Abstract
The aim of this research study was to meta-analyze the effects of adherence to Mediterranean diet (MD) on overall cancer risk, and different cancer types. Literature search was performed using the electronic databases MEDLINE, SCOPUS and EMBASE until January 10, 2014. Inclusion criteria were cohort or case-control studies. Study specific risk ratios (RRs) were pooled using a random effect model by the Cochrane software package Review Manager 5.2. Twenty-one cohort studies including 1,368,736 subjects and 12 case-control studies with 62,725 subjects met the objectives and were enclosed for meta-analyses. The highest adherence to MD category resulted in a significantly risk reduction for overall cancer mortality/incidence (cohort; RR: 0.90, 95% CI 0.86-0.95, p < 0.0001; \(I^2 = 55\)%), colorectal (cohort/case-control; RR: 0.86, 95% CI 0.80-0.93, p < 0.0001; \(I^2 = 62\)%), prostate (cohort/case-control; RR: 0.96, 95% CI 0.92-0.99, p = 0.03; \(I^2 = 0\)%), and aerodigestive cancer (cohort/case-control; RR: 0.44, 95% CI 0.26-0.77, p = 0.003; \(I^2 = 83\)%). Nonsignificant changes could be observed for breast cancer, gastric cancer and pancreatic cancer. The Egger regression tests provided limited evidence of substantial publication bias. High adherence to a MD is associated with a significant reduction in the risk of overall cancer mortality (10%), colorectal cancer (14%), prostate cancer (4%) and aerodigestive cancer (56%).

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