Study of the Relationship between Body Composition Predictors in Subjects with Intellectual Disabilities

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ABSTRACT

BACKGROUND: Body composition is an important component of health-related physical fitness since overweight and obesity are related to diseases such as hypertension, osteoarthritis, diabetes, stroke, some types of cancer, as well as psychological problems and social[1]. Few studies have addressed the body composition in people with intellectual disabilities. **OBJECTIVES:** In this sense, the present study aimed to analyze the relationship between different indicators of body composition among themselves, in subjects with intellectual disability. **METHODS:** Participating 48 individuals (27±8.4 years) with mild intellectual disability, defined by the IQ presented (50-69). The data were always collected under the same conditions and by the same researchers. The Inbody270 bioimpedance balance allowed us to evaluate the following variables: Body Mass Index (BMI), Skeletal Muscle Mass (SMM), Fat Mass (FM) and Body Fat Percentage (%BF)[2]. The waist circumference (WC) was measured using a tape measure (Rosscraft). The conicity index (CI) was obtained through the measures of weight, height, and WC. The Body Shape Index (ABSI) was calculated by weight, WC and height. The relation waist/height (Rw/h) was obtained by means of the quotient between the WC and the height[3]. All ethical and legal research principles of Human Beings have been taken into account[4]. SPSS 23.0 Software was used. The Kolmogorov-Smirnov test was used, and only one variable (ABSI) did not demonstrate normal distribution. To verify the strength of the correlation we used the confidence intervals suggested by Hinkle, Wiersma, and Jurs[5]. **RESULTS:** Was verified a very high and positive correlations between FM and %BF (r=0,909; *p*=0,00; r^2=82,7%), high and positive correlations between BMI and FM (r=0,82; *p*=0,00; r^2=67,3%), BMI and %BF (r=0,735; *p*=0,00; r^2=54%), BMI and Rw/h (r=0,834; *p*=0,00; r^2=69,5%), FM and WC (r=0,717; *p*=0,00; r^2=51,4%), FM and Rw/h (r=0,735; *p*=0,00; r^2=54%), %BF and Rw/h (r=0,747; *p*=0,00; r^2=55,9%), WC and CI (r=0,814;

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p=0,05; r^2=66,2%) and between WC and Rw/h (r=0,782; p=0.00; r^2=61,2%). Negative correlations was found between SMM and %BF (r=-0,541; p=0.00; r^2=29,3%) and between SMM and ABSI (r^s=-0,302; p=0,037; r^2=6,9%). **CONCLUSIONS:** The results of the study suggest that there are a large number of participants (n = 23) who are overweight, being a determinant factor for the development of certain cardiovascular and metabolic pathologies. It seems to be decisive to evaluate a large number of variables of body composition, so that an individual profile of body composition can be outlined, enhancing an individualized prescription of physical activity practice and also in controlling exercise and health status of the population with intellectual disability, as well as education for health/ therapeutic education.

Keywords: *Body composition, Intellectual disability, Bioimpedance, Physical activity*

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