Evaluating Daytime Sleepiness Among Patients with Type 2 Diabetes Mellitus: A Cross-Sectional Study

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Type 2 diabetes mellitus (T2DM) is a major public health issue in Sri Lanka, with nearly one in four adults affected. Sleep disturbances, particularly excessive daytime sleepiness (EDS), are now recognized as significant risk factors for impaired glucose metabolism, increased cardiovascular risk and reduced productivity. However, local data on excessive daytime sleepiness among T2DM patients are scarce. This study aims to evaluate the pattern of EDS and factors associated with EDS, measured using the Epworth Sleepiness Scale (ESS) in adults with T2DM. This is a cross-sectional study of 138 T2DM patients attending medical clinics in the teaching hospital, Peradeniya. Participants were recruited using consecutive sampling, and patients diagnosed with obstructive sleep apnoea, depression, or on sedative medications were excluded. Demographic and clinical data were collected through an interviewer-administered questionnaire and EDS was assessed using validated versions of Sinhala and Tamil ESS. EDS was defined as ESS more than 10 and associations were explored using the Mann–Whitney U test, Kruskal-Wallis test, Spearman's correlation and Chi-square test. The median age of the population was 65(IQR 56-70) years, with the majority (64%) being females and 35% being employed. EDS was detected in 17%. Moderate to high chance of dozing was noted in >30% of the participants, while sitting and reading, watching TV, and as a passenger in a car. However, only 22% had a moderate to high chance of dozing while sitting inactive in a public place. EDS was significantly higher in patients with an age of less than 55 years (31% vs 13%, p=0.042) and duration of T2DM for more than 10 years (25% vs 10%, p=0.026). There were no statistically significant associations found among sex, other comorbidities (hypertension, dyslipidemia, ischemic heart disease or chronic kidney disease), insulin therapy, BMI, waist and neck circumferences and EDS in this cohort. This demonstrates that EDS affected nearly one-fifth of this cohort, particularly in younger patients and those with longer duration of disease. Over one-third reported a moderate to high chance of dozing during sedentary activities, highlighting the potential under-recognition of sleep-related dysfunction in routine diabetes care. However, data on sleep duration, quality, and occupational factors limit further interpretation.

Keywords: excessive daytime sleepiness, T2DM, Epworth Sleepiness Scale, sleep disturbances