Anthropometric Characteristics of Elite Rhythmic Gymnasts

Arriaza, E.; Rodriguez, C.; Carrasco, C.; Mardones, C.; Niedmann, L.; Lopez-Fuenzalida, A.

Abstract

The main aim of this study was to identify the morphological characteristics, to determine the tendency in the physical structure, differences and similarities according to categories based on age of the Chilean team of Rhythmic Gymnastics. We performed an anthropometric analysis of 60 gymnasts, fractioned by categories: preschoolers and schoolers (n = 11), junior (n = 28) and senior (n = 21). The anthropometric analysis was determined based on the study of the body composition, through pentacompartmental fractionation method (Kerr), somatotype (Heath & Carter) and the body mass index (Quetelet). The results showed significant differences between preschoolers and schoolers and higher categories (junior and senior) in the general anthropometric variables of body mass, height and BMI. Regarding the body composition, we only found significant differences in the percentage of muscle mass between the preschoolers and schoolers when being compared with the other two categories. In the study of somatotype, the prevalence of ectomorphic categorization was only found in the preschoolers and schoolers (meso-ectomorph), while in the junior category a mesomorph-ectomorph somatotype was observed and a central type in the senior category. We conclude that the morphology of the selected Chilean Rhythmic gymnastics depends on the category, as observed in the anthropometric characteristics related to the body composition and somatotype. Therefore, this factor is not useful in establishing a clearer tendency in the morph structure for this sport at a national level.

Keywords  Rhythmic gymnastics, Kinanthropometry, Age categories, Body-composition, Performance, Adolescent, Growth, Anatomy & Morphology