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Association between birth weight and some metabolic syndrome parameters among medical students in Al-Neelain University Faculty of Medicine

Tasabeeh Alnoor, Lamis Kaddam, Faris Altkena and Humeda Suekit
Al-Neelain University, Sudan

Introduction: Epidemiological evidences suggest a strong relation between birth weight and some diseases in adult life (hypertension, diabetes and Cardiovascular Diseases (CVD)). It is thought that an adverse intrauterine environment provokes adaptive response to ensure fetal survival which if persist into adulthood may cause metabolic and CVD disease.

Objectives: The aim of this study was to study association between birth weight and metabolic syndrome parameters among medical students, aiming to avail information to build the natural history of weight gain during early adulthood.

Methodology: This descriptive cross-sectional study conducted in Al-Neelain University; done as part of a larger study that examined the prevalence of obesity among 50 medical students whose birth weight data were involved in this study. Ethical approval was obtained and data (collected by questionnaire, blood pressure, anthropometric measurements and blood sample) were analyzed using SPSS (version 23).

Results: In this study Metabolic Syndrome (MetS) prevalence was 2% and 4.1% using IDF and ATPIII definitions, respectively. MetS risk factors were highly prevalent 32.6%; for obesity and overweight, 48.1% for hypertension and pre hypertension. The relationship between birth weight and adulthood obesity show inverted J shape relation with a tendency for higher BMI among lower birth weight. LBW show statistical significance in relation to uncontrolled eating habit P value=0.004 when compared to appropriate birth weight. Mean value for BP was higher among large for gestational age LGA and low birth weight LBW compared to appropriate birth weight individuals.

Conclusion: It can be concluded that high prevalence of overweight/obesity as well as pre-hypertension/ HTN and an inverted J shape relationship between birth weight and adulthood obesity was found.

tasabeehabdoalnoor@gmail.com