Impaired Fasting Glucose (IFG) prevalence surge among Iranian adolescents in a decade: The Tehran lipid and glucose study

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Background & Aim: Impaired Fasting Glucose (IFG) is associated with incident diabetes, cardiovascular risk cand markers of atherosclerosis in early adulthood. We aimed to explore the 10-year change in IFG prevalence among adolescent participants of the Tehran lipid and glucose study, a population-based study from Iran.

Method: For our study, we used data on Fasting Plasma Glucose (FPG), anthropometric and demographic information of 11-19 year-old adolescents in study period-I (1999-2005; 1415 boys, 1583 girls) and study period-II (2011-2014; 477 boys, 469 girls). Sex-adjusted and sex-stratified multivariable logistic regression models were used to assess the relationship of the study period (reference: study period-I) with IFG.

Result: The prevalence of IFG, general obesity and central obesity increased from 7%, 13.3% and 18.8% in study period-I to 16.6%, 24% and 37.4% in study period-II; while a favorable trend was seen for blood pressure, triglycerides and high density lipoprotein cholesterol. In the fully adjusted model, being older (age group 15-19 vs 11-14 years) and female gender were associated with lower risk. Being overweight and obese increased the risk by risk ratios (confidence interval) of 1.57 (1.17-2.11) and 1.63 (1.15-2.30), respectively. Central adiposity did not remain as an independent risk factor. Nevertheless, study period persisted as a significant factor despite all adjustments [2.20 (1.81-2.68)]. Results in the sex-stratified models were generally the same.

Conclusion: Our results demonstrated that the over 2-fold rise in IFG prevalence among adolescents was not solely dependent on general and central obesity.

Biography

Vahid Eidkhani has completed his MD and MPH studies at Shahid Beheshti University of Medical Sciences, Tehran, Iran. He is currently working as a General Physician in Iran. He has been working as a Researcher Assistant at Prevention of Metabolic Disorders Research Center, Research Institute for Endocrine Sciences of the University for about 7 years.