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Supplemental File 1: Search strategy

	Medline		Embase	
Population	#1 women.mp. or Female/		#1 female/ or women.mp.	
Exposure	#2 Diet, Mediterranean/ or Mediterranean diet.mp. or Mediterranean dietary pattern.mp.		#2 Mediterranean diet/ or Mediterranean diet.mp. or Mediterranean dietary pattern.mp.	
Outcome	#3 cardiovascular diseases/ or heart diseases/ or heart arrest/ or death, sudden, cardiac/ or out-of-hospital cardiac arrest/ or heart failure/ or myocardial ischemia/ or acute coronary syndrome/ or angina, unstable/ or coronary disease/ or coronary artery disease/ or coronary stenosis/ or myocardial infarction/ or cerebrovascular disorders/ or brain ischemia/ or brain infarction/ or ischemic attack, transient/ or carotid artery diseases/ or stroke/ or hemorrhagic stroke/ or ischemic stroke/ #4 isch?emic heart disease.mp. or cardiovascular disease*.mp. or (cardiovascular adj2 (event or events or risk)).mp. #5 mortality/ or "cause of death"/ or fatal outcome/ or mortality, premature/ or survival rate/		#3 cardiovascular disease/ or isch?emic heart disease.mp. or ischemic heart disease/ or cerebrovascular disease/ or brain infarction/ or brain ischemia/ or carotid artery disease/ #4 cardiovascular disease*.mp. or (Cardiovascular adj2 (event or events or risk)).mp. #5 all cause mortality/ or cardiovascular mortality/ or premature mortality/	
	#6	#3 OR #4 OR #5	#6	#3 OR #4 OR #5
	#1 AND #2 AND #6 Limits: English language; Publication period= "2003-Current"		#1 AND #2 AND #6 Limits: English language; Publication period= "2003-Current"	

	Cinahl		Scopus	Web of Science
Population	#1 (MM "Female") or "wom?n"		#1 TITLE-ABS-KEY ((wom?n) or (female))	#1 ((wom?n) *or* (female)) (All Fields)
Exposure	#2 (MH "Mediterranean Diet") or "mediterranean diet" or "mediterranean dietary pattern"		#2 (TITLE-ABS-KEY ((mediterranean *and* diet) or (mediterranean *and* dietary and pattern))	#2 ((Mediterranean Diet) or (Mediterranean dietary pattern)) (All Fields)
Outcome	#3 (MM "Cardiovascular Diseases") pr (MM "Heart Diseases") or (MH "Heart Arrest+") or (MM "Heart Failure") or (MM "Coronary Disease") or (MM "Myocardial Ischemia") or (MM "Angina, Stable") or (MM "Myocardial Infarction") or "ischaemic heart disease" or "cardiovascular disease" or "cardiovascular n2 (events or event or risk)" or "major adverse cardiovascular events" #4 (MM "Cerebrovascular Disorders") or (MM "Carotid Artery Diseases") or (MM "Cerebral Ischemia") or (MM "Stroke") or (MM "Hemorrhagic Stroke") or (MM "Ischemic Stroke") or (MM "Cerebral Infarction") #5 (MM "Mortality") or (MM "Cause of Death")		#3 TITLE-ABS-KEY ((cardiovascular *and* disease) or (cerebrovascular *and* disease) or (cardiovascular*) or (isch?emic heart *and* disease) or (cardiac w/2 events) or (stroke) or (mortality))	#3 ((cardiovascular disease) or (CVD) or (cardiovascular*) or (isch?emic heart disease) or (cardiac "near/2" event) or (cerebrovascular disease) or (stroke) or (mortality)) (All Fields)
	#6	#3 OR #4 OR #5		
	#1 AND #2 AND #6 Limits: English language; Publication period= "2003-Current"		#1 AND #2 AND #3 Limits: English language; Publication period= "2003-Current"	#1 AND #2 AND #3 Limits: English language; Publication period= "2003-Current"

Supplemental File 2: Inclusion and Exclusion criteria
Table S1 Inclusion and exclusion criteria

	Inclusion	**Exclusion**
Population	CVD was defined as diseases of the heart and/or blood vessels, including CHD, cerebrovascular disease, and peripheral artery disease. Female participants ≥18 years without CVD. Study authors must have reported sex-specific results or have data stratified according to sex to be eligible for inclusion.	
Intervention	The **exposure was higher Mediterranean diet adherence** as assessed by an *a priori* MDS. Points of zero or one were given based on the median intake of each diet component, where one point was assigned when the intake of favourable components (wholegrains, vegetables, fruits, legumes, nuts, and fish) was higher than the median intake of the cohort or when the intake of non-favourable components (meat, poultry, and dairy products) was lower than the median intake. For fat intake, a ratio of monounsaturated to saturated lipids was used. These points were summed, with the final score ranging from a total of zero (lowest adherence) to nine points (highest adherence). Studies that did not utilise the traditional MDS or its adaptations were only included if their MDS definition included all following key components: vegetables, fruits, legumes, nuts, wholegrains, fish, high intake of monounsaturated fats (and/or monounsaturated to saturated fat ratio and/or olive oil), and meat and meat products (or red and processed meats).	If the score/index was only reported as a combination of MDS and other lifestyle-related factors (e.g., exercise program) Studies referring to components or food groups of the Mediterranean diet
Comparison	**Lower Mediterranean diet adherence**	
Outcome	1) Incident CVD defined as: CHD, MI, stroke, heart failure, cardiovascular death, MACE, or MACC, or patient-reported CVD OR 2) Total or all-cause mortality Results must include a risk estimate (i.e., odds ratio, relative risk, hazard ratio) and confidence intervals.	
Study type	Randomised controlled trials and Prospective cohort studies	No grey literature and clinical registries

CVD cardiovascular disease; *MDS* Mediterranean diet score; *CHD* coronary heart disease; *MI* myocardial infarction; *MACE* major adverse cardiovascular events; *MACC* major adverse cardiac cerebrovascular events.

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Supplemental File 3: Characteristics of Included Studies

Table S2 Table of characteristics for included studies

Study author, year (Study name, Country)	Recruitment period/Study duration (years)	Final cohort size (N); *n* female participants (Percentage of women (%))	Proportion of each cohort for the highest and lowest MD adherence	Age at baseline in years; mean [standard deviation]	MDS type/ Range	Outcome(s) reported	Adjusted risk estimate (95% CI), highest versus lowest (reference) MDS	Covariates included in the fully adjusted model
Strengers et al, 2021 (EPIC-Netherlands, Netherlands)	1993-1997/median 15 [IQR 14-16]	36,961 27,645 W (75%)	6,540 W (Highest) 8676 W (Lowest)	51 (median)	mMDS/ 0 to 9	Heart failure	HR =1.07 (0.83-1.36) W HR =0.53 (0.33-0.86) M	Age, education level, physical activity, smoking status, total energy intake
Jackson et al, 2020 (ALSWH, Australia)	1996-2001/15 (maximum)	5,324 W (100%)	1,838 W (Highest) 1,286 W (Lowest)	45-50 (range); 52.4[1.5]	MDS/0 to 17	Overall Incident CVD	OR = 0.70 (0.50-0.98) W	Age, birth country, BMI, education, energy, physical activity, socio-economic status, smoking
Shan et al, 2020 (NHS II, United States)	1989-1991/26 (maximum)	90,864 W (100%)	15,951 W (Highest) 20,381 W (Lowest)	25-42 (range)	aMED/ 9 to 45	Overall Incident CVD	HR = 0.62 (0.53-0.73) W	Age, alcohol, aspirin, BMI, family history of MI, living status, oral contraceptive use, marital status, menopause status, multivitamin, physical activity, smoking, race/ethnicity, energy intake

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Table S2 (continued)

Study author, year (Study name, Country)	Recruitment period/Study duration (years)	Final cohort size (N); *n* female participants (Percentage of women (%))	Proportion of each cohort for the highest and lowest MD adherence	Age at baseline in years; mean [standard deviation]	MDS type/ Range	Outcome(s) reported	Adjusted risk estimate (95% CI), highest versus lowest (reference) MDS	Covariates included in the fully adjusted model
Ahmad et al, 2018 (WHS, United States)	1991-1995/mean 11.6 [SD 1.5]	25,994 W (100%)	6,483 W (Highest) 10,140 W (Lowest)	>45; 54.7 [7.1]	MED score/0 to 9	Overall Incident CVD CHD Stroke	HR = 0.85 (0.71-1.01) W HR = 0.89 (0.72-1.11) W HR = 0.91 (0.67-1.24) W	Age, energy intake, menopausal status, parental history of MI, physical activity, postmenopausal hormone use, treatment assignment, smoking
Galbete et al, 2018 (EPIC-Potsdam, Germany)	1994-1998/mean 10.6	23,485 14,357 W (61.1%)	4,846 W (Highest) 3,952 W (Lowest)	35-65; 49.8[8.9	MedPyr score/0 to 15	MI	HR = 0.77 (0.45–1.30) W HR = 0.87 (0.62-1.22) M	Age, alcohol, BMI, cycling, education, total energy, prevalent hypertension, smoking status, sports, vitamin supplementation, waist circumference
Lemming et al, 2018 (Swedish Mammography Cohort, Sweden)	1987-1990/median 17	33,341 W (100%)	6,965 W (Highest) 7,992 W (Lowest)	61 (median)	mMDS/ 0 to 9	CVD mortality	HR = 0·65 (0.52-0·83) W	Charlson's comorbidity index, education, energy intake, healthy Nordic food index diet score, living alone, physical activity, smoking

Table S2 (continued)

Study author, year (Study name, Country)	Recruitment period/Study duration (years)	Final cohort size (N); *n* female participants (Percentage of women (%))	Proportion of each cohort for the highest and lowest MD adherence	Age at baseline in years; mean [standard deviation]	MDS type/ Range	Outcome(s) reported	Adjusted risk estimate (95% CI), highest versus lowest (reference) MDS	Covariates included in the fully adjusted model
Neelakantan et al, 2018 (Singapore Chinese Health Study, Singapore)	1993-1998/mean 17	57,168 31,958 W (55.9%)	6,539 W (Highest) 6,221 W (Lowest)	45-74 (range)	aMED/ 0 to 9	CVD mortality Total mortality	HR = 0.78 (0.67-0.91) W HR = 0.77 (0.67-0.88) M HR = 0.83 (0.76-0.91) W HR = 0.78 (0.73-0.84) M	Age, BMI, Chinese dialect, diabetes mellitus, hypertension, education, physical activity, sleep duration, smoking, energy intake
Harmon et al, 2015 (MEC, United States)	1993-1996/13-18 (range)	156,804 86,634 W (55.2%)	20,459 W (Highest) 18,397 W (Lowest)	45-75 (range)	aMED/ 0 to 9	CVD mortality Total mortality	HR = 0.81 (0.74-0.89) W HR = 0.79 (0.72-0.86) M HR = 0.78 (0.74-0.82) W HR = 0.76 (0.73-0.80) M	Age, BMI, diabetes mellitus, educational level, energy intake, ethnicity, marital status, physical activity, postmenopausal hormone replacement therapy, smoking

Table S2 (continued)

Study author, year (Study name, Country)	Recruitment period/Study duration (years)	Final cohort size (N); *n* female participants (Percentage of women (%))	Proportion of each cohort for the highest and lowest MD adherence	Age at baseline in years; mean [standard deviation]	MDS type/ Range	Outcome(s) reported	Adjusted risk estimate (95% CI), highest versus lowest (reference) MDS	Covariates included in the fully adjusted model
George et al, 2014 (WHI, United States)	1993-1998/median 12.9	63,805 W (100%)	15,708 W (Highest) 11,685 W (Lowest)	50-79 (range)	aMED/ 0 to 9	CVD mortality Total mortality	HR = 0.79 (0.67-0.94) W HR = 0.74 (0.68-0.81) W	Age, energy intake, ethnicity, educational level, marital status, smoking, physical activity, postmenopausal hormone replacement therapy, BMI, and diabetes mellitus
Reedy et al, 2014 (NIH-AARP Diet and Health Study, United States)	1995-1996/15 (maximum)	492,923 182,342 W (37%)	44,474 W (Highest) 32,521 W (Lowest)	50-71 (range)	aMED/ 0 to 9	CVD mortality Total mortality	HR = 0.78 (0.72-0.84) W HR = 0.8 (0.76-0.84) M HR = 0.76 (0.73-0.79) W HR = 0.77 (0.75-0.79) M	Age, alcohol, BMI, diabetes mellitus, education, energy intake, hormone replacement therapy, marital status, physical activity, race/ethnicity

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Table S2 (continued)

Study author, year (Study name, Country)	Recruitment period/Study duration (years)	Final cohort size (N); *n* female participants (Percentage of women (%))	Proportion of each cohort for the highest and lowest MD adherence	Age at baseline in years; mean [standard deviation]	MDS type/ Range	Outcome(s) reported	Adjusted risk estimate (95% CI), highest versus lowest (reference) MDS	Covariates included in the fully adjusted model
Chan et al, 2013 (China)	2001-2003/median 5.7	2,735 1,397 W (51.1%)	263 W (Highest) 509 W (Lowest)	≥65; 72.4[5.4]	tMDS/0 to 18	Stroke	HR = 0.72 (0.28-1.87) W HR = 0.55 (0.31-0.99) M	Age, alcohol use, BMI, community ladder, energy intake, Hong Kong ladder, community ladder, hypertension, physical activity scale for the elderly, smoking status
Dilis et al, 2012 (EPIC-Greece, Greece)	1994-1999/median 10	23,929 14,189 W (59.3%)	N/A	20-86 (range)	tMDS/0 to 9	CHD CHD mortality	HR = 0.62 (0.39-0.99) W HR = 0.9 (0.70-1.16) M HR = 0.39 (0.17-0.88) W HR = 0.62 (0.39-0.98) M	Age, arterial blood pressure (normal or high), BMI, energy intake, physical activity, smoking, years of schooling

Table S2 (continued)

Study author, year (Study name, Country)	Recruitment period/Study duration (years)	Final cohort size (N); *n* female participants (Percentage of women (%))	Proportion of each cohort for the highest and lowest MD adherence	Age at baseline in years; mean [standard deviation]	MDS type/ Range	Outcome(s) reported	Adjusted risk estimate (95% CI), highest versus lowest (reference) MDS	Covariates included in the fully adjusted model
van den Brandt et al, 2011 (Netherlands Cohort Study, Netherlands)	1986/10 (maximum)	3,576 1,886 W (52.7%)	441 W (Highest) 632 W (Lowest)	55-69 (range)	aMED/ 0 to 9	Total mortality	HR = 0.69 (0.58-0.82) W HR = 0.89 (0.74-1.07) M	Age, BMI, smoking, energy intake, education, hypertension history, physical activity, cigarettes smoked per day, years of smoking
Buckland et al, 2009 (EPIC-Spain, Spain)	1992-1996/mean 10.4	41,078 25,636 W (62.4%)	5,518 W (Highest) 6,501 W (Lowest)	29-69; 49.3[8.0]	rMDS/ 0 to 18	CHD	HR = 0.67 (0.39-1.16) W HR = 0.58 (0.44-0.76) M	BMI, diabetes mellitus, education, hyperlipidaemia, hypertension, physical activity, smoking status, total calorie intake
Fung et al, 2009 (NHS I, United States)	1976-1984/20 (maximum)	74,886 W (100%)	N/A	38-63 (range)	aMED/ 0 to 9	CHD Stroke	RR = 0.71 (0.62–0.82) W RR = 0.87 (0.73–1.02) W	Age, alcohol, aspirin use, BMI, energy intake, family history, menopausal status, postmenopausal hormone use, multivitamin intake, physical activity, smoking status

Table S2 (continued)

Study author, year (Study name, Country)	Recruitment period/Study duration (years)	Final cohort size (N); *n* female participants (Percentage of women (%))	Proportion of each cohort for the highest and lowest MD adherence	Age at baseline in years; mean [standard deviation]	MDS type/ Range	Outcome(s) reported	Adjusted risk estimate (95% CI), highest versus lowest (reference) MDS	Covariates included in the fully adjusted model
Lagiou et al, 2006 (Scandinavian Women's Lifestyle and Health Cohort, Sweden)	1991-1992/ mean 12.01	42,237 W (100%)	9,453 W (Highest) 14,328 W (Lowest)	30-49 (range)	tMDS/0 to 9)	Total mortality	HR = 0.85 (0.67-1.08) W	Age, BMI, education, egg intake, energy intake, height, non-alcoholic beverage intake, physical activity, polyunsaturated lipid intake, potato intake, smoking, sweet intake

W women, *M* men, *CVD* cardiovascular disease, *CHD* coronary heart disease, *BMI* body mass index, *MI* myocardial infarction, *MDS* Mediterranean Score, *tMDS* traditional Mediterranean diet score, *aMED* Alternate Mediterranean Score, *rMed* relative Mediterranean Score, *mMDS* modified Mediterranean Score, *OR* odds ratio, *HR* hazard ratio, *RR* relative risk, *NHS* Nurse's Health Study, *EPIC* European Prospective Investigation into Cancer and Nutrition, *WHS* Women's Health Study, *WHI* Women's Health Initiative, *ALSWH* Australian Longitudinal Study on Women's Health, *MEC* Multiethnic Cohort, *IQR* Interquartile Range, *SD* Standard Deviation, *N/A* not available.

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Supplemental File 4: Quality of Included Studies

Table S3 Assessment of quality of study with the Newcastle-Ottawa Scale

| | Selection | | | | Comparability | Outcome | | | |
| | 1 | 2 | 3 | 4 | 1 | 1 | 2 | 3 | |
	Representativeness of the exposed cohort	Selection of the non-exposed cohort	Ascertainment of exposure	Demonstration that outcome of interest was not present at start of study	Comparability of cohorts on the basis of the design or analysis	Assessment of outcome	Was follow-up long enough for outcomes to occur	Adequacy of follow up of cohorts	**Total quality score**
Ahmad et al, 2018		*		*	**	*	*		6
Buckland et al, 2009	*	*	*	*	*	*	*		7
Chan et al, 2013		*		*	**	*	*		6
Dilis et al, 2012	*	*	*	*	**	*	*		8
Fung et al, 2009		*		*	**	*	*		6
Galbete et al, 2018	*	*		*	**	*	*		7
George et al, 2014	*	*		*	**	*	*	*	8
Harmon et al, 2015	*	*		*	**	*	*		7

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Table S3 (continued)

	Selection				Comparability	Outcome			
	1	2	3	4	1	1	2	3	
	Representativeness of the exposed cohort	Selection of the non-exposed cohort	Ascertainment of exposure	Demonstration that outcome of interest was not present at start of study	Comparability of cohorts on the basis of the design or analysis	Assessment of outcome	Was follow-up long enough for outcomes to occur	Adequacy of follow up of cohorts	**Total quality score**
Jackson et al, 2020	*	*		*	**		*		6
Lagiou et al, 2006	*	*		*	**	*	*		7
Lemming et al, 2018		*		*	*	*	*		5
Neelakantan et al, 2018	*	*	*	*	**	*	*		8
Reedy et al, 2014		*		*	**	*	*		6
Shan et al, 2020		*		*	**	*	*	*	7
Strengers et al, 2021	*	*		*	**	*	*		7
van den Brandt et al, 2011	*	*		*	**	*	*	*	8

Assessment based on the Newcastle-Ottawa Scale, with scores ranging from 0 to 9. Points to studies were given according to three domains: selection (maximum of four points), outcome (maximum three points), and comparability (maximum of two points). Studies receiving 7-9 were considered high quality, 4-6 were considered as moderate quality, and 0-3 were considered as low quality. One point was awarded in the Comparability domain if the study was controlled for age as the most important factor and a second point for any additional factors. One point was awarded for 'Was follow-up long enough for outcomes to occur' if the follow-up duration was more than five years.

Supplemental File 5: Subgroup analyses

Author(s), Year	Ethnicity	Statistics for female participants from each study			Weight	HR [95% CI]
		Cohort size	Total events			
Buckland et al, 2009	Spain	25636	126		13.8%	0.67 [0.39, 1.16]
Dilis et al, 2012	Greece	14189	210		16.6%	0.62 [0.39, 0.99]
Galbete et al, 2018	Germany	14357	94		14.3%	0.77 [0.45, 1.31]
Lemming et al, 2018	Sweden	33341	3003		28.0%	0.65 [0.51, 0.82]
Strengers et al, 2021	Netherlands	27645	489		27.3%	1.07 [0.84, 1.37]
RE Model (Q = 9.86, df = 4, p test for heterogeneity = 0.04; I^2 = 59.4%)						0.76 [0.59, 0.98]

0.2   1   5

Favours Higher Mediterranean Diet Adherence   Favours Lower Mediterranean Diet Adherence
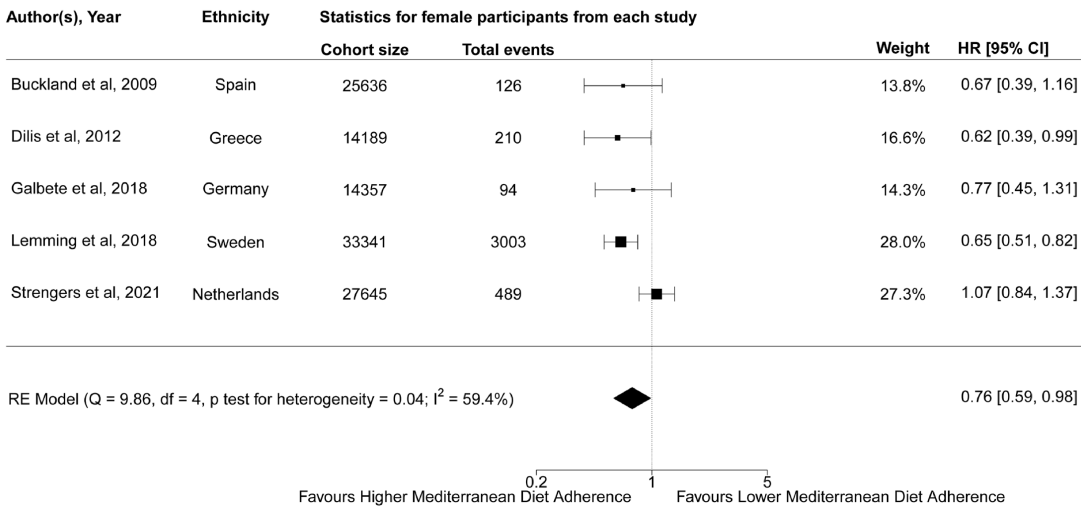
Figure S1 Forest plot of pooled hazard ratios (HRs) of incident CVD for female participants of European descent (n= 5) using random effects model. *HR* hazard ratio. *CVD* cardiovascular disease. *RE* random effects.
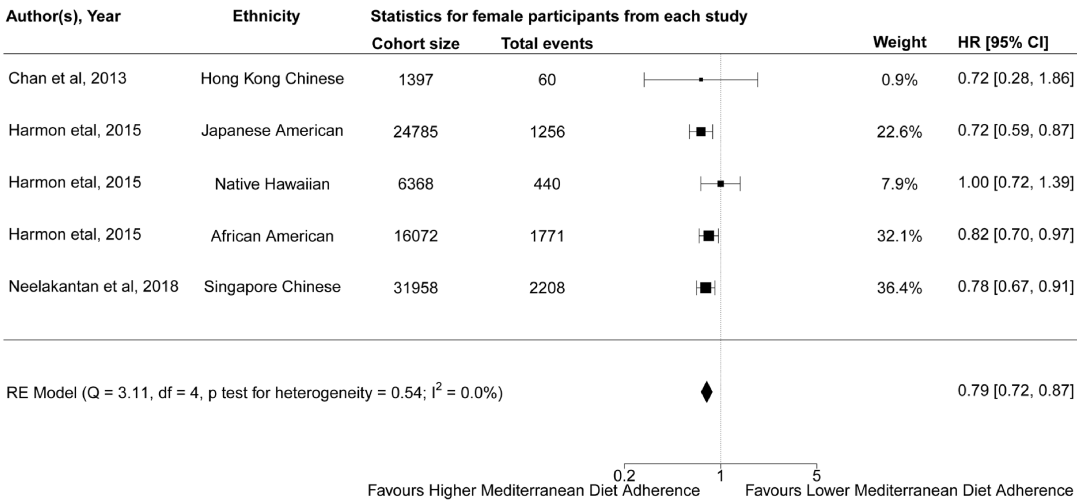
Figure S2 Forest plot of pooled hazard ratios (HRs) of incident CVD for female participants of non-European descent (Hong Kong Chinese, Japanese, Native Haiiwaiian, African American, Singapore Chinese) (n= 5) using random effects model. *HR* hazard ratio. *CVD* cardiovascular disease. *RE* random effects.

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Supplemental File 6: Funnel plot of standard error by log of hazard ratios
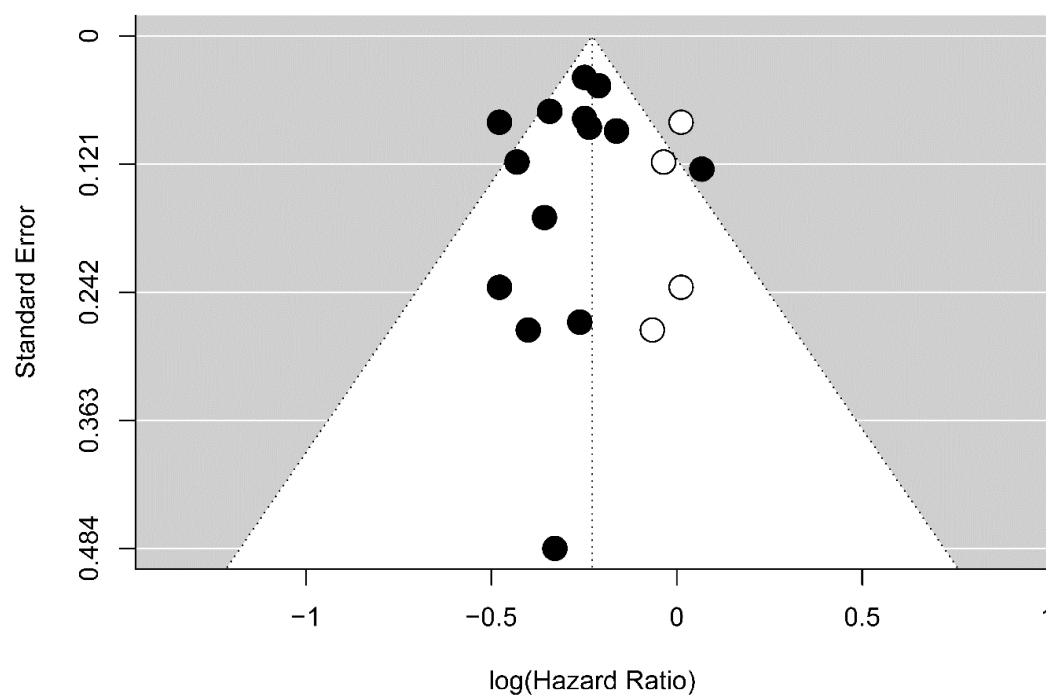

Figure S3 Funnel plot for assessment of publication bias in the meta-analysis on association between Mediterranean diet adherence and incident CVD in female participants. *P* for Egger's test = 0.55.
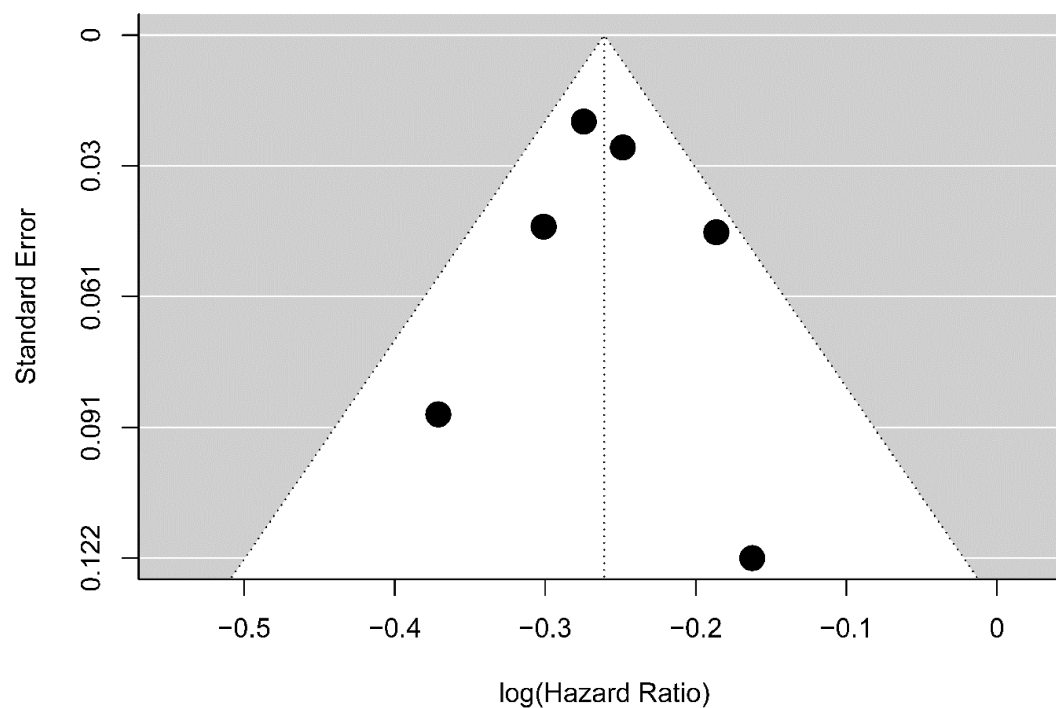
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Figure S4 Funnel plot for assessment of publication bias in the meta-analysis on association
between Mediterranean diet adherence and total mortality in female participants. *P* for
Egger's test = 0.93.