

**Table S1. The Jadad score of randomized controlled trials included in the systematic review**

<b>Author, Year, Country</b>	<b>Randomization</b>	<b>Double blinding</b>	<b>Withdrawals and dropouts</b>	<b>Total Jadad score</b>
Abbey, 2011, USA	1	2	1	4
Askari, 2012, Iran	2	1	1	4
Brull, 2015, Germany	2	2	1	4
Brull, 2017, Germany	2	2	1	4
Chekalina, 2018, Ukraine	2	0	1	3
Egert, 2009, Germany	2	2	0	4
Javadi, 2014, Iran	2	2	0	4
Lee, 2011, Korea	1	2	1	4
o'Fallon, 2012, USA	2	2	1	5
Zahedi, 2013, Iran	2	2	0	4

**Table S2. Subgroup analyses: stratification by participants' characteristics and study characteristics.**

Outcome			CRP		IL-6		
Factor	Subgroups	Sample Size	DM (95%CI)	<i>P</i> value ( <i>I</i> <sup>2</sup> )	Sample Size	DM (95%CI)	<i>P</i> value ( <i>I</i> <sup>2</sup> )
Age	<40	90	0.74 (-0.48, 1.95)	0.24 (86%)	120	-0.52 (-1.46, 0.43)	0.28 (84%)
	≥40	258	-0.24 (-0.49, 0.00)*	0.05 (0%)	154	-0.07 (-1.98, 0.57)	0.28 (93%)
Gender	Male	186	-0.45 (-0.72, 1.62)	0.45 (90%)	182	-0.45 (-1.29, 0.40)	0.30 (85%)
	Female	102	-0.36 (-0.89, 0.17)	0.18 (44%)	62	-1.37 (-1.93, -0.81)*	-
	Mixed sexes	50	0.39 (-0.18, 0.95)	0.18 (0%)	30	-0.27 (-0.99, 0.45)	-
Country	Asia	162	-0.21 (-0.74, 1.17)	0.66 (88%)	214	-0.78 (-1.76, 0.21)	0.12 (90%)
	EU & N. America	186	0.07 (-0.40, 0.55)	0.76 (45%)	60	-0.20 (-0.71, 0.31)	0.44 (0%)
Disease status	Without disease	90	0.74 (-0.48, 1.95)	0.24 (86%)	209	-0.58 (-1.30, 0.14)	0.12 (82%)
	With disease	258	-0.24 (-0.49, 0.00)*	0.05 (0%)	60	-1.37 (-1.93, -0.81)*	-
Sports situation	Nonathlete	196	-0.04 (-0.56, 0.47)	0.45 (90%)	90	-0.57 (-1.41, 0.28)	0.37 (89%)
	Trained athlete	152	-0.45 (-0.72, 1.62)	0.87 (58%)	184	-0.60 (-1.98, 0.74)	0.19 (86%)

DM = difference in means; CI = confidence interval. Disease status means health condition of participants, and with disease indicates subjects included were diagnosed with metabolic syndrome, coronary artery disease, rheumatoid arthritis or type II diabetes. Trained athlete refers to participants received professional sport training.

**Table S3. Subgroup analyses: stratification by study characteristics.**

Outcome			CRP		IL-6		
Factor	Subgroups	Sample Size	DM (95%CI)	<i>P</i> value ( <i>I</i> <sup>2</sup> )	Sample Size	DM (95%CI)	<i>P</i> value ( <i>I</i> <sup>2</sup> )
Intervention components	Combination	53	-0.34 (-2.15, 1.48)	0.72 (89%)	60	-1.15 (-2.91, 0.62)	0.20 (89%)
	Single	280	0.06 (-0.48, 0.61)	0.82 (75%)	214	-0.62 (-1.31, 0.06)	0.08 (81%)
Dosage	<500mg/ day	156	-0.16 (-0.47, 0.16)	0.33 (0%)	92	-0.07 (-0.48, 0.34)	-
	≥500mg/ day	192	0.28 (-0.51, 1.06)	0.49 (85%)	182	-0.69 (-1.10, -0.38)*	<0.01 (85%)
Duration	<8 weeks	186	-0.07 (-0.40, 0.55)	0.76 (45%)	60	-0.20 (-0.71, 0.31)	0.44 (0%)
	≥8 weeks	162	0.21 (-0.74, 1.17)	0.66 (88%)	214	-0.78 (-1.76, 0.21)	0.12 (90%)

DM= difference in means; CI= confidence interval. Intervention components: combination = quercetin intervention coordinated with antioxidants such as vitamin C; single = quercetin single intervention.