Physiological Adaptation to 6 weeks of specific training of intercollegiate soccer players

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The purpose of this study was to first examine selected anthropometric and physiological characteristics of the outfield players of a soccer team according to playing position, and secondly to study the effects of a six week soccer training regimen on peak aerobic power (VO\textsubscript{2peak}), treadmill run-time to exhaustion (TTE), percent body fat (%BF), and sum of skinfold thickness (SST). Twenty four outfield players of an intercollegiate soccer team [9 defenders (DF), 8 midfielders (MF), and 7 forwards (FW)] participated in the first part of the study, whereas only 17 players completed the training. Body weight and height were not different among playing positions. Also, no difference was found between player positions for: (a) %BF [DF = 9.9 ± 2.2(SD); MF = 10.2 ± 5.7; FW = 10.6 ± 4.1%], (b) VO\textsubscript{2peak} [DF = 55.9 ± 3.3; MD = 56.4 ± 5.2; FW = 52.9 ± 4.3 ml · min\textsuperscript{-1} · kg\textsuperscript{-1}], and (c) maximal ventilation rate [DF = 127.8 ± 11.8; MF = 119.1 ± 13.0; FW = 117.1 ± 7.31 · min\textsuperscript{-1}]. The TTE was not different among groups. The VO\textsubscript{2peak} before training was 55.3 ± 4.3 ml · min\textsuperscript{-1} · kg\textsuperscript{-1} and it increased (p ≤ .05) to 57.5 ± 5.8 ml · min\textsuperscript{-1} · kg\textsuperscript{-1} after training. TTE also increased (p ≤ .05) from 22.8 ± 3.0 min before to 25.2 ± 1.6 min after training. Although body mass (74.0 ± 6.4 kg) and %BF (9.8 ± 4.4%) remained unchanged during the training period, the SST decreased (p ≤ .05)from 60.9 ± 17.4 to 55.4 ± 14.0 mm. The results indicated no difference in selected anthropometric and physiological variables among playing positions. The loss of subcutaneous fat without a change in the total fat after six weeks of training in all players suggest there was a redistribution of fat storage.