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Adolescent obesity and associated hypertension: A red flag for the near future



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Introduction: The world is in the grip of an obesity crisis, associated with a substantial increase in the prevalence of hypertension among youth. Obesity and elevated blood pressure (BP) in adolescents are both risk factors for cardiovascular disease that track into adulthood. New guidelines on pediatric hypertension were published that may change the previous diagnoses of hypertension.

Objective: The main objective of this study was to evaluate the prevalence of hypertension and the impact of the updated European guidelines on excess weight adolescents.

Methods: Retrospective cohort study (2011-2018) of overweight and obese adolescents, with BP measurements on at least three separate visits.

Results: Three hundred eleven (311) adolescents (48% male; 15.1±1.63 years old; BMI 32.2±5.85 kg/m²) were included. Hypertension was identified in 15% and 9% according to the 2009 and 2016 European Society of Hypertension (ESH) guidelines, respectively ($P=.003$). The prevalence of hypertension above the age of 16 was reduced by 76% ($P<.001$), mostly among males ($P=.004$). The estimates of high-normal BP decreased from 29% to 15% ($P<.001$), reclassifying as normotensive predominantly adolescents with a lower BMI (33.4±5.81 vs 35.7±7.22; $P=.025$). The overall prevalence of abnormal BP decreased by 45% (from 44% to 24%; $P<.001$), irrespective of gender, age or BMI.

Conclusions: The new ESH guidelines classified nearly half less adolescents with elevated BP and hypertension, with more than two thirds of the older adolescents reclassified as normotensive. Nevertheless, the prevalence of hypertension remained extremely high as compared to the healthy weight youth. Recognition of the premature beginning of cardiovascular disease among this at-risk population is a key public health target to reduce adult morbidity and mortality.

Biography

Mafalda Castelão is currently working in the Department of Pediatrics, Hospital de Santa Maria, Centro Hospitalar Lisboa Norte, Lisbon, Portugal.

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