Abstract

The present study was conducted to assess body composition, energy balance and nutrient intake of athletes represent Sri Lanka at international level. Total of 42 athletes (female track and field athletes 19, male weight lifters 10, female weight lifters 3 and netball players 10) participated in the study. Anthropometric measurements were taken and body composition was determined using bio-electrical impedance analysis. The training diets of subjects were assessed using a 7-day diet record. Energy expenditure of the subjects was assessed using a 7-day physical activity record. Socio demographic factors, dietary behavior, knowledge and attitude of athletes were studied via general questionnaire. Results showed that 42% of athletes were underweight (<20 kg/m^2). Percentage of lean mass of both male (83.2%) and female (80.0%) weight lifters were higher compared with lean mass of other groups of athletes. Mean energy intakes per kilogram body weight of female and male subjects were 36.9 kcal (SD 10.8) and 35.7 kcal (SD 9.5), respectively which was lower than the recommendation. Of all subjects, 88% had negative energy balance. Energy balance per kg of lean weight (-13.8kcal/kg of lean, SD 13.0) was significantly ($P<0.0001$, $t=-6.47$) lower than the recommended value of 30 kcal/kg of lean body weight. In three different athletic groups, the range of percentage of energy obtained from carbohydrates, fats and proteins was 54.0-63.3, 26.2-36.0 and 9.4 - 11.9, respectively. Mean protein intake (g/kg of body weight) ranged from 0.7 to 1.2 among different groups. Vitamin A, C, E, Zn, Se and Ca intake of athletes were lower than the recommended daily allowance (RDA) for athletes, and only 38.2% of athletes achieved the RDA for Fe. Majority of athletes were below the RDA of folate (94.1%) and vitamin B_6 (88.2%) while almost all athletes (97%) achieved the RDA of Thiamin. In conclusion, athletes participates international level have appropriate body composition according to respective sport, but they had negative energy balance and inadequate consumption of carbohydrate, protein and most of the micronutrients.