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Effect of Nutritional Counseling and Alfalfa Supplementation on Exercise Performance and Nutritional Anemia of Overweight and Obese Adult Females

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ABSTRACT Overweight and obesity are affecting the quality of life worldwide. Diet modification and exercise form an essential part of successful management strategy. However, low calorie diets might induce nutritional imbalances resulting in health problems such as anemia which impairs the body's ability to exercise thus making weight loss difficult. Research on the implication of anemia and its management on exercise performance is scarce, especially in India. Thus, the present study aimed to assess the effect of nutritional counseling and iron and folic acid rich alfalfa powder supplementation on exercise performance and anemia of adult overweight and obese females undergoing weight loss program. Seventeen overweight and obese anemic females (age 36.3 ± 10.75 years) were enrolled from gyms using purposive sampling technique purely based on their willingness to participate and were assessed for indices of obesity (WHR, MUAC, %BF), exercise performance (Cooper's test, sit-ups test) and anemia status at the start of the study, after 8 weeks of nutritional counseling, and then after supplementation with alfalfa powder (5g) for 4 weeks. A significant reduction in the anthropometric indices of obesity ($p \leq .01$), improvement in the cardiovascular fitness ($p \leq .01$) and few markers of anemia status like RDW, TIBC, serum iron and percent RBC saturation were noticed after 8 weeks of nutritional counseling (PNC). RDW and TIBC improved on supplementation with alfalfa. Thus, diet modification along with supplementation with micronutrient rich foods might control anemia and improve exercise ability of overweight and obese females, thereby help them achieve normal body weight.