

Depression, Anxiety and Stress among Older Adults with and without Type 2 Diabetes Mellitus: A Comparative Study

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ABSTRACT

Introduction: Depression, anxiety, and stress are common psychological concerns among older adults and may be influenced by chronic conditions such as type 2 diabetes mellitus (T2DM). These psychological problems can adversely affect treatment adherence, quality of life, and overall health.

Objectives: To compare depression, anxiety, and stress among older adults with and without T2DM, and to determine the gender differences in depression, anxiety, and stress among older adults with T2DM.

Materials and Methods: A quantitative, cross-sectional descriptive survey design was adopted. A total of 100 older adults, comprising 50 with T2DM and 50 without T2DM, were selected using a non-probability purposive sampling technique. Data were collected using the Depression Anxiety Stress Scale-21 (DASS-21) and analyzed using descriptive and inferential statistics.

Result: The findings revealed a statistically significant difference in the levels of depression, anxiety, and stress between older adults with T2DM and those without T2DM. However, no statistically significant gender differences were observed in

depression, anxiety, and stress among older adults with T2DM.

Conclusion: The study findings indicate that older adults with T2DM experience significantly different levels of depression, anxiety, and stress compared with those without T2DM. Healthcare professionals should routinely assess the psychological well-being of older adults with T2DM and implement appropriate preventive, promotive, and supportive interventions to improve their overall health and quality of life.

Keywords: Depression, Stress, Anxiety, older adults, Type 2 diabetes mellitus.

INTRODUCTION

Type 2 diabetes mellitus is a major global health problem and represents the most common form of diabetes. Diabetes is a chronic multisystem disease associated with significant morbidity, complications, and reduced quality of life. According to the International Diabetes Federation (IDF), an estimated 463 million adults aged 20–79 years were living with diabetes worldwide in 2019, and this number was projected to increase to 700 million by 2045.^[1]

Type 2 diabetes mellitus (T2DM) is a major chronic metabolic disorder and an important

public health concern. In addition to its physical complications, T2DM is frequently associated with psychological and emotional difficulties, including symptoms of depression, anxiety and stress. These psychological problems may adversely influence self-care practices, treatment adherence, quality of life and overall diabetes management.^[2,3]

Older adults with T2DM may be particularly vulnerable to psychological difficulties because of the challenges associated with ageing, long-term disease management, functional limitations and diabetes-related complications. Evidence from systematic reviews indicates that depression, anxiety and stress are common psychological concerns among older adults, highlighting the importance of psychological assessment as part of comprehensive geriatric care.^[4] The co-existence of diabetes and psychological distress may further complicate disease management and affect the overall well-being of older adults. The early identification of depression, anxiety and stress among older adults with T2DM is therefore important for providing appropriate psychological support and comprehensive diabetes care.^[2]

Kerala has a high burden of diabetes and other non-communicable disease risk factors compared with many other Indian states. A large state-wide cross-sectional study involving 12,012 adults from all 14 districts of Kerala documented a substantial burden of non-communicable disease risk factors.^[5] The high incidence of type 2 diabetes and prediabetes reported in a 10-year prospective cohort study further indicates the growing diabetes burden in the state.^[6]

Elderly population with type 2 diabetes mellitus has significantly high rates of depression, stress and anxiety. There are many age-related changes that may affect diabetes and its management. Reflecting upon the review of literature, it was found that early identification of depression, stress and anxiety in older adults with type 2 diabetes mellitus may help in reducing

psychological distress and facilitate effective diabetes management. This may contribute to better glycemic control and improved quality of life.^[7,8]

Although several studies have examined the prevalence and risk factors of diabetes in Kerala, limited evidence is available regarding the psychological burden of depression, anxiety and stress specifically among older adults with type 2 diabetes mellitus. Therefore, the present study was undertaken to assess and compare depression, anxiety and stress among older adults with and without type 2 diabetes mellitus and to find the gender difference in older adults with diabetes mellitus.

MATERIALS & METHODS

A quantitative approach with a cross-sectional descriptive comparative survey design was adopted. The study was conducted from May to June 2021 among older adults aged ≥ 60 years residing in Ward 11 of Eloor Municipality, Ernakulam District, Kerala. A total of 100 participants were selected using non-probability purposive sampling, comprising 50 older adults with type 2 diabetes mellitus and 50 without diabetes mellitus, based on predetermined inclusion and exclusion criteria. After obtaining permission from the concerned authority, eligible participants were identified with the assistance of the ward member and an Accredited Social Health Activist (ASHA) worker. Considering the prevailing pandemic situation, data were collected electronically through Google Forms. Informed consent was obtained from all participants prior to data collection. Data were collected using a socio-demographic questionnaire and the Depression Anxiety Stress Scale-21 (DASS-21).

Statistical Analysis

The data were analyzed using descriptive and inferential statistics. The Mann-Whitney U test was used to compare depression, anxiety, and stress scores

between older adults with and without type 2 diabetes mellitus.

RESULT

Among the 100 study participants, the majority (67%) were aged 60–70 years.

Among the older adults with type 2 diabetes mellitus, 54% were female and 46% were male, whereas among the older adults without diabetes mellitus, 62% were female and 38% were male.

Table 1: Median, Mean Rank and U value of depression among older adults with type 2 diabetic mellitus and older adults without type 2 diabetic mellitus. (n=100)

Group with Depression	N	Median	Mean Rank	U value	p value
Diabetic	50	6	58.78	836	0.004*
Non-diabetic	50	3	42.22		

*significant at 0.05 level

Table: 2 Median, Mean Rank and U value of anxiety among older adults with type 2 diabetic mellitus and older adults without type 2diabetic mellitus. (n100)

Group with Anxiety	N	Median	Mean Rank	U value	p value
Diabetic	50	6	60.30	760	0.001*
Non-diabetic	50	4	40.70		

*significant at 0.05 level

Table: 3 Median, Mean Rank and U value of stress among older adults with type 2 diabetic mellitus and older adults without type 2 diabetic mellitus. (n=1000)

Group with Stress	N	Median	Mean Rank	U value	p value
Diabetic	50	7	59.20	815	0.003*
Non-diabetic	50	5	41.80		

*significant at 0.05 level

Table: 4 Median, Mean Rank and U value of depression of male and female older adults with type 2 diabetes mellitus. (n=50)

Gender with Depression	N	Median	Mean Rank	U value	p value
Male	23	5	23.52	265	0.374 ^{ns}
Female	27	6	27.19		

ns=non-significant at 0.05 level

Table: 5 Median, Mean Rank and U value of anxiety of male and female older adults with type 2 diabetes mellitus. (n=50)

Gender with Anxiety	N	Median	Mean Rank	U value	p value
Male	23	6	22.52	242	0.181 ^{ns}
Female	27	7	28.04		

ns=non-significant at 0.05 level

Table: 6 Median, Mean Rank and U value of stress of male and female older adults with type 2 diabetes mellitus. (n=50)

Gender with Stress	N	Median	Mean Rank	U value	p value
Male	23	7	25.04	300	0.837 ^{ns}
Female	27	7	25.89		

ns=non-significant at 0.05 level

The outcome of the study reported that there is significant difference in the depression, anxiety and stress among older adults with type 2 diabetes mellitus and older adults without diabetes mellitus. It also reported no gender difference in depression, anxiety and stress among older adults with diabetes

DISCUSSION

The result reported that there is significant difference in depression ($p=0.004$), anxiety ($p=0.001$) and stress ($p=0.003$) among older adults with diabetes and older adults without diabetes. The present research findings were consistent with the cross sectional study

conducted by Alzahrani et al. (2019), reported a high rates of depression, anxiety, and stress among adults with type 2 diabetes mellitus. The study reported the prevalence of depression, anxiety, and stress as 33.8%, 38.3%, and 25.5%, respectively, highlighting the increased psychological burden associated with type 2 diabetes mellitus.^[9]

The findings of the present study were supported by a cross-sectional study conducted by Paulraj et al. (2017) to estimate the prevalence of depression and its associated factors among adults with diabetes mellitus at a tertiary care centre in Coimbatore, India. The study found that 35% of the participants had major depression, indicating a considerable burden of depression among individuals with diabetes mellitus.^[10]

The findings of the present study were supported by a descriptive cross-sectional study conducted by Kodakandla et al. (2016) to determine the prevalence of anxiety and depression and their associated factors among patients with type 2 diabetes mellitus in a tertiary care teaching hospital in Telangana, South India. The study found that depression was present in 60.7% of the participants, while anxiety was reported in 44.4%. The findings indicate a high prevalence of psychological distress among patients with type 2 diabetes mellitus.^[11]

The present study found no statistically significant gender difference in depression, anxiety and stress among older adults with type 2 diabetes mellitus. In contrast, a cross-sectional study conducted by Rehman et al. (2015) at Allied Hospital, Faisalabad, reported statistically significant gender differences in depression ($p<0.001$), anxiety ($p<0.001$) and stress ($p<0.001$) among patients with type 2 diabetes mellitus. Female patients had significantly higher levels than male patients for all three outcomes.^[12]

CONCLUSION

The study revealed significant differences in depression, anxiety, and stress between

older adults with and without type 2 diabetes mellitus. However, no statistically significant gender differences were observed in depression, anxiety, or stress among older adults with type 2 diabetes mellitus. These findings highlight the importance of routine psychological assessment and appropriate mental health support for older adults with diabetes mellitus to promote their psychological well-being and improve disease management.

Declaration by Authors

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