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Overweight, obesity, underweight and sarcopenia in the elderly of Latin America and the Caribbean

Background. Current societies are characterized by an increase in the prevalence of overweight and obesity, which is a general problem of the adult population and has an important impact on public health, in comparison with underweight figures. This situation also occurs in the elderly, but in these ages, sarcopenia is prevalent; it is identified among other aspects by decline of the skeletal muscle mass associated with age, in correspondence with a loss of function, identified with a low strength muscle and a slow walking speed. These entities coexist with significant implications in the quality of life of these people. The purpose is to provide preliminary data on body composition and functionality and some health and nutrition related outcomes in older adults from the Latin America and the Caribbean region. Methods. Cross-sectional study including 1046 volunteers over 60 years of age (31% men and 69% women) from ten countries (Argentina, Brazil, Chile, Cuba, Guatemala, Honduras, Jamaica, Mexico, Peru and Uruguay) from the IAEA project RLA6073 on sarcopenia were considered. Anthropometric variables (weight, height and waist circumference) to calculate Body Mass Index (BMI) and to determine abdominal adiposity. Body composition by deuterium dilution (using Fat mass index: FM/H2 and Fat-free mass index: FFM/H2), and bioelectrical impedance analysis were collected. Maximum grip strength (MGS), gait speed in 6 meters (GS6M) and the Timed up and Go (TUG) test were applied to assess impaired physical performance. The measurements were performed in all subjects by standardized protocols. These measurements were used to assess overweight, obesity, underweight and sarcopenia indicators. The appendicular skeletal muscle mass, corrected by height squared (ASMM) was calculated from Latin-American equations. To identify sarcopenia indicators, were considered cutoff point for MGS (female $^{<}$17Kg and male $^{<}$25Kg), TUG 10s and GS6M $^{<}$1m/s. In the statistical processing, the General Linear Model (GLM) on FM/H2 and FFM/H2 (main effects: sex, manual strength and performance indicators, and controlled by the BMI and the ASMM) and the Principal Component Analysis (PCA) were used, among others. Results. According to BMI about 42% of the elderly are overweight and 26.7% are obese, with a predominance of females. Underweight is uncommon (2.8%) and the abdominal adiposity is about 80%. The indicators related of sarcopenia showed prevalence of low muscle strength (28%), a 48% had impaired in GS6M test, low risk values in TUG test and the muscle mass declined. The results of the GLM expressed the significant influence (p=0.000) of overweight and muscle mass on FM/H2 and FFM/H2. The TUG is only important associated with sex. Similarly, only the impact of MGS and the GS6M on FFM/H2 are significant when they are associated with sex. The PCA highlights the contribution of muscle mass in the FFM, the BMI account for excess body fat; the performance indicators are more affected in elder who have higher adiposity. Conclusion. This study confirms a high prevalence of overweight, obesity and sarcopenia indicators in Latin America and the Caribbean elderly.

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