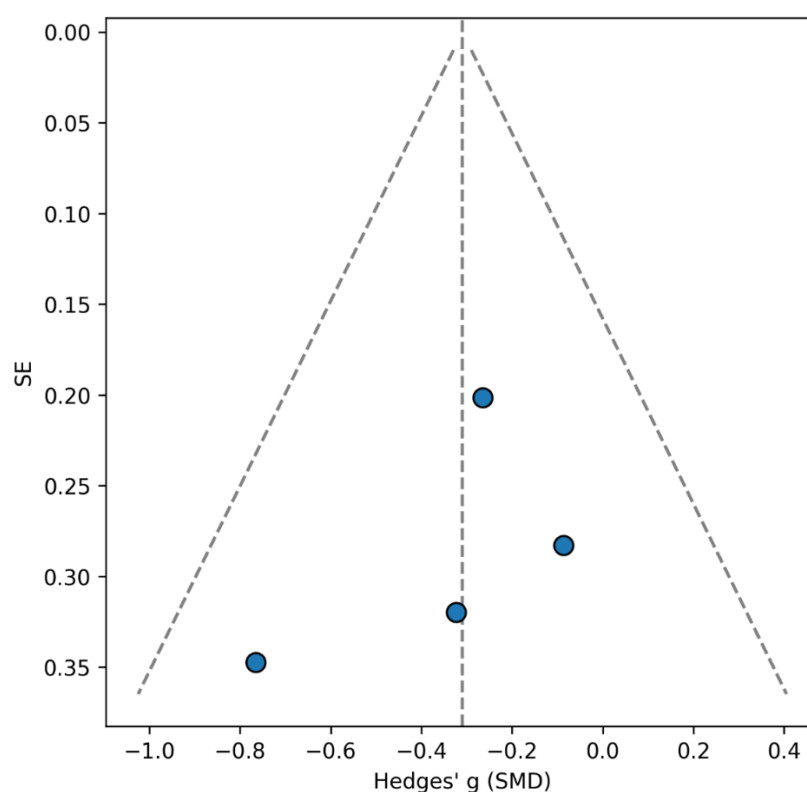


Overall severity of symptoms

Sensitivity analysis was performed using a leave-one-out approach to explore the influence of individual trials on the pooled effect. Removal of individual studies did not materially alter the direction of the pooled effect, which consistently favoured polyphenol-rich fruit interventions over placebo. However, the statistical significance of the pooled result was sensitive to the exclusion of several studies. Specifically, exclusion of Schell et al. (2017) attenuated the effect and rendered the result non-significant (Hedges' $g = -0.229$; 95% CI -0.515 to 0.057 ; $P = 0.116$). Similarly, exclusion of Ghoochani et al. (2016) (Hedges' $g = -0.312$; 95% CI -0.624 to 0.001 ; $P = 0.051$) and Schumacher et al. (2013) (Hedges' $g = -0.349$; 95% CI -0.717 to 0.019 ; $P = 0.063$) also resulted in non-significant findings. In contrast, exclusion of Du et al. (2019) yielded a pooled effect that remained statistically significant (Hedges' $g = -0.375$; 95% CI -0.675 to -0.075 ; $P = 0.014$). Taken together, these results indicate that the observed benefit was not driven by a single study; however, the statistical significance of the overall effect was sensitive to the exclusion of all studies except Du et al. (2019).



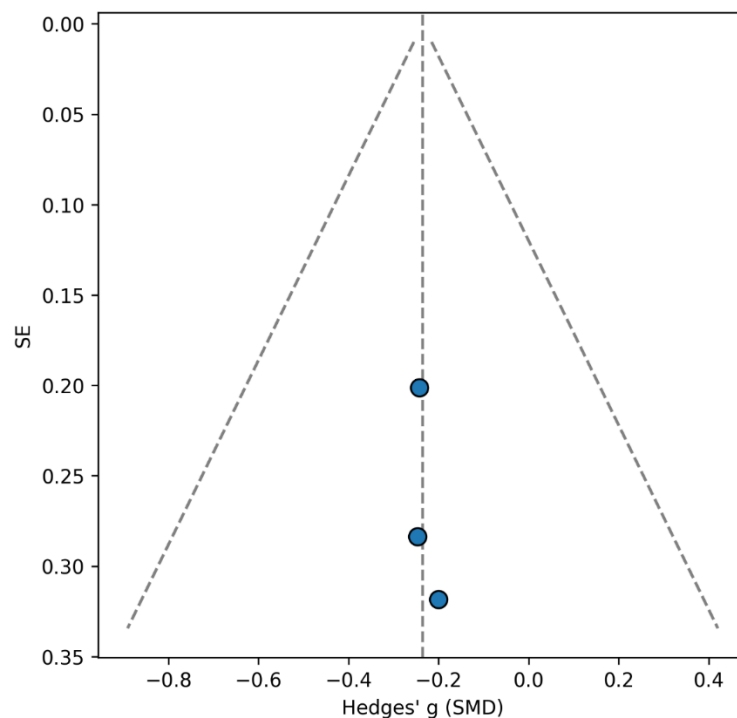
F1: Funnel plot – P-value = 0.49560054968529865

T1: Leave one out analysis.

Left out	pooled hedges g	CI_low	CI_high	p-value	tau2	I2
Du et al 2019	-0.37475	-0.67459	-0.07492	0.014299	0	0
Schell et al 2017	-0.22913	-0.51516	0.056887	0.116381	0	0
Ghoochani et al 2016	-0.31157	-0.62385	0.000708	0.050522	0.008573	16.29475
Schumacher et al 2013	-0.349	-0.71731	0.01931	0.063282	0.007591	13.0869

Pain

Sensitivity analysis using a leave-one-out approach indicated that removal of individual studies did not materially change the overall direction of the effect, which consistently favoured the intervention. In all cases, the pooled result remained non-significant. Exclusion of Du et al. (2019) produced Hedges' $g = -0.231$ (95% CI -0.564 to 0.102; $P = 0.175$), exclusion of Ghoochani et al. (2016) yielded Hedges' $g = -0.244$ (95% CI -0.566 to 0.077; $P = 0.136$), and exclusion of Schumacher et al. (2013) resulted in Hedges' $g = -0.227$ (95% CI -0.642 to 0.189; $P = 0.285$). These findings suggest that the absence of statistical significance was consistent across sensitivity analyses, with no single study exerting undue influence on the pooled estimate.



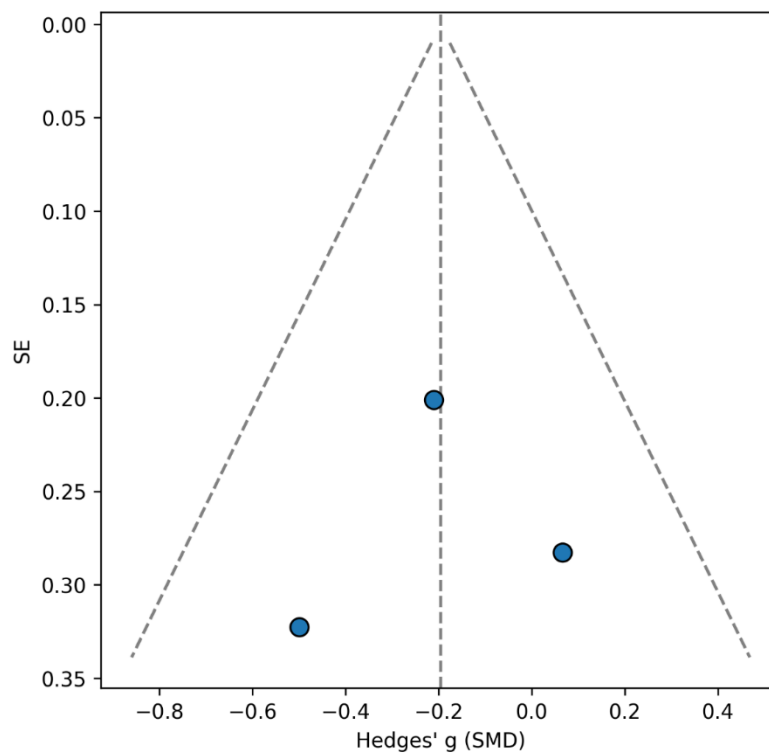
F2: Funnel plot – P-value = 0.5457025907506656

T2: Leave one out analysis.

Left out	pooled hedges g	CI_low	CI_high	p-value	tau2	I2
Du et al 2019	-0.23095	-0.56433	0.102436	0.174545	0	0
Ghoochani et al 2016	-0.2445	-0.56616	0.077167	0.136285	0	0
Schumacher et al 2013	-0.22661	-0.64181	0.188587	0.284742	0	0

Stiffness

Sensitivity analysis using a leave-one-out approach demonstrated that the direction of effect consistently favoured intervention, but the pooled estimate was sensitive to the exclusion of individual trials. Excluding Du et al. (2019) strengthened the pooled effect and approached statistical significance (Hedges' $g = -0.291$; 95% CI -0.625 to 0.044 ; $P = 0.088$). In contrast, exclusion of either Ghoochani et al. (2016) (Hedges' $g = -0.117$; 95% CI -0.438 to 0.204 ; $P = 0.475$) or Schumacher et al. (2013) (Hedges' $g = -0.179$; 95% CI -0.596 to 0.238 ; $P = 0.400$) attenuated the pooled effect and maintained non-significance.



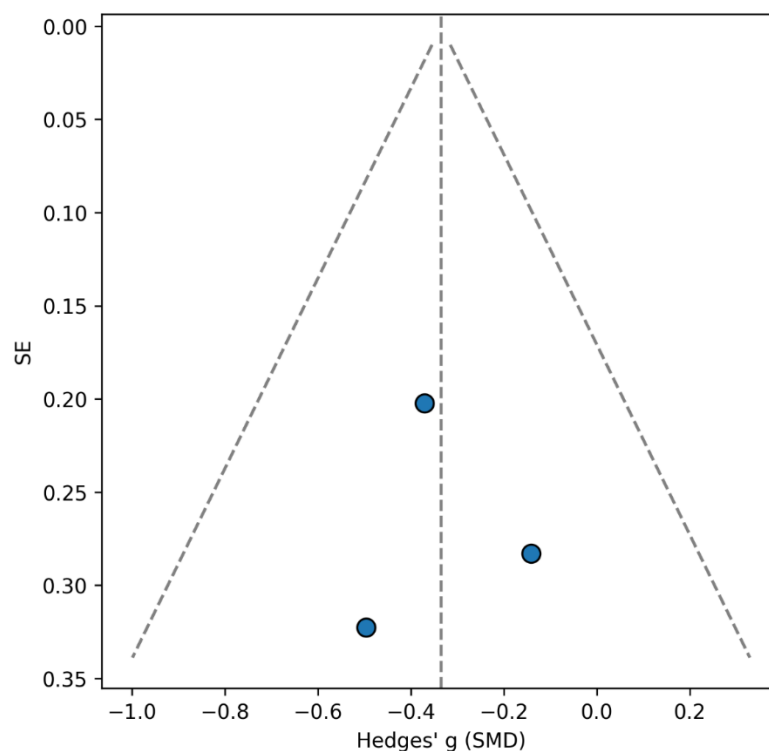
F3: Funnel plot – P-value = 0.8793248961523628

T3: Leave one out analysis.

Left out	pooled hedges g	CI_low	CI_high	p-value	tau2	I2
Du et al 2019	-0.29073	-0.62515	0.043687	0.088396	0	0
Ghoochani et al 2016	-0.11713	-0.43821	0.20394	0.474589	0	0
Schumacher et al 2013	-0.17914	-0.59593	0.237655	0.399569	0	42.42958

Physical function

Sensitivity analysis using a leave-one-out approach indicated that removal of individual studies did not materially alter the direction of the effect, which consistently favoured the intervention. However, the statistical significance of the pooled result was sensitive to the exclusion of certain studies. Specifically, exclusion of Du et al. (2019), which favoured placebo, enhanced the pooled effect (Hedges' $g = -0.406$; 95% CI -0.741 to -0.070; $P = 0.018$). In contrast, exclusion of Ghoochani et al. (2016) (Hedges' $g = -0.293$; 95% CI -0.615 to 0.030; $P = 0.075$) and Schumacher et al. (2013) (Hedges' $g = -0.296$; 95% CI -0.713 to 0.121; $P = 0.165$) rendered the pooled effect non-significant. These results indicate that while the direction of effect was stable, the overall statistical significance was sensitive to the exclusion of Ghoochani et al. (2016) and Schumacher et al. (2013).



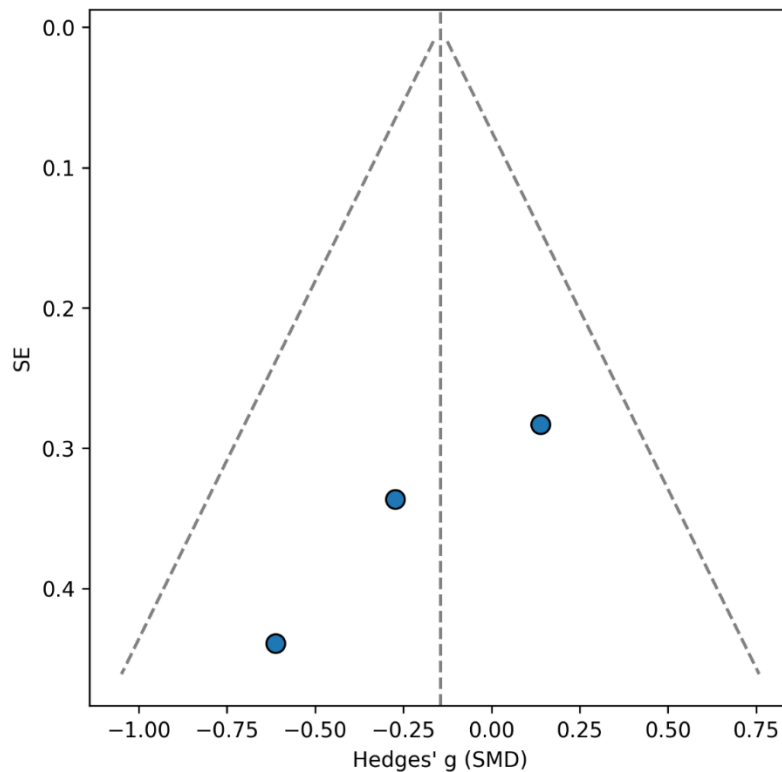
F4: Funnel plot – P-value = 0.9822532512741677

T4: Leave one out analysis.

Left out	pooled hedges g	CI_low	CI_high	p-value	tau2	I2
Du et al 2019	-0.40557	-0.74138	-0.06977	0.017924	0	0
Ghoochani et al 2016	-0.29287	-0.6153	0.029553	0.075024	0	0
Schumacher et al 2013	-0.29563	-0.71263	0.121356	0.164663	0	0

TNF- α

Sensitivity analysis using a leave-one-out approach demonstrated that the direction of effect consistently favoured intervention, but the pooled estimate was sensitive to the exclusion of individual trials. Excluding Du et al. (2019) strengthened the pooled effect (Hedges' $g = -0.288$; 95% CI -0.759 to 0.184 ; $P = 0.229$). In contrast, exclusion of either Kuehl et al. (2012) (Hedges' $g = -0.021$; 95% CI -0.447 to 0.406 ; $P = 0.925$) or Basu et al. (2018) (Hedges' $g = -0.045$; 95% CI -0.465 to 0.375 ; $P = 0.832$) attenuated the pooled effect and maintained non-significance.



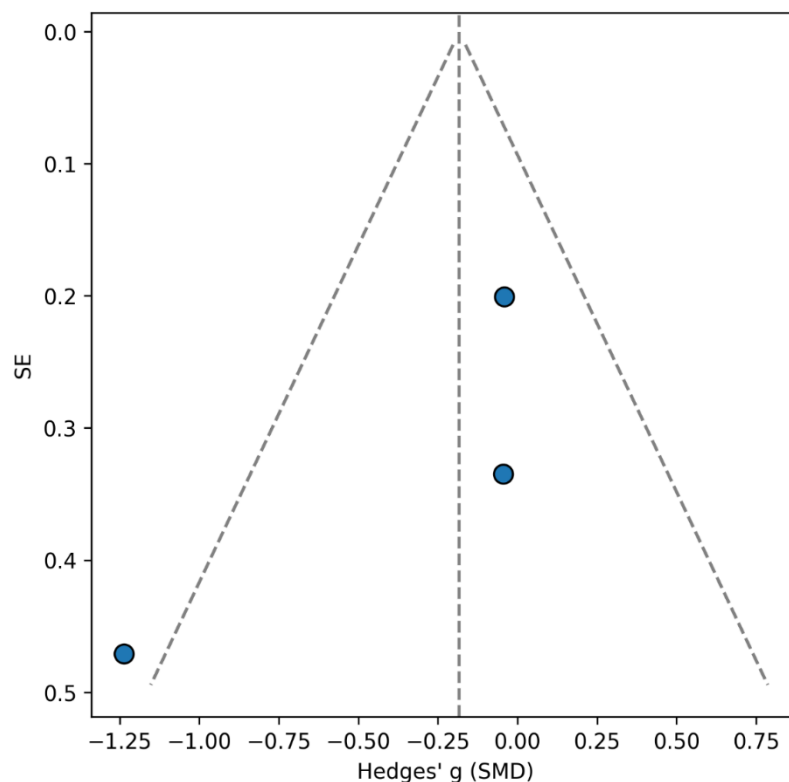
F5: Funnel plot – P-value = 0.1601343479733056

T5: Leave one out analysis.

Left out	pooled hedges g	CI_low	CI_high	p-value	tau2	I2
Du et al 2019	-0.3988	-0.92233	0.124719	0.135426	0	0
Basu et al 2018	-0.08103	-0.5472	0.385149	0.733352	6.26E-17	51.62017
Kuehl et al 2012	-0.03175	-0.45623	0.39273	0.88344	0	0

CRP

Sensitivity analysis using a leave-one-out approach demonstrated that the direction of effect consistently favoured intervention, but the pooled estimate was sensitive to the exclusion of individual trials. Excluding Schell et al. (2017) attenuated the pooled effect (Hedges' $g = -0.225$; 95% CI -0.586 to 0.137 ; $P = 0.223$). Excluding Schumacher et al. (2013) strengthened the pooled effect and approached statistical significance (Hedges' $g = -0.445$; 95% CI -0.980 to 0.090 ; $P = 0.103$). In contrast, exclusion of Kuehl et al. (2012) markedly attenuated the pooled effect (Hedges' $g = -0.042$; 95% CI -0.379 to 0.295 ; $P = 0.806$) and maintained non-significance.



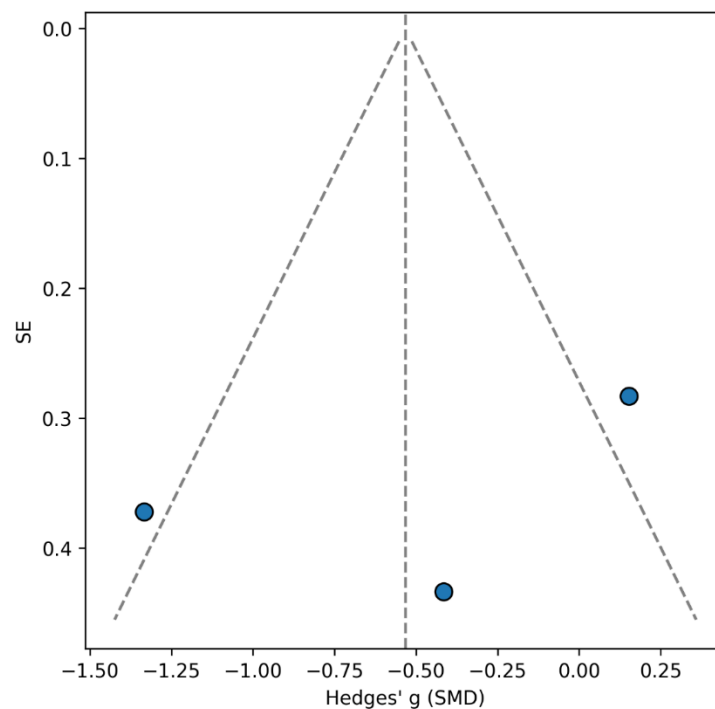
F6: Funnel plot – P-value = 0.4016167379789557

T6: Leave one out analysis.

Left out	pooled hedges g	CI_low	CI_high	p-value	tau2	I2
Schell et al 2017	-0.22494	-0.58646	0.136571	0.222639	0	81.6827
Schumacher et al 2013	-0.44507	-0.98001	0.089876	0.10296	0	76.53794
Kuehl et al 2012	-0.0422	-0.37934	0.294938	0.806195	0	0

IL-6

Sensitivity analysis using a leave-one-out approach demonstrated that the direction of effect consistently favoured intervention, but the pooled estimate was sensitive to the exclusion of individual trials. Excluding Schell et al. (2017) attenuated the pooled effect and rendered it non-significant (Hedges' $g = -0.018$; 95% CI -0.482 to 0.447 ; $P = 0.941$). In contrast, exclusion of Du et al. (2019) markedly strengthened the pooled effect, which became highly significant (Hedges' $g = -0.945$; 95% CI -1.498 to -0.392 ; $P = 0.001$). Exclusion of Kuehl et al. (2012) slightly attenuated the pooled effect and approached statistical significance (Hedges' $g = -0.393$; 95% CI -0.834 to 0.049 ; $P = 0.081$).



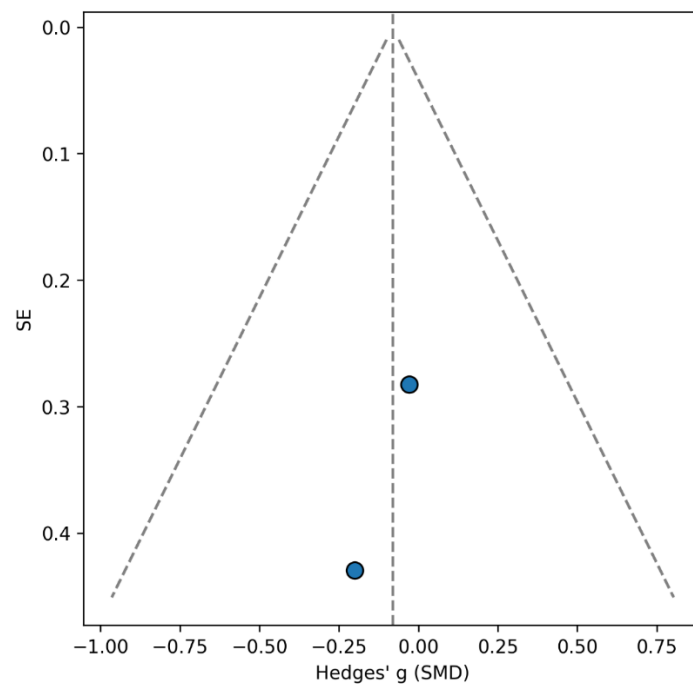
F7: Funnel plot – P-value = 0.565103589654752

T7: Leave one out analysis.

Left out	pooled hedges g	CI_low	CI_high	p-value	tau2	I2
Schell et al 2017	-0.01757	-0.48201	0.446865	0.94089	0	17.10359
Du et al 2019	-0.9447	-1.49786	-0.39154	0.000816	0	61.30852
Kuehl et al 2012	-0.39273	-0.83417	0.048711	0.081213	0	90.11529

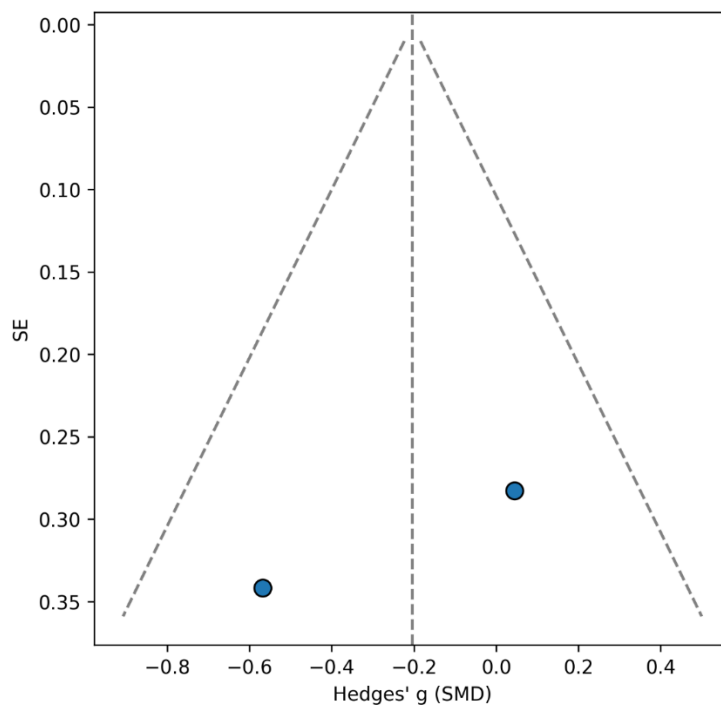
IL-10

As only two studies were included, leave-one-out sensitivity analysis and Egger's test for small-study effects were not conducted.



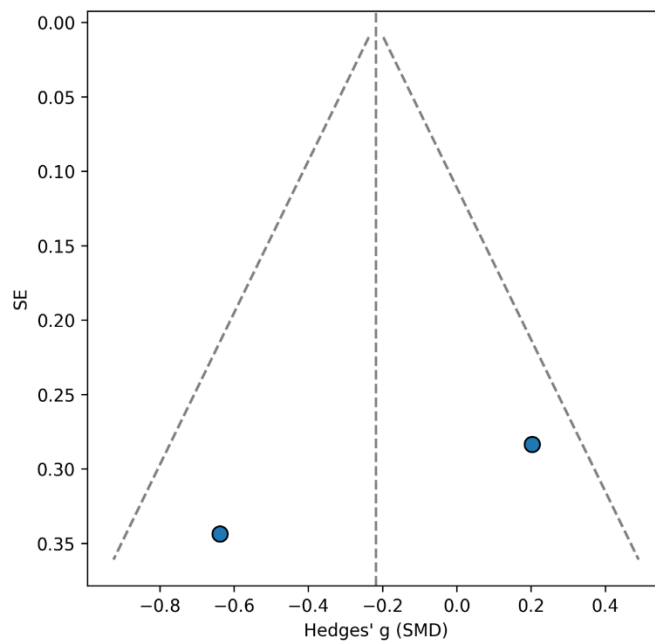
IL-1 β

As only two studies were included, leave-one-out sensitivity analysis and Egger's test for small-study effects were not conducted.



MMP-3

As only two studies were included, leave-one-out sensitivity analysis and Egger's test for small-study effects were not conducted.



MMP-13

As only two studies were included, leave-one-out sensitivity analysis and Egger's test for small-study effects were not conducted.

