

BODY MASS INDEX (BMI), WAIST-TO-HIP RATIO (WHR) AND FOOT-TO-FOOT BIOELECTRICAL IMPEDANCE ANALYSIS (BIA) IN OLDER POPULATION IN POLAND. PRELIMINARY RESULTS OF THE POLSENIOR PROJECT

A. Szyblaska, M. Mossakowska, K. Broczek

International Institute of Molecular and Cell Biology in Warsaw; Department of Geriatrics, Medical University of Warsaw, Warsaw, Poland

BMI and WHR are simple indirect methods for defining overweight and obesity, important risk factors for age related diseases. The foot-to-foot bioelectrical impedance analysis (BIA) might be a noninvasive alternative method to dual X-ray absorptiometry (DXA) and is simpler than total body impedance. The PolSenior Project is an ongoing interdisciplinary study on ageing in Poland. In the present work 3020 subjects (1519 males and 1501 females) aged 50+ were included. Measurements of height, body mass, waist and hip circumference and BIA procedure were performed by nurses. Tanita bathroom scale model BC-536 (Tanita Corporation America) was used to determine body fat percentage (F%) by foot-to-foot BIA. Finally, 2594 BIA measurements were qualified for analysis. Mean BMI was 27.5 for males and 28.8 for females, and mean WHR was 0.96 and 0.88, respectively. Good correlation between BMI and F% ($r=0,65$) was observed, but the correlation between WHR and F% was unexpectedly weak ($r=0,2$) similarly to that between WHR and BMI. We observed significant differences in BMI and F% between age groups, in the females aged 70-74 mean BMI was 30, F% was 38, and in subjects aged 90+ BMI was less than 26 and F% was 32. This tendency was weaker in males. WHR in females increased with age from 0.86 in the youngest to 0.91 in the oldest group. This might explain weak correlation between F% and WHR. In the oldest old, BMI is not a good predictor of nutritional status, and WHR is influenced by postural changes associated with age. Implemented under a publicly-funded project no. PBZ-MEIN-9/2/2006, Ministry of Science and Higher Education