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Body fat distribution in relation to metabolic markers among Egyptian obese adolescents

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Background & Objectives: Obesity is one of the most serious global health issues. The aim of this study was to assess the association between body fat distribution and different metabolic risk marker among obese adolescents aged 13 to 17 years.

Subjects & Methods: The study included 100 obese children (50 boys and 50 girls) and 100 non obese controls (50 boys and 50 girls). Anthropometry, fasting glucose, insulin concentrations, total cholesterol, high density lipoprotein (HDL), low density lipoprotein (LDL), triglycerides, systolic and diastolic blood pressure (BP) were measured. Insulin resistance was determined by Homeostasis Model Assessment of Insulin Resistance (HOMA-IR). Different anthropometric measures were compared as predictors for metabolic risk markers.

Results: Obese children showed significant positive correlations between waist to hip ratio (WHR) and abdominal skin fold and metabolic risk markers including elevated levels of BP, insulin, HOMA-IR and LDL. WHR showed the highest levels of correlations with lipid parameters (triglycerides, LDL-C, HDL-C, and HDL) and other metabolic markers followed by abdominal skin fold in both boys and girls.

Conclusion: The study indicates that both the WHR and abdominal skin fold are better associated with metabolic markers and the WHR cut-off was 0.99 in boys and 0.89 in girls for detecting metabolic risk markers among Egyptian obese adolescents.

Biography

Ramy Mohamed, Researcher in biological anthropology department and consultant of pediatrics and neonatology in the national research center in Egypt. He has finished his Ph.D. in child health and nutrition at the age of 35 from institute of Postgraduate Childhood Studies, Ain Shams University. Published four international publications in reputed journals. He was the organizer and speaker of many great symposiums in the national research center. Director of Ganna hospital, a hospital of children and neonates and in vitro fertilization. He is a member in the Arab society of medical research. He is a member in the Egyptian society of neonates.

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