

OBESITY IN SAUDI FEMALE POPULATION

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ABSTRACT

An interaction of genotype and environment results in obesity which leads to a complex multifactorial chronic disease. Obesity also involves the integration of various factors such as social, behavioral, cultural, physiological, metabolic and genetic. Contributing to the significant increase in morbidity and mortality, a prevalence of obesity is becoming an important public health problem.

The aim of this study is to understand obesity among Saudi female population belonging to Makkah community. Obesity has been studied by measuring leptin concentration, and other measurements like body mass index (BMI) and waist circumference (WC).

This study included 240 women aged between 18 and 65 and the participants were divided into three groups. The normal or control group whose BMI ranged from 18 to 29.9 comprised the first group, the obese characterized by the BMI ≥ 30 formed the second group and the obese diabetic group with body mass index (BMI) ≥ 30 formed the third group. The parameters collected included height, weight, and waist circumference and blood samples. Blood samples were later thawed.

Serum leptin levels in all the groups were detected using ELISA and their means found to be 8.4 ± 1.4 in normal, 56.3 ± 18.8 in obese and 42 ± 19.3 in a diabetic obese group. In the normal group, the leptin levels were directly associated with BMI ($r = 0.152$, $p = 0.178$), and leptin levels showed strong positive correlation in obese and diabetic obese groups as the follow: $r = 0.350$, $p = 0.001$ and $r = 0.355$, $p = 0.001$. Also, leptin concentrations were positively correlated with BMI and WC in obese and diabetic obese groups, showing high leptin concentration in both the groups.

It is understood that leptin hormone influences appetite and body weight, causing obesity. However, fasting, hypertension, practice physical activity, smoking or following special diet results in changes to serum leptin concentration.

KEYWORDS: *Obesity, Leptin, Genotype*