Determination of insulin resistance in non-diabetic Saudi adults by including fasting free fatty acids into QUICKI

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Abstract

Most available diagnostic methods of insulin resistance are either unsuitable for screening or fail to detect marginal cases. It was reported that including plasma free fatty acids (FFA) into QUICK (quantitative insulin sensitivity check index) I improves its diagnostic power. The aim was to test the effectiveness of modified QUICK I against HOMA (homeostasis model assessment) and QUICK I in identifying insulin resistant subjects in the non-diabetic adult population. 357 healthy adults aged 18 - 50 years were recruited randomly. Their anthropometric and demographic information were taken.
Biochemical parameters and FFA (free fatty acid) were measured in fasting blood samples and used to calculate modified QUICK I. Reported cut-off point was used to identify IR subjects, who were matched for age and sex to individuals from the rest of the subjects. 209 subjects satisfied the criteria. 97 individuals were identified to be IR. This group had statistically different anthropometric and biochemical parameters compared to NIR group. Biochemical parameters did not differ significantly when QUICK I was used to identify IR subjects. The modified QUICK I for all subjects correlated significantly (p = 0.01) with HOMA values (r = -0.756) and with QUICK I values (r = 0.758). Modified QUICK I is a more powerful diagnostic index of IR in Saudi non diabetic adults.