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Prevalence of obesity in Greece, people aged 1-18 years: meta-analysis 2001-2016.

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Aim: The obesity epidemic has reached children in Europe, including Greece. National epidemiological data and trend monitoring are of extreme interest in order to be able to provide a burden to this epidemic. The aim of the present systematic review and meta-analysis was to report the current prevalence of obesity in Greek children, aged 1-12 years old, and to identify the childhood obesity prevalence trend.

Material-Methods: Systematic review of the current literature was performed in both English and Greek language, in MEDLINE, EMBASE, SCIENCE DIRECT-SCOPUS, Web of Science, Google Scholar-Google, Iatrotek Online and openarchives.gr databases, as well as in the electronic versions of the "Pediatrics" and "Northern Greece Pediatrics" journals, in order to identify all studies published between January 2001-December 2016, investigating the childhood obesity prevalence. The analysis included all Greek population studies reporting the prevalence of childhood obesity, if only they were based on the international IOTF criteria for the diagnosis of obesity and if only they had performed sample collection during the studied period (2001-2016). We excluded studies that did not use IOTF criteria to define obesity, did not separate their sample by gender or included non-healthy participants. Twenty-seven out of 136 published studies were finally reviewed, including 220.657 boys and 215.311 girls.

Results: Meta-analysis revealed that childhood obesity prevalence is 11.4% (95% CI: 10.1-12.7%, heterogeneity χ^2 : $p < 0.001$, $I^2 = 93.7\%$), overweight prevalence is 29.8% (95% CI: 24.7-32.1%, heterogeneity χ^2 : $p < 0.001$, $I^2 = 96.3\%$) and that the combined prevalence of overweight and obesity is 33.2% (95% CI: 31.7-35.1%, heterogeneity χ^2 : $p < 0.001$, $I^2 = 96.4\%$), in Greek prepubertal children. Subgroup analysis by gender showed that the prevalence of obesity in boys is 12.1% (95% CI: 11.7-12.5%, heterogeneity χ^2 : $p < 0.001$, $I^2 = 89.4\%$), in girls 10.9% (95% CI: 9.5-12.3%, heterogeneity χ^2 : $p < 0.001$, $I^2 = 98.2\%$). Cumulative analysis forest plots, revealed an upward trend of the phenomenon during the 2001-2003 period, with a following stabilization of the childhood obesity prevalence during the 2003-2016 time.

Conclusions: One out of 10 children aged 1-12 years in Greece suffers from obesity and over 3 out of 10 Greek children present excess in body weight since they meet the international criteria either for overweight or obesity. Thus, the adoption of policies in order to reverse the obesity phenomenon in children is of great importance.

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