Supplementary

Supplementary Table S1: Excluded studies according to full text analysis.

Author, year	Literature search	Reason for exclusion
Kondo et al. (2014)	E	N2
Fridell et al. (2017)	E	N1
El-Shinnawi et al. (2015)	E	N3
Woelber et al. (2016)	E	N1
Uhrbom et al. (1984)	E	N1
Cocate et al. (2019)	E	N2
Al-Ahmad et al. (2010)	E	N1
Melcher et al. (1953)	E	N3
Wozniewicz et al. (2018)	E	N5
Isola et al. (2020)	E	N3
Fourel et al. (1972)	E	N3
Silvestrini et al. (1954)	E	N3
Dawson et al. (2014)	E	N3
Lau et al. (2013)	E	N3
Martinez-Herrera (et al. (2018)	E	N2
Mamae-Chomata et al. (1979)	E	N3
Leggott et al. (1991)	E	N1
Maruhashi et al. (1983)	E	N3
Rasperini et al. (2019)	E	N1
Harpenau et al. (2011)	E	N1
Neiva et al. (2003)	E	N3
Leger et al. (1965)	E	N3
Bradford et al. (1959)	E	N3
Cheraskin et al. (1988)	E	N1
Zare Javid et al. (2018)	E	N2
Zare Javid et al. (2019)	E	N2
Zare Javid et al. (2014)	E	N6
Yano et al. (1979)	E	N3
Nahum et al. (1966)	E	N3
Ringsdorf et al. (1962)	E	N1
El-Sharkawy et al. (2019)	E	N2
Coates et al. (2017)	E	N1
Chapple et al. (2019)	E	N4
Babei et al. (2018)	E	N6
De Angelis et al. (2020)	E	N6

Note: E= Electronic literature search, N1= not controlled and/or randomized, N2= no general healthy subjects, N3= journal articles, N4=not blinded, N5= no periodontal indices (PD/CAL), N6= missing data.

Supplementary Table S2: Data of the meta-analysis including all studies providing values of difference between baseline and three months follow up: (a) PPD, (b) CAL, (c) BOP

(a)

Study	SMD	95% Conf. Interval		% Weight
Stańdo et al. (2020), Omega-3	1.357	0.557	2.158	24.98
Arora_et al. (2013), Lycopene	0.000	-0.605	0.605	25.15
Chopra et al. (2016), Green tea	7.117	6.119	8.114	24.75
Graziani et al. (2018), Kiwi	-1.629	-2.272	-0.986	25.12
D+L pooled SMD	1.691	-1.440	4.823	100.00

Heterogeneity chi-squared = 217.15 (d.f. = 3), p = 0.000
I-squared (variation in SMD attributable to heterogeneity) = 98.6%
Estimate of between-study variance Tau-squared = 10.053

Test of SMD=0 : z = 1.06; p = 0.290

(b)

Study	SMD	95% Conf. Interval		% Weight
Stańdo et al. (2020), Omega-3	2.715	1.705	3.725	24.80
Arora_et al. (2013), Lycopene	2.709	1.862	3.557	24.98
Chopra et al. (2016), Green tea	5.203	4.433	5.974	25.06
Graziani et al. (2018), Kiwi	-1.714	-2.366	-1.062	25.16
D+L pooled SMD	2.223	-1.008	5.454	100.00

Heterogeneity chi-squared = 194.04 (d.f. = 3), p = 0.000
I-squared (variation in SMD attributable to heterogeneity) = 98.5%
Estimate of between-study variance Tau-squared = 10.692

Test of SMD=0 : z = 1.35; p = 0.178

(c)

Study	SMD	95% Conf. Interval		% Weight
Stańdo et al. (2020), Omega-3	-0.637	-1.374	0.099	33.53
Arora_et al. (2013), Lycopene	3.236	2.304	4.168	33.29
Graziani et al. (2018), Kiwi	-4.183	-5.187	-3.180	33.18
D+L pooled SMD	-0.525	-4.372	3.323	100.00

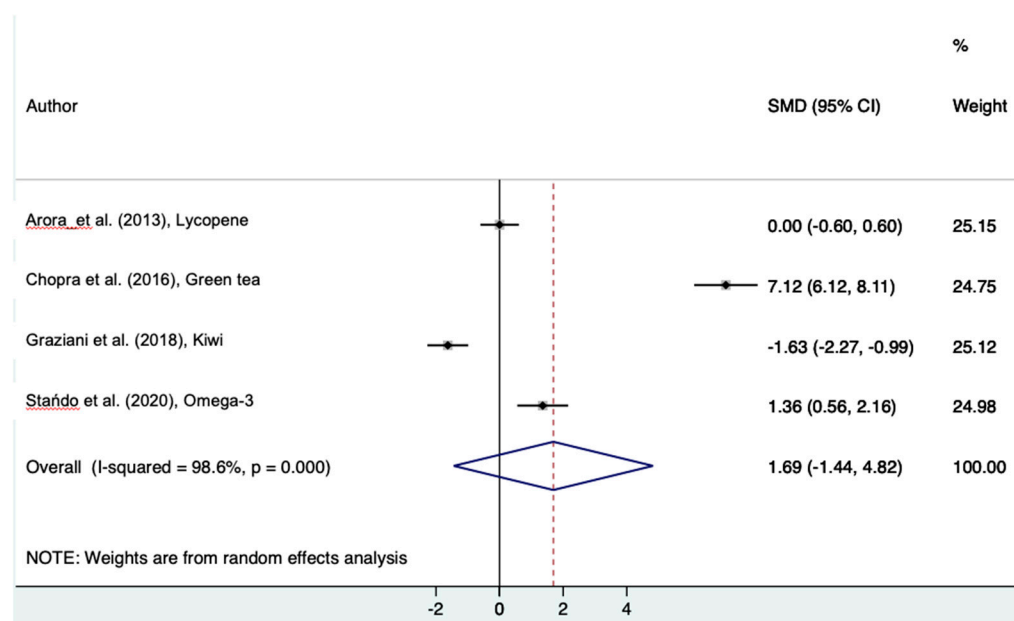Heterogeneity chi-squared = 113.44 (d.f. = 2), p = 0.000
I-squared (variation in SMD attributable to heterogeneity) = 98.2%
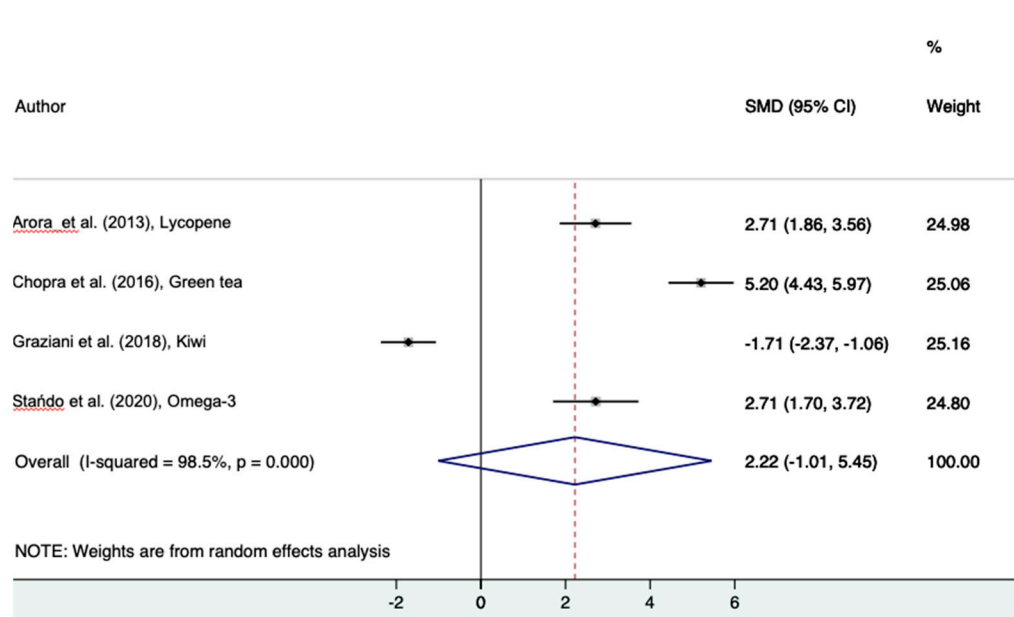Estimate of between-study variance Tau-squared = 11.352

Test of SMD=0 : z = 0.27; p = 0.789

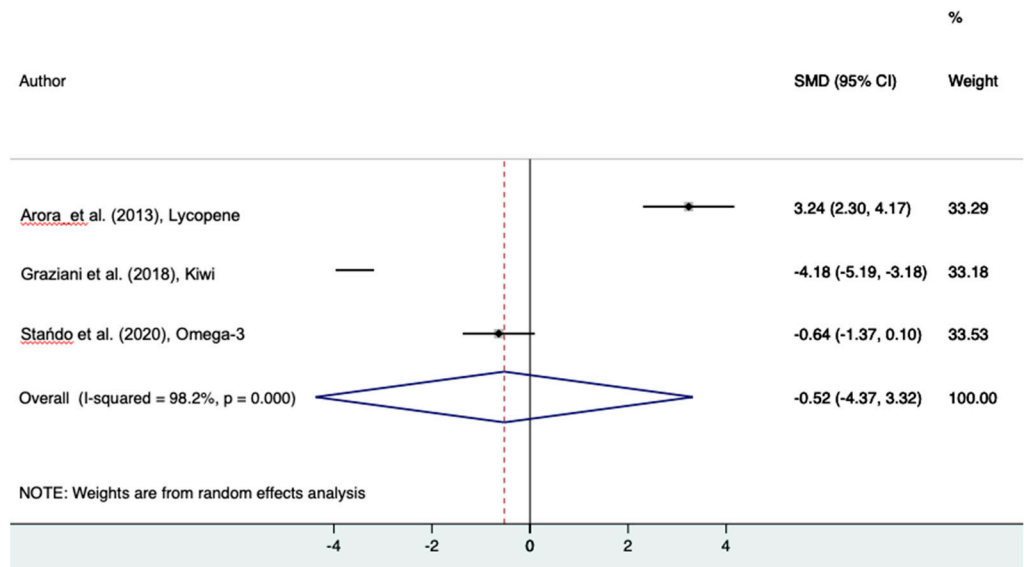**Supplementary Figure S1:** Forest plots for the outcomes of (**a**) PPD, (**b**) CAL and (**c**) BOP.

(a)

(b)

(c)

Author	SMD (95% CI)	% Weight
Arora et al. (2013), Lycopene	3.24 (2.30, 4.17)	33.29
Graziani et al. (2018), Kiwi	-4.18 (-5.19, -3.18)	33.18
Stańdo et al. (2020), Omega-3	-0.64 (-1.37, 0.10)	33.53
Overall (I-squared = 98.2%, p = 0.000)	-0.52 (-4.37, 3.32)	100.00

NOTE: Weights are from random effects analysis

Study	Intervention (daily)	foods (daily)
Arora et al. (2013)	8 mg Lycopene, 10,000 IU vitamin A, 40 IU ß-tocopherol, 200 mg vitamin C, 109.8 mg zinc sulfate monohydrate, equivalent to 24.96 mg zinc 280 µg selenium dioxide	11 g tomato paste or ripe vine tomato (approx. 115 g) 120 g carrots (provitamin A) or 125 g liver 135 g raw chicory 105 g red bell pepper, raw 220 g beef or 400 g pumpkin seeds 5 Brazil nuts (approx. 20 g)
Babaei et al. (2018)	2 g chicory extract: phenols (96.4 mg/g) and flavonoids (17.4 mg/g)	11 g blueberries
Kecili et al. (2019)	400 µg of folate	200g oat flakes 100g spinach 100g broccoli
Nafade et al. (2022)	Oolong tea (appr. 99.32 mg polyphenols)	

Chapple et al. (2012)	7.5 mg ß-carotene, 46 mg vitamin E, 200 mg vitamin C 400 µg folic acid + polyphenols (no information about the amount) or 7.5 mg ß-carotene, 66 mg vitamin E, 222 mg vitamin C and 640 µg folic acid + polyphenols (quantity not specified).	88 g sweet potatoes, 31 g wheat germ oil, 215 g kiwi fruit. 276 g lamb's lettuce + polyphenols from e.g. green tea 88 g sweet potatoes, 45 g wheat germ oil, 239 g kiwi 441 g lamb's lettuce + polyphenols from e.g. green tea
Chopra et al. (2016)	Green tea (40-150 mg polyphenols and flavonoids)	-
Graziani et al. (2017)	2 kiwi fruits, approx. 140 mg vitamin C	-
Deore et al. (2014)	300 mg tablet with omega-3 fatty acids (180 mg EPA and 120 mg DHA)	10 g herring, alternatively algae oil depending on the Omega-3 concentration
Keskiner et al. (2017)	6.25 mg EPA and 19.19 mg DHA	0.85 g herring, alternatively algae oil depending on the Omega-3 concentration
Martinez et al. (2014)	900 mg tablet with omega-3 fatty acids (540 mg EPA and 360 mg DHA)	30 g herring, alternatively algae oil depending on the Omega-3 concentration
Gao et al. (2020)	2000 IU vitamin D3 corresponds to 50 µg or 1000 IU vitamin D3 equivalent to 25 µg	200 g herring 100 g herring
Peric et al. (2020)	Approx. 3570 IU vitamin D3 (25,000 IU / week) corresponds to 94 µg	376 g herring
Stańdo et al. (2020)	2.6g EPA, 1.8g DHA, 1.4g alkylglycerol, 1.4g squalene, 240µg vitamin A, 2µg vitamin D3	147 g herring, 18g carrots (provitamin A) or 18.9g Liver
Singh et al. (2014)	200 mg vitamin E	150 g almonds + 60g weat germ oil + 100 g peanuts + 100 g spinach