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*Da vida *in utero* à terceira idade*

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LIVRO DE RESUMOS

COMUNICAÇÕES SELECIONADAS

ASSOCIATION BETWEEN ANTHROPOMETRIC INDICATORS OF ADIPOSITY AND RISK FACTORS FOR CARDIOVASCULAR DISEASE IN ELDERLY

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According to the World Health Organization (WHO), Portugal remains one of the European countries with the highest rates of children and adults with overweight/obesity and it is estimated that 24% of the adult Portuguese population is obese.

Dyslipidemias are the main risk factors for cardiovascular diseases, which are the leading cause of death in developed countries. Numerous studies have been conducted to establish the anthropometric measures as screening tools in clinical practice instead of using laboratory tests.

The use of body mass index (BMI) as indicator of nutritional and metabolic status in elderly has difficulties due to the decrease in height, lean body mass, amount of body water and fat accumulation and the presence of certain conditions age-related that can cause bias in body composition. Some authors state that in the absence of specific cut off points for BMI according to age and gender limits

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This study aims to investigate the association between anthropometric measurements and the cardiovascular risk factors (lipid profile) in the elderly.

A random sample of 70 elderly subjects, 43 women (mean age= 88.2 + 5.5) and 27 men (mean age = 87.7 + 7.7) institutionalized in 3 different nursing homes of Braganza was studied. The lipid profile was estimated from fasting blood samples of all participants. The selected parameters were Total Cholesterol (TC), High Density Lipoprotein Cholesterol(HDL-c), Low Density Lipoprotein Cholesterol (LDL-c), triglycerides (TRG), apolipoprotein - A. (APO-A) and apolipoprotein B (APO-B).

Lipids and lipoproteins plasma concentration were determinate using a biochemical autoanalyzer (Cobas 400 plus, Roche). Some anthropometric parameters (metabolic age, visceral fat, muscle mass, body fat percentage -% BF) were performed by bioimpedance, using a specific scale (Tanita BC model: 545).

The height (to calculate BMI) was considered according to the identity card. After performing descriptive analysis of anthropometric and lipid profile variables, comparing the elderly values according the gender, we used Spearman correlation coefficient to determine the relationship between biochemical and anthropometric parameters.

In the analyzed sample, 4.2% of subjects had an underweight BMI (≤ 18.4), 35.2% of subjects normal BMI (18.5-24.9) and 59.2% overweight (25-29.9) and obesity (≥ 30). As expected, statistically significant differences between men and women were found in regard to muscle mass (50.6 + 5.9 vs. 39.6 + 6; $p < 0.000$), visceral fat (17.5 + 3.4 vs. 10.9 + 2.2, $p < 0.000$) and % BF (26.5 + 6.4 vs. 33.3 + 6.5; $p = 0.002$). It was found that in the women group there is a strong positive correlation between BMI and % BF (men = 0.73; $p < 0.000$ and women = 0.85; $p < 0.000$). Correlation analysis between anthropometric measurements and lipid profile parameters showed a positive association between BMI and TRG concentration ($r = 0.26$; $p = 0.03$) and a negative association between BMI and HDL-c concentration ($r = -0.24$; $p = 0.048$). The same results were observed in other studies, the main lipid/lipoprotein abnormalities related to obesity were a decrease in serum HDL-c concentration and an increase in serum TRG concentration.

As described in the literature, the average in % BF difference, between men and women, increases with age, where women accumulate more body fat than men. In this context, it would be important to define new limits to anthropometric indicators, according to age and gender, which allows them to replicate more accurately the metabolic and nutritional status. In this study, there were no significant correlations between anthropometric parameters and lipid parameters. However, we can confirm, despite the limitations of BMI already mentioned, this was the anthropometric indicator with the highest correlation with lipid profile parameters.