Prevalence of metabolic syndrome and its individual components among Moroccan adolescents: The role of overweight-obesity and excess body fat

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The prevalence of obesity and related diseases such as Metabolic Syndrome (MetS) are increasing in young populations over the world, especially in developing countries. This study aimed to estimate the prevalence of MetS and its individual components and to assess their association with both overweight-obesity and excess body fat. This study included 192 adolescents (77 boys and 115 girls) aged 11 to 17 years. Blood pressure, anthropometric measurements, glucose and lipids levels from fasting blood samples were determined. Percent body fat was estimated using deuterium oxide. MetS was defined according to international diabetes federation criteria. The prevalence of MetS among overweight-obese adolescents was 18.6% while it was not observed in their normal weight counterparts. The most common abnormality found in the study population was reduced HDL-cholesterol (26.6%) followed by elevated fasting blood glucose (22.4%) and high waist circumference (19.3%). Among overweight-obese groups, the rates of individuals with raised TG and reduced HDL-cholesterol were significantly higher in boys than girls. Overweight-obese subjects had higher odds of having at least two MetS components (OR=5.37) or at least three MetS components (OR=11.80). Excess body fat showed similar degrees of association with clustering MetS components. In conclusion, the prevalence of MetS and its individual components was quite high among the study population particularly among overweight-obese adolescents. MetS components were strongly associated with both overweight-obesity and excess body fat. MetS and its components might be best predicted by obesity indexes determined according to age and body mass index in adolescents than accurate percent body fat.

Biography
Abdeslam Hamrani has completed his PhD at the age of 27 from Ibn Tofaïl University, Morocco and started his Postdoctoral studies in the Framework of the Erasmus Mundus Project at the Lodz University, Poland. He worked as a Trainer for PhD students in Applied Statistics and as an Assistant Professor. He has published 10 papers in reputed journals, he serves as a reviewer at three journals (Journal of the American Society for Nutrition, USA; Journal of Metabolic Syndrome, OMICS Group, USA; Net Journal of Social Sciences, UK) and he is an Author of two books.

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