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Are ghrelin levels lower in obese Emirati college students?

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Aim: Ghrelin is a 28-amino acid that is produced in the stomach. Strong evidence indicates the effects of ghrelin in its potential role in the pathogenesis of obesity, insulin resistance (IR) and type 2 diabetes. The aim of this study was to investigate the relationship of ghrelin levels with obesity, insulin resistance and glucose in normal and obese subjects.

Methods: Twenty subjects (normal weight=13) and (Obese=7) aged 20-22 out of 250 students participated in the study. Fasting plasma ghrelin, insulin and glucose levels were measured after overnight fasting. Insulin resistance was also calculated by HOMA-IR. The study received approval from the ethical committees of "Zayed University" and "Doctors Medical Center" while all subjects signed a consent form. Body weight and height was collected for all subjects using SECA 600 model while obesity was defined as BMI>30 kg/m², according to the criteria of international obesity task force plasma ghrelin, glucose, insulin and C-reactive protein (CRP) levels were measured in the morning after fasting overnight.

Conclusions: Ghrelin levels are significantly lower in obese subjects. Moreover, Obesity (BMI) and Insulin resistance (HOMA)-IR are significantly independently associated with ghrelin levels in obese college students. More studies are needed to elucidate the relationship of ghrelin with BMI and IR.

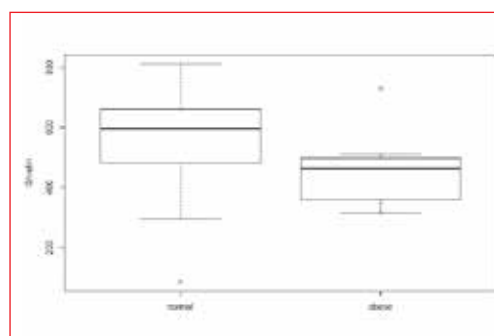
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Biography

Dimitrios Papandreou is an Associate Professor of Nutrition and Dietetics and the Assistant Dean for Research and Graduate studies at Zayed University, UAE. He has published more than 70 original publications since 2008. He is also a Registered Dietitian from USA.

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Multiple regression analysis of Ghrelin with anthropometric and biochemical variables			
Variable	Beta	95% CI	
Weight	-0.44	-0.32, -0.55	0.505
BMI	-1.77	-1.66, -1.89	0.001*
Glucose	-0.32	-0.37, -0.49	0.668
Insulin	-2.66	-2.49, -2.78	0.001*
HOMA-IR	-2.41	-2.33, -2.55	0.001*
*p<0.05: Statistically significant			