

Effectiveness of a Sports Nutrition Intervention for High-School Athletes: A Feasibility Study

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Abstract : The objective of this study was to assess the effectiveness of a sports nutrition intervention on body composition in high-school athletes. The study aimed to improve the food and water intake of high-school athletes, evaluate the cost-effectiveness of the intervention, and assess changes in body fat. Data were collected through observations, questionnaires, and interviews. Additionally, bioelectrical impedance analysis was performed to assess the body composition of athletes both before and after the intervention. Athletes (n=25) participated in researcher-monitored training sessions three times a week over the course of 12 weeks. During these sessions, in addition to completing their auxiliary sports training, participants were exposed to educational interventions aimed at improving their nutrition. These included discussions regarding current eating habits, nutritional guidelines for athletes, and individualized recommendations. Food was also made available to athletes for consumption before and after practice. Meals of balanced macronutrient composition were prepared and provided to athletes on four separate occasions throughout the intervention, either prior to or following a competitive event such as a tournament or game. A paired t-test was used to determine the statistical significance of the changes in body fat percentage. The results showed that there was a statistically significant difference between pre and post-intervention body fat percentage ($p = .006$). Cohen's d of 0.603 was calculated, indicating a moderate effect size. In conclusion, this study provides evidence that a sports nutrition intervention that combines food availability, explicit prescription, and education can be effective in improving the body composition of high-school athletes. However, it's worth noting that this study had a small sample size, and the conclusions cannot be generalized to a larger population. Further research is needed to assess the scalability of this study. This preliminary study demonstrated the feasibility of this type of nutritional intervention and laid the groundwork for a larger, more extensive study to be conducted in the future.

Keywords : bioelectrical impedance, body composition, high-school athletes, sports nutrition, sports pedagogy

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