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Anthropometric and body composition characterisation of competition Portuguese crossfit athletes

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ABSTRACT

Introduction: Anthropometric characteristics and body composition are an important element in sports performance. Skinfold and circumference measurement had been recognised as an adequate and valid tool to assess body composition through specific equations from several authors which should be validated for each sport. The aim of this work was to characterise a Portuguese sample of competition athletes in Crossfit comparing several equations based in skinfold measurement.

Materials and methods: This was an observational study conducted in a Crossfit box where 11 athletes were recruited, 7 were male and 4 female. The anthropometric assessment included the height measurement through a stadiometer (SECA123), a weigh in a digital scale with 100 g precision (ELECTRONIA) and the measurement of 7-site skinfold (bicep, tricep, subscapular, suprailiac, abdominal, thigh and calf) with a Slim Guide adipometer. Skinfold measurements were conducted according to ISAK protocol. All the results were treated with SPSS statistics 17.0 software.

Results: The sample included 11 athletes where 4 were female (36%). Participants were 25–39 (31.6 ± 4.4) years old. The average body fat in male and female athletes was 13.7%±3.98 and 28.4%±5.6, respectively. These results were compared through a paired-samle *t*-test. In men, Durnnin & Womersley gave the highest body fat percentage while in female this and Jackson & Pollock where the highest, the lowest values were obtained through Evans formula in both genders. There were significant differences between all the formulas used for men ($p < .05$) but in women results only the formulas Durnnin & Womersley and Jackson & Pollock had shown significant differences ($p < .05$).

Discussion and Conclusions: The sample of Crossfit athletes had shown values of body fat within the normal range. In spite of these, there were found some differences between several formulas which reinforces the need to use more than one formula in body fat assessment in nutrition clinical setting. Because this study was done in a convenience sample, the size and the heterogenous distribution of gender can be considered as study limitations.

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Can urban gardens improve food security, health, well-being and financial sustainability of households?

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ABSTRACT

Introduction: An increased consumption of fresh fruit and vegetables is associated with health benefits [1,2]. Including them in the daily diet can reduce the risk of noncommunicable diseases [2]. Urban gardens (UG) can improve communities around them by allowing a supply of such products [3,4], by contributing to conscious decisions about eating [4] and lessening the health costs of its populations [2–4], by improving their participants self-esteem, and by helping in the development of competencies [4]. This preliminary study aimed to understand the parameters that could be evaluated on a greater scale future study, to assess the role of urban gardens in their participants health, nutrition knowledge and family budget.

Materials and methods: An UG in Setúbal, Portugal, was selected for this study. All data was collected in October, 2018 and included: demographic data from the gardeners ($n = 133$), a "Food and Nutrition Knowledge" validated questionnaire [5] with 20 true and false questions ($n = 6$), and semi-structured interviews ($n = 6$). All interviewed gardeners understood the purpose and signed the informed consent.

Results: The UG had 138 plots with 133 in use. Most of the gardeners were men (59.9%) and under 65 years of age (74.4%). 30,5% had an income under ($n = 133$) 11,999€per year.