

Anthropometric indices: waist circumference and waist-to-hip ratio cut-off percentiles to identify abdominal obesity in children from North Macedonia

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Abdominal obesity (AO) has been associated with children's risk of metabolic and cardiovascular disease. For this reason, this study aimed to provide gender-specific cut-off percentiles of anthropometric indices WC and WHR to identify AO in children aged 9 from North Macedonia. In this study, a total of 320 children aged 9 (160 boys and 160 girls) were investigated. We selected four parameters to measure (weight and height) and two circumferences (waist and hip) using a standard protocol. The following indices are taken into consideration Body-Mass Index (BMI), Waist Circumference (WC), and Waist-to-Hip Ratio (WHR). The percentile distribution of the tested parameters was done by gender. General obesity based on the BMI cut-off occurs at 5.63% in boys and 6.88 % in girls. Abdominal obesity across cut-off points WHR and WC-for age \geq 90th percentile occur at 11.88% and 6.26% in boys and 12.5 and 11.25% in girls respectively. Both the WHR and WC identify more children with abdominal obesity, but we note that more girls were classified as obese than boys. However, the anthropometric indices of WC and WHR, complement nutritional evaluation and are of great importance for the early detection of AO in our 9-year-old children. These findings support the need to use WC and WHR as strong predictors for AO in routine clinical practice.

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References

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