Determinant Factors Associated with HbA1c Levels in Patients with Type 2 DM:Sleep Quality, Blood Pressure and the Occurrence of Complications (Working Area of the Sumbersari Health Center, Jember Regency)

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ABSTRACT

Type 2 diabetes mellitus (DM) is a degenerative disease caused by an imbalance of the hormone insulin due to metabolic disturbances in the body, resulting in hyperglycemia. This disease is known as a silent killer and its prevalence continues to increase, including in Jember Regency, with Sumbersari District as the highest area. This study aims to determine the relationship between sleep quality, blood pressure, and the occurrence of complications to HbA1c levels in patients with type 2 DM in the Sumbersari Health Center working area. This study used quantitative analytic method with cross-sectional design and involved 79 subjects through incidental sampling technique. Data were collected using subject identity questionnaire, Pittsburgh sleep quality index (PSQI) questionnaire, complication questionnaire, and direct observation. The characteristics of the subjects were mostly female, age 44-59 (pre-elderly), occupation as a housewife, long suffering 5 years. The results showed a significant relationship between poor sleep quality, high blood pressure and the occurrence of complications with p-value (p=0.000, p=0.014, and p=0.000) to HbA1c levels. The results of multivariate analysis showed that sleep quality p=0.011; OR = 37.000 and complications p=0.011; OR = 37.000 influenced uncontrolled HbA1c levels. The conclusion of this study is that there is a significant relationship between sleep quality, blood pressure, and the occurrence of complications on HbA1c levels. Poor sleep quality and the occurrence of complications have the most influential relationship and 37 times the strongest risk of HbA1c levels in patients with type 2 diabetes.

Keywords: *Sleep Quality, Blood Pressure, Complications, HbA1c, Type 2 Diabetes Mellitus*