Study or Subgroup	Experimental Mean	Experimental SD	Experimental Total	Control Mean	Control SD	Control Total	Weight	Mean Difference IV, Random, 95% CI	Year
4.3.1 healthy population									
Duthie 2006	−0.38	0.65	11	−0.2	0.69	9	4.8%	−0.18 [−0.77, 0.41]	2006
Novotny 2015	0.1	0.51	29	0.03	0.5	27	13.0%	0.07 [−0.19, 0.33]	2015
Flanagan 2022	−0.3	1	29	−0.1	1.08	31	5.7%	−0.20 [−0.73, 0.33]	2022
Heiss 2022	−0.05	0.56	22	0.04	1.53	22	3.8%	−0.09 [−0.77, 0.59]	2022
Rahn 2023	−0.03	0.5	18	−0.08	0.75	18	7.9%	0.05 [−0.37, 0.47]	2023
Subtotal (95% CI)			**109**			**107**	**35.2%**	**−0.00 [−0.19, 0.18]**	
Heterogeneity: Tau^2 = 0.00; Chi^2 = 1.30, df = 4 (P = 0.86); I^2 = 0%									
Test for overall effect: Z = 0.05 (P = 0.96)									
4.3.2 population with metabolic diseases									
Lee 2008	−0.4	0.39	15	0.2	0.39	15	12.4%	−0.60 [−0.88, −0.32]	2008
Basu 2011	−0.13	0.67	15	0.1	0.68	16	6.6%	−0.23 [−0.71, 0.25]	2011
Javid 2017	0.08	1.39	9	−0.25	0.72	12	1.9%	0.33 [−0.67, 1.33]	2017
Paquette 2017	−0.01	0.76	20	0.17	0.74	21	6.9%	−0.18 [−0.64, 0.28]	2017
Hormoznejad 2020	0.09	1.13	20	−0.23	0.84	21	4.5%	0.32 [−0.29, 0.93]	2020
Richter 2021	0	0.71	40	−0.08	0.71	40	11.1%	0.08 [−0.23, 0.39]	2021
Shirazi 2021	−0.26	0.53	46	−0.21	0.51	48	15.4%	−0.05 [−0.26, 0.16]	2021
Subtotal (95% CI)			**165**			**173**	**58.9%**	**−0.12 [−0.36, 0.13]**	
Heterogeneity: Tau^2 = 0.06; Chi^2 = 16.24, df = 6 (P = 0.01); I^2 = 63%									
Test for overall effect: Z = 0.95 (P = 0.34)									
4.3.3 population with coronary artery disease or CVD risk									
Dohadwala 2011	0	0.85	22	−0.03	0.89	22	5.9%	0.03 [−0.48, 0.54]	2011
Subtotal (95% CI)			**22**			**22**	**5.9%**	**0.03 [−0.48, 0.54]**	
Heterogeneity: Not applicable									
Test for overall effect: Z = 0.11 (P = 0.91)									
Total (95% CI)			**296**			**302**	**100.0%**	**−0.09 [−0.23, 0.06]**	
Heterogeneity: Tau^2 = 0.02; Chi^2 = 19.29, df = 12 (P = 0.08); I^2 = 38%									
Test for overall effect: Z = 1.19 (P = 0.23)									
Test for subgroup differences: Chi^2 = 0.60, df = 2 (P = 0.74), I^2 = 0%									