

Abstract

Title: The relationship of body composition and aerobic fitness in the elderly

Objectives: The aim of this study was to determine the aerobic fitness of students at University of Third Age at the UK FTVS and to investigate whether there exists an association between body composition and aerobic fitness.

Methods: The research involved 54 seniors (age 64 ± 2.71 years, body height 163.23 ± 6.05 cm) who studied at University of the 3rd Age at the UK FTVS at the time of research. The original sample of probands was 91, but people aged over 70 years and people taking heart-rate medications had to be excluded. Measurements of body composition was performed using BIA 2000M multifrequency bioimpedance analysis. The investigated parameters were total body water (TBW), intracellular water (ICW), extracellular water (ECW) in litres, fat free mass (FFM) in kg, percentage of body fat (% BF) and extracellular and body cell mass ratio (ECM/BCM). Measurement of aerobic fitness was performed by a 2 km test pass, evaluated by Stejskal at the athletic stadium UK FTVS. Time and heart rate were scanned by sporttester (Polar S 610i). The data was processed using the IBM SPSS statistics 22.

Results: The results showed that our group belongs to „average seniors“ in terms of aerobic fitness. A significant relationship between aerobic fitness and selected body composition parameters was found only in percentage of body fat. The percentage of body fat is also the strongest and the only predictor of aerobic fitness in the elderly.

Key words: physical fitness, body composition, senior