Abstract

Flavonoids intake and risk of prostate cancer: a meta-analysis of observational studies.


The aim of the study was to assess the association between total flavonoids/flavonoid subclasses intake and prostate cancer risk. Several databases were searched to select eligible studies with predefined criteria. Risk ratios (RRs) with 95% confidence intervals (CIs) were used as the effect size. Publication bias and sensitivity analysis were performed. A total of five studies including four prospective cohort studies and one case-control study were included in the meta-analysis. The pooled result demonstrated a significantly increased risk of prostate cancer with higher intake of total flavonoids (RR = 1.12, 95% CI: 1.02-1.23, P = 0.013). However, sensitivity analysis indicated that there lacked a significant association after removing the study of Wang et al. (RR = 1.17, 95% CI: 0.94-1.46). Subgroup analysis stratified by flavonoids subclasses found that higher intake of anthocyanidins and flavan-3-ols were significantly associated with increased prostate cancer risk (RR = 1.12, 95% CI: 1.03-1.21, P = 0.011; RR = 1.21, 95% CI: 1.10-1.32, P < 0.001). Sensitivity analysis also indicated that after removing Wang's study, no significant association between anthocyanidins intake and prostate cancer risk was detected (RR = 1.22, 95% CI: 0.97-1.54). In conclusion, higher intake of flavonoids may not be associated with prostate cancer risk.

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KEYWORDS: Flavonoids; meta-analysis; prostate cancer

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