

Analysis of Nutritional and Health Status of Sri – Lankan High Performance Athletes

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Health and nutritional status are crucial for the optimal performances of athletes, though less attention is being paid by Sri Lanka. This research aims to analyze and assess the current overall nutritional and health status of Sri Lankan high – performance pool athletes for further enhancements and optimizations in the aim of optimal performance. This is a quantitative cross-sectional study with 125 athletes from 12 sports in Sri Lankan high-performance pool selected by convenient sampling. Dietary and hydration data were collected from validated 24-hour dietary recalls and 3 – day diet diaries. Height, weight and BMI were taken as anthropometric data. Body composition data were collected from Bio-electrical impedance analyzer (BIA). But due to special physical impairments, 7 sites skinfold method was used for para-athletes' body composition assessment. Bio-chemical data were taken from pathology reports. Sleep quality was assessed using validated PSQI questionnaire. Dietary data were analyzed using the software “FoodBase2000”. The Body Mass Index, (21.2 ± 5.2) was not optimal for around 50% of the athletes. The mean body fat percentage for males [10.93 ± 5.4 (n = 74)] and females [22 ± 6.6 (n = 50)] fell within normal ranges. The mean daily energy intake was 2556 ± 937.2 Kcal/day (n = 122), with an optimal macronutrient distribution as carbohydrate $59 \pm 9.6\%$ per day (n = 122), protein $14 \pm 3.3\%$ per day (n = 122), and fat $26 \pm 8.8\%$ per day (n=116). Iron intake (18.21 ± 17.26 mg/day) was insufficient in 70% participants. Biochemical results indicated Low serum Vitamin D in 58% of participants (mean serum level of 40.89 ± 38.92 ng/mL), Liver enzyme elevation in 18.4%, and higher TAG/HDL index in 4% of the population, which led to insulin resistance. Other biochemical parameters have shown optimal results. Sleep quality (mean score 4.5 ± 3.2) was inappropriate for 55% of athletes. The anthropometry and body composition status of most athletes are optimal but Dietary intakes were sub optimal including macro and micronutrients. Except for few, biochemical results were optimal and controversially, insulin resistance was observed even they are high – performance athletes which can be due to inappropriate dietary behaviors. Poor sleep quality also can be observed. These results finally conclude that the current health and nutritional and health status of Sri Lankan high – performance athletes do not at its optimal level and need further optimizations.

Keywords: Body composition, high – performance, nutrition, sleep quality