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Dipper and Non-dipper Blood Pressure Pattern and Its Effect on Quality of Life at Chronic Obstructive Pulmonary Disease Patients

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Objectives: Chronic Obstructive Pulmonary Disease (COPD) is one of the most common diseases in the world. Non-dipper blood pressure is less than 10% reduction in blood pressure at night time. Besides, non-dipper blood pressure is associated with cardiovascular disease and end organ damage. Inflammation is thought to play a role in the pathogenesis of both COPD and non-dipper blood pressure patterns and both diseases are associated with lower quality of life. The aim of this study was to investigate the effects of non-dipper blood pressure pattern in COPD patients.

Methods: The study design is cross-sectional. COPD patients admitted to the outpatient clinic and hospitalized in the chest diseases department were included in the study. The data collection tools of the study consisted of sociodemographic data form, Saint George Respiratory System Questionnaire (SGRQ) and Euro-QOL 5-D (EQ-5D) questionnaire; blood samples were taken from the patients. Multivariable logistic regression model was used to understand the relationship between different independent variables and blood pressure pattern.

Results: It was found that non-dipper patients had statistically higher CRP, Augmentation Index (Aix) and SGRQ total score than dipper patients (p=0.024, p=0.015 and p=0.040, respectively). It was also found that the risk of non-dipper blood pressure pattern increased as the number of people living at home increased (p=0.043).

Conclusion: Non-dipper blood pressure pattern may increase cardiovascular risk by triggering inflammation and may adversely affect the prognosis of COPD by lowering the disease-related quality of life.

Keywords: COPD, non-dipper, quality of life