

THE EFFECTS OF CREATINE SUPPLEMENTATION ON FOOTBALL PLAYER MAXIMUM ISOMETRIC STRENGTH IN SHAHROOD CITY

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Introduction

Creatine supplementation has the ability to increase skeletal muscle stores of creatine and phosphocreatine, which could therefore increase skeletal muscle's ability to increase ATP resynthesis from ADP. A previous study employing 20 g of creatine for 6 days showed an increase in phosphocreatine concentrations after a maximal isometric contraction during 16 and 32 seconds of recovery. Resistance training along with creatine supplementation has typically been shown to be more beneficial at increasing body mass, maximal strength, and weight lifting performance compared to placebo, but responses are variable [1].

Methods

20 football players were randomly assigned in a double-blind method to either a creatine treatment (CT, n=10) group or a placebo (PL, n=10) group. The CT group ingested 20 g daily (5 g × 4 times) for five days. In exercise protocol participants performed leg flexion exercise 3 sets of 8 repetitions with 70-80% 1-RM. Test on the first day and fifth day of the subjects in the laboratory were taken. The effect of creatine supplementation was tested using paired t test and independent t tests for comparisons data. Statistical significance was set at p<0.05.

Results & Discussion

The test results showed that creatine supplementation had significant effect on maximum isometric strength of football players included in groups CT and PL. (Table 1). Independence t test results also showed that the mean difference between groups in pretest and posttest was not statistically significant.

Table 1. The effects of creatine supplementation on isometric muscle strength.

	groups	pre test	pos test	T test	P value
Maximum isometric strength (kg)	CT	187±22	230±42	-18.000	0.027*
	PL	170±33	195±42	-8.000	0.68

Conclusion

This study suggests that short-term creatine supplementation significantly changed football player's maximum isometric strength. This study evaluated in the laboratory and to ensure the impact of it on performance and fitness more research is needed

References

1. Mike, S. et al. (2009). J Int Soc Sports Nutr, 6(6): 1550-2783