

Supplementary Table 1. Full search terms and strategy for papers indexed in PUBMED

No	Concept	Search terms
1	Flavonoids	"flavonoids" [Mesh] OR "flavonols" [Mesh] OR "flavones" [Mesh] OR "anthocyanidins" [Mesh] OR "flavanones" [Mesh] OR "flavan-3-ols" [Mesh] OR "catechins" [Mesh] OR "proanthocyanidins" [Mesh] OR "quercetin" [Mesh] OR "myricetin" [Mesh] OR "kaempferol" [Mesh] OR "isorhamnetin" [Mesh] OR "apigenin" [Mesh] OR "luteolin" [Mesh]
2	Mortality	mortality[tiab] OR death*[tiab] OR dead[tiab] OR all-cause[tiab] OR all cause[tiab] OR fatal[tiab] OR event[tiab] OR nonfatal[tiab] OR non-fatal[tiab] OR Mortality[Mesh:NoExp] OR mortality[Mesh subheading]
3	Cardiovascular	cardiovascular[tiab] OR vascular[tiab] OR CVD[tiab] OR Cardiovascular Diseases[Mesh:NoExp]
4	Combination	#2 OR #3
5	Combination Exposure And Outcome	#1 AND #4
6	Limit	Rats[Mesh:NoExp]) OR Mice[Mesh:NoExp]) OR rat[Title/Abstract]) OR rats[Title/Abstract]) OR mouse[Title/Abstract]) OR mice[Title/Abstract]) OR vivo[Title/Abstract]) OR vitro[Title/Abstract])
7	Limit	#5 NOT #6

Supplementary Table 2. Newcastle – Ottawa Quality Assessment Scale Cohort Studies

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be given for Comparability.

Selection

1) Representativeness of the exposed cohort

- a) truly representative of the average *healthy adults* in the community ★
- b) somewhat representative of the average *healthy adults* in the community ★
- c) selected group of users *e.g. nurses, volunteers, vegetarian*
- d) no description of the derivation of the cohort

2) Selection of the non-exposed cohort

- a) drawn from the same community as the exposed cohort ★
- b) drawn from a different source
- c) no description of the derivation of the non-exposed cohort

3) Ascertainment of exposure

- a) secure record (*e.g. 7 day food diary*) ★
- b) structured interview/ ≥ 2 dietary recalls/diet history/ food frequency questionnaire validated for dairy components ★
- c) written self-report (*e.g. <2 dietary recalls/non-validated food frequency questionnaire or not reported whether food frequency questionnaire was validated*)
- d) no description

4) Demonstration that outcome of interest was not present at start of study

- a) yes ★
- b) no

Comparability

1) Comparability of cohorts on the basis of the design or analysis

- a) study controls for *age, sex, smoking, total energy intake, and body mass index* ★
- b) study controls for any additional factor (*e.g. physical activity, alcohol intake, family history of diabetes, dietary factors*) ★

Outcome

1) Assessment of outcome

- a) independent blind assessment (*e.g. clinical diagnosis/complete medical information available*). ★
- b) record linkage/*medical record or validated self-report* ★
- c) non-validated self-report
- d) no description

2) Was follow-up long enough for outcomes to occur

- a) *yes/ follow up period for outcome of interest is 10 years or over* ★
- b) no

3) Adequacy of follow-up of cohorts

- a) complete follow-up - all subjects accounted for ★
- b) subjects lost to follow-up unlikely to introduce bias - small number lost $\leq 20\%$ follow-up, or description provided of those lost ★
- c) follow-up rate $< 80\%$ or no description of those lost
- d) no statement

Supplementary Table 3. Quality assessment of cohort studies on flavonoid intake, all-cause and cause-specific mortality.

Studies	Selection				Comparability	Outcome			Total score
	Representativeness of the exposed cohort	Selection of the non-exposed cohort	Ascertainment of exposure	Outcome not present at start of study	Comparability of cohorts on the basis of the design or analysis	Assessment of outcome	Follow-up long enough for outcomes to occur	Adequacy of follow-up of cohorts	
Hertog (1993)(1)	C	A★	B★	A★	A★ B★	B★	A★	B★	8
Rimm (1996)(2)	C	A★	B★	A★	A★ B★	B★	A★	B★	8
Hertog (1997)(3)	C	A★	B★	A★	A★ B★	B★	A★	B★	8
Hirvonen (2001) (4)	C	A★	B★	A★	A★ B★	B★	A★	B★	8
Knekt (2002)(5)	C	A★	B★	A★	A★ B★	B★	B	B★	7
Geleijnse (2002) (6)	C	A★	B★	A★	A★ B★	B★	B	B★	7
Mink (2007) (7)	C	A★	B★	A★	A★ B★	B★	A★	B★	8
Lin (2007) (8)	C	A★	B★	A★	A★ B★	B★	A★	B★	8
Kokubo (2007) (9)	C	A★	B★	A★	A★ B★	B★	B	B★	7
Mursu (2008)(10)	C	A★	B★	A★	A★ B★	B★	A★	B★	8
McCullough (2012) (11)	C	A★	B★	A★	A★ B★	B★	A★	B★	8
Zamora-Ros (2013)(12)	C	A★	B★	A★	A★ B★	B★	B	B★	7
Tresserra-Rimbau (2014)(13)	C	A★	B★	A★	A★ B★	B★	B	B★	7
Ivey (2015)(14)	C	A★	B★	A★	A★ B★	B★	A★	B★	8
Ponzo (2015)(15)	C	A★	B★	A★	A★ B★	B★	B	B★	7
Ivey (2017)(16)	C	A★	B★	A★	A★ B★	B★	B	B★	7

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