

The Relationship of Body Mass Index (BMI) with The Result of A Six-Minute Walk Test Elderly Pilgrims at Saiful Anwar General Hospital Malang

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Abstract

Background: In the last 2 decades the mortality rate of Indonesian pilgrims is 200-380 deaths per 100,000 pilgrims. Infections that used to be the leading cause of death and intensive care have been replaced by cardiovascular disease. The ability to walk a certain distance is a fast and cheap measurement that is able to describe a person's ability to undergo daily physical activity. Better physical capacity is associated with lower cardiovascular events. The 6-minute walk test is a widely used and tolerable method to measure functional capacity, especially for the elderly. The 6-minute walk test are influenced by many factors, including Body Mass Index (BMI) and age.

Aim: This study aims to assess the relationship between BMI with the 6-minute walk distance on prospective elderly pilgrims in Saiful Anwar General Hospital Malang.

Method: This is a cross-sectional study with a sample of 92 pilgrim candidates (age>60 years old). A 6-minute walk test was conducted in the Prevention and Cardiac Rehabilitation section of the Heart Integrated Service Center Saiful Anwar General Hospital on July 2017. A 6-minute walk test was conducted according to the ATS Guideline.

Result: From 92 total samples of pilgrims get 39 people (42.39%) with BMI classified as obese and 53 (57.61%) non obese people. The result of linear regression of BMI to 6-minute walking distance indicate that BMI have significant effect to 6-minute walking distance with sig value <0.05. The magnitude of the effect of each addition of 1 BMI scale will increase the result of 6-minute walk test of 2.227 (positive effect). The effect of BMI in predicting/influencing the 6-minute walk test results is 63.9% (adj R²) whereas the other is influenced by other variables.

Conclusion: BMI have a significant effect on the result of 6-minute walk test. BMI increase has positive correlation with increase of 6-minute walk test result.

Keywords : Body mass index; Six minute walk test; Pilgrim