

## **Dietary Modification and Its Effects in Overweight or Obese Saudi Women with or without Type 2 Diabetes Mellitus**

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**Abstract :** For the last few decades, the prevalence of type 2 diabetes mellitus (T2DM) in the Kingdom of Saudi Arabia (KSA) is increasing alarmingly high and is unprecedented at 31.6 %. Preventive measures should be taken to curb down the increasing incidence. In this prospective, 3-month study, we aimed to determine whether dietary modification program would confer favorable affects among overweight and obese adult Saudi women with or without T2DM. A total of 92 Saudi women [18 healthy controls, 24 overweight subjects and 50 overweight or obese patients with early onset T2DM] were included in this prospective study. Baseline anthropometrics and fasting blood samples were taken at baseline and after 3 months. Fasting blood sugar and lipid profile were measured routinely. A 500 Kcal deficit energy diet less than their daily recommended dietary allowances were prescribed to all participants. After 3 months of follow-up visit, significant improvements were observed in both the overweight and DMT2 group as compared to baseline with decreased mean BMI [Overweight Group  $28.54 \pm 1.49$  versus  $27.95 \pm 2.25$ ,  $p < 0.05$ ; DMT2 group  $35.24 \pm 7.67$  versus  $35.04 \pm 8.07$ ,  $p < 0.05$ ] and hip circumference [Overweight group  $109.67 \pm 5.01$  versus  $108.07 \pm 4.07$ ,  $p < 0.05$ ; DMT2 group  $112.3 \pm 13.43$  versus  $109.21 \pm 12.71$ ,  $p < 0.01$ ]. Moreover, in the overweight group, baseline HDL-cholesterol was significantly associated with protein intake and inversely associated with carbohydrate intake in controls. In the DMT2 group, carbohydrate intake at baseline was significantly associated with BMI. A 3-month 500kcal/day deficit dietary modification alone is probably effective among adult overweight or obese Saudi females without or with T2DM. Longer prospective studies are to determine whether the dietary intervention alone can reduce progression of T2DM among high-risk adult Arabs.

**Keywords :** diet, lipid, obesity, T2DM

**Conference Title :** ICSR2020 : International Conference on Scientific Research and Development

**Conference Location :** Chicago, United States

**Conference Dates :** December 12-13, 2020