BODY COMPOSITION IN SOCCER PLAYERS OF DIFFERENT COMPETITIVE LEVEL
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Introduction
Data on the body composition of soccer players i.e., a physical parameter relevant to performance [1-2], are relatively limited. Recently, some journal papers appeared dealing with the anthropometry and body composition of elite players [3-4], also in relation to identification and selection of talented soccer players [5] or somatic differences according to the team position [6]. We investigated some anthropometric characteristics as well as body composition as determined by skin fold measurement in a group of agonist and non-agonist amateur soccer players.

Materials and Methods
A total of 48 male subjects were investigated over three months (March-May). They were aged 23.2±3.24 y, weighted 73.6±9.08 kg, and their mean height was 1.79±0.054 m; the mean BMI (kg/m²) was 22.9±4.16. Skin fold measurement was performed with a Harpenden caliper (Gima, Modena, Italy) according to standard procedures [7].

All anthropometric characteristics were compared for within group difference using one-way analysis of variance (ANOVA). In order to detect between group differences, a post-hoc Bonferroni test was applied where appropriate.

Results
Weight, height, and BMI were similar in the three groups (F=1.19, 2.85, and 2.69, respectively; p=n.s. for all). The Agonist were younger than Non-agonist and Control (F=13.92, p<0.0001); the two latter groups were of similar age.

Comparison of individual skin folds showed significant difference in the three groups for the triceps (F=3.94, p<0.026), sub-scapular (F=5.08, p<0.01), mid-axillary (F=3.47, p<0.04), and front thigh (F=3.36, p<0.04) skin fold; the supra-iliac (F=2.87, p<0.067), abdominal (F=2.95 p<0.062), and chest (F=2.97, p<0.061) skin fold were at the limit of statistical significance.

Discussion
This study shows that the sum of skin folds, as well as several individual skin folds, body density, and percent body fat were significantly different in the three groups and these parameters were significantly different between agonist and control subjects, non-agonists showing intermediate, not statistically different values.

Performance in soccer is the result of a blend of several factors, including genetic endowment, training and health status of the individual athlete. However, the relative similarity of body composition we found in agonist and non-agonist players may explain the frequency of positive results obtained by teams at a lower competitive level. This data might be a valuable help for a coach guiding players’ training process (the quality, quantity, and organization of physical exercises), thus optimizing soccer performance.

References

Keywords: Soccer, Anthropometric Data, Body Composition