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Title: Does fasting serum insulin resistance and fasting serum C peptide levels vary with gender?

Paradeta NDK, Hewarajah UPK. Aim: To introduce and objecti....s is the most important regulator of glucose. Insulin is a hormone from the pancreatic B cells. It has been found that men and women differ substantially in insulin resistance (IR) and metabolism of glucose. The objective was to determine gender differences in fasting serum insulin resistance and fasting serum C peptide levels.

Method: The study population included males (n = 50) and females (n = 50) aged 20-40 years. Study was conducted at Faculty of Medical Sciences (FMS), University of Sri Jayewardenepura (USJP). Written consent was obtained from participants. An interviewer administered questionnaire was used to collect information. Fasting venous blood samples were obtained to analyse fasting serum glucose (FSG), fasting serum insulin (FSI) and C peptide (C pep). Glucose oxidase method was used to measure plasma glucose level and ELISA method was used for serum insulin assay and serum C peptide assay. Data were analysed using SPSS version 16 and Microsoft Excel 2010. Significant differences were determined (p<0.05).

Results: The whole study population had FSG levels below 100 mg/dL. The mean FSI levels in males and females were 12.31 ± 7.17 μU/mL and 12.39 ± 8.04 μU/mL, mean C-pep levels were 4.57 ± 1.39 ng/mL and 4.24 ± 1.44 ng/mL, and insulin resistance values were 2.41 ± 1.44 and 2.27 ± 1.66 respectively. The differences of FSI, C pep and IR between males and females were not significant (p<0.05).

Conclusion: This study did not observe a difference in insulin resistance, fasting serum insulin or C peptide between males and females.

Key words: Insulin resistance, C peptide, insulin.