

Nutritional intervention program in elite athletes: single-case design research with one professional basketball player

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The American College of Sports Medicine and the International Olympic Committee argue that sports performance is improved with optimal nutrition. However, scientific evidence shows that professional athletes do not perform adequate nutritional intake compared to recommendations. This work pursues two aims: a) describe the nutritional practices of one professional basketball player, b) carry out a long term nutritional intervention to adapt his diet to current recommendations. A single-case design study was conducted with one professional basketball player (centre) of the Spanish ACB League, healthy, English, 24 years, 111.4 Kg weight (W) and 2.11 m height. Dietary intervention (3 months on competitive phase) was employed regarding the individual dietary needs of the athlete as well as a pre and post sports nutrition knowledge survey (Reilly and Maughan 2007). Dietary intake was assessed with a pre and post 7-day food record. Anthropometric measures (ISAK)

were taken before and after the intervention. Pre nutritional intervention, the mean total energy intake (TEI) was below the estimated total energy expenditure (TEE) (3980 vs. 4800 Kcal/day) and carbohydrates (CHO) intake was low in comparison with the recommendation for intermittent intensity sports (3.7 g vs. 7-12 g/Kg W). Protein (P) intake was satisfactory (1.4 vs. 1.2-1.6 g/Kg W/day) whereas total fat (TF) intake was just at the maximum recommended value (35% vs. 20-35% of TEI) and saturated fatty acids intake (SFA) was above recommendation (11% vs. < 10% of TEI). Alcohol consumption was also excessive (43g vs. 20g ethanol/day). Post dietary intervention, TEI (4259 kcal) and CHO intake (5.1 g/Kg W/day) were improved, did not reach the recommendation. P intake remained unchanged (1.4 g/Kg W/day) and TF and SFA intake decreased to 26% and 8% of TEI respectively achieving the recommended values. Moreover, alcohol intake decreased to 10 g/day post-intervention. Furthermore, there was an improvement in nutrition knowledge but not statistically significant. A long term nutritional intervention is useful to improve nutritional practices of one professional basketball player. In future research, it will be necessary to prolong the intervention and analyze the relationship between the changes of nutritional practices with sports performance.