

Association between Metabolic Syndrome and Six Minutes Walk Distance on Elderly Pilgrims

Hendrawati^{1*}, Kurniawati V¹, Hapsito MT¹, Utomo YB¹, Rahman F¹, Tjahjono CT²

¹Residents of Cardiology and Vascular Medicine, Faculty of Medicine Universitas Brawijaya – Dr. Saiful Anwar Hospital, Malang, Indonesia

²Supervisor of Cardiac Preventive and Rehabilitation Division, Department of Cardiology and Vascular Medicine, Faculty of Medicine Universitas Brawijaya – Dr. Saiful Anwar Hospital, Malang, Indonesia

*corresponding author: hendrawati.dr@gmail.com

Abstract

Background: *SISKOHATKES* data on 2017 mentioned that the number of morbidity and mortality most derived from cardiovascular disease especially in elderly pilgrims. Metabolic syndrome (MetS) as defined by criteria of the International Diabetes Federation could identify high risk of cardiovascular disease. We have suggested that poor exercise capacity could be associated with MetS and the Six Minutes Walk Test (6MWT) is a useful assessment instrument for the exercise capacity of elderly persons.

Objective: We studied the associations of MetS with Six Minutes Walk Distance (6MWD) in elderly pilgrims

Methods : A cross-sectional study was carried out at Cardiac Prevention and Rehabilitation Division, Saiful Anwar Hospital, Malang on July 2017 with 81 elderly pilgrims (from total 92 pilgrims) with eligible complete data and aged above 60 years old and divided into two groups: with the MetS (45,6% ; n = 37; mean 6MWD= 427.82 meters) and without the MetS (54,4%; n = 44; mean 6MWD= 370.58 meters).

Results : Unpaired T-Test showed significantly difference between group who had the MetS that were more likely to have poor exercise capacity (mean 6MWD= 427.82 meters, p = 0,000) than those who did not have the MetS. In regression analyses, the MetS was associated with decreased 6MWD with magnitude was 17.1% (adj R²) where 82.9% of the rest was influenced by other variables that are not studied.

Conclusion : Metabolic syndrome significantly associated with decreased Six Minutes Walk Distance in elderly pilgrims. This indicates the need for parameters of metabolic syndrome examination for early detection for Hajj *Istitho'ah* to reduce mortality and morbidity of pilgrims.

Keywords : Metabolic syndrome; Pilgrims; Elderly; Six minute walk distance