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## Effect of gender and body weight on postprandial glucose and lipid metabolism in adults with type 2 diabetes

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**Background:** Massive health problem is caused by the increasing worldwide prevalence of type 2 diabetes in both developed and developing countries. The magnitude of the healthcare problem of type 2 diabetes is the result of the disease itself and its association with several risk factors for cardiovascular diseases such as obesity and postprandial dyslipidemia.

**Objective and Methods:** This study took place in two cities from the northwestern region of Algeria (Sidi-Bel-Abbes and Mascara). The main goal was to assess the effect of body weight and gender difference on postprandial lipid and glucose responses in type 2 diabetes patients. Ninety-three adult patients with type 2 diabetes aged 55.65 (13.81) years were studied. Weight, height, waist circumference and body mass index (BMI) were measured. Fasting and postprandial glucose and lipid (total cholesterol, HDL-cholesterol, LDL-cholesterol, triglycerides, apo A-I and apo B) profiles were evaluated.

**Results:** Our results indicated a positive correlation between postprandial glucose and BMI in women ( $r^2 = 0.041$ ). Negative correlation with BMI was noticed for PP TG in both males ( $r^2=0.011$ ) and females ( $r^2=0.021$ ). A significant difference ( $p=0.019$ ) was observed for PP HDL-c in women 0.39 (0.10) g/L vs. men 0.33 (0.12) g/L and for PP apo A-I (women: 1.33 (0.27) g/L vs. men: 1.09 (0.34) g/L;  $p=0.0003$ ). According to gender and weight groups (normal weight, overweight and obese), our results indicated that female gender and overweight are associated with elevated PP HDL-c and PP apo A-I levels. However, obesity in women is related to high concentration of PP TG.

**Conclusion:** Results of the present study suggest that gender difference and weight classes are important factors that contribute to determining the postprandial responses, both for glucose and lipids, in type 2 diabetic patients.

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