

Abstract

”The Impact of Dietary Modification on Athletes Performance and Their Nutritional Status.”

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The objectives of the present study were to evaluate the nutritional status of some athletes at El Shams Sport Club, Heliopolis-Cairo; study the impact of athletes' nutritional status and dietary modification on their sport performance; determine the correlation between the nutritional status of athletes and their performance. The study was carried out on sample of 60 athletes in Cairo, which were selected according to their type of sport, non-aerobic (sprinter runners 30 athletes), and aerobic sport (long distance runners 30 athletes). The data related to many parameters were collected from each group before and after the implementation of the suggested dietary modifications. These parameters included: Nutritional data, anthropometric measurements were taken for each athlete, blood samples were collected for the determination of hemoglobin and hematocrit, and Physical work capacity was evaluated. For all the athletes, the suggested dietary modifications were implemented for a period of three months. Results of the study showed that: Before conducting of the dietary modifications, both the sprinter runners and long distance runners had low total daily energy intake and deficient intakes of some vitamin and minerals. The mean hemoglobin and hematocrit values for both groups were lower than the standard values, After the implementation of the dietary modifications, the results have showed the daily intakes of energy, some minerals significantly ($P < 0.05$) increased in the long distance runners. There were significant increases ($P < 0.05$) in the daily intake of magnesium, and copper for the sprinter runners. The mean intake of total iron was significantly ($P < 0.01$) increased in both groups. There was a significant increment ($P < 0.05$) in the physical work capacity value in sprinter runners group, and a significantly higher ($P < 0.05$) hematocrit value in the long distance runners group post dietary modifications. There was a significant positive correlation between nutrient intakes and hematological parameters and between physical work capacity test values and nutrient intakes in all runners.

Key Words: Sport nutrition- dietary modifications- hematological parameters - PWC170- anthropometric measurements.