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The effect of l-arginine supplementation on body composition and performance in student female athletes

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The objective of this study was to investigate the effect of l-arginine supplementation on sport performance and body composition in female basketball players. This double-blinded, randomized and placebo-controlled trial was conducted on 44 female basketball players, with age range of 18-27. Subjects were randomly assigned to either l-arginine or placebo groups. Athletes received daily either 2 g per day l-arginine supplement or the same amount of placebo (maltodextrin) for 45 days. Sport performance and also body mass index (BMI), body fat mass (BFM) and lean body mass (LBM) were measured at the beginning and end of the study. Also, 3-day dietary records were collected at three different time points (before, in the middle of, and at the end of the study). The mean age of subjects was 21.56 ± 5.31 years. Sport performance (VO₂ max) significantly increased in l-arginine supplementation group (3.35 ± 5.48) compared with placebo group (1.54 ± 4.12) ($P=0.05$). This increase remained significant even after adjustment of baseline values, physical activity and usual dietary intake of subjects throughout the study. No significant effect of l-arginine supplementation was found on weight, BMI, BFM and LBM. l-arginine supplementation (2 g per day) could increase the sport performance in female athletes, but had no effect on anthropometric measurements, including BMI, BFM and LBM. So, further studies are needed to confirm our findings.

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