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# IMPACT OF A 6 MONTH AEROBIC EXERCISE REGIME ON HUNGER, SATIETY AND FOOD INTAKE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS (T2DM)

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Exercises increase insulin sensitivity and energy expenditure in T2DM patients. The effects of regular exercises on appetite regulation and food intake are less known in T2DM. Thus, understanding the impact of regular exercises on hunger, satiety and food intake is important in diabetic management. Seventy-two diabetics were randomly assigned into an exercise and a control group. Brisk walking 30 min/day, 4-5 days/week for 6 months was introduced to the exercise group. Both groups maintained a 3-day diet diary. Hunger and satiety were assessed subjectively by a Visual Analogue Scale, at -30 min, +30 min, +60 min in relation to a standard breakfast meal. Food consumption was assessed by Nutrisurvey2007 (EBISpro) software. HbA1c was checked at the baseline and at 6 months. The data were analyzed by paired sample t-test. Significance was set at 0.05 level. Level of hunger significantly decreased at -30min (44.78/±23.74 vs 19.13/±20.01, p=0.001) and +30min (33.94±14.83vs 19.63±19.90, p=0.001) at 6 months compared to baseline in the exercise group. Although satiety increased at -30min (29.06±19.81vs 38.58±26.86, p=0.095) and +30 min (44.22±24.09 vs47.52±31.10, p=0.611) in the exercise group, the changes were not statistically significant. No significant changes were observed in the control group. Moreover, both groups did not show significant changes in hunger and satiety at 60 minutes after the test meal. The exercise group showed significantly reduced intakes of total calorie (1899.13±665.17cal vs 1783.72±547.69cal, p=0.002), carbohydrate (243.11±103.98g vs 193.66±103.91g, p=0.001), fat (81.07±31.59g vs72.76±31.27g, p=0.001) and protein (58.31±26.28g vs39.59±25.62g, p=0.001) after 6 months of regular exercise. Although the control group also showed reduced total calory intake, no significant changes were observed in macronutrient consumption. Further, the exercise group showed significant reduction in HbA1c level (p=0.047) which was not seen in the control group (p=0.796). Regular aerobic exercises for 6 months reduced hunger thereby leading to less energy and macronutrient intakes in T2DM patients.

Keywords: Exercise, Hunger, Type 2 diabetes, Satiety

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