

Association between anthropometric characteristics and the motor function in Chileans subjects with different levels of physical activity

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Abstract

There is little information about the relationship between anthropometric indexes and motor function in active and inactive subjects. In that sense, this research aims to determine the relationship between anthropometric characteristics and motor function score in Chilean subjects with different levels of physical activity. The sample included 63 subjects (20 women), allocated into three groups: physically active group (GFA, n=21), athlete group (GD, n=21) and physically inactive group (GFI, n=21). The variables studied were body composition, waist circumference (WC), body mass index (BMI), waist-to-hip ratio (WHR), and motor functionality using the Functional Movement Screen (FMS). A One-way ANOVA, Pearson's correlation test, and a multiple linear regression model were applied, considering $P < 0.05$. The results showed a moderate inverse correlation ($-0.52 \leq r \leq -0.62$) between FMS score and sum of skin folds, Z-score fat, fat mass (Kg), BMI in the GFI. Similarly, in the GFA the FMS showed a moderate inverse correlation ($-0.54 \leq r \leq -0.60$) with the sum of skin folds, fat mass (Kg & %). Changes in the FMS score were mainly explained by the sum of skin fold, Z-score fat, fat mass (kg), percentage of fat mass and WC. In conclusion, anthropometric characteristics are associated with motor function in physically active (GFA) and inactive Chilean subjects, showing an inverse relationship between the FMS score and adiposity parameters of body composition.

Keywords Anthropometry, Body composition, Body mass index, Motor function, Physical activity, Professional football players, Body-composition, Movement screen, Normative data, Kinanthropometry, Exercise, Quality, Sports, Adults, Nutrition & Dietetics