Supplementary documents

Search Strategies

CINAHL

S1	(MH "Cardiovascular Diseases")	146,081
S2	(MH "Heart Diseases")	68,967
S3	(MH "Myocardial Ischemia")	38,403
S4	(MH "Myocardial Infarction")	164,513
S5	(MH "Coronary Arteriosclerosis")	13,625
S6	(MH "Coronary Disease")	130,586
S7	S1 OR S2 OR S3 OR S4 OR S5 OR S6	511,779
S8	AB "cardiovascular disease*" OR TI "cardiovascular disease*" OR AB "heart disease*" OR TI "heart disease*" OR AB "myocardial isch#mia" OR TI "myocardial isch#mia" OR AB "myocardial infarction" OR TI "myocardial infarction" OR AB "coronary arter* disease" OR TI "coronary arter* disease" OR AB "coronary disease" OR TI "coronary disease"	545,758
S9	AB "ischem*" OR TI "ischem*" OR AB "infarc*" OR TI "infarc*" OR AB "angina" OR TI "angina" OR AB "atherosclerosis" OR TI "atherosclerosis" OR AB "arteriosclerosis" OR TI "arteriosclerosis" OR AB "stroke" OR TI "stroke" OR AB "heart attack" OR TI "heart attack" OR AB "acute coronary syndrome" OR TI "acute coronary syndrome" OR AB "cerebrovascular dis*" OR TI "cerebrovascular dis*" OR AB "cerebrovascular accident" OR TI "cerebrovascular accident" OR AB "cardiovascular event" OR TI "cardiovascular event"	828,038
S10	S7 OR S8 OR S9	1,285,702
S11	AB "primary prevention" OR TI "primary prevention" OR AB "primary disease prevention" OR TI "primary disease prevention" OR AB "primordial prevention" OR TI "primordial prevention" OR AB "health education" OR TI "health education" OR AB "health promotion" OR TI "health promotion" OR AB "patient education" OR TI "patient education" OR AB "consumer health information" OR TI "consumer health information"	91,664
S12	AB "cardiovascular risk" OR TI "cardiovascular risk" OR AB "risk factor" OR TI "risk factor" OR AB "behavi#r" OR TI "behavi#r" OR AB "diet" OR TI "diet" OR AB "physical activity" OR TI "physical activity" OR AB "exercise" OR TI "exercise" OR AB "risk reduction" OR TI "risk reduction" OR AB "risk" OR TI "risk"	961,772
S13	AB "hypertension" OR TI "hypertension" OR AB "lifestyle" OR TI "lifestyle" OR AB "life-style" OR TI "life-style" OR AB "blood pressure" OR TI "blood pressure" OR AB "smoking" OR TI "smoking" OR AB "alcohol" OR TI "alcohol" OR AB "salt" OR TI "salt" OR AB "dislipid#mia" OR TI "dislipid#mia" OR AB "cholesterol" OR TI "cholesterol" OR AB "fat" OR TI "fat"	384,767,
S14	S12 OR S13	1,184,160
S15	S11 AND S14	21,936
S16	S10 AND S15	3,935
S17	AB female* OR TI female* OR AB wom#n OR TI wom#n	597,128
S18	S16 AND S17	937
S19	PT "randomized controlled trial" OR PT "controlled clinical trial" OR TI "randomized" OR AB "randomized" OR TI "placebo" OR AB "placebo" OR (MH "Clinical Trials as Topic") or TI "randomly" or AB "randomly or TI "trial" or AB "trial"	284,104

S20	S18 AND S19	167
S21	AB "meta analysis" OR TI "meta analysis" OR AB "meta analyses" OR TI "meta analyses" AB "meta analytical" OR TI "meta analytical" OR AB "metanaly*" OR TI "metanaly*" OR AB "systematic review" OR TI "systematic review" OR AB "methodologic* review*" OR TI "methodologic* review*" OR AB "quantitative*" OR TI "quantitative*" OR AB "systematic*" OR TI "systematic*" OR AB "overview*" OR TI "overview*" OR AB "evidence based medicine" OR TI "evidence based medicine" OR AB "evidence based medicine review" OR TI "evidence based medicine review"	330,609
S22	S18 AND S21	95
S23	AB "economic" OR TI "economic" OR AB "economic evaluation" OR TI "economic evaluation" OR AB "economic model" OR TI "economic model" OR AB "cost benefit" OR TI "cost benefit" OR AB "cost benefit analysis" OR TI "cost benefit analysis" OR AB "benefit cost" OR TI "benefit cost" OR AB "cost effectiveness" OR TI "cost effectiveness" OR AB "ce analysis" OR TI "ce analysis" OR AB "health economic assessment tool" OR TI "health economic assessment tool" OR AB "health care costs" OR TI "health care costs" OR AB "cost utility analysis" OR TI "cost utility analysis" OR AB "cost savings" OR TI "cost savings"	99,302
S24	S18 AND S23	64
S25	S20 OR S22 OR S24	196

English and human limiter for search 'S25'

Medline

S1	(MH "Cardiovascular Diseases")	146,081
S2	(MH "Heart Diseases")	68,967
S3	(MH "Myocardial Ischemia")	38,403
S4	(MH "Myocardial Infarction")	164,513
S5	(MH "Coronary Arteriosclerosis")	13,625
S6	(MH "Coronary Disease")	130,586
S7	S1 OR S2 OR S3 OR S4 OR S5 OR S6	511,779
S8	AB "cardiovascular disease*" OR TI "cardiovascular disease*" OR AB "heart disease*" OR TI "heart disease*" OR AB "myocardial isch#mia" OR TI "myocardial isch#mia" OR AB "myocardial infarction" OR TI "myocardial infarction" OR AB "coronary arter* disease" OR TI "coronary arter* disease" OR AB "coronary disease" OR TI "coronary disease"	545,758
S9	AB "ischem*" OR TI "ischem*" OR AB "infarc*" OR TI "infarc*" OR AB "angina" OR TI "angina" OR AB "atherosclerosis" OR TI "atherosclerosis" OR AB "arteriosclerosis" OR TI "arteriosclerosis" OR AB "stroke" OR TI "stroke" OR AB "heart attack" OR TI "heart attack" OR AB "acute coronary syndrome" OR TI "acute coronary syndrome" OR AB "cerebrovascular dis*" OR TI "cerebrovascular dis*" OR AB "cerebrovascular accident" OR TI "cerebrovascular accident" OR AB "cardiovascular event" OR TI "cardiovascular event"	828,038
S10	S7 OR S8 OR S9	1,285,702
S11	AB "primary prevention" OR TI "primary prevention" OR AB "primary disease prevention" OR TI "primary disease prevention" OR AB "primordial prevention" OR TI "primordial prevention" OR AB "health education" OR TI "health education" OR AB "health promotion" OR TI "health promotion" OR AB "patient education" OR TI "patient education" OR AB "consumer health information" OR TI "consumer health information"	91,664
S12	AB "cardiovascular risk" OR TI "cardiovascular risk" OR AB "risk factor" OR TI "risk factor" OR AB "behavi#r" OR TI "behavi#r" OR AB "diet" OR TI "diet" OR AB "physical activity" OR TI "physical activity" OR AB "exercise" OR TI "exercise" OR AB "risk reduction" OR TI "risk reduction" OR AB "risk" OR TI "risk"	3,142,223
S13	AB "hypertension" OR TI "hypertension" OR AB "lifestyle" OR TI "lifestyle" OR AB "life-style" OR TI "life-style" OR AB "blood pressure" OR TI "blood pressure" OR AB "smoking" OR TI "smoking" OR AB "alcohol" OR TI "alcohol" OR AB "salt" OR TI "salt" OR AB "dislipid#mia" OR TI "dislipid#mia" OR AB "cholesterol" OR TI "cholesterol" OR AB "fat" OR TI "fat"	1,568,894
S14	S12 OR S13	4,197,048
S15	S11 AND S14	39,395
S16	S10 AND S15	9,468
S17	AB female* OR TI female* OR AB wom#n OR TI wom#n	1,943,202
S18	S16 AND S17	2,247
S19	PT "randomized controlled trial" OR PT "controlled clinical trial" OR TI "randomized" OR AB "randomized" OR TI "placebo" OR AB "placebo" OR (MH "Clinical Trials as Topic") or TI "randomly" or AB "randomly or TI "trial" or AB "trial"	1,056,432
S20	S18 AND S19	446
S21	AB "meta analysis" OR TI "meta analysis" OR AB "meta analyses" OR TI "meta analyses" AB "meta analytical" OR TI "meta analytical" OR AB "metanaly*" OR TI "metanaly*" OR AB "systematic review" OR TI "systematic review" OR AB	1,371,975

	"methodologic* review*" OR TI "methodologic* review*" OR AB "quantitative*" OR TI "quantitative*" OR AB "systematic*" OR TI "systematic*" OR AB "overview*" OR TI "overview*" OR AB "evidence based medicine" OR TI "evidence based medicine" OR AB "evidence based medicine review" OR TI "evidence based medicine review"	
S22	S18 AND S21	218
S23	AB "economic" OR TI "economic" OR AB "economic evaluation" OR TI "economic evaluation" OR AB "economic model" OR TI "economic model" OR AB "cost benefit" OR TI "cost benefit" OR AB "cost benefit analysis" OR TI "cost benefit analysis" OR AB "benefit cost" OR TI "benefit cost" OR AB "cost effectiveness" OR TI "cost effectiveness" OR AB "ce analysis" OR TI "ce analysis" OR AB "health economic assessment tool" OR TI "health economic assessment tool" OR AB "health care costs" OR TI "health care costs" OR AB "cost utility analysis" OR TI "cost utility analysis" OR AB "cost savings" OR TI "cost savings"	274,486
S24	S18 AND S23	144
S25	S20 OR S22 OR S24	581

English and human limiter for search 'S25'

Embase

#1	'cardiovascular disease'/de	276,410
#2	'heart disease'/de	121,202
#3	'heart infarction'/de	283,987
#4	'heart muscle ischemia'/de	92,766
#5	'coronary artery disease'/de	206,346
#6	#1 OR #2 OR #3 OR #4 OR #5	856,863
#7	'cardiovascular disease*':de,ab,ti OR 'heart disease*':de,ab,ti OR 'myocardial isch*mia':de,ab,ti OR 'myocardial infarction':de,ab,ti OR 'coronary arter* disease':de,ab,ti OR 'coronary disease':de,ab,ti	1,148,577
#8	ischem*:ab,ti OR infarc*:ab,ti OR angina:ab,ti OR atherosclerosis:ab,ti OR arteriosclerosis:ab,ti OR stroke:ab,ti OR 'heart attack':ab,ti OR 'acute coronary syndrome':ab,ti OR 'cerebrovascular dis*':ab,ti OR 'cerebrovascular accident':ab,ti OR 'cardiovascular event':ab,ti	1,208,572
#9	#6 OR #7 OR #8	1,956,552
#10	'primary prevention':ab,ti OR 'primary disease prevention':ab,ti OR 'primordial prevention':ab,ti OR 'health education':ab,ti OR 'health promotion':ab,ti OR 'patient education':ab,ti OR 'consumer health information':ab,ti	120,675
#11	'cardiovascular risk':ab,ti OR 'risk factor':ab,ti OR 'behavi*r':ab,ti OR 'diet':ab,ti OR 'physical activity':ab,ti OR 'exercise':ab,ti OR 'risk reduction':ab,ti OR 'risk':ab,ti	4,468,599
#12	'hypertension':ab,ti OR 'lifestyle':ab,ti OR 'life-style':ab,ti OR 'blood pressure':ab,ti OR 'smoking':ab,ti OR 'alcohol':ab,ti OR 'salt':ab,ti OR 'dislipid*mia':ab,ti OR 'cholesterol':ab,ti OR 'fat':ab,ti	2,153,371
#13	#11 OR #12	5,841,001
#14	#10 AND #13	57,178
#15	#9 AND #14	14,529
#16	wom*n:ab,ti OR female*:ab,ti	2,836,526
#17	#15 AND #16	3,687
#18	'crossover procedure':de OR 'double-blind procedure':de OR 'randomized controlled trial':de OR 'single-blind procedure':de OR random*:de,ab,ti OR factorial*:de,ab,ti OR crossover*:de,ab,ti OR ((cross NEXT/1 over*):de,ab,ti) OR placebo*:de,ab,ti OR ((doubl* NEAR/1 blind*):de,ab,ti) OR ((singl* NEAR/1 blind*):de,ab,ti) OR assign*:de,ab,ti OR allocat*:de,ab,ti OR volunteer*:de,ab,ti	2,551,219
#19	#17 AND #18	970
#20	'meta analysis':de,ab,ti OR 'meta analyses':de,ab,ti OR 'meta analytical':de,ab,ti OR 'metanaly*':de,ab,ti OR 'systematic review':de,ab,ti OR 'methodologic* review*':de,ab,ti OR 'quantitative*':de,ab,ti OR 'systematic*':de,ab,ti OR 'overview*':de,ab,ti OR 'evidence based medicine':de,ab,ti OR 'evidence based medicine review':de,ab,ti	2,058,353
#21	#17 AND #20	425
#22	'economic':de,ab,ti OR 'economic evaluation':de,ab,ti OR 'economic model':de,ab,ti OR 'cost benefit':de,ab,ti OR 'cost benefit analysis':de,ab,ti OR 'benefit cost':de,ab,ti OR 'cost effectiveness':de,ab,ti OR 'ce analysis':de,ab,ti OR 'health economic assessment tool':de,ab,ti OR 'health care costs':de,ab,ti OR 'cost utility analysis':de,ab,ti OR 'cost savings':de,ab,ti	608,731
#23	#17 AND #22	271
#24	#19 OR #21 OR #23	1,363

Cochrane library

#1	MeSH descriptor: [Cardiovascular Diseases] this term only	83
#2	MeSH descriptor: [Heart Diseases] this term only	13
#3	MeSH descriptor: [Myocardial Ischemia] this term only	6
#4	MeSH descriptor: [Myocardial Infarction] this term only	79
#5	MeSH descriptor: [Coronary Artery Disease] this term only	9
#6	MeSH descriptor: [Coronary Disease] this term only	19
#7	#1 or #2 or #3 or #4 or #5 or #6	173
#8	'cardiovascular disease' or 'heart disease' or 'myocardial isch*mia' or 'isch*mic heart disease' or 'coronary artery disease' or 'coronary disease' or myocardial infarc*:ti,ab,kw (Word variations have been searched)	621
#9	'ischem* or infarc* or angina or atherosclerosis or arteriosclerosis or stroke or 'heart attack' or 'myocardial ischem*' or 'myocardial infarct*' or 'acute coronary syndrome' or 'cerebrovascular dis*' or 'cerebrovascular accident' or 'cardiovascular event:ti,ab,kw (Word variations have been searched)	728
#10	#7 or #8 or #9	1007
#11	'primary prevention' or 'primary disease prevention' or 'primordial prevention' or 'health education' or 'health promotion' or 'patient education' or 'consumer health information':ti,ab,kw (Word variations have been searched)	1184
#12	'cardiovascular risk' or 'risk factor' or 'lifestyle' or 'behavi*' or 'diet' or 'hypertension' or 'blood pressure' or 'smoking' or 'tobacco' or 'alcohol' or 'physical activity' or 'exercise' or 'salt' or 'dislipid*mia' or 'cholesterol' or 'fat':ti,ab,kw (Word variations have been searched)	5756
#13	#11 and #12	1160
#14	#10 and #13	5896
#15	female*:ti,ab,kw (Word variations have been searched)	1073
#16	wom?n:ti,ab,kw (Word variations have been searched)	202
#17	#15 or #16	2080
#18	#14 and #17	38

Supplementary Tables

STUDY CHARACTERISTICS (COCHRANE FORMAT)

Tuekpe et al. 2006

Study Design	Randomised Control trial Single-blinded Study duration: March-April 2005 (2 weeks) **Location**: Okinawa, Japan **Recruitment**: Volunteers were recruited through posters and by personal contacts, during which informed written consent was obtained	
Participants	**Population**: healthy free-living Japanese women aged 18-38 years living in Okinawa **Intervention group**: n=27 **Control group**: n=29 **Demographics**: Mean age (years): intervention group: 24.4 (SD 3.8), control group: 25.7 (SD 4.8) BMI (kg/m^2): intervention group: 20.1 (SD 1.4), control group 21.1 (SD 3.1)	
Interventions	**Intervention**: Home delivery of an average weight of 371.4g/day combination of vegetables delivered twice weekly through an express home delivery service for a period of 14 days: Goya (Momordica cha- rantia), green papaya (Carica papaya), Handama (Gynura bicolor), Karashina (Brassica juncea), Njana (Cre-pidiastrum lanceolatium), Fuchiba (Artemisia vulgaris) and Fudanso (Beta vulgaris) **Control**: Asked to avoid vegetables included in the intervention	
Outcomes	Primary outcomes: Urinary potassium excretion Secondary outcomes: Other urine electrolytes and serum folic acid, triglycerides and high-density lipoprotein (HDL) cholesterol, low density lipoprotein (LDL) cholesterol and total cholesterols	
Notes:	This study concluded that increasing the intake of Yellow-green Okinawan vegetables significantly increased bioavailability of potassium, a mineral important for reducing high blood pressure, and preventing heart attacks	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: "...subjects were randomized to the dietary intervention or control group."
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	High risk	No blinding done to participants Quote: "…the dietary intervention group was provided with instructions on how to cook the Okinawan vegetables."; "...controls were asked to refrain from consuming them as much as possible."
Blinding of outcome assessment (detection bias)	Low risk	Quote: "...laboratory personnel were blinded to the subjects and the coding system used to label the samples."
Incomplete outcome data addressed (attrition bias)	Unclear risk	no participant attrition occurred; however, did not include incomplete data (n=1) in the analysis
Selective reporting (reporting bias)	High risk	pre-selected outcomes were reported on, however, data from smokers were excluded from analysis. Could potentially not represent study population.
Other bias	Low risk	None identified

Moore et al. 2006

Study Design	Randomised Control trial Single-blinded Study duration: 24 weeks **Location**: United Kingdom **Recruitment**: Overweight men and women were recruited from the community to participate in a study at Medical Research Council Human Nutrition Research (MRC HNR), during which informed written consent was obtained	
Participants	**Population**: overweight men and women (BMI between 25 and 40kg/m2); aged 35 to 60 years; not consuming regular oil supplements, NSAIDs, aspirin, steroids, immunosuppressants, or lipid lowering drugs; not diagnosed with diabetes, hypertension, hyperlipidemia, asthma, or chronic inflammatory diseases; female subjects are not pregnant or planning pregnancy No of Females = 92/141 **Intervention group**: n=112 **Control group**: n=29 **Demographics**: Mean age (years): 50 (SD 9) BMI (kg/m^2): 30.3 (SD 3.9)	
Interventions	**Interventions**: Whitefish/rapeseed (n=29); Whitefish/sunflower (n=30); Oily fish/rapeseed (n=32); Oily fish/rapeseed (n=32) **Control**: No intervention	
Outcomes	Primary outcomes: fatty acid intake; fatty acid status; anthropometry and body composition; insulin sensitivity; inflammatory status and CVD risk factors including TAG, TC, LDL-C, HDL-C, Systolic BP, Diastolic BP.	
Notes:	Study included both male and females. The study reported that two portions of oily fish per week led to a significant reduction in the triacylglycerols relative to intake of white fish.	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: "Minimization was used to assign subjects to a control group or one of four parallel intervention groups and to ensure that the treatment arms were balanced…"
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Low risk	Quote: "Due to the nature of food-based interventions, it was not possible for the principal investigators or subjects to be blinded to the randomization."; "...the specific hypothesis under study was not made explicit to subjects…"
Blinding of outcome assessment (detection bias)	Low risk	Quote: "...laboratory analysts, dietary coders, and the clinical scientist and statistician involved in the study were blinded to the randomization…"
Incomplete outcome data addressed (attrition bias)	Low risk	reasons for attrition were reported; dropout rate is less than the 20% estimated
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported on.
Other bias	Low risk	None identified

Koniank-Griffin et al. 2014

Study Design	Randomised Control trial Study duration: 6 months **Location**: United States of America, Los Angeles **Recruitment**: Participants were recruited in four consecutive intervention cycles from churches, organizations providing basic services to children and families, parent education program, laundromats.	
Participants	**Population**: self-identified Latina female, aged 35–64 years, overweight (BMI ≥ 25.0 kg · m−2) **Intervention group**: n=111 **Control group**: n=112 **Demographics**: Mean age (years): intervention group: 43.3 (SD 7.4), control group: 45 (SD 8.2) BMI (kg/m^2): intervention group: 32.37 (SD 5), control group 32.86 (SD 6.29)	
Interventions	Intervention: 6-month Lifestyle Behavior Intervention comprised of group education plus Individual teaching and learning. Control: 6 month safety/disaster preparedness educational program plus individual teaching and learning.	
Outcomes	Primary outcomes: Dietary habits, physical activity and clinical measures including body mass index, weight, waist circumference, blood pressure, lipids and blood glucose	
Notes:	The intervention under this study evaluates the outcomes and feasibility of a promotora-led lifestyle behaviour intervention for overweight Latinas.	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: "Randomization was performed using a web-based program custom-developed for this study."
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Low risk	No participant blinding mentioned, however there was personnel blinding. Quote: "Questionnaires were administered via face-to-face interviews; a bilingual research assistant, blinded to participant's group assignment, read the items and recorded the answers."
Blinding of outcome assessment (detection bias)	Low risk	Quote: "...conducting blinded assessment of outcomes, and adhering to reporting standards."
Incomplete outcome data addressed (attrition bias)	Unclear risk	Low attrition rates; no imputation done
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported
Other bias	Low risk	None identified

Kandula et al. 2015

Study Design	Randomised Control trial Single-blinded Study duration: 6 months **Location**: United States **Recruitment**: This academic-community partnership study was conducted at a community-based organisation that provides comprehensive and integrated services to immigrant of which all fall below the federal poverty line.	
Participants	**Population**: South Asian Immigrants (mainly Indian and Pakistani); aged between 30 and 59; with at least one atherosclerotic cardiovascular disease (ASCVD) risk factor (obesity, hypertension, hyperlipidemia, pre-diabetes and diabetes) **Intervention group**: n=31 **Control group**: n=32 **Demographics**: Females (%): 63% Mean age (years): intervention group: 50 (SD 8), control group: 50 (SD 7) BMI (kg/m^2): intervention group: 29 (SD 5), control group 30 (SD 5)	
Interventions	**Intervention**: 6 interactive group classes focused on increasing physical activity, healthful diet, weight, and stress management with telephone follow-up **Control**: translated print education materials about ASCVD and healthy behaviors.	
Outcomes	Primary outcomes: change in moderate/vigorous physical activity and dietary saturated fat intake at 3- and 6-months Secondary outcomes: clinical and psychosocial outcomes	
Notes:	This study suggests that a community based interactive intervention can be more effective at addressing ASCVD risk factors as compared to print health promotion materials.	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: "...were randomized into one of the groups by a computer-generated list which was maintained at the academic site."
Allocation concealment (selection bias)	Low risk	Quote: "...baseline data collection occurred prior to randomization and each study group was assigned a non-revealing label for use on study documents."
Blinding of participants and personnel (performance bias)	Unclear risk	Quote: "Investigators, research staff, and CBO staff were not blinded to the study hypothesis. Study participants were blinded to the study hypothesis."
Blinding of outcome assessment (detection bias)	Unclear risk	No blinding reported on outcome assessment.
Incomplete outcome data addressed (attrition bias)	Low risk	no participant attrition occurred
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported
Other bias	Low risk	None identified

Pazoki et al. 2007

Study Design	Randomised Control trial Study duration: 8 weeks **Location**: Iran **Recruitment**: Using a multi-stage stratified cluster random sampling technique women from Bushshr Port province were selected.	
Participants	**Population**: healthy women aged 25-65 years **Intervention group**: n=170 **Control group**: n=165 **Demographics**: Mean age (years): 39.4 years BMI (kg/m^2): intervention group: 28.02 (SD 4.74), control group 27.82 (SD 5.39)	
Interventions	**Intervention**: 8-week lifestyle modification program for increasing physical activity based on the a revised form of Choose to Move program; an American Heart Association Physical Activity Program for Women. Audio-taped activity instructions with music and practical usage of education package. Weekly home-visits **Control**: No intervention	
Outcomes	Primary outcomes: Physical activity Secondary outcomes: BMI, blood pressure, total cholesterol, triglycerides, fasting blood sugar, knowledge score	
Notes:	This study resulted in significantly more time of physical activity. Results relating to risk factors were not significant however did show a reduction in the systolic BP in the intervention group compared to control group	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Mention of randomisation, however insufficient information regarding method used for randomisation
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Unclear risk	no blinding mentioned; potential for intervention and control contact as trial was in a single city
Blinding of outcome assessment (detection bias)	Unclear risk	No blinding mentioned; outcome measurements done on-site on the same day by trained personnel; other outcomes obtained from patient-recall
Incomplete outcome data addressed (attrition bias)	Low risk	reason for excluding participants were provided
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported on.
Other bias	Unclear risk	None identified

Stuart et al. 2013

Study Design	Randomised parallel study Single-blinded Study duration: 12 weeks **Location**: Adelaide, South Australia **Recruitment**: Patients were recruited from two general practices in South Australia from which they were electronically block randomised, stratified by the GP to either treatment group or control group.	
Participants	**Population**: Adults aged 30-56 years with BMI greater or equal 26.0 and less or equal 40.0 kg/m2, waist circumference > .88 cm for women **Intervention group**: n=26 **Control group**: n=23 **Demographics**: Females: 61% Mean age (years): 48 (SD 5.88) BMI (kg/m^2): 33.13 (5.39)	
Interventions	**Intervention**: written general lifestyle advice regarding diet and exercise along with a telephone-supported comprehensive lifestyle intervention programme (CLIP) **Control**: only written general lifestyle advice regarding diet and exercise	
Outcomes	Primary outcomes: fasting plasma lipids, blood pressure, weight, height and waist circumference; physical activity and motivation	
Notes:	This study found that delivering a comprehensive lifestyle intervention program through a telephone health service significantly reduces LDL-C and total cholesterol.	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: " …they were electronically block randomised, stratified by general practice, to either the treatment group…"
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Low risk	Quote: "The nurse and the participant were blind to the treatment condition with CLIP and control packages identical in size and appearance, identified only by an ID number and a treatment code, which were recorded by the practice nurse."
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessment was blinded
Incomplete outcome data addressed (attrition bias)	Unclear risk	No reasons provided for withdrawal from the study. No information whether imputation was done.
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported
Other bias	Low risk	None identified

Hardcastle et al. 2008

Study Design	Randomised Control trial Single-blinded Study duration: Follow-up at 6 months **Location**: United Kingdom **Recruitment**: Participants were recruited from a patient electronic database at a local health centre and randomly stratified in the ratio of 7:5 to the intervention and control group.	
Participants	**Population**: 18 to 65 years old with at least 1 CHD risk factor; BMI (28 or more), Hypertension (at least 150/90mmHg), and Hypercholeterolemia (at least 5.2 mmol/L) **Intervention group**: n=203 **Control group**: n=131 **Demographics**: Females: 67% Mean age (years): intervention group: 50.10 (SD 0.74), control group: 50.41 (SD 0.94) BMI (kg/m^2): intervention group: 33.67 (SD 0.38), control group 34.28 (SD 0.61)	
Interventions	**Intervention**: Standard exercise and nutrition information along with face-to-face counselling delivered by a Physical activity specialist (PAS) and a Registered Dietitian (RD) **Control**: Only received standard information	
Outcomes	Primary outcomes: Blood pressure and resting blood sample (cholesterol, triglycerides, HDL, LDL) Secondary outcomes: Self-reported physical activity, fat intake, fruit and vegetable consumption	
Notes:	This study concluded that a primary health care based counselling intervention on physical activity, diet and CVD risk factors can result to more activeness in patients, reduce weight, blood pressure and cholesterol.	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: "A statistician, who had no contact with the participants, was asked to randomly allocate the participants in the ratio of 7:5 to the intervention and control groups."; "The patients within each stratum were divided into blocks of 12 and then randomly allocated to the intervention and control groups in the ratio of 7:5, using computer generated random numbers."
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Low risk	No blinding mentioned for participant and treatment providers. There was care on how treatment providers will provide standard performance.
Blinding of outcome assessment (detection bias)	Low risk	Quote: "The practice nurse was blind to the treatment allocated to each patient at baseline and all subsequent assessments. An Emis number was used (NHS identifier) by the PN to identify patients."
Incomplete outcome data addressed (attrition bias)	Low risk	No reasons provided for attrition, however analysis was done using intention-to-treat to account for dropouts.
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported.
Other bias	Low risk	None identified

Cappucio et al. 2006

Study Design	Randomised Control trial Study duration: 3-months and 6 months **Location**: Ashanti Region, Central Ghana **Recruitment**: Subjects from 12 villages were selected by stratified random sampling technique.	
Participants	**Population**: Adults aged 40-75 years **Intervention group**: n=522 **Control group**: n=491 **Demographics**: Females: 624 (62%) Mean age (years): intervention group: 54 (SD 11), control group: 55 (SD 11) BMI (kg/m^2): intervention group: 21 (SD 4), control group 21 (SD 4)	
Interventions	**Intervention**: Intensive health education programme with additional advice not to limit salty food intake, or add salt to food and cooking **Control**: Intensive health education programme	
Outcomes	Primary outcomes: 24-h urine and blood pressure	
Notes:	This study concluded that reduction in the average salt intake can lead to a small but significant reduction in the systolic blood pressure.	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: "...stratified random sampling by age and sex from the census of all inhabitants in the village so that the total sample selected matched the overall population structure."; "Villages were randomised in blocks of two and stratified for locality (semi-urban or rural) by an independent statistician."
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	Unclear risk	Quote: "...we sought to maintain 'blindness' of the participants as to which dietary intervention they were receiving."; "...could not keep the community health nursing staff blind to the main objectives of the study."
Blinding of outcome assessment (detection bias)	Unclear risk	No information whether assesors were blinded, however quote "Serum and urine were later shipped to London on dry ice for long-term storage." could potentially mean assessment was done offshore.
Incomplete outcome data addressed (attrition bias)	High risk	low response rate with acknowledgement of potential reasons reported
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported on.
Other bias	Low risk	None identified

Low et al. 2015

Study Design	Randomised Control trial Unblinded Study duration: 6-month study with 1 year follow-up **Location**: United States; community hospital in Northern California **Recruitment**: Female employees were sent out promotional flyers with a contact number to call if interested in the study. The study was carried out in a hospital setting.	
Participants	**Population**: Female employees aged 40 to 65 years self-identified with 1 or more risk (overweight, high stress level, lack of physical actvity or smoking). Hypertensive (systolic ≥200mmHg, diastolic ≥110mmHg), blood glucose (≥300 mg/dL) requires physician approval. **Intervention group**: n=28 **Control group**: n=29 **Demographics**: Mean age (years): intervention group: 51 (SD 6.5), control group: 53 (SD 6) BMI (kg/m^2): Not reported	
Interventions	**Intervention**: weekly communication (phone or e-mail) integrating goal-setting and overcoming obstacles in addition to what the control group is provided **Control**: risk reduction classes on weight loss/nutrition, stress management, exercise training, and smoking cessation, access to an on-site gymnasium, and organised walks	
Outcomes	Primary outcomes: Cardiovascular risk factors (weight, stress, physical activity)	
Notes:	This study focused on working women and suggests that a wellness intervention for healthcare workers helps is reducing CVD risk factors however this study has a small sample size.	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Mention of randomisation, however insufficient information regarding method used for randomisation
Allocation concealment (selection bias)	Unclear risk	Not reported
Blinding of participants and personnel (performance bias)	High risk	No blinding done. Risk of contamination as participants work in a single institution.
Blinding of outcome assessment (detection bias)	Unclear risk	No blinding done. No information regarding who performed and how outcome assessment was done. Not enough information provided for outcome assessment to be judged.
Incomplete outcome data addressed (attrition bias)	Low risk	Reasons for dropouts were reported with use of intention-to-treat mentioned for missing data.
Selective reporting (reporting bias)	High risk	Not all risk data from baseline were reported in results.
Other bias	Low risk	None identified

Hercberg et al. 2004

Study Design	Randomised Control trial Double-blinded, placebo-controlled primary prevention trial Study duration: Multiple follow-ups over 7 years **Location**: France **Recruitment**: Volunteers were approached through various public media and interested participants responded by telephone or mail.	
Participants	**Population**: women aged 35-60 years or men aged 45-60 years; absence of disease likely to affect active participation or may be a threat for 5-year survival; acceptance of the chance of receiving a placebo and acceptance of constraints of participation; lack of history of regular supplementation with any of the vitamins or minerals in the supplement provided; and absence of extreme beliefs or behaviour regarding diet **Intervention group**: n=3869 **Control group**: n=3844 **Demographics**: Mean age (years): intervention group: 46.6 (SD 6.6), control group: 46.6 (SD 6.6) BMI (kg/m^2): intervention group: 22.8 (SD 0.5), control group 22.9 (SD 3.0)	
Interventions	**Intervention**: Single daily capsule of combination of antioxidants: 120mg of ascorbic acid, 30mg of vitamin E, 6mg of beta carotene, 100µg of selenium, and 20mg of zinc **Control**: Placebo	
Outcomes	Primary outcomes: Major fatal and nonfatal ischemic cardiovascular events Secondary outcome: All-cause mortality	
Notes:	This study found that after 7.5 years of using a low-dose antioxidant supplementation lowered total cancer incidence and all-cause mortality only in men and did not significantly have an impact in women.	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: "…allocation was performed by block-sequence generation stratified by sex and age group."
Allocation concealment (selection bias)	Low risk	Quote: "Randomization was concealed from subjects and all investigators except for the few who were in charge of capsule labeling."
Blinding of participants and personnel (performance bias)	Low risk	Quote: "double-blinded"; "...absence of an easy way to distinguish antioxidant from placebo capsules was tested in a pilot study."
Blinding of outcome assessment (detection bias)	Low risk	Quote: "All data were reviewed by expert committees blinded for supplementation assignment."; "Causes of death were confirmed by information from relatives or physicians. At the end of follow-up, vital status of all subjects and causes of death were verified with the national death registry."
Incomplete outcome data addressed (attrition bias)	Low risk	lost to follow-up and withdrawal reasons were reported for both intervention and control groups
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported on.
Other bias	Low risk	None identified

Lee et al. 2005

Study Design	Randomised Control trial Double-blinded, 2x2 factorial trial Study duration: average follow-up of 10.1 years conducted from 1992 to 2004 **Location**: United States **Recruitment**: Participants were sourced by sending letter of invitation through mails to more than 1.7 million female health care professionals throughout United States (Women's Health Study).
Participants	**Population**: Apparently healthy US women aged at least 45 years **Intervention group**: n=19937 **Control group**: n=19939 **Demographics**: Pre-menopause: 10,973 (27.6%) Mean age (years): intervention group: 54.6 (SD 7), control group: 54.6 (SD 7) BMI (kg/m^2): intervention group: 26.04 (SD 5.07), control group 26.03 (SD 5.06)
Interventions	**Intervention**: Vitamin E (600 IU of α-tocopherol) every other day **Control**: Placebo
Outcomes	Primary outcomes: Composite end point of first major cardiovascular event (nonfatal myocardial infarction, nonfatal stroke, or cardiovascular death) Secondary outcomes: Total invasive cancer.
Notes:	This study concluded that Vitamin E has no significant overall benefit for major cardiovascular events or cancer, does not affect mortality and decrease cardiovascular mortality in health women.

Risk of bias

Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: "...they were randomized in blocks of 16 within 5-year age strata"
Allocation concealment (selection bias)	Low risk	Quote: "Each year, women received calendar packs that contained amber capsules (vitamin E or placebo) and white pills (aspirin or placebo)..."
Blinding of participants and personnel (performance bias)	Low risk	Quote: "Study medications and end point ascertainment were continued in blinded fashion through the scheduled end of the trial..."
Blinding of outcome assessment (detection bias)	Low risk	Quote: "…we acquired medical records from hospitalsandphysicians, whichwere reviewed by the WHS Endpoints Committee of physicians blinded to randomized treatment assignment."; "Deaths were usually reported by family members or postal authorities or ascertained through the National Death Index."
Incomplete outcome data addressed (attrition bias)	Low risk	Quote: "All primary analyses were performed on an intention-to-treat basis…"
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported.
Other bias	Low risk	None identified

Liu et al. 2006

Study Design	Randomised Control trial Double-blinded, 2x2 factorial trial Study duration: average follow-up 10.1 years conducted from 1992 to 2004 **Location**: United States **Recruitment**: Participants were sourced by sending letter of invitation through mails to more than 1.7 million female health care professionals throughout United States (Women's Health Study).
Participants	**Population**: Apparently healthy US women aged at least 45 years **Intervention group**: n=19347 **Control group**: n=19369 **Demographics**: Pre-menopause: 10,757 (27.9%) Mean age (years): intervention group: 54.6 (SD 7), control group: 54.6 (SD 7) BMI (kg/m^2): intervention group: 25.9 (SD 4.98), control group 25.9 (SD 4.95)
Interventions	**Intervention**: Vitamin E (600 IU of α-tocopherol) every other day **Control**: Placebo
Outcomes	Primary outcomes: Incidence of diabetes mellitus type 2
Notes:	This study concluded that Vitamin E (600 IU) administered every other day for a duration of 10 years does not have a significant beneficial effect on risk of type 2 diabetes in apparently healthy women aged 45 years and above.

Risk of bias

Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: "...they were randomized in blocks of 16 within 5-year age strata"
Allocation concealment (selection bias)	Low risk	Quote: "Each year, women received calendar packs that contained amber capsules (vitamin E or placebo) and white pills (aspirin or placebo)..."
Blinding of participants and personnel (performance bias)	Low risk	Quote: "Study medications and end point ascertainment were continued in blinded fashion through the scheduled end of the trial..."
Blinding of outcome assessment (detection bias)	Low risk	Quote: "…we acquired medical records from hospitals and physicians, which were reviewed by the WHS Endpoints Committee of physicians blinded to randomized treatment assignment."; "Deaths were usually reported by family members or postal authorities or ascertained through the National Death Index."
Incomplete outcome data addressed (attrition bias)	Low risk	Quote: "All primary analyses were performed on an intention-to-treat basis…"
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported.
Other bias	Low risk	None identified

Ridker et al. 2005

Study Design	Randomised Control trial Double-blinded, 2x2 factorial trial Study duration: average follow-up 10.1 years conducted from 1992 to 2004 **Location**: United States **Recruitment**: Participants were sourced by sending letter of invitation through mails to more than 1.7 million female health care professionals throughout United States (Women's Health Study).	
Participants	**Population**: Apparently healthy US women aged at least 45 years **Intervention group**: n=19,934 **Control group**: n=19,942 **Demographics**: Pre-menopause: 27.6% Mean age (years): intervention group: 54.6 (SD 7), control group: 54.6 (SD 7) BMI (kg/m^2): intervention group: 26.1 (SD 5.1), control group 26.0 (SD 5.0)	
Interventions	**Intervention**: 100mg Aspirin on alternate days **Control**: Placebo	
Outcomes	Primary outcomes: a combination of major cardiovascular events, including nonfatal myocardial infarction, nonfatal stroke, and death from cardiovascular causes Secondary outcomes: individual end points of fatal or nonfatal myocardial infarction, fatal or nonfatal stroke, ischemic stroke, hemorrhagic stroke, and death from cardiovascular causes.	
Notes:	This study found that aspirin lowered the risk of stroke but did not have any significant impact on risk of myocardial infarction or death from cardiovascular disease, the primary end points.	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: "...they were randomized in blocks of 16 within 5-year age strata"
Allocation concealment (selection bias)	Low risk	Quote: "Each year, women received calendar packs that contained amber capsules (vitamin E or placebo) and white pills (aspirin or placebo)..."
Blinding of participants and personnel (performance bias)	Low risk	Quote: "Study medications and end point ascertainment were continued in blinded fashion through the scheduled end of the trial..."
Blinding of outcome assessment (detection bias)	Low risk	Quote: "…we acquired medical records from hospitals and physicians, which were reviewed by the WHS Endpoints Committee of physicians blinded to randomized treatment assignment."; "Deaths were usually reported by family members or postal authorities or ascertained through the National Death Index."
Incomplete outcome data addressed (attrition bias)	Low risk	Quote: "All primary analyses were performed on an intention-to-treat basis…"
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported.
Other bias	Low risk	None identified

Pradhan et al. 2008

Study Design	Randomised Control trial Double-blinded, 2x2 factorial trial Study duration: average follow-up 10.1 years conducted from 1992 to 2004 **Location**: United States **Recruitment**: Participants were sourced by sending letter of invitation through mails to more than 1.7 million female health care professionals throughout United States (Women's Health Study).	
Participants	**Population**: Apparently healthy US women aged at least 45 years **Intervention group**: n=19,934 **Control group**: n=19,942 **Demographics**: Pre-menopause: 27.6% Mean age (years): intervention group: 54.6 (SD 7), control group: 54.6 (SD 7) BMI (kg/m^2): intervention group: 26.1 (SD 5.1), control group 26.0 (SD 5.0)	
Interventions	**Intervention**: 100mg Aspirin on alternate days **Control**: Placebo	
Outcomes	Primary outcomes: Incidence of clinical type 2 diabetes	
Notes:	This study found that long-term low dose of aspirin does not significantly prevent the development of type 2 diabetes in healthy women.s	
Risk of bias		
Bias	**Authors' judgement**	**Support for Judgement**
Random sequence generation (selection bias)	Low risk	Quote: "...they were randomized in blocks of 16 within 5-year age strata"
Allocation concealment (selection bias)	Low risk	Quote: "Each year, women received calendar packs that contained amber capsules (vitamin E or placebo) and white pills (aspirin or placebo)..."
Blinding of participants and personnel (performance bias)	Low risk	Quote: "Study medications and end point ascertainment were continued in blinded fashion through the scheduled end of the trial..."
Blinding of outcome assessment (detection bias)	Low risk	Quote: "…we acquired medical records from hospitals and physicians, which were reviewed by the WHS Endpoints Committee of physicians blinded to randomized treatment assignment."; "Deaths were usually reported by family members or postal authorities or ascertained through the National Death Index."
Incomplete outcome data addressed (attrition bias)	Low risk	Quote: "All primary analyses were performed on an intention-to-treat basis…"
Selective reporting (reporting bias)	Low risk	All predefined outcomes were reported.
Other bias	Low risk	None identified

Supplementary Figures

Diet intervention

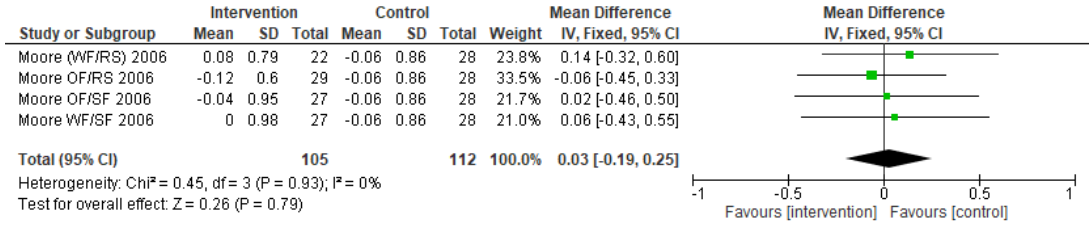


Figure 1.1: Forest plot of Intervention: Diet for Outcome: Serum triglycerides (mmol/L)

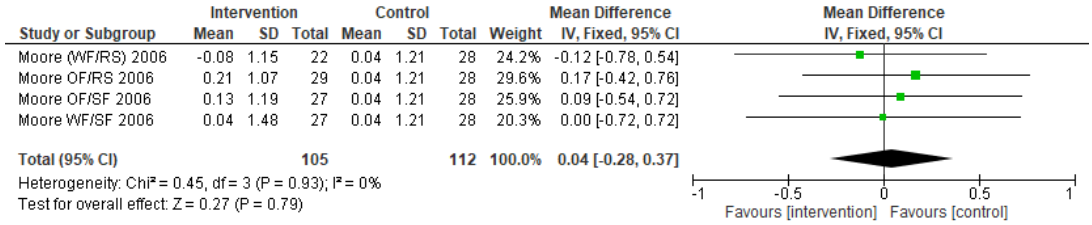


Figure 1.2: Forest plot of Intervention: Diet for Outcome: Serum total cholesterol (mmol/L)

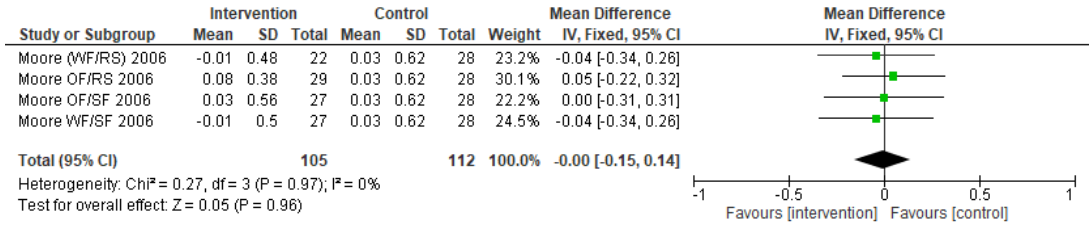


Figure 1.3: Forest plot of Intervention: Diet for Outcome: HDL-C (mmol/L)

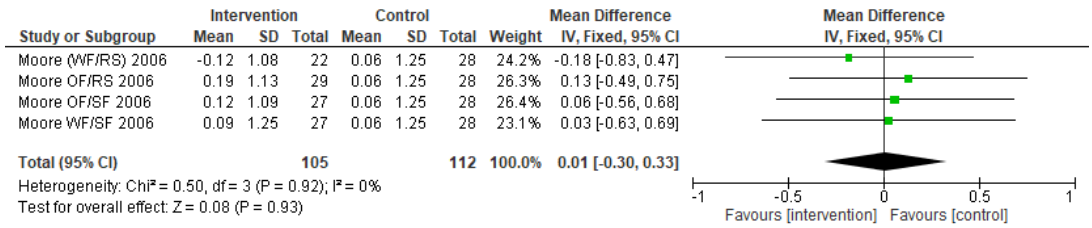


Figure 1.4: Forest plot of Intervention: Diet for Outcome: LDL-D (mmol/L)

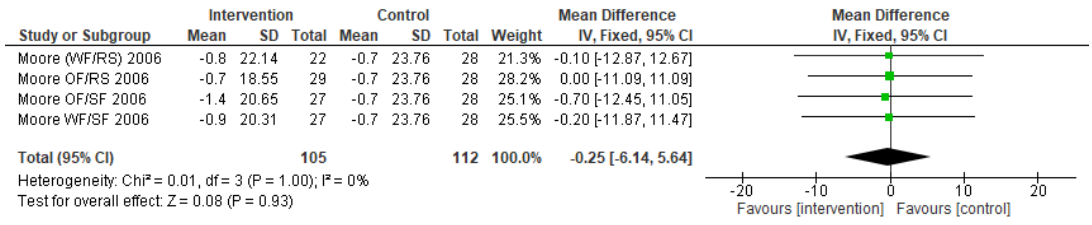


Figure 1.5: Forest plot of Intervention: Diet for Outcome: Weight (kg)

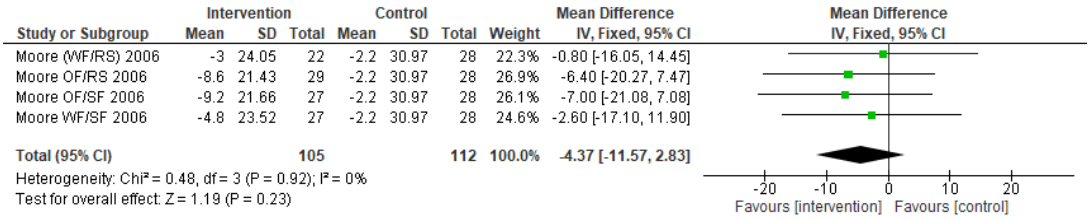


Figure 1.6: Forest plot of Intervention: Diet for Outcome: Systolic BP (mmHg)

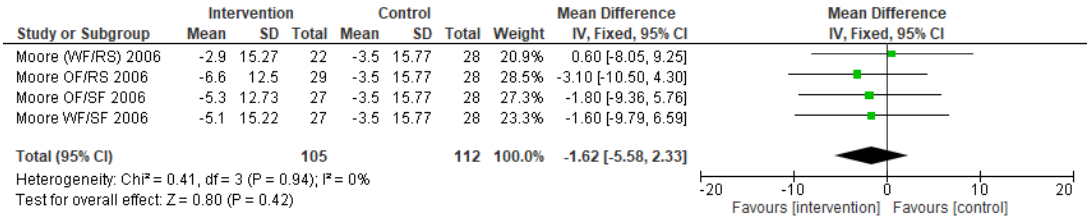


Figure 1.7: Forest plot of Intervention: Diet for Outcome: Diastolic BP (mm Hg)

Lifestyle modification intervention

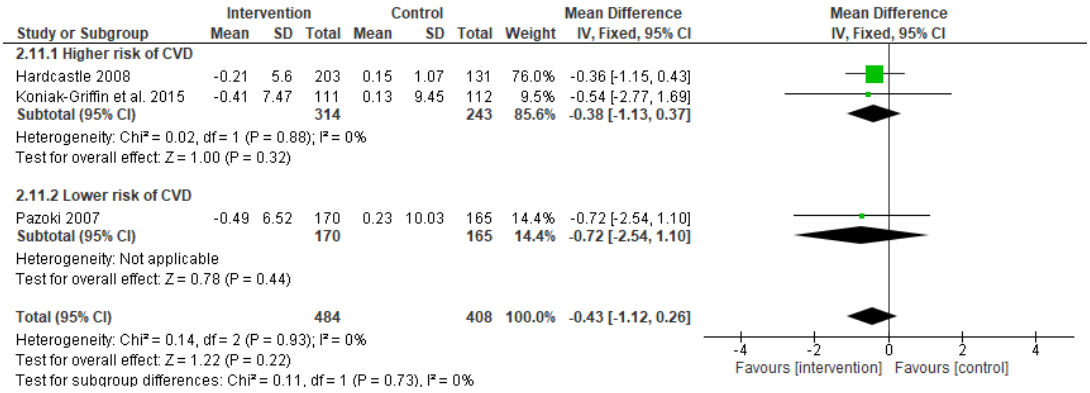


Figure 2.1: Forest plot of Intervention: Lifestyle modification interventions for Outcome: BMI (kg/m2)

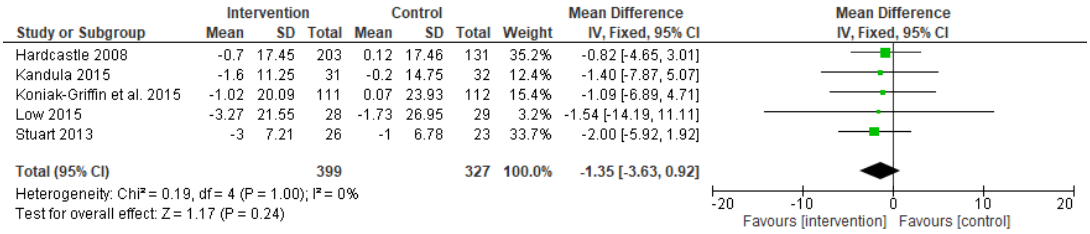


Figure 2.2: Forest plot of Intervention Community Setting interventions for Outcome: Weight (kg)

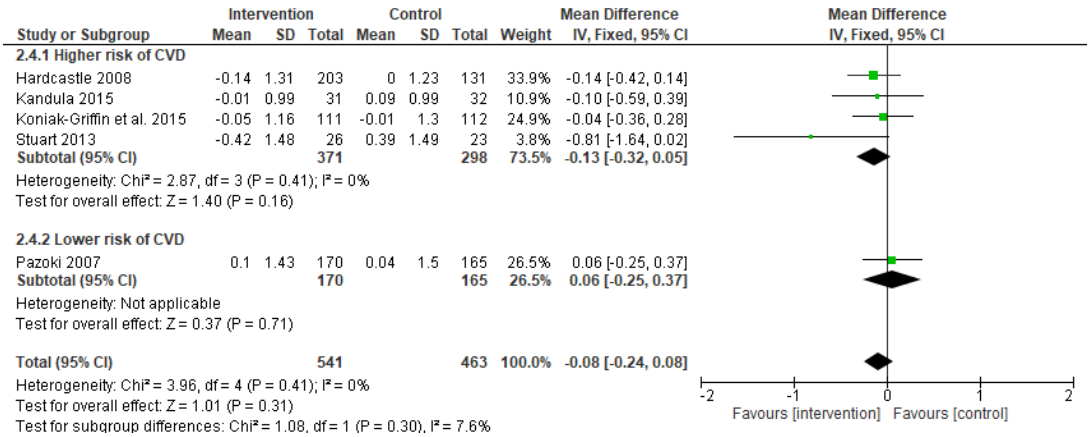


Figure 2.3: Forest plot of Intervention: Lifestyle modification interventions for Outcome: Serum cholesterol (mmol/L)

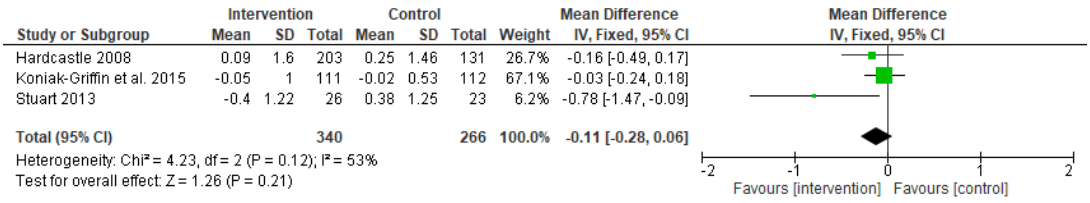


Figure 2.4: Forest plot of Intervention: Lifestyle modification interventions for Outcome: LDL (mmol/L)

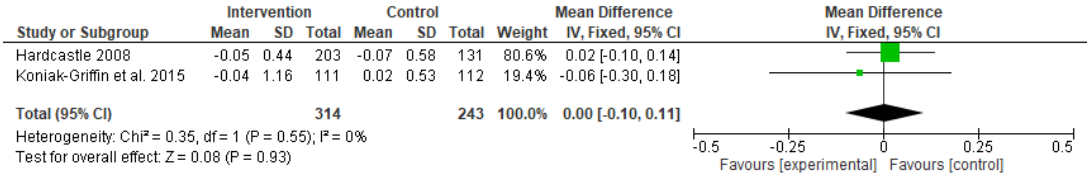


Figure 2.5: Forest plot of Intervention: Lifestyle modification interventions for Outcome: HDL (mmol/L)

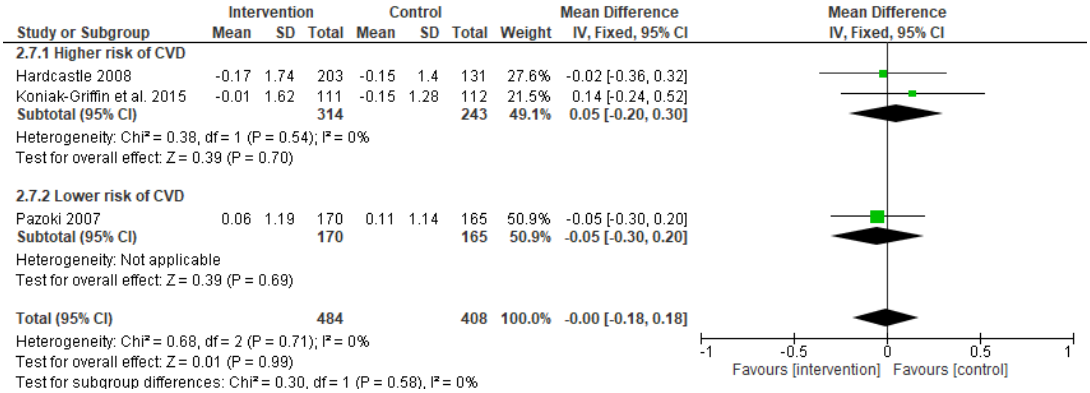


Figure 2.6: Forest plot of Intervention: Lifestyle modification interventions for Outcome: Serum triglycerides (mmol/L)

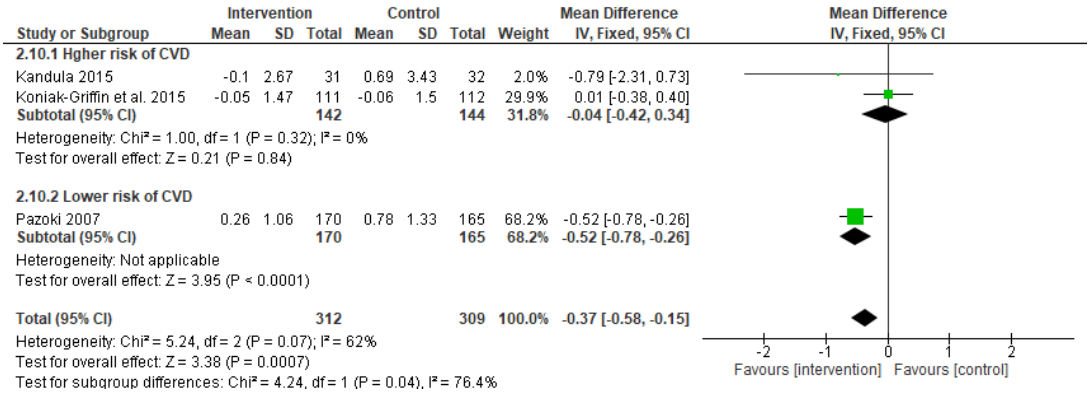
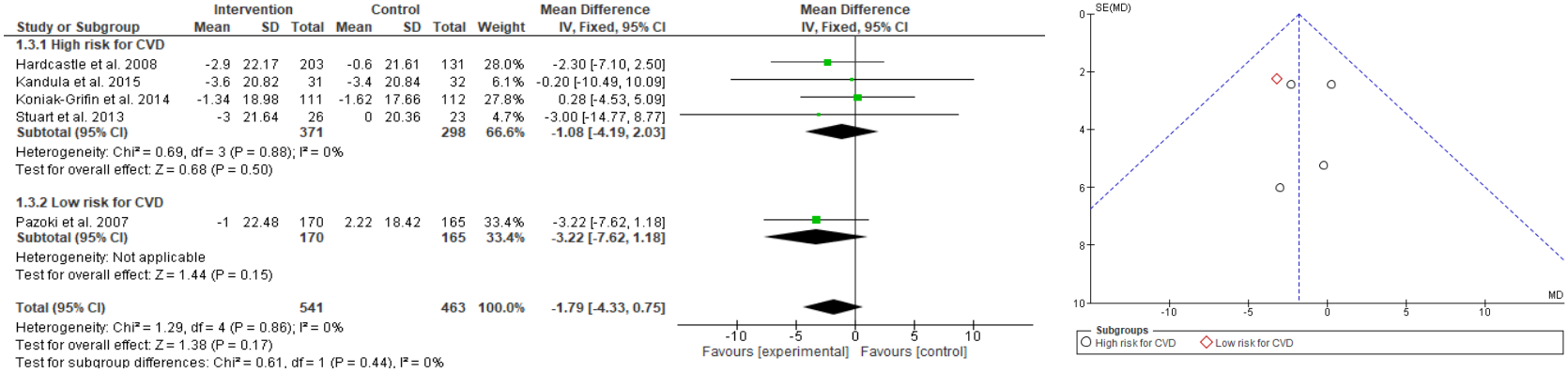
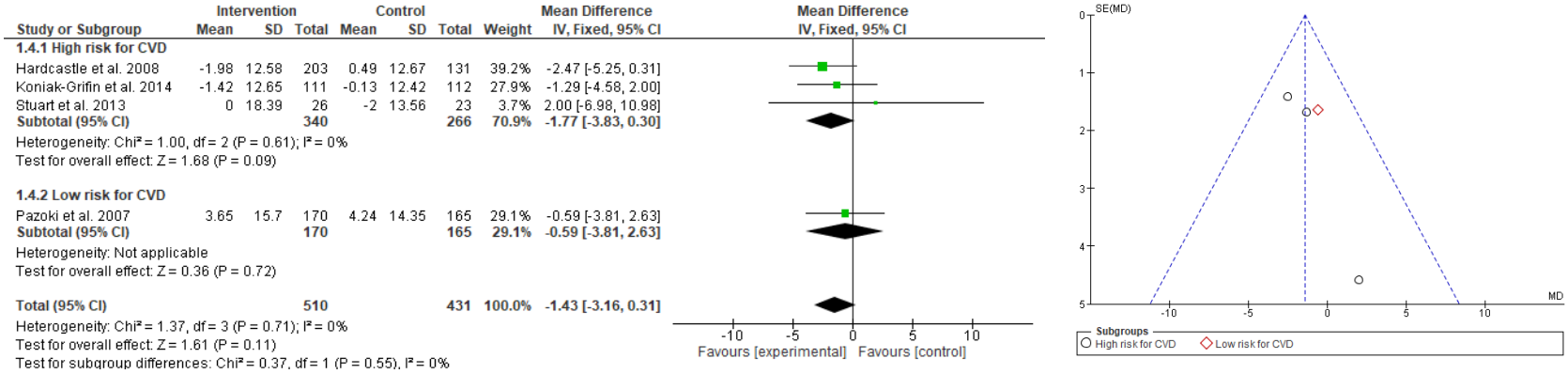


Figure 2.7: Forest plot of Intervention: Lifestyle modification interventions for Outcome: Fasting Blood Sugar (mg/dl)

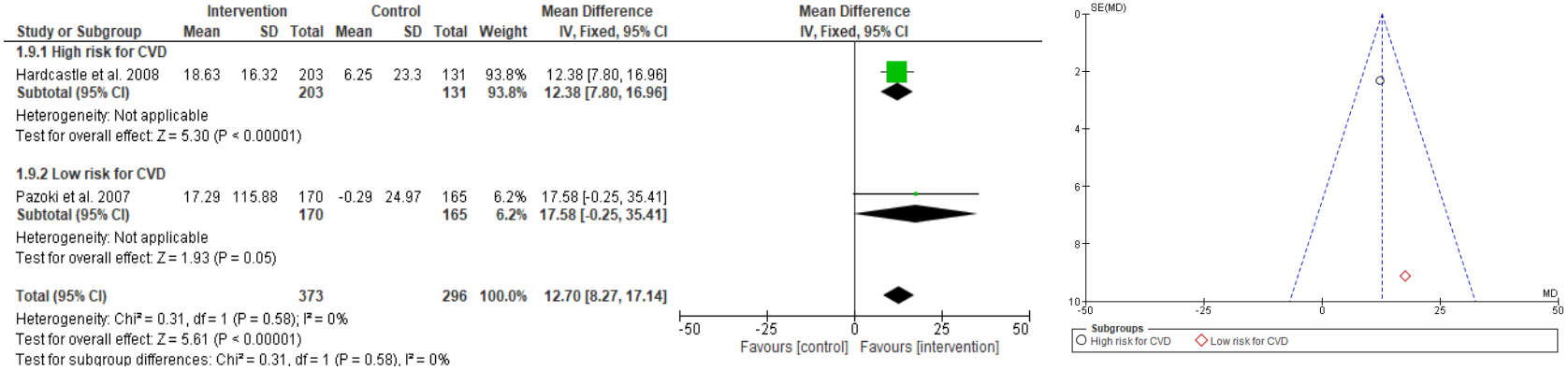
Results of subgroup meta-analysis (adopting a lower cut-off age for menopausal status)



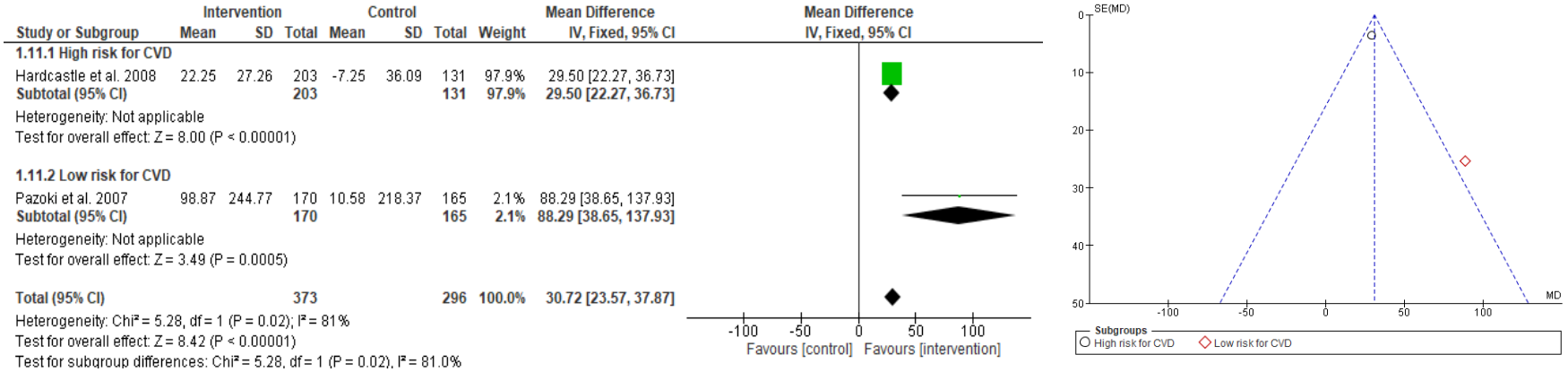
Supplementary Figure 3.1 Systolic blood pressure (mmHg)



Supplementary Figure 3.2 Vigorous physical activity (MET-min/week)

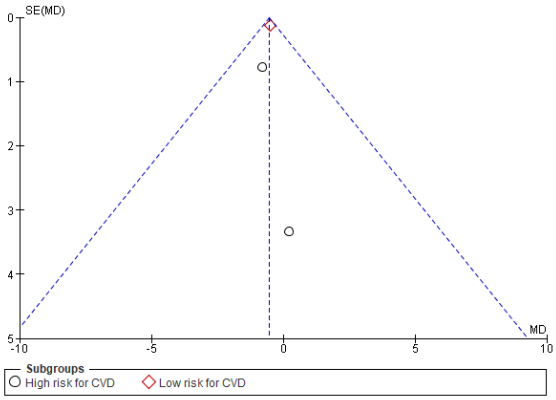


Supplementary Figure 3.3 Vigorous physical activity (MET-min/week)

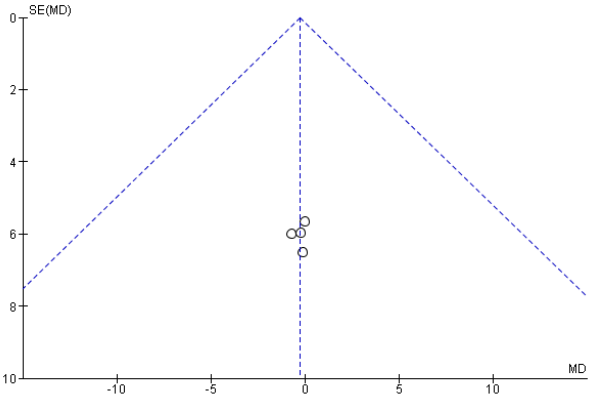


Supplementary Figure 3.4 Moderate physical activity (MET-min/week)

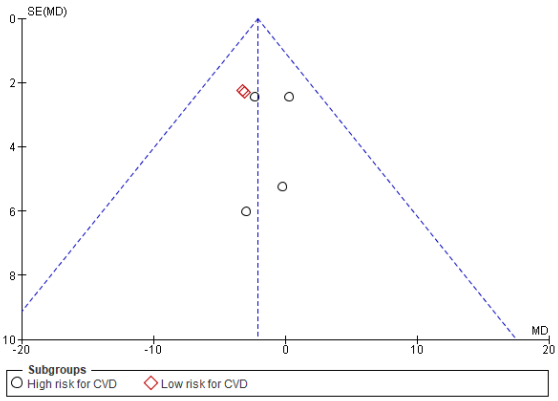
Assessment of publication bias (Funnel plots)



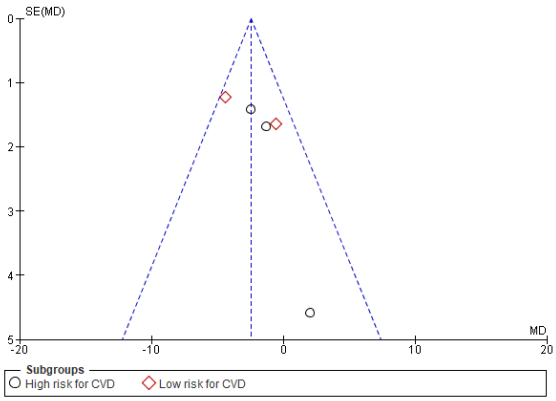
Supplementary Figure 4.1 Community Setting interventions for Outcome: Fasting blood sugar (mg/dl)



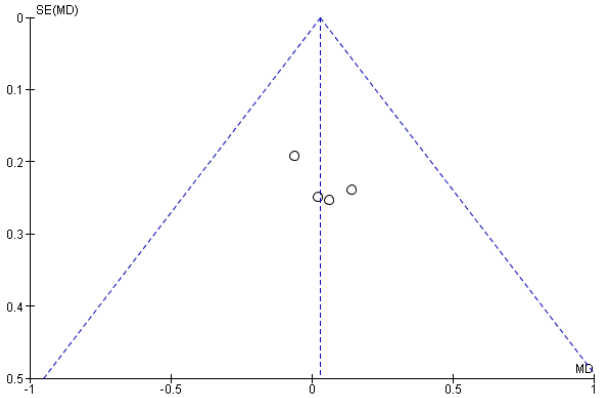
Supplementary Figure 4.2: Diet intervention for Outcome: Weight (kg)



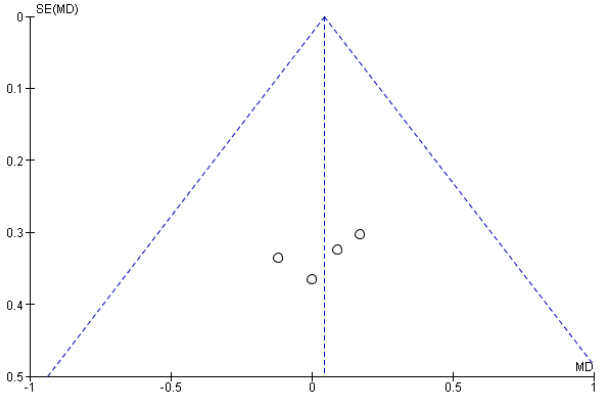
Supplementary Figure 4.3: Diet intervention for Outcome: Systolic BP (mmHg)



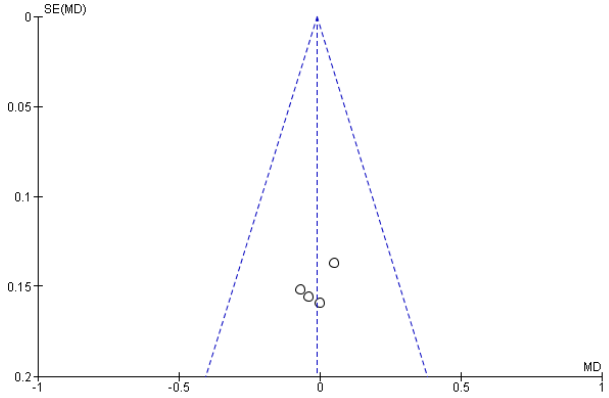
Supplementary Figure 4.4: Diet intervention for Outcome: Diastolic BP (mmHg)



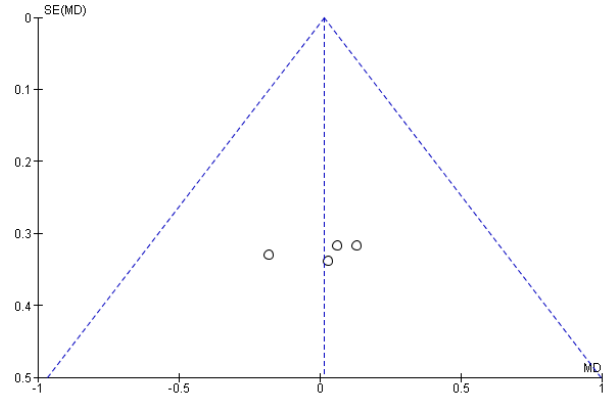
Supplementary Figure 4.5: Diet intervention for Outcome: Serum triglycerides (mmol/L)



Supplementary Figure 4.6: Diet intervention for Outcome: Serum total cholesterol (mmol/L)



Supplementary Figure 4.7: Diet intervention for Outcome: HDL-C (mmol/L)



Supplementary Figure 4.8: Diet intervention for Outcome: LDL-C (mmol/L)