عنوان مقاله:

The Effect of Dark Chocolate on C-Reactive Protein Level: A Systematic Review and Meta-Analysis of Randomized Controlled Clinical Trials

محل انتشار:

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خلاصه مقاله:

Background: This systematic review and meta-analysis of randomized controlled trials (RCTs) was conducted to determine the effect of dark chocolate on C-Reactive Protein (CRP) levels as one of the inflammatory factors. Methods: A literature search was conducted in PubMed, ISI Web of Science, Scopus, and Google Scholar up to April of ۲۰۲۰. The registration number of study in PROSPERO was CRD۴۲۰۲۰۲۰۰۷۲, which was conducted over ۵ eligible RCTs containing a total of ۳۳۰ participants. The weighted mean difference (WMD) with ۹۵% confidence intervals was calculated for the pool effect size of CRP. The heterogeneity of studies was examined by Cochran's Q test and I-squared (I۲) statistic. Results: Effect sizes from ۳۳۰ participants based on random effect model showed no effect between consumption of dark chocolate on CRP levels compared to the control group (WMD: ۰.۰۱ mg/dl; ۹۵% CI: −۰.۱۹, ۰.۲۲ mg/dl; P = ۰.۸۹; Cochran's Q test, Q statistic = ۲۱.۹۷; P < ۰.۰۰۱; I۲ = ۸۱.۸۰%). The results of subgroup analysis based on intervention duration and dosage showed no significant effect on CRP levels (WMD = ۰.۰۵ mg/dl, ۹۵% CI: −۰.۳۰, ۰.۴۲ mg/dl; P = ۰.۷۶). Meta-regression for the intervention duration (slope: −۰.۰۰۳۳, ۹۵% CI: −۰.۰۰۸۹, ۰.۰۰۲۲; P = ۰.۲۴) and dosage (slope: ۰.۰۰۰۰۶, ۹۵% CI: −۰.۰۰۳۶, ۰.۰۰۳۷; P = ۰.۹۷) indicated no significant relationship with the mean difference of CRP. Conclusion: The results of the present meta-analysis showed that consuming dark chocolate had no significant effect on the CRP level. More clinical trials are required with higher quality and bigger sample sizes to verify the positive impact of dark chocolate on the reduction CRP level.

کلمات کلیدی:

Dark chocolate, CRP, Inflammation