

## **Abstract**

### **Title of the Research**

Study on Diabetes Distress and its associated factors among Type-II Diabetes Mellitus patients managed at the Family Medical Clinics in selected Divisional Hospitals in Colombo District.

### **Background**

Life with Diabetes Mellitus is a challenge with multiple medications, regular blood glucose monitoring, physician visits, restricted dietary patterns, and low quality of life. This complex lifestyle leads to psychological distress such as frustration, anxiety, discouragement, burnout, etc. These emotional burdens and worries related to Diabetes Mellitus, and worries related to the complexity and the long duration of the management plan have been recognized as Diabetes Distress. Most of the patients with Diabetes Mellitus do not express their emotional problems and Diabetes Distress remains an undetected problem in standard Diabetic care. According to several types of research, Diabetes Distress has been found to be associated with various socio-demographic, diseases related and various other factors. Diabetes Distress is associated with poor glycaemic control which leads to an elevated risk of Diabetic complications. However, there has been little or no evidence on the study on Diabetes Distress and associated factors of Diabetes Distress in Sri Lanka.

### **Objectives**

The objectives of this study were to assess the DD, proportion of Diabetes Distress, and to determine the association between Diabetes Distress and other factors including glycaemic control among Type-II Diabetes Mellitus patients in Family Medical Clinics of selected Divisional Hospitals (DH) in the Colombo District.

## **Methodology**

A descriptive cross-sectional study was conducted in Family Medical Clinics in selected Divisional Hospitals in Colombo District. (Divisional Hospital Piliyandala, Divisional Hospital Thalangama, Divisional Hospital Wethara). Patients aged above 18 years, diagnosed with type-II Diabetes Mellitus for more than one year were included in the study. Systematic sampling was used to select participants.

An initial, in-person interview with an interviewer-administered questionnaire was used to collect data on socio-demographic data and associated factors of Diabetes Mellitus. A self-administered questionnaire was provided for the participants with the component Diabetes Distress Scale. To measure Diabetes Distress, the “Diabetes Distress Scale 17 (DDS 17)” which has 4 subscales; emotional, interpersonal, physician, and regimental distress, was used. A judgementally validated DDS 17 was used to assess DD. Further, BMI, blood pressure, and the average value of three fasting Blood Sugar measurements (as a proxy indicator of diabetic control) were taken as associated factors for Diabetes Distress.

Bivariate (chi-square, odds ratios) and multivariate analysis (logistic regression) were conducted to assess the associations using IBM SPSS version 20.

## **Results**

The sample size was 389 (mean age 62.01 $\pm$  10.01 years) with 69.7% females. The percentage of those who were suffering from diabetes distress was 37.5% (N=146). The study sample showed distress under the subscales of physician distress, emotional burden, interpersonal distress, and regimen distress were 4.1% (N=16), 43.2% (N=168), 41.6% (N=162), and 33.4% (N=130) respectively.

In the multivariate analysis, as shown, it was found that the number of family members was less or equal to 2 ( $p=0.006$ , OR=2.747, CI=1.331-5.669) and having more than one comorbidity ( $p=0.004$ , OR=3.472, CI=1.476-8.166) were significantly associated with Diabetes Distress. Adequate engagement in physical activity ( $p=0.008$ , OR=0.061,

CI=0.008-0.490), Practicing a diabetic meal ( $p=0.006$ , OR=0.345, CI=0.162-0.736) and adequate sleeping time ( $p=0.025$ , OR=0.074, CI=0.008-0.717) were found to be significant protective factors against Diabetes Distress. Patients with Diabetes Distress were associated with poor glycaemic control, which was HbA1c more than 7 ( $p=0.000$ , OR= 0.073, CI=0.034-0.156).

### **Conclusions and Recommendations**

The percentage of those who were suffering from diabetes distress was 37.5%. Emotional and interpersonal distress were found to be the most important domains. Diabetes Distress was associated with poor glycaemic control. Practicing diabetic meals, adequate physical activity, and sleep were found to be protective factors against Diabetes Distress. Comparatively less number of family members and the high number of comorbidities were significant factors for Diabetes Distress.

This study illustrated Diabetes Distress as a major undiagnosed problem among Diabetic patients. This shows the importance of psychological and emotional management of patients with chronic illness. Furthermore, Diabetes Distress should be incorporated into routine diabetic management by developing more rapid diagnostic tools for the condition. Furthermore, research is warranted including interventions for controlling Diabetes Distress using the above protective factors.