WITHIN-SEASON VARIATION IN THE BODY COMPOSITION OF ASIAN YOUTH PROFESSIONAL SOCCER PLAYERS

Abstract

Body composition is an important aspect of soccer fitness. There is a dearth of longitudinal data on the intra-seasonal variation in the body composition parameters of youth professional soccer players especially of Asian origin. This study assessed the body composition profile of the Asian youth professional soccer players (n=20; Mean ± SD, age 17.5 ± 0.3 years, stature 1.73 ± 0.04 m, body mass 67.2 ± 7.5 kg) through the entire season. Body mass, percentage body fat (% BF), lean body mass (LBM) and bone mineral density (BMD) of outfield youth professional soccer players was determined using dual-energy x-ray absorptiometry (DXA) during the pre-season, early in-season and end mid-season respectively. Results showed that the Asian youth professional soccer players had similar anthropometric characteristics compared to Asian adult elite players but were shorter and lighter than European youth players. There was a significant decrease (p < 0.05) in the % BF and a significant increase (p < 0.05) in LBM during the pre-season period. However, negative adaptations during the competition phase indicated that training and competition load was insufficient to improve or maintain the adaptations in the % BF and LBM. The whole body BMD significantly increased through the soccer season. Area-specific BMD of the pelvis and the lower limbs showed positive osteogenic adaptations during the soccer season. Our results showed that the body composition parameters of Asian youth professional soccer players change through the soccer season. Such data can expand the bases of comparison between different soccer playing populations and add to the prospects of research on soccer performance. Further studies on the effect of body composition parameters on different aspects of soccer performance are desirable.

Key words: youth professional soccer players, Asian, body composition, soccer season