

ASSOCIATION BETWEEN OVERWEIGHT AND HYPERTENSION IN ADOLESCENTS: A META-ANALYSIS

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ABSTRACT

Background: The upward trend in adolescent hypertension is widely attributed to the adolescent overweight and obesity epidemic. Because of their high-risk status, intervention in overweight adolescents with associated comorbidities, such as hypertension, should be considered. The purpose of this study was to examine association between overweight and hypertension in adolescents.

Subjects and Method: This was a meta-analysis and systematic review. The articles were obtained from PubMed, Springer Link, and Google Scholar databases, which published from 2006 to 2020. Keywords used "hypertension" AND "adolescents" AND "obesity" AND "risk factor of obesity" AND "cross-sectional" AND "adjusted odds ratio". The inclusion criteria were full-text, using English language, and reporting Odds ratio. The study population was adolescents. The intervention was overweight with comparison non overweight. The study outcome was hypertension. The articles were reviewed by PRISMA diagram and analyzed by RevMan 5.3.

Results: 8 articles from Ethiopia, Spanyol, Canada, Taiwan, Lithuania, United States, and Malaysia were met criteria. The data analysis found low heterogeneity between groups ($I^2=40\%$; $p=0.110$), so it used fixed effect model. This meta-analysis study reported that overweight increases the risk of hypertension in adolescents (aOR= 3.32; 95% CI= 3.02 to 3.66; $p<0.001$).

Conclusion: Overweight increases the risk of hypertension in adolescents.

Keywords: overweight, hypertension, adolescents

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