

The Effect of Magnesium Supplement on the Athletic Performance of Field Athletes

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Abstract : Magnesium (Mg) is an essential mineral that plays a crucial role in the human body. Certain types of foods, including nuts, grains, fruits, vegetables, and whole grains, are rich sources of magnesium. Mg serves as an essential cofactor for numerous enzymatic reactions, including energy metabolism, cellular growth, glycolysis, and protein synthesis. The Mg-ATP complex serves as an energy source and is vital for many physiological functions, including nerve conduction, muscle contraction, and blood pressure regulation. Despite the vital role of magnesium in energy metabolism, maintaining adequate magnesium intake is often overlooked among the general population and athletes. The aim of this study was to investigate the effect of magnesium supplementation on the physical activities of field athletes. Field athletes were divided into two groups: those who consumed magnesium supplements and those who received a placebo. These two groups received either 500 mg of magnesium oxide or a placebo daily for 8 weeks. At the beginning and end of the study, athletes completed ISI questionnaires and physical activity assessments. Nutritional analyses were performed using N4 software, and statistical analyses were conducted using SPSS19 software. The results of this study revealed a significant difference between the two study groups. Athletes who received magnesium supplements experienced less fatigue related to field athletic activities and muscle soreness. In contrast, athletes who received the placebo reported more significant fatigue and muscle soreness. A concerning finding in these results is that the performance of athletic activities may be at risk with low magnesium levels. Therefore, magnesium is essential for maintaining health and plays a crucial role in athletic performance. Consuming a variety of magnesium-rich foods ensures that individuals receive an adequate amount of this essential nutrient in their diet. The consumption of these foods improves performance parameters in athletic exercises.

Keywords : athletic performance, effect, field athletes, magnesium supplement

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