression, anxiety, and stress were significantly higher in the diabetic group compared to the control group. Further detailed studies are recommended in this area to adopt the diagnosis and management of depression, anxiety, and stress levels in diabetic patients.

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