

Table S1 Search strategy in PubMed

Domain	Subdomain	Search number	Search form
P	P1 adult cancers patients	1#	“Cancer” OR “oncology” OR “neoplasm” OR “carcinoma” OR “malignant” [All fields]
		2#	“pediatric” OR “children” OR “child” [All fields]
		3#	1# NOT 2#
	P2 receiving chemotherapy	4#	(chemotherap*) [All fields]
	Summary of P domain	5#	3# OR 4#
I and C	Oral nutritional supplement	6#	“Nutritional supplement” OR “oral nutritional supplement” OR “oral supplement” OR “oral nutrition” OR “dietary intervention” OR “nutritional intervention” [All fields]
	Nutritional Counseling	7#	“Nutritional Counseling” OR “dietary counseling” OR “nutritional advice” OR “dietary advice” OR “nutritional recommendation” OR “dietary recommendation” [All fields]
	Summary of I and C	8#	6# OR 7#
	Summary P + I/C	9#	5# AND 8#

Table S2 Search strategy in OVID

Domain	Subdomain	Search number	Search form
P	P1 adult cancers patients	1#	“Cancer” OR “oncology” OR “neoplasm” OR “carcinoma” OR “malignant” [All fields]
		2#	“pediatric” OR “children” OR “child” [All fields]
		3#	1# NOT 2#
	P2 receiving chemotherapy	4#	(chemotherap*) [All fields]
	Summary of P domain	5#	3# OR 4#
I and C	Oral nutritional supplement	6#	“Nutritional supplement” OR “oral nutritional supplement” OR “oral supplement” OR “oral nutrition” OR “dietary intervention” OR “nutritional intervention” [All fields]
	Nutritional Counseling	7#	“Nutritional Counseling” OR “dietary counseling” OR “nutritional advice” OR “dietary advice” OR “nutritional recommendation” OR “dietary recommendation” [All fields]
	Summary of I and C	8#	6# OR 7#
	Summary P + I/C	9#	5# AND 8#

		Risk of bias domains					
		D1	D2	D3	D4	D5	Overall
Study	Elkort RJ, 1981	+	+	+	+	+	+
	Trabal J, 2010	+	+	+	+	+	+
	Baldwin C, 2011	+	+	+	+	+	+
	Sanchez-Lara K, 2014	+	+	+	+	+	+
	Cereda E, 2018	+	+	+	+	+	+
	Kim SH, 2019	+	+	+	+	+	+
	Huang S, 2020	+	+	+	+	+	+
	Dou S, 2020	+	+	+	+	+	+
	Meng Q, 2021	+	+	+	+	+	+
	Huong LT, 2021	X	+	+	+	+	X

Domains:
D1: Bias arising from the randomization process.
D2: Bias due to deviations from intended intervention.
D3: Bias due to missing outcome data.
D4: Bias in measurement of the outcome.
D5: Bias in selection of the reported result.

Judgement
X High
+ Low

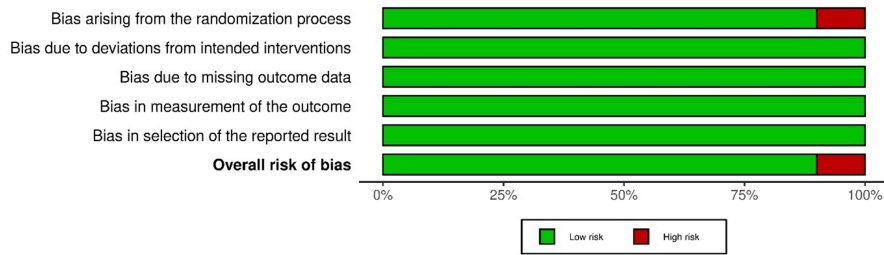


Figure S1 Risk of bias assessment according to the ROB2 algorithm.

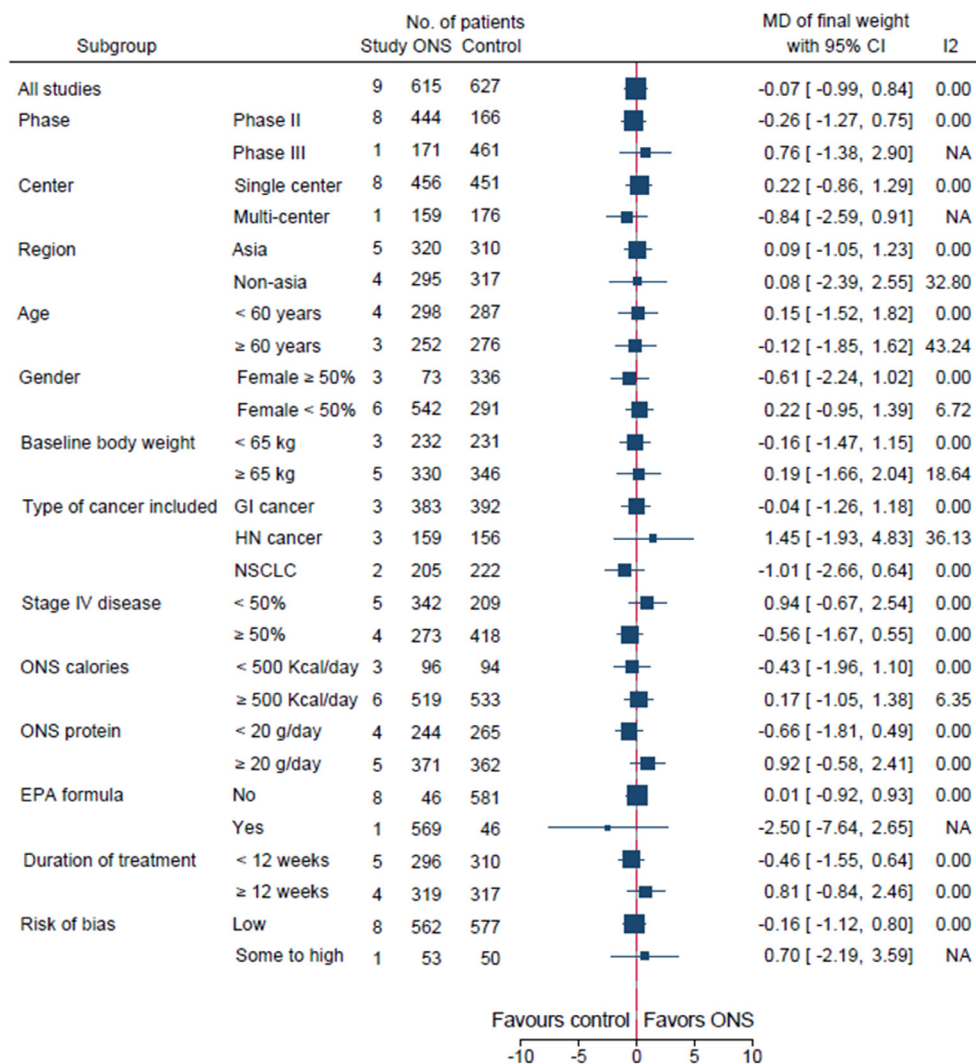
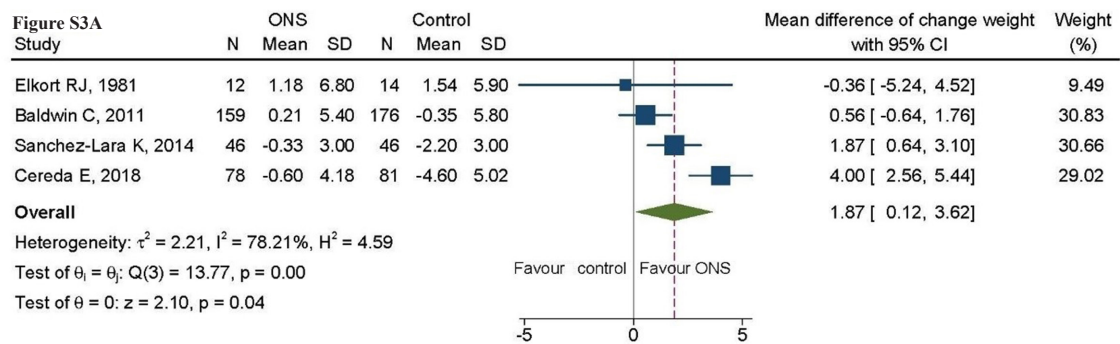
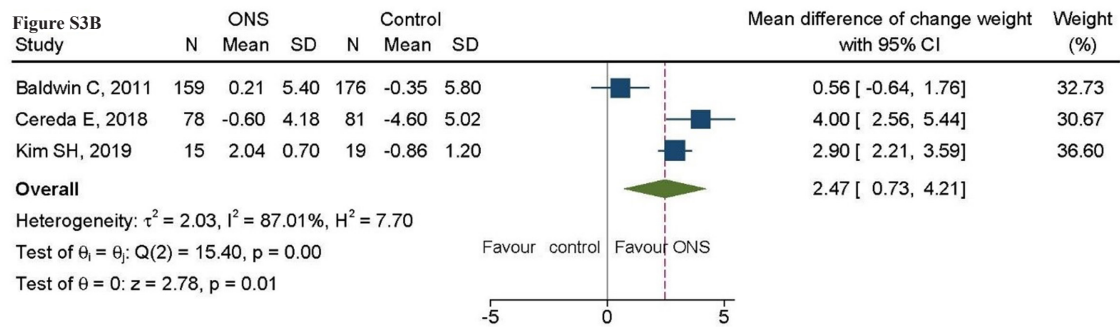


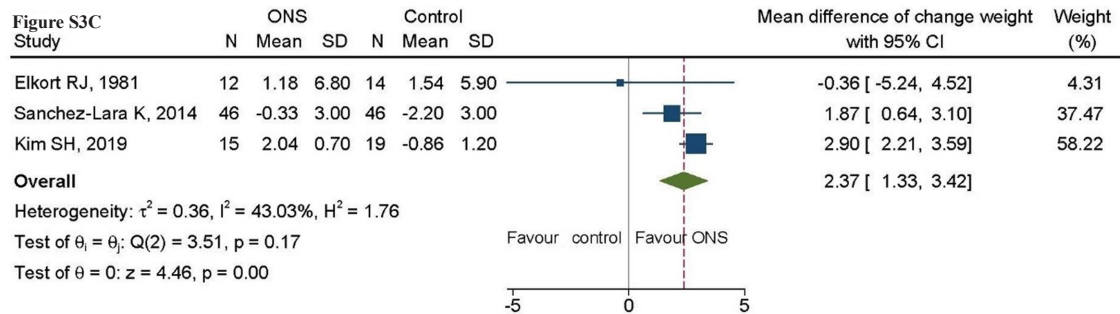
Figure S2 Forest plot for subgroup analysis of ONS *vs.* dietary counseling treatment on mean difference of final weight outcomes. ONS, oral nutritional supplement; MD, mean difference; CI, confident interval; GI, gastrointestinal tract cancer; HN, head and neck cancer; NSCLC, non-small cell lung cancer; EPA, eicosatetraenoic acid.



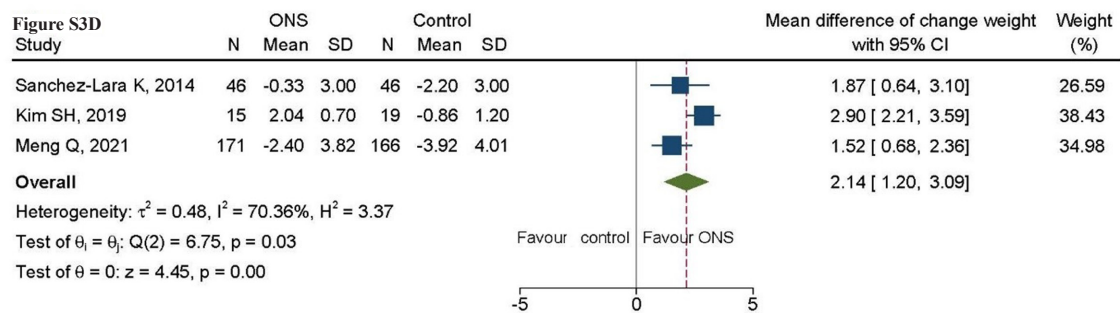
Random-effects DerSimonian–Laird model



Random-effects DerSimonian–Laird model



Random-effects DerSimonian–Laird model



Random-effects DerSimonian–Laird model

Figure S3 Forest plot for subgroup analysis of ONS *vs.* dietary counseling on mean difference of change in weight outcomes in the following subgroups: (A) non-Asian region, (B) age more than 60 years old, (C) female patients 50% or more, (D) baseline bodyweight less than 65 kg. N, number of participants; ONS, oral nutritional supplement; SD, standard deviation; CI, confident interval.

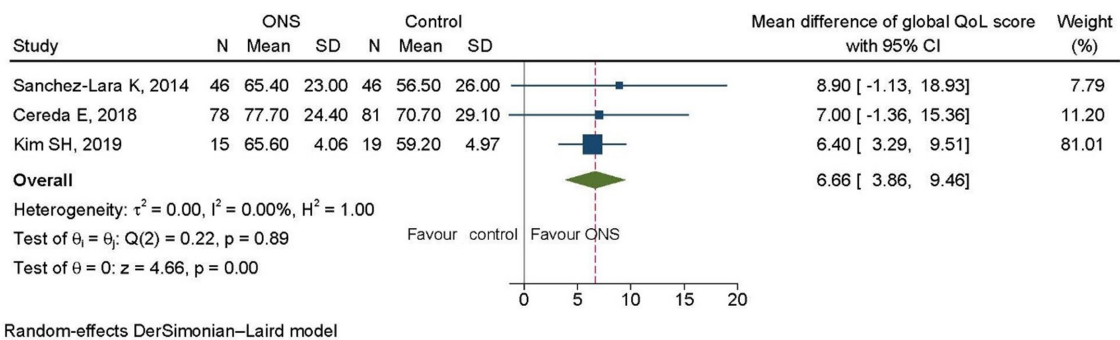


Figure S4 Sensitivity analysis of ONS vs. dietary counseling on global domain QoL outcomes (RCTs with baseline imbalance were excluded). N, number of participants; ONS, oral nutritional supplement; SD, standard deviation; CI, confident interval; QoL, quality of life; RCTs, randomized controlled trials.

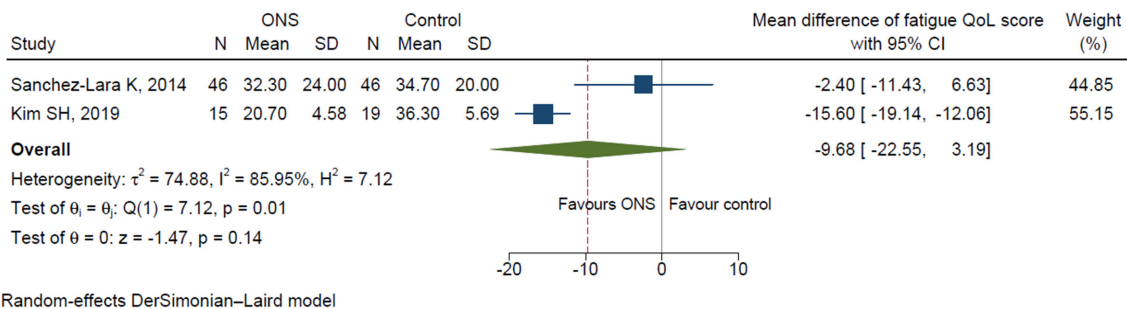


Figure S5 Sensitivity analysis of ONS vs. dietary counseling on fatigue domain QoL outcomes (RCTs with baseline imbalance were excluded). N, number of participants; ONS, oral nutritional supplement; SD, standard deviation; CI, confident interval; QoL, quality of life; RCTs, randomized controlled trials.

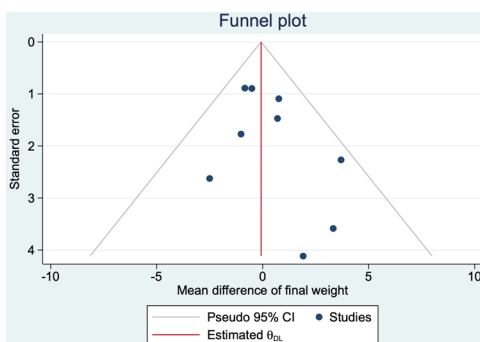


Figure S6 Funnel plot. CI, confident interval.