Systematic review on the association of abdominal obesity in children and adolescents with cardio-metabolic risk factors

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Background: The adverse health effects of abdominal obesity are well documented in adults, but such association remains to be determined in the pediatric age group. T is study aims to perform a systematic review on the association between abdominal obesity and cardio-metabolic factors such as dyslipidemia, hypertension, and hyperglycemia among children and adolescents.

Materials and Methods: A systematic literature search was conducted using PubMed, Scopus and Google Scholar databases to May 2014. Two independent reviewers identified relevant papers in several steps. After studying the titles and texts of documents, repeated and irrelevant ones were excluded. T e search was refi ned to the English language. We did not consider any time limitation. Studies with diff erent measuring methods of abdominal obesity were included. Studies with abdominal obese patients secondary to other disease were excluded from the study. In fi nal, the data of association of cardio-metabolic risk factors and abdominal obesity extracted from studies.

Results: Overall, 3966 articles were reviewed, and 67 of them were studied according to the inclusion and exclusion criteria. Waist circumference (WC), waist-to-height ratio, and waist-to-hip ratio were the most common indexes used for defining abdominal obesity. T e association of high blood pressure with increasing WC was seen in several studies. The association of other cardio-metabolic risk factors was seen in some studies.

Conclusion: Whatever the definition used for abdominal obesity and whatever the methods used for anthropometric measurements, central body fat deposition in children and adolescents increases the risk of cardio-metabolic risk factors. T erefore, more attention should be paid to abdominal obesity of children and adolescents both in clinical practice and in epidemiological studies.

Key words: Cardio-metabolic risk factors, central fat deposition, obesity, pediatric age group