The aim of this study was to compare the physical fitness (PF) between under sixteen (U16) and under eighteen (U18) basketball players. Body mass and height were assessed with a bioimpedance balance and a stadiometer. Strength levels, the upper limbs strength was measured by the number of push-ups (per 30s) and lower limb’s with a horizontal jump without preparatory race (in centimetres). Coordination was measured by dribbling 5 barriers in the diagonal with a distance of 1m (The first barrier at a distance of 8m from the start and the last at 1m of the basket). The speed was measured with a 20 meters sprint test (seconds). The seat and reach flexibility test and the up the back test in centimetres measured the flexibility. One way ANOVA assessed the statistical differences between groups. The significance level was 5%. Only significant different were founded between U16 and U18 players in weight. No significant differences were founded between groups in anthropometrics, strength, speed, coordination and flexibility. In this study, it is possible to conclude that there are no significant differences in physical fitness between U16 and U18 and basketballers should be encouraged to practice in a higher competitive level.

Palavras-chave / Key-words / Palabras-clave

Physical fitness, performance, youth, basketball.

Introdução / Introduction / Introducción

Some team sports include two competitive levels in one team. However, sometimes there are physical differences that may compromise the younger players’ performance. In basketball, speed, strength and motor coordination are three elemental motor abilities and the individual technique, strength and resistance are also associated with the team performance (Forté et al., 2016). However, younger’s performance may be affected by the physical fitness differences.

Métodos / Methods / Métodos

Sample: This study was composed by nine U16 with 14.67 (± 0.50) years old and seven U18 players with 16.71 (± 0.48) years old. All the players competed in Nacional Cup for U18 and U16 competitive levels. All the procedures were in accord to the Helsinki’s declaration regarding human research. A written consent by the parents or tutors was obtained beforehand.

Procedures: The upper limbs strength was measured by the number of push-ups (per 30s) and lower limb’s with a horizontal jump without preparatory race (in centimetres). Coordination was measured by dribbling 5 barriers in the diagonal with a distance of 1m (The first barrier at a distance of 8m from the start and the last at 1m of the basket). The speed was measured with a 20 meters sprint test (seconds). The seat and reach flexibility test and the up the back test in centimetres measured the flexibility.

Statistical analysis: The Levene’s and Kolmogorov-Smirnov tests assessed the equality of variances and normality respectively. The One way ANOVA evaluated the statistical differences between groups. The significance level was 5%.


discussion and conclusions

No significant differences in PF were observed between the two teams. Forté et al. (2016), applied a strength program on a U18 team. The authors made the same evaluations in two distinctive months, the beginning of the season and four months later. Only age, upper limbs strength, coordination and up the back flexibility presented significant differences. In our study, no strength program was applied. However, the evaluations were at the beginning of the season and trainee was not assessed.

Different studies presented differences in strength levels (Fort-Vanmeeverhaeghe et al., 2016; Forte et al., 2016). The main causes for physical fitness differences are strength levels. The main limitations of this study were: (i) the differences between U16 and U18 players were assessed in one single moment, at the beginning of the season; (ii) only sixteen players made part of this research. In this study that, no significant differences in physical fitness between U16 and U18 competitive levels were found. Strategies such as train and compete in a higher competitive level should be adopted.

References


