Online Supporting Materials for manuscript entitled
Effect of increased potassium intake on health: systematic review and meta-analyses

Nancy J Aburto, Sarah Hanson, Hialy Gutierrez, Lee Hooper, Paul Elliott, Francesco P Cappuccio

OSM 1: Electronic search strategy

A. Overview

For each outcome, two EMBASE searches were conducted: one broad search according to the original protocol and another, more restrictive, search using more specific terms for each concept and an indexer limit for controlled trials. This strategy was supplied by the WHO librarian to facilitate data retrieval.
MEDLINE was searched through the PubMed database for the previous 6 months only, because all references in MEDLINE are also found in EMBASE. EMBASE requires more time to update its database and, therefore, it is possible that some very recent studies could be captured in a PubMed search that would not be captured in EMBASE. All other databases were searched without any date limits. All electronic searches were first run to search for RCTs. When fewer than 3 RCTs were identified, the search was executed again without RCT filters in order to capture cohort studies.

B. Blood pressure, renal function, blood lipids, and catecholamine levels

B1.2 Search for randomized controlled trials

B1.2.1 EMBASE searches

Searches conducted on 25 August 2011 in EMBASE version available at http://www.embase.com.
Note EMBASE.COM contains over 24 million indexed records and more than 7500 current, mostly peer-reviewed journals with over 2000 biomedical titles not currently offered by MEDLINE. MEDLINE citations are included in EMBASE.

1) Blood pressure

No language limits; dates needed: Jan 1 2004 to present.

Restricted search

Step	Search terms	# Citations
Step 1	'potassium'/exp OR 'potassium chloride'/exp	111,188
Step 2	'hypertension'/exp OR 'blood pressure'/exp AND ([cochrane review]/lim OR [controlled clinical trial]/lim OR [meta analysis]/lim OR [randomized controlled trial]/lim OR [systematic review]/lim) AND [2004–2012]/py	339
Step 3	'dietary intake'/exp OR 'diet'/exp OR restrict*:ab,ti OR reduce*:ab,ti OR 'reduction'/exp OR intake:ab,ti OR diet:ab,ti OR dietary:ab,ti AND [2004–2012]/py	324
Step 4	Step 1 AND Step 2 AND Step 3	169

Broader search

Step	Search terms	# Citations
Step 1	'potassium'/exp OR 'potassium' OR 'potassium chloride'/exp OR 'potassium chloride' OR potassium:ab,ti	301,383
Step 2	'hypertension'/exp OR 'blood pressure'/exp OR 'hypertension'/exp OR 'blood pressure':ab,ti OR hypertensive:ab,ti OR 'blood pressure'/exp AND 'intravascular pressure':ab,ti OR normotension:ab,ti OR 'vascular pressure':ab,ti OR 'blood pressure monitoring'/exp	684,004
Step 3	'dietary intake'/exp OR 'diet'/exp OR restrict*:ab,ti OR reduce*:ab,ti OR 'reduction'/exp OR intake:ab,ti OR diet:ab,ti OR dietary:ab,ti AND [2004–2012]/py	925,155
Step 4	Step 1 AND Step 2 AND Step 3	62,873
Step 5	'randomized controlled trial'/exp OR 'controlled trial':ab,ti OR 'randomized':ab,ti OR 'randomised':ab,ti OR placebo:ab,ti OR randomly:ab,ti OR trial:ab,ti	833,589
Step 6	Step 4 AND Step 5	1,256
Step 5	Step 4 AND ([cochrane review]/lim OR [controlled clinical trial]/lim OR [meta analysis]/lim OR [randomized controlled trial]/lim OR [systematic review]/lim)	930
Step 6	Step 4 AND Step 5	468
Step 7	Step 6 NOT [animals]/lim	721
Step 8	Step 6 AND [animals]/lim AND [humans]/lim	20
Step 9	Step 7 OR Step 8	741
Step 10	Step 9 NOT (Citations found in Restricted Search Step 3)	575

2) Adverse effects

No language limits; no date limits.

Restricted search

Step	Search terms	# Citations
Step 1	'potassium'/exp OR 'potassium chloride'/exp	111,188
Step 2	'noradrenalin'/exp OR 'adrenor':ab,ti OR 'alginodia':ab,ti OR 'arterenal':ab,ti OR 'arterenol':ab,ti OR 'baycain green':ab,ti OR 'd noradrenalin':ab,ti OR 'dextro noradrenalin':ab,ti OR 'dextro noradrenaline':ab,ti OR 'dl arterenol':ab,ti OR 'dl noradrenalin':ab,ti OR 'dl noradrenalin hydrochloride':ab,ti OR 'l alpha aminomethyl 3, 4 dihydroxybenzyl alcohol':ab,ti OR 'l noradrenalin':ab,ti OR 'l noradrenalin hydrochloride':ab,ti OR 'l noradrenaline':ab,ti OR 'l norepinephrine':ab,ti OR 'levarterenol':ab,ti OR 'levo noradrenalin':ab,ti OR 'levo noradrenaline':ab,ti OR 'levo norepinephrine':ab,ti OR 'levonor':ab,ti OR 'levophed':ab,ti OR 'neomelubrin':ab,ti OR 'neurogenic noradrenalin':ab,ti OR 'noradrec':ab,ti OR 'noradrenalin hydrochloride':ab,ti OR 'noradrenalin reduction':ab,ti OR 'noradrenaline':ab,ti OR 'noradrine':ab,ti OR 'norepinephrin':ab,ti OR 'norepinephrine':ab,ti OR 'norepinephrine hydrochloride':ab,ti OR 'norexadrin':ab,ti OR 'revarterenol':ab,ti OR 'sympathin':ab,ti OR 'sympathin e':ab,ti OR 'catecholamine'/exp OR 'catechol amine; catecholamin':ab,ti OR 'catecholamines':ab,ti OR 'cathecholamine':ab,ti OR 'dextro pyrocatecholamine':ab,ti OR 'endogenous catecholamine':ab,ti OR 'pyrocatechinamine':ab,ti OR 'pyrocatecholamine':ab,ti OR 'hydroxy 5 cholestene':ab,ti OR '3beta hydroxy 5 cholestene':ab,ti OR '3beta hydroxycholest 5 ene':ab,ti OR '5 cholesten 3beta ol':ab,ti OR 'beta cholesterol':ab,ti OR 'cholest 5 en 3beta ol':ab,ti OR 'cholest 5 ene 3 ol':ab,ti OR 'cholesterin':ab,ti OR 'cholesterine':ab,ti OR 'cholesterol release':ab,ti OR 'dythol':ab,ti OR 'nsc 8798':ab,ti OR 'cholesterol'/exp OR 'riacylglycerol' OR 'acylglycerol, tri':ab,ti OR 'fatty acid triglyceride':ab,ti OR 'triacyl glyceride':ab,ti OR 'triglyceride':ab,ti OR 'triglycerides':ab,ti OR 'tryglyceride':ab,ti OR 'beta lipoprotein':ab,ti OR 'ldl':ab,ti OR 'lipoprotein, beta':ab,ti OR 'lipoprotein, low density':ab,ti OR 'lipoproteins, ldl'/exp OR 'low density lipoprotein'/exp OR 'lpha 7 lipoprotein':ab,ti OR 'alpha lipoprotein':ab,ti OR 'hdl':ab,ti OR 'high density lipoprotein phospholipid':ab,ti OR 'lipoprotein, alpha':ab,ti OR 'lipoprotein, high density':ab,ti OR 'lipoproteins, hdl':ab,ti OR 'pre alpha lipoprotein':ab,ti OR 'very high density lipoprotein'/exp OR 'high density lipoprotein'/exp AND ([cochrane review]/lim OR [controlled clinical trial]/lim OR [meta analysis]/lim OR [randomized controlled trial]/lim OR [systematic review]/lim)	25,043
Step 3	Step 1 AND Step 2	276

Broader search

Step	Search terms	# Citations
Step 1	sium'/exp OR 'potassium chloride'/exp OR potassium:ab,ti	185,013
Step 2	'noradrenalin'/exp OR 'adrenor':ab,ti OR 'alginodia':ab,ti OR 'arterenal':ab,ti OR 'arterenol':ab,ti OR 'baycain green':ab,ti OR 'd noradrenalin':ab,ti OR 'dextro noradrenalin':ab,ti OR 'dextro noradrenaline':ab,ti OR 'dl arterenol':ab,ti OR 'dl noradrenalin':ab,ti OR 'dl noradrenalin hydrochloride':ab,ti OR 'l alpha aminomethyl 3, 4 dihydroxybenzyl alcohol':ab,ti OR 'l noradrenalin':ab,ti OR 'l noradrenalin hydrochloride':ab,ti OR 'l noradrenaline':ab,ti OR 'l norepinephrine':ab,ti OR 'levarterenol':ab,ti OR 'levo noradrenalin':ab,ti OR 'levo noradrenaline':ab,ti OR 'levo norepinephrine':ab,ti OR 'levonor':ab,ti OR 'levophed':ab,ti OR 'neomelubrin':ab,ti OR 'neurogenic noradrenalin':ab,ti OR 'noradrec':ab,ti OR 'noradrenalin hydrochloride':ab,ti OR 'noradrenalin reduction':ab,ti OR 'noradrenaline':ab,ti OR 'noradrine':ab,ti OR 'norepinephrin':ab,ti OR 'norepinephrine':ab,ti OR 'norepinephrine hydrochloride':ab,ti OR 'norexadrin':ab,ti OR 'revarterenol':ab,ti OR 'sympathin':ab,ti OR 'sympathin e':ab,ti OR 'catecholamine'/exp OR 'catechol amine; catecholamin':ab,ti OR 'catecholamines':ab,ti OR 'cathecholamine':ab,ti OR 'dextro pyrocatecholamine':ab,ti OR 'endogenous catecholamine':ab,ti OR 'pyrocatechinamine':ab,ti OR 'pyrocatecholamine':ab,ti OR 'hydroxy 5 cholestene':ab,ti OR '3beta hydroxy 5 cholestene':ab,ti OR '3beta hydroxycholest 5 ene':ab,ti OR '5 cholesten 3beta ol':ab,ti OR 'beta cholesterol':ab,ti OR 'cholest 5 en 3beta ol':ab,ti OR 'cholest 5 ene 3 ol':ab,ti OR 'cholesterin':ab,ti OR 'cholesterine':ab,ti OR 'cholesterol release':ab,ti OR 'dythol':ab,ti OR 'nsc 8798':ab,ti OR 'cholesterol'/exp OR 'riacylglycerol' OR 'acylglycerol, tri':ab,ti OR 'fatty acid triglyceride':ab,ti OR 'triacyl glyceride':ab,ti OR 'triglyceride':ab,ti OR 'triglycerides':ab,ti OR 'tryglyceride':ab,ti OR 'beta lipoprotein':ab,ti OR 'ldl':ab,ti OR 'lipoprotein, beta':ab,ti OR 'lipoprotein, low density':ab,ti OR 'lipoproteins, ldl'/exp OR 'low density lipoprotein'/exp OR 'lpha 7 lipoprotein':ab,ti OR 'alpha lipoprotein':ab,ti OR 'hdl':ab,ti OR 'high density lipoprotein phospholipid':ab,ti OR 'lipoprotein, alpha':ab,ti OR 'lipoprotein, high density':ab,ti OR 'lipoproteins, hdl':ab,ti OR 'pre alpha lipoprotein':ab,ti OR 'very high density lipoprotein'/exp OR 'high density lipoprotein'/exp	588,203
Step 3	'randomized controlled trial'/exp OR 'controlled trial':ab,ti OR 'randomized':ab,ti OR 'randomised':ab,ti OR placebo:ab,ti OR randomly:ab,ti OR trial:ab,ti	833,589
Step 4	Step 1 AND Step 2 AND Step 3	731
Step 5	Step 1 AND Step 2 AND ([cochrane review]/lim OR [controlled clinical trial]/lim OR [meta analysis]/lim OR [randomized controlled trial]/lim OR [systematic review]/lim)	488
Step 6	Step 4 OR Step 5	842
Step 7	Step 6 NOT [animals]/lim	720
Step 8	Step 6 AND [animals]/lim AND [humans]/lim	22
Step 9	Step 6 OR Step 7	742
Step 10	Step 9 NOT (Citations found in Restricted Search Step 3)	468

3) Renal function

No language limits; no date limits

Restricted search

Step	Search terms	# Citations
Step 1	'potassium'/exp OR 'potassium chloride'/exp	111,188
Step 2	'kidney diseases':ab,ti OR 'kidney disorder':ab,ti OR 'kidney pathology':ab,ti OR 'nephropathy':ab,ti OR 'perinephritis':ab,ti OR 'perirenal infection':ab,ti OR 'renal disease':ab,ti OR 'renal disorder':ab,ti OR 'unilateral kidney disease':ab,ti OR 'kidney disease'/exp OR renal:ab,ti OR 'analgesic'/exp AND nephropathy:ab,ti OR 'chronic kidney disease':ab,ti OR 'cystinuria':ab,ti OR 'diabetic nephropathy':ab,ti OR 'fabry disease':ab,ti OR 'gitelman syndrome':ab,ti OR 'glomerulopathy':ab,ti OR 'gordon syndrome':ab,ti OR 'hepatorenal syndrome':ab,ti OR 'hiv associated nephropathy':ab,ti OR 'immunoglobulin a nephropathy':ab,ti OR 'kidney amyloidosis':ab,ti OR 'kidney calcification':ab,ti OR 'kidney colic':ab,ti OR 'kidney cyst':ab,ti OR 'kidney dysfunction':ab,ti OR 'kidney failure':ab,ti OR 'kidney fibrosis':ab,ti OR 'kidney hemorrhage':ab,ti OR 'kidney hypertrophy':ab,ti OR 'kidney infarction':ab,ti OR 'kidney infection':ab,ti OR 'kidney injury':ab,ti OR 'kidney ischemia':ab,ti OR 'kidney malformation':ab,ti OR 'kidney necrosis':ab,ti OR 'kidney pain':ab,ti OR 'kidney papilla necrosis':ab,ti OR 'kidney polycystic disease':ab,ti OR 'kidney rupture':ab,ti OR 'kidney scar':ab,ti OR 'kidney tubule acidosis':ab,ti OR 'kidney tubule damage':ab,ti OR 'kidney tubule disorder':ab,ti OR 'kidney tumor':ab,ti OR 'liddle syndrome':ab,ti OR 'lowe syndrome':ab,ti OR 'meckel syndrome':ab,ti OR 'medullary sponge kidney':ab,ti OR 'nephritis':ab,ti OR 'nephrogenic diabetes insipidus':ab,ti OR 'nephrolithiasis':ab,ti OR 'nephronophthisis':ab,ti OR 'nephrosis':ab,ti OR 'nephrotoxicity':ab,ti OR 'perirenal abscess':ab,ti OR 'prune belly syndrome':ab,ti OR 'pyelectasis':ab,ti OR 'reflux nephropathy':ab,ti OR 'renal diabetes':ab,ti OR 'renal graft dysfunction':ab,ti OR 'renovascular disease':ab,ti OR 'silent kidney':ab,ti OR 'uric acid nephropathy':ab,ti OR 'kidney disease'/exp AND ([cochrane review]/lim OR [controlled clinical trial]/lim OR [meta analysis]/lim OR [randomized controlled trial]/lim OR [systematic review]/lim)	22,310
Step 3	Step 1 AND Step 2	324

Broader search

Step	Search terms	# Citations
Step 1	'potassium'/exp OR 'potassium' OR 'potassium chloride'/exp OR 'potassium chloride' OR potassium:ab,ti	301,383
Step 2	'kidney diseases':ab,ti OR 'kidney disorder':ab,ti OR 'kidney pathology':ab,ti OR 'nephropathy':ab,ti OR 'perinephritis':ab,ti OR 'perirenal infection':ab,ti OR 'renal disease':ab,ti OR 'renal disorder':ab,ti OR 'unilateral kidney disease':ab,ti OR 'kidney disease'/exp OR renal:ab,ti OR 'analgesic'/exp AND nephropathy:ab,ti OR 'chronic kidney disease':ab,ti OR 'cystinuria':ab,ti OR 'diabetic nephropathy':ab,ti OR 'fabry disease':ab,ti OR 'gitelman syndrome':ab,ti OR 'glomerulopathy':ab,ti OR 'gordon syndrome':ab,ti OR 'hepatorenal syndrome':ab,ti OR 'hiv associated nephropathy':ab,ti OR 'immunoglobulin a nephropathy':ab,ti OR 'kidney amyloidosis':ab,ti OR 'kidney calcification':ab,ti OR 'kidney colic':ab,ti OR 'kidney cyst':ab,ti OR 'kidney dysfunction':ab,ti OR 'kidney failure':ab,ti OR 'kidney fibrosis':ab,ti OR 'kidney hemorrhage':ab,ti OR 'kidney hypertrophy':ab,ti OR 'kidney infarction':ab,ti OR 'kidney infection':ab,ti OR 'kidney injury':ab,ti OR 'kidney ischemia':ab,ti OR 'kidney malformation':ab,ti OR 'kidney necrosis':ab,ti OR 'kidney pain':ab,ti OR 'kidney papilla necrosis':ab,ti OR 'kidney polycystic disease':ab,ti OR 'kidney rupture':ab,ti OR 'kidney scar':ab,ti OR 'kidney tubule acidosis':ab,ti OR 'kidney tubule damage':ab,ti OR 'kidney tubule disorder':ab,ti OR 'kidney tumor':ab,ti OR 'liddle syndrome':ab,ti OR 'lowe syndrome':ab,ti OR 'meckel syndrome':ab,ti OR 'medullary sponge kidney':ab,ti OR 'nephritis':ab,ti OR 'nephrogenic diabetes insipidus':ab,ti OR 'nephrolithiasis':ab,ti OR 'nephronophthisis':ab,ti OR 'nephrosis':ab,ti OR 'nephrotoxicity':ab,ti OR 'perirenal abscess':ab,ti OR 'prune belly syndrome':ab,ti OR 'pyelectasis':ab,ti OR 'reflux nephropathy':ab,ti OR 'renal diabetes':ab,ti OR 'renal graft dysfunction':ab,ti OR 'renovascular disease':ab,ti OR 'silent kidney':ab,ti OR 'uric acid nephropathy':ab,ti OR 'kidney disease'/exp	573,788
Step 3	'randomized controlled trial'/exp OR 'controlled trial':ab,ti OR 'randomized':ab,ti OR 'randomised':ab,ti OR placebo:ab,ti OR randomly:ab,ti OR trial:ab,ti	833,589
Step 4	Step 1 AND Step 2 AND Step 3	1256
Step 5	Step 1 AND Step 2 AND ([cochrane review]/lim OR [controlled clinical trial]/lim OR [meta analysis]/lim OR [randomized controlled trial]/lim OR [systematic review]/lim)	930
Step 6	Step 4 OR Step 5	1609
Step 7	Step 6 NOT [animals]/lim	1154
Step 8	AND [animals]/lim AND [humans]/lim	40
Step 9	Step 7 OR Step 8	1194
Step 10	'dietary intake'/exp OR 'diet'/exp OR restrict*:ab,ti OR reduce*:ab,ti OR reduction	2,617,056
Step 11	Step 9 AND Step 10	806
Step 12	Step 11 NOT (Citations found in Restricted Search Step 3)	626

B1.2.2 PubMed searches

No language limits; date conducted: 28 Aug 2011; date limit: previous 180 days.

1) Blood pressure

(blood pressure[MeSH] OR hypertension[MeSH] OR blood pressure[tiab] OR hypertension[tiab]) AND (potassium[MeSH] OR potassium chloride[MeSH] OR potassium[tiab] OR potassium chloride[tiab]) AND (diet[MeSH] OR dietary[MeSH] OR intake[MeSH] OR restriction[MeSH] or reduction[MeSH] OR diet[tiab] OR dietary[tiab] OR intake[tiab] OR restriction[tiab] or reduction[tiab]) AND (randomized controlled trial [pt] OR controlled clinical trial [pt] OR randomized [tiab] OR placebo [tiab] OR drug therapy [sh] OR randomly [tiab] OR trial [tiab] OR groups [tiab]) NOT (animals [mh] NOT humans [mh])

2) Adverse effects

(potassium[MeSH] OR potassium[tiab]) AND (noradrenaline[MeSH] OR norepinephrine[MeSH] OR noradrenaline[tiab] OR norepinephrine[tiab] OR catecholamine[MeSH] OR catecholamine[tiab] OR cholesterol[MeSH] OR triglycerides[MeSH] OR low density lipoprotein[MeSH] OR high density lipoprotein[MeSH] OR LDL[tiab] OR HDL[tiab] OR cholesterol[tiab] OR triglyceride[tiab]) AND (randomized controlled trial [pt] OR controlled clinical trial [pt] OR randomized [tiab] OR placebo [tiab] OR drug therapy [sh] OR randomly [tiab] OR trial [tiab] OR groups [tiab]) NOT (animals [mh] NOT humans [mh])

3) Renal function

(potassium[MeSH] OR potassium[tiab]) AND (kidney disease[MeSH] OR renal[tiab]) AND (dietary[MeSH] OR diet[MeSH] OR diets[MeSH] OR restriction[MeSH] OR reduction[MeSH] OR reduce[MeSH] OR restrict[MeSH]) AND (randomized controlled trial [pt] OR controlled clinical trial [pt] OR randomized [tiab] OR placebo [tiab] OR drug therapy [sh] OR randomly [tiab] OR trial [tiab] OR groups [tiab]) NOT (animals [mh] NOT humans [mh])

B1.2.3 LILACS searches

No language limits; date conducted: 01 Sept 2011; date limit: none

Query	Search
Blood pressure	potassium AND blood pressure
	potassium AND hypertension
Adverse effects	potassium AND noradrenaline
	potassium AND norepinephrine
	potassium AND catecholamine
	potassium AND lipoprotein
	potassium AND hdl
	potassium AND ldl
	potassium AND cholesterol
	potassium AND triglyceride
Renal disease	potassium AND renal

B1.2.4 WHO International Clinical Trials Registry Platform searches

No language limits; date conducted: 01 Sept 2011; date limit: none

Query	Search
Blood pressure	(potassium AND blood pressure) OR (potassium AND hypertension)
Adverse effects	(potassium and noradrenaline) OR (potassium and norepinephrine) OR (potassium and catecholamine) OR (potassium and lipoprotein) OR (potassium and hdl) OR (potassium and ldl) OR (potassium and cholesterol) OR (potassium and triglyceride)
Renal disease	potassium AND renal

B1.2.5 Cochrane Central Register of Controlled Trials searches

No language limits; date conducted: 06 Sept 2011; date limit: none

Query	Search
Blood pressure	((#1 OR #2 OR (blood AND pressure) OR hypertension) AND (#3 OR #4 OR potassium OR (potassium AND chloride)) AND (#5 OR diet OR dietary OR intake OR restriction OR reduction) AND ((randomized AND controlled AND trial) OR (controlled AND clinical AND trial) OR randomized OR placebo OR (drug AND therapy) OR randomly OR trial OR groups))*
Adverse effects	((#3 OR #4 OR potassium OR (potassium AND chloride)) AND (#6 OR #7 OR #8 OR noradrenaline OR norepinephrine OR noradrenaline OR catecholamine OR cholesterol OR triglycerides OR (low AND density AND lipoprotein) OR (high AND density AND lipoprotein) OR LDL OR HDL) AND ((randomized AND controlled AND trial) OR (controlled AND clinical AND trial) OR randomized OR placebo OR (drug AND therapy) OR randomly OR trial OR groups))
Renal disease	(((renal AND disease) OR renal) AND (#3 OR #4 OR potassium OR (potassium AND chloride)) AND (#5 OR diet OR dietary OR intake OR restriction OR reduction) AND ((randomized AND controlled AND trial) OR (controlled AND clinical AND trial) OR randomized OR placebo OR (drug AND therapy) OR randomly OR trial OR groups))

#1 = MeSH descriptor Blood Pressure explode all trees
#2 = MeSH descriptor Hypertension explode all trees
#3 = MeSH descriptor Potassium explode all trees
#4 = MeSH descriptor Potassium Chloride explode all trees
#5 = MeSH descriptor Diet explode all trees
#6 = MeSH descriptor Norepinephrine explode all trees
#7 = MeSH descriptor Cholesterol explode all trees
#8 = MeSH descriptor Triglycerides explode all trees
* “dietary”, “intake”, “reduction”, “restriction” did not retrieve MeSH terms
**”noradrenaline”, “catecholamine”, “low density lipoprotein”, “high density lipoprotein” did not retrieve MeSH terms

C. All-cause mortality, cardiovascular disease, stroke, and coronary heart disease

Because a recent, high-quality systematic review was identified in the literature (D’Elia 2011), the electronic search was limited to identify any studies published since the search was conducted for that systematic review. The date limit was set from 1999 to 15 September 2011 in order to ensure no studies were overlooked. MEDLINE was searched through the PubMed database. All electronic searches were first run to search for RCTs. When fewer than three studies were found, a subsequent search for cohort studies was conducted.

C1.1 Search for randomized controlled trials

- PubMed search terms
- Search date: 15 September 2011
- Limits 1999 – date of search

(potassium [MeSH] OR potassium [tiab]) AND (stroke[MeSH] OR stroke[tiab] OR cerebrovascular disease[MeSH] OR cerebrovascular disease[tiab] OR cardiovascular disease[MeSH] OR cardiovascular disease[tiab], OR coronary heart disease[MeSH] OR coronary heart disease[tiab] OR cerebrovascular accident[MeSH] OR cerebrovascular accident[tiab] OR cerebrovascular disorders[MeSH] OR cerebrovascular disorders[tiab] OR cerebral infarction[MeSH] OR cerebral infarction[tiab] OR cerebral hemorrhage[MeSH] OR cerebral hemorrhage[tiab]) AND (dietary[MeSH] OR diet[MeSH] OR diets[MeSH] OR restriction[MeSH] OR reduction[MeSH] OR reduce[MeSH] OR restrict[MeSH]) AND (randomized controlled trial [pt] OR controlled clinical trial [pt] OR randomized [tiab] OR placebo [tiab] OR drug therapy [sh] OR randomly [tiab] OR trial [tiab] OR groups [tiab]) NOT (animals [mh] NOT humans [mh])

C1.2 Search for prospective cohort studies

- PubMed search terms
- Search date: 15 September 2011
- Limits 1999 – date of search

(potassium [MeSH] OR potassium [tiab]) AND (stroke[MeSH] OR stroke[tiab] OR cerebrovascular disease[MeSH] OR cerebrovascular disease[tiab] OR cardiovascular disease[MeSH] OR cardiovascular disease[tiab], OR coronary heart disease[MeSH] OR coronary heart disease[tiab] OR cerebrovascular accident[MeSH] OR cerebrovascular accident[tiab] OR cerebrovascular disorders[MeSH] OR cerebrovascular disorders[tiab] OR cerebral infarction[MeSH] OR cerebral infarction[tiab] OR cerebral hemorrhage[MeSH] OR cerebral hemorrhage[tiab]) AND (dietary[MeSH] OR diet[MeSH] OR diets[MeSH] OR restriction[MeSH] OR reduction[MeSH] OR reduce[MeSH] OR restrict[MeSH]) NOT (animals [mh] NOT humans [mh])

OSM 2: Study Characteristics

A. Adult RCTs included in the systematic review reporting blood pressure, renal function, blood lipids, or catecholamine levels

In this section, tables are labelled by the study identifier (e.g. Barden 1986). The specific references for a particular study are listed below the table.

Table 2.A.1 Barden 1986

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive KCl supplement tablets or placebo. Conducted in Australia.
Participants	43 adult women, normotensive, not specified if taking BP medication.
Interventions	Group1 – placebo Group2 – K-supplemented diet (80 mmol K/day) via tablets Tablet type: KCl.
Outcomes	Supine BP Treatment-period interaction
Notes	1) K intake in intervention ≥90 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – normotensive 5) Duration of follow-up – 1 month (4 weeks) 6) Sex – women only 7) BP device – automatic 8) BP method – supine office SBP/DBP, seated office SBP/DBP

BP, blood pressure; Cl: chloride; DBP: diastolic blood pressure; K, potassium; Na, sodium
References: (Barden et al., 1987; Barden et al., 1986)

Table 2.A.2 Risk of bias table Barden 1986

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	Unclear risk	Providers were blinded but the blinding of participants was unclear and unlikely
Blinding of outcome assessment (detection bias)	Unclear risk	Unclear if outcome assessor was blinded
Incomplete outcome data (attrition bias)	Low risk	Low loss to follow-up (2%)
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.3 Berry 2010

Methods	Cross-over design study of increased K education or advice to increase fruits and vegetables and via supplements. Participants randomized to receive K-citrate supplemented diet (fruit and vegetable diet), supplement tablets, or placebo. Conducted in the United Kingdom.
Participants	57 adult men and women, hypertensive status not specified, not taking BP medication.
Interventions	Group1 – K-supplemented diet (20 mmol K/day) of fruits and vegetables Group2 – K-supplemented diet (40 mmol K/day) of fruits and vegetables Group3 – K-supplemented diet (20 mmol K/day) via tablets Group4 – K-supplemented diet (40 mmol K/day) via tablets Group5 – unchanged diet (control) tablet type: K-citrate
Outcomes	Resting BP Carotid to femoral pulse wave velocity Radial pulse wave analysis Flow-mediated dilation of the brachial artery Endothelial dilation in response to 25 µg glycerol trinitrate Serum total cholesterol, high-density lipoprotein-cholesterol, triacylglycerol, glucose Plasma adrenaline, plasma noradrenaline
Notes	1) K intake in intervention ≥70 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – both 5) Duration of follow-up – 1.5 months (6 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic 8) BP method – ambulatory SBP/DBP (24-hour/day/night), supine DBP/SBP

BP, blood pressure; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Berry et al., 2010)

Table 2.A.4 Risk of bias table Berry 2010

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Randomized via computer algorithm
Allocation concealment (selection bias)	Low risk	Computer allocation
Blinding of participants and personnel (performance bias)	Low risk	Participants blinded
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessor was blinded
Incomplete outcome data (attrition bias)	Low risk	16% loss to follow-up
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.5 Bulpitt BPA1985

Methods	Parallel design study of increased K via supplements. Participants randomized to receive placebo or KCl supplement. Conducted in the United Kingdom.
Participants	33 adult men and women, hypertensive, taking BP medication
Interventions	Group1 – placebo Group2 – K-supplemented diet (64 mmol K/day) via tablets Type: KCl
Outcomes	Changes in resting BP Change in medication dosage
Notes	1) K intake in intervention ≥90 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 3 months (12 weeks) 6) Sex – both (heterogeneous) 7) BP device – manual 8) BP method – SBP (unspecified resting), DBP (unspecified resting)

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Bulpitt et al., 1985)

Table 2.A.6 Risk of bias table Bulpitt BPA1985

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	Unclear risk	Not clear how or if participants and providers blinded
Blinding of outcome assessment (detection bias)	Unclear risk	No description of blinding of outcome assessor
Incomplete outcome data (attrition bias)	Low risk	2% loss to follow-up
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.7 Chalmers BPA1986

Methods	Parallel design study of increased K diet. Participants randomized to receive normal diet or high-K diet. Conducted in Australia.
Participants	107 adult men and women, hypertensive, not taking BP medication
Interventions	Group1 – normal diet Group2 – high K diet through diet advice or education
Outcomes	Resting BP Urinary Na, K, creatinine excretion Serum K, creatinine, cholesterol, gamma-glutamyl transferase
Notes	1) K intake in intervention ≥90 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 3 months (12 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic 8) BP method – seated office

BP, blood pressure; K, potassium; Na, sodium
Reference: (Chalmers et al., 1986)

Table 2.A.8 Risk of bias table Chalmers BPA1986

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	High risk	Participants and providers not blinded
Blinding of outcome assessment (detection bias)	High risk	Outcome assessor not blinded
Incomplete outcome data (attrition bias)	Unclear risk	Loss to follow-up not reported
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.9 Forrester BPA1988

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive bendroflumethiazide or bendroflumethiazide + KCl. Conducted in Jamaica.
Participants	23 adult men and women, hypertensive status, taking BP medication
Interventions	Group1 – bendroflumethiazide Group2 – bendroflumethiazide + K-supplement (600 mg K) via tablets (type: KCl)
Outcomes	Resting BP Mean BP Serum K Blood glucose Serum urate Urine Na Urine K Red cell Na Red cell K
Notes	1) K intake in intervention ≥60 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 1 month (4 weeks) 6) Sex – both (heterogeneous) 7) BP device – manual 8) BP method – Supine office SBP, supine office DBP, standing office SBP, standing office DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Forrester & Grell, 1988)

Table 2.A.10 Risk of bias table Forrester BPA1988

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	High risk	Patients were chosen from clinic by volunteering
Allocation concealment (selection bias)	High risk	Allocation not concealed
Blinding of participants and personnel (performance bias)	High risk	Participants and providers not blinded
Blinding of outcome assessment (detection bias)	Unclear risk	No description of blinding of outcome assessor
Incomplete outcome data (attrition bias)	Low risk	4% loss to follow-up reported
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.11 Fotherby BPA1992

Methods	Cross-over design study of increased K via elixir (supplement). Participants randomized to receive KCl supplement tablets or placebo. Conducted in the United Kingdom.
Participants	18 adult men and women, hypertensive, not taking BP medication
Interventions	Group1 – placebo Group2 – K-supplemented diet (60 mmol K/day) via elixir Elixir type: KCl
Outcomes	Resting BP Pulse rate Ambulatory BP (24-hour/day/night) Serum electrolytes Creatinine Plasma renin activity Urinary electrolytes Body weight changes
Notes	1) Potassium intake in intervention ≥90 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 1 month (4 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic 8) BP method – ambulatory SBP (24-hour/day/night), ambulatory DBP (24-hour/day/night), supine office systolic BP, supine office DBP, standing office SBP, standing office DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
References: (Fotherby & Potter, 1992; Fotherby & Potter, 1997)

Table 2.A.12 Risk of bias table Fotherby BPA1992

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Random sequence generation not described
Allocation concealment (selection bias)	Unclear risk	Allocation concealment not described
Blinding of participants and personnel (performance bias)	Low risk	Both participants and personnel blinded
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessor blinded
Incomplete outcome data (attrition bias)	Low risk	Low loss to follow-up (0%)
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.13 Grobbee BPA1987

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive KCl supplement tablets or placebo. Conducted in the Netherlands.
Participants	40 adult men and women, hypertensive, not specified if taking BP medication
Interventions	Group1 – placebo Group2 – K-supplemented diet (8 mmol K) via slow-release tablets Tablet type: slow-KCl
Outcomes	Urinary excretion SBP, DBP Urinary electrolyte excretion Body weight Pulse rate Plasma catecholamine levels Plasma renin Cardiac output Cardiac index
Notes	1) Potassium intake in intervention ≥120 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 1.5 months (6 weeks) 6) Sex – both (heterogeneous) 7) BP device – manual 8) BP method – supine office

BP, blood pressure; Cl: chloride; K, potassium; Na, sodium
Reference: (Grobbee et al., 1987)

Table 2.A.14 Risk of bias table Grobbee BPA1987

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	Low risk	Participants and providers blinded
Blinding of outcome assessment (detection bias)	Unclear risk	No description of blinding of outcome assessor
Incomplete outcome data (attrition bias)	Unclear risk	No loss to follow-up reported
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.15 Gu BPA2001

Methods	Parallel study of increased K via supplements. Participants randomized to receive KCl supplement tablets or placebo. Conducted in China.
Participants	43 adult women, heterogeneous hypertensive status, not taking BP medication
Interventions	Group1 – placebo Group2 – K-supplemented diet (60 mmol K/day) via tablets Tablet type: KCl
Outcomes	Resting BP Body weight
Notes	1) K intake intervention <70 mmol/day (~57 mmol/day) 2) Na intake at baseline >4 g/d 3) Age – adult (15 years or greater) 4) Group – both 5) Duration of follow-up – 3 months (12 weeks) 6) Sex – women only 7) BP device – manual 8) BP method – seated SBP, seated DBP 9) Subgroup analysis – 6-week timepoint

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; Na, sodium; SBP, systolic blood pressure
Reference: (Gu et al., 2001)

Table 2.A.16 Risk of bias table Gu BPA2001

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Generated by computer program
Allocation concealment (selection bias)	Low risk	Concealed in an ordered set of sealed envelopes
Blinding of participants and personnel (performance bias)	Low risk	Participants and providers blinded
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessor blinded
Incomplete outcome data (attrition bias)	Low risk	Low loss to follow-up reported (<10%)
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.17 He BPA2010

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive supplement tablets or placebo. Conducted in the United Kingdom.
Participants	46 adult men and women, hypertensive, not taking BP medication
Interventions	Group1 – placebo Group2 – K-supplemented diet (64 mmol K/day) via tablets (type KCl) Group3 – K-supplemented diet (64 mmol K/day) via tablets (type $KHCO_3$) Tablet type: KCl and $KHCO_3$
Outcomes	Resting BP Ambulatory BP 24-hour albumin excretion Pulse wave velocity Vascular function: changes in left ventricular geometry and function Change in bone metabolism markers: urinary calcium, pH
Notes	1) K intake in intervention ≥120 mmol/day 2) Na intake at baseline 2–4 g/day 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 1 month (4 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic 8) BP method – SBP/DBP (unspecified resting) , ambulatory SBP/DBP (24-hour/day/ night)

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; HCO_3, bicarbonate; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (He et al., 2010)

Table 2.A.18 Risk of bias table He BPA2010

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Computer generated program by independent company
Allocation concealment (selection bias)	Low risk	Allocated in random order to take intervention capsules or placebo capsules; all were blinded to treatment allocation
Blinding of participants and personnel (performance bias)	Low risk	Participants and providers blinded
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessor blinded
Incomplete outcome data (attrition bias)	Low risk	Low loss to follow-up reported (<10%)
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.19 Kaplan BPA1985

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive KCl supplement tablets or placebo. Conducted in the United States of America.
Participants	16 adult men and women, hypertensive, taking BP medication
Interventions	Group1 – placebo Group2 – K-supplemented diet (60 mmol K/day) via tablets Tablet type: KCl
Outcomes	Resting BP Serum K and Na levels Plasma renin activity Plasma aldosterone Body weight
Notes	1) Potassium intake in intervention ≥70 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 1.5 months (6 weeks) 6) Sex – both (heterogeneous) 7) BP device – manual 8) BP method – supine office SBP, supine office DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Kaplan et al., 1985)

Table 2.A.20 Risk of bias table Kaplan BPA1985

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	Low risk	Participants and providers blinded
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessor blinded
Incomplete outcome data (attrition bias)	High risk	20% loss to follow-up reported
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.21 Kawano BPA1998

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive KCl supplement tablets or placebo. Conducted in Japan.
Participants	55 adult men and women, hypertensive, heterogeneous medication status
Interventions	Group1 – placebo Group2 – K-supplemented diet (64 mmol K/day) via tablets Tablet type: KCl
Outcomes	Resting BP Ambulatory BP Serum and urinary electrolytes
Notes	1) K intake in intervention ≥90 mmol/day 2) Na intake at baseline >4 g/day 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 1 month (4 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic (ambulatory), manual (resting) 8) BP method – ambulatory SBP/DBP (24-hour/day/night), seated office SBP, seated office DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Kawano et al., 1998)

Table 2.A.22 Risk of bias table Kawano BPA1998

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	Unclear risk	Unclear if participants and providers blinded
Blinding of outcome assessment (detection bias)	Unclear risk	No description of blinding of outcome assessor
Incomplete outcome data (attrition bias)	Low risk	Low loss to follow-up reported (<10%)
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.23 MacGregor AEBPA1982

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive KCl tablets or placebo. Conducted in the United Kingdom.
Participants	23 hypertensive men and women, not taking BP medication
Interventions	Group1 – control (placebo) Group2 – supplement (64 mmol K/day) Tablet type: KCl
Outcomes	Resting BP Pulse rate Weight 24-hour urinary sodium, potassium, creatinine, urea, creatinine, electrolytes, plasma renin activity, aldosterone
Notes	1) K intake in intervention ≥90 mmol/day 2) Na intake at baseline 2–4 g/day 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 1 month (4 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic 8) BP method – supine office DBP, supine office SBP, standing office SBP, standing office DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
References: (MacGregor et al., 1982; MacGregor et al., 1984; Smith et al., 1985)

Table 2.A.24 Risk of bias table MacGregor AEBPA1982

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	Low risk	Participants and providers blinded
Blinding of outcome assessment (detection bias)	Unclear risk	No description of blinding of outcome assessor
Incomplete outcome data (attrition bias)	Low risk	0% loss to follow-up reported
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.25 Matlou BPA1986

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive KCl tablets or placebo. Conducted in South Africa.
Participants	32 hypertensive women, not taking BP medication
Interventions	Group1 – control (placebo) Group2 – supplement (65 mmol K/day) Tablet type: KCl
Outcomes	Resting BP Serum K, Na Urinary K, Na
Notes	1) K intake in intervention ≥90 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 1.5 months (6 weeks) 6) Sex – women only 7) BP device – manual 8) BP method – seated office SBP, seated office DBP 9) Subgroup analyses – 4 week time point

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Matlou et al., 1986)

Table 2.A.26 Risk of bias table Matlou BPA1986

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	High risk	Participants and providers were not blinded
Blinding of outcome assessment (detection bias)	Low risk	Reported that observer bias was eliminated
Incomplete outcome data (attrition bias)	Low risk	Low loss to follow-up reported (10%)
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.27 Obel BPA1989

Methods	Parallel design study of increased K via supplements. Participants randomized to receive KCl tablets or placebo. Conducted in the United Kingdom.
Participants	48 hypertensive men and women, not taking BP medication
Interventions	Group1 – control (placebo) Group2 – supplement (64 mmol K/day) Tablet type: KCl
Outcomes	Standing BP Supine BP
Notes	1) K intake in intervention ≥90 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 4 months (16 weeks) 6) Sex – both (heterogeneous) 7) BP device – manual 8) BP method – supine office DBP, supine office SBP, standing DBP, standing office SBP 9) Subgroup analysis – 4-, 8- and 12-week time points

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Obel, 1989)

Table 2.A.28 Risk of bias table Obel BPA1989

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	Low risk	Participants and providers blinded
Blinding of outcome assessment (detection bias)	Unclear risk	No description of blinding of outcome assessor
Incomplete outcome data (attrition bias)	Low risk	0% loss to follow-up reported
Selective reporting (reporting bias)	Low risk	Most outcomes reported; urinary K and Na not reported for subanalyses (4, 8, 12 week time points)

K, potassium; Na, sodium

Table 2.A.29 Overlack BPARAAEA1991

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive K tablets or placebo. Conducted in Germany.
Participants	12 hypertensive men and women, not taking BP medication
Interventions	Group1 – control (placebo) Group2 – supplement (120 mmol K/day) Tablet type: K + citrate + bicarbonate
Outcomes	Mean arterial BP Serum Na, K concentrations Intracellular Na, K concentrations Plasma renin activity Plasma aldosterone
Notes	1) K intake in intervention ≥120 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 2 months (8 weeks) 6) Sex – both (heterogeneous) 7) BP device – not specified 8) BP method – SBP, DBP 9) Other – Does not contribute to meta-analyses. Waiting on author reply

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Overlack et al., 1991)

Table 2.A.30 Risk of bias table Overlack BPARAAEA1991

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation; stated that there was a "randomization plan"
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	High risk	Participants and providers not blinded
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessor blinded
Incomplete outcome data (attrition bias)	Low risk	0% loss to follow-up reported
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.31 Patki BPARA1990

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive KCl tablets or placebo. Conducted in India.
Participants	37 hypertensive men and women, not taking BP medication
Interventions	Group1 – control (placebo) Group2 – supplement (30 mmol K/day) Tablet type: KCl
Outcomes	Resting BP Serum cholesterol Serum creatinine Serum urea
Notes	1) K intake in intervention ≥70 mmol/day 2) Na intake at baseline >4 g/day 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 2 months (8 weeks) 6) Sex – both (heterogeneous) 7) BP device – manual 8) BP method – supine SBP, supine DBP, standing office SBP, standing office DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Patki et al., 1990)

Table 2.A.32 Risk of bias table Patki BPARA1990

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	Low risk	Participants and providers blinded
Blinding of outcome assessment (detection bias)	Unclear risk	No description of blinding of outcome assessor
Incomplete outcome data (attrition bias)	Unclear risk	Loss to follow-up not reported
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.33 Richards BPAAEA1984

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive KCl tablets or placebo. Conducted in New Zealand.
Participants	12 hypertensive men and women, not taking BP medication
Interventions	Group1 – control (placebo) Group2 – supplement (200 mmol K/day) Tablet type: KCl
Outcomes	Resting BP Plasma renin activity Anguitensin II Aldosterone Noradrenaline Adrenaline Urine Na, K, creatinine excretions
Notes	1) K intake in intervention ≥120 mmol/day 2) Na intake at baseline >4 g/d (estimate based on figure) 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 1 month (4 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic 8) BP method – supine SBP, supine DBP, standing office SBP, standing office DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Richards et al., 1984)

Table 2.A.34 Risk of bias table Richards BPAAEA1984

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	High risk	Providers and participants were not blinded
Blinding of outcome assessment (detection bias)	Unclear risk	Unclear if outcome assessors were blinded
Incomplete outcome data (attrition bias)	High risk	25% loss to follow-up
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.35 Siani BPA1987

Methods	Parallel study of increased K via supplements. Participants randomized to receive KCl tablets or placebo. Conducted in Italy.
Participants	37 hypertensive men and women, not taking BP medication
Interventions	Group1 – control (placebo) Group2 – supplement (24 mmol K/day) Tablet type: KCl
Outcomes	Resting BP Urinary creatinine excretion
Notes	1) K intake in intervention ≥70 mmol/day 2) Na intake at baseline >4 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 3.75 months (7 weeks) 6) Sex – both (heterogeneous) 7) BP device – manual 8) BP method – supine office SBP, supine office DBP, standing office SBP, standing office DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Siani et al., 1987)

Table 2.A.36 Risk of bias table Siani BPA1987

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Low risk	Concealment of allocation through pre-packaged identical containers
Blinding of participants and personnel (performance bias)	Low risk	Providers and participants were blinded
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessor was blinded
Incomplete outcome data (attrition bias)	Unclear risk	Loss to follow-up not reported
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.37 Siani BPARA1991

Methods	Parallel design study of increased K diet. Participants randomized to receive regular (unchanged) diet or high K diet. Conducted in Italy.
Participants	47 hypertensive men and women, taking BP medication
Interventions	Group1 – control (unchanged diet) Group2 – high K diet (≥30 mmol K/day) Tablet type: N/A
Outcomes	Resting BP Mean energy and nutrient intake Urinary K and Na Rate of treatment discontinuation Pills per day (drug consumption)
Notes	1) K intake in intervention ≥70 mmol/day 2) Na intake at baseline 2–4 g/day 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 12 months (52 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic 8) BP method – Supine office SBP, supine office DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Siani et al., 1991)

Table 2.A.38 Risk of bias table Siani BPARA1991

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	High risk	Providers and participants were not blinded
Blinding of outcome assessment (detection bias)	Unclear risk	Unclear if outcome assessors were blinded
Incomplete outcome data (attrition bias)	Low risk	13% loss to follow-up
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.39 Smith BPARA1985

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive KCl tablets or placebo. Conducted in the United States of America.
Participants	20 hypertensive men and women, not taking BP medication
Interventions	Group1 – control (placebo) Group2 – supplement (64 mmol K/day) Tablet type: KCl
Outcomes	Resting BP Supine heart rate Weight Urinary Na, K, creatinine Plasma renin activity Plasma aldosterone, K Blood creatinine
Notes	1) K intake in intervention ≥90 mmol/day 2) Na intake at baseline <2 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 1 month (4 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic 8) BP method – Supine SBP, supine DBP, standing SBP, standing DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Smith et al., 1985)

Table 2.A.40 Risk of bias table Smith BPARA1985

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	Low risk	Providers and participants were blinded
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessors was blinded
Incomplete outcome data (attrition bias)	Low risk	10% loss to follow-up
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.41 Trial Hyp Prv Col BPA1992

Methods	Parallel design study of increased K via supplements. Participants randomized to receive KCl tablets or placebo. Conducted in the United States of America.
Participants	286 normotensive men and women, not taking BP medication
Interventions	Group1 – control (placebo) Group2 – supplement (60 mmol K/day) Tablet type: KCl
Outcomes	Resting BP Na reduction Weight reduction Stress management Incidence of hypertension
Notes	1) K intake in intervention ≥90 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – normotensive 5) Duration of follow-up – 6 months (24 weeks) 6) Sex – both (heterogeneous) 7) BP device – manual 8) BP method – Seated office SBP, seated office DBP 9) Subgroup analysis – 3-month time point

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Trial Hyp Prv Col, 1992)

Table 2.A.42 Risk of bias table Trial Hyp Prv Col BPA1992

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Sequence generation by telephone
Allocation concealment (selection bias)	Low risk	Sealed opaque envelopes
Blinding of participants and personnel (performance bias)	Low risk	Providers and participants were blinded
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessors were blinded
Incomplete outcome data (attrition bias)	Low risk	18–20% loss to follow-up among groups
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.43 Valdes BPA1991

Methods	Cross-over design study of increased K via supplements. Participants randomized to receive KCl tablets or placebo. Conducted in Chile.
Participants	24 hypertensive men and women, not taking BP medication
Interventions	Group1 – control (placebo) Group2 – supplement (64 mmol K/day) Tablet type: KCl
Outcomes	Mean arterial BP Serum Na, K concentrations Intracellular Na, K concentrations Plasma renin activity Plasma aldosterone activity
Notes	1) K intake in intervention ≥120 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 1 month (4 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic 8) BP method – supine office SBP, supine office DBP, standing office SBP, standing office DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Valdés et al., 1991)

Table 2.A.44 Risk of bias table Valdes BPA1991

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	Low risk	Providers and participants were blinded
Blinding of outcome assessment (detection bias)	Unclear risk	Unclear if outcome assessors were blinded
Incomplete outcome data (attrition bias)	Unclear risk	No loss to follow-up reported
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.A.45 Whelton BPA1995

Methods	Parallel design study of increased K via supplements. Participants randomized to receive KCl tablets or placebo. Conducted in the United States of America.
Participants	353 normotensive men and women, not taking BP medication
Interventions	Group1 – control (placebo) Group2 – supplement (60 mmol K/day) Tablet type: KCl
Outcomes	BP Urinary excretion Dietary assessment
Notes	1) K intake in intervention ≥90 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – normotensive 5) Duration of follow-up – 6 months (24 weeks) 6) Sex – both (heterogeneous) 7) BP device – manual 8) BP method – SBP, DBP 9) Subgroup analysis – 3-month time point

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
References: (Whelton et al., 1997; Whelton et al., 1995)

Table 2.A.46 Risk of bias table Whelton BPA1995

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No description of method of sequence generation
Allocation concealment (selection bias)	Unclear risk	No description of method of concealment of allocation
Blinding of participants and personnel (performance bias)	Low risk	Providers and participants were blinded
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessors were blinded
Incomplete outcome data (attrition bias)	Low risk	4–10% loss to follow-up among groups of interest
Selective reporting (reporting bias)	Low risk	All outcomes reported

B. Adult RCTs awaiting author communication reporting blood pressure, renal function, blood lipids, or catecholamine levels

Table 2.B.1 Braschi BPA2008

Methods	Parallel design study of increased K diet. Participants randomized to receive placebo, K-citrate supplement, or KCl supplement. Conducted in the United Kingdom.
Participants	90 adult men and women, heterogeneous hypertensive status, heterogeneous BP medication status
Interventions	Group1 – placebo Group2 – K-supplemented diet (30 mmol K/day) via tablets (type: KCl) Group3 – K-supplemented diet (30 mmol K/day) via tablets (type: K-citrate)
Outcomes	BP Urinary electrolyte and creatinine, haematocrit, erythrocyte water and K content
Notes	1) K intake in intervention ≥70 mmol/day 2) Na intake at baseline 2–4 g/d 3) Age – adult (15 years or greater) 4) Group – both 5) Duration of follow-up – 1.5 months (6 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic 8) BP method – seated office SBP, seated office DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Braschi & Naismith, 2008)

Table 2.B.2 Cushman BPA1988

Methods	Parallel design study of increased K diet. Participants randomized to receive placebo or KCl supplement. Conducted in the United States of America.
Participants	58 adult men, hypertensive status, not taking BP medication
Interventions	Group1 – placebo Group2 – K-supplemented diet (80 mmol K/day) via tablets Tablet type: KCl
Outcomes	Urinary K excretion BP (type not specified and data in current form not usable for meta-analysis)
Notes	1) Potassium intake in intervention ≥90 mmol/day 2) Na intake at baseline not reported 3) Age – adult (15 years or greater) 4) Group – hypertensive 5) Duration of follow-up – 2.5 months 6) Sex – men 7) BP device – not specified 8) BP method – SBP, DBP

BP, blood pressure; Cl, chloride; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Cushman & Langford, 1988)

Table 2.B.3 Hilary Green BPA2000

Methods	Cross-over design study of increased K diet. Participants randomized to receive high-calcium milk or high-calcium milk enriched with K. Conducted in New Zealand.
Participants	38 adult men and women, heterogeneous hypertensive status, not taking BP medication
Interventions	Group1 – high-calcium milk Group2 – K-supplemented high-calcium milk (1585 mg K/50 g milk)
Outcomes	Ambulatory BP Resting BP Excretion of calcium, K, Na, magnesium
Notes	1) K intake (as measured by urinary excretion) – Author contacted 2) Na intake at baseline not reported 3) Age – adult (15 years or greater) 4) Group – both 5) Duration of follow-up – 1 month (4 weeks) 6) Sex – both (heterogeneous) 7) BP device – automatic 8) BP method – ambulatory SBP (day), ambulatory DBP (day), seated office DBP, seated office SBP, standing office SBP, standing office DBP

BP, blood pressure; DBP, diastolic blood pressure; K, potassium; Na, sodium; SBP, systolic blood pressure
Reference: (Hilary Green et al., 2000)

The full text was unavailable for the following studies:

- Barros BPA1984 – reference: Barros and Brito (1984);
- Iimura BPA1979 – reference: Iimura et al. (1981);
- Kawano BPA1997 – reference: Kawano et al. (1997);
- Morris BPA 1995 – reference: Morris et al. (1995).

C. Adult cohort studies included in the systematic review reporting all-cause mortality, cardiovascular disease, stroke, or coronary heart disease

Table 2.C.1 Ascherio 1998

Methods	Cohort study conducted in the United States of America; part of the Health Professionals Follow-up study
Participants	38,726 adult men, age range 40–75 years, normotensive, not specified whether taking BP medication; all participants were health-care professionals
Interventions	Intervention: analysis of K intake in diet • Quintile 1 – 61.4 mmol K/day • Quintile 2 – 76.7 mmol K/day • Quintile 3 – 84.4 mmol K/day • Quintile 4 – 92.1 mmol K/day • Quintile 5 – 109.97 mmol K/day
Outcomes	RR of stroke (fatal and non-fatal) according to intake of K, total fibre, magnesium and calcium, adjusted by energy
Notes	Follow-up of 8 years K measured by food frequency questionnaire Participants followed up directly and medical records used to identify non-fatal stroke and death certificates used to identify fatal stroke Group – normotensive at baseline Fully adjusted models adjusted for age, calories, smoking, alcohol, history of hypertension, history of hypercholesterolemia, parental history of myocardial infarction before age 65 years, profession, BMI, physical activity Models did not control for BP but did control for self-reported hypertension at baseline

BMI, body mass index; BP, blood pressure; K, potassium; RR, relative risk
Reference: (Ascherio et al., 1998)

Table 2.C.2 Risk of bias table Ascherio 1998

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	Unclear risk	All participants were health-care professionals, which may reduce generalizability of results
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding not specified
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessors blinded to risk factors of participants
Incomplete outcome data (attrition bias)	Low risk	Average response rate >94%
Selective reporting (reporting bias)	Low risk	All prespecified outcomes reported
Defining exposure (confounding)	Unclear risk	Potassium measured by food frequency questionnaire, which was validated against two 1-week diet records
Other confounding	Low risk	Models controlled for common risk factors

Table 2.C.3 Bazzano 2001

Methods	Cohort study conducted in the United States of America; follow-up on the National Health and Nutrition Examination Survey I
Participants	9805 adult men and women, age range 25–74, BP not specified, not taking BP medication
Interventions	Intervention: analysis of K intake in diet • Quartile 1 – 24.0 mmol K/day • Quartile 2 – 42.3 mmol K/day • Quartile 3 – 58.5 mmol K/day • Quartile 4 – 92.2 mmol K/day
Outcomes	HR and 95%CI of stroke (fatal and non-fatal) and CHD (fatal and non-fatal), according to quartile of dietary K intake
Notes	19-year follow-up K measured through one 24-hour dietary recall End point measured through direct follow-up with participants, obtaining hospital and nursing home records, including pathology reports, and, for decedents, acquiring death certificate Fully adjusted models adjusted for age, race, sex, calories, systolic BP, serum cholesterol, BMI, history of diabetes, physical activity, education, alcohol, smoking, vitamin supplement use, saturated fat intake, cholesterol intake, sodium intake, calcium intake, dietary fibres, and vitamin C and A intake Models controlled for BP Less adjusted models adjusted for age, race, sex and calories

BMI, body mass index; BP, blood pressure; CHD, coronary heart disease; CI, confidence interval; HR, hazard ratio; K, potassium
Reference: (Bazzano et al., 2001)

Table 2.C.4 Risk of bias table Bazzano 2001

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	Low risk	Sample taken for National Health and Nutrition Examination Survey I
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding not specified
Blinding of outcome assessment (detection bias)	Unclear risk	Blinding not specified
Incomplete outcome data (attrition bias)	Low risk	Loss to follow-up <4%
Selective reporting (reporting bias)	Low risk	All prespecified outcomes reported
Defining exposure (confounding)	High risk	Potassium measured through one 24-hour dietary recall
Other confounding	Low risk	Models controlled for common risk factors (controlled for BP)

BP, blood pressure

Table 2.C.5 Cook 2009

Methods	Cohort study conducted in the United States of America
Participants	2275 adult men and women, age range 30–54 years, normotensive, not taking BP medication Sample taken from participants in previous RCT on sodium intake who had not been given active sodium treatment
Interventions	Intervention: Analysis of K intake in diet • Quartile 1 – 73 mmol K/day • Quartile 2 – 60 mmol K/day • Quartile 3 – 48 mmol K/day • Quartile 4 – approximately 36 mmol K/day (took inverse of quartile 1 to compare quartile 1 and 4)
Outcomes	Risk of CVD (fatal and non-fatal)
Notes	Follow-up 10–15 years K measured through 24-hour urinary excretion End point measured through direct follow-up with participants, obtaining hospital and nursing home records, including pathology reports and, for decedents, acquiring death certificate Group – normotensive at baseline Fully adjusted models adjusted for clinic, treatment assignment, age, sex, race, education, family history, baseline weight, alcohol, smoking, physical activity, changes in weight, smoking and physical activity Models did not control for BP

BP, blood pressure; CVD, cardiovascular disease; K, potassium; RCT, randomized controlled trial
Reference: (Cook et al., 2009)

Table 2.C.6 Risk of bias table Cook 2009

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	Low risk	Participants former participants of RCT and only those who did not take sodium intervention included in follow-up
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding not mentioned
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessors blinded
Incomplete outcome data (attrition bias)	Low risk	70% response rate after 15 years
Selective reporting (reporting bias)	Low risk	All prespecified outcomes reported
Defining exposure (confounding)	Low risk	24-hour urinary excretion
Other confounding	Unclear risk	Controlled for some common risk factors but not for nutritional risk factors

RCT, randomized controlled trial

Table 2.C.7 Geleijnse 2007

Methods	Case–cohort study conducted in the Netherlands
Participants	1149 adult men and women, mean age 69.2 years, BP status not specified, heterogeneous BP medication population
Interventions	Intervention: analysis of K intake in diet Risk for every one standard deviation increase in K intake (45 mmol/day) reported
Outcomes	Relative risk of incident MI (fatal and non-fatal) Incident stroke (fatal and non-fatal) CVD (fatal) All-cause mortality
Notes	Follow-up 5 years K measured through overnight urinary excretion End point measured through hospital or clinic records and death certificates Fully adjusted models adjusted for age, sex, (urinary K) 24-hour urinary creatinine excretion, BMI, smoking, diabetes, use of diuretics, education, calories, alcohol, calcium, saturated fat, 24-hour sodium excretion Models did not adjust for BP

BMI, body mass index; BP, blood pressure; CVD, cardiovascular disease; K, potassium; MI, myocardial infarction
Reference: (Geleijnse et al., 2007)

Table 2.C.8 Risk of bias table Geleijnse 2007

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	Low risk	Participants selected from Rotterdam Study; controls were randomly selected from individuals who did not have an incident event during the follow-up period
Blinding of participants and personnel (performance bias)	High risk	No blinding
Blinding of outcome assessment (detection bias)	Unclear risk	No description of blinding of outcome assessors
Incomplete outcome data (attrition bias)	Low risk	Reported no loss-to-follow-up and selected a random sample of individuals without an incident event as the control group
Selective reporting (reporting bias)	Low risk	All prespecified outcomes reported
Defining exposure (confounding)	Low risk	Potassium measured through overnight urinary excretion
Other confounding	Low risk	Models tested for significance of common risk factors

Table 2.C.9 Green 2002

Methods	Cohort study conducted in the United States of America; large cohort with direct follow-up
Participants	5600 adult men and women, mean age 72.8 years, BP status not specified; some participants taking BP medication
Interventions	Intervention: analysis of K intake in diet Diuretics and K measured Not taking diuretic and K measured • noDiuretics quintile 1 (<59.8 mmol K/day) • noDiuretics quintile 2 (60.1–74.7 mmol K/day) • noDiuretics quintile 3 (74.9–88.7 mmol K/day) • noDiuretics quintile 4 (89.0–106.4 mmol K/day) • noDiuretics quintile 5 (>106.4 mmol K/day) • Diuretics quintile 1 (<59.8 mmol K/day) • Diuretics quintile 2 (60.1–74.7 mmol K/day) • Diuretics quintile 3 (74.9–88.7 mmol K/day) • Diuretics quintile 4 (89.0–106.4 mmol K/day) • Diuretics quintile 5 (>106.4 mmol K/day)
Outcomes	Incidence stroke (fatal and non-fatal) Subtypes of strokes
Notes	Follow-up 4–8 years K measured through food frequency questionnaire End points measured by interviews conducted every 6 months, and verification with hospital records Fully adjusted models adjusted for age, sex, history of diabetes, hypertension, coronary artery disease, congestive heart failure, atrial fibrillation , systolic BP, serum creatinine, serum K and K supplement use Models controlled for BP Less adjusted models are not available

BP, blood pressure; K, potassium
Reference: (Green et al., 2002)

Table 2.C.10 Risk of bias table Green 2002

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	Low risk	Random selection of individuals from households on Medicare eligibility lists in four communities in the United States of America
Blinding of participants and personnel (performance bias)	Unclear risk	No description of blinding presented
Blinding of outcome assessment (detection bias)	Low risk	Outcome assessors blinded
Incomplete outcome data (attrition bias)	Low risk	Reported no loss to follow-up
Selective reporting (reporting bias)	Unclear risk	All outcomes reported
Defining exposure (confounding)	Unclear risk	Potassium intake measured through food frequency questionnaire
Other confounding	Low risk	Models tested for common risk factors and controlled for those that were significant

Table 2.C.11 Iso 1999

Methods	Cohort study conducted in the United States of America; sample from the Nurses Health Study
Participants	5600 adult women, age range 34–59, BP status not specified, not specified whether taking BP medication
Interventions	Intervention: analysis of K intake in diet • Quintile 1 – 51.6 mmol K/day • Quintile 2 – 61.6 mmol K/day • Quintile 3 – 69.2 mmol K/day • Quintile 4 – 77.5 mmol K/day • Quintile 5 – 90.9 mmol K/day
Outcomes	Relative risk (95%CI) of stroke (fatal and non-fatal) Subtype of stroke
Notes	Follow-up 14 years Potassium measured through food frequency questionnaire validated against 1-week dietary records End points measured through interview and review of medical records Fully adjusted models adjusted for age, smoking, time interval, history of hypertension, BMI, alcohol, menopausal status and postmenopausal hormone use, vigorous exercise, usual aspirin use, multivitamin use, vitamin E use, histories of diabetes and high cholesterol levels, calcium intake Models did not control for BP

BMI, body mass index; BP, blood pressure; CI, confidence interval; K, potassium
Reference: (Iso et al., 1999)

Table 2.C.12 Risk of bias table Iso 1999

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	Unclear risk	Random selection from multicentre database; all participants were nurses
Blinding of participants and personnel (performance bias)	Unclear risk	No description of blinding of participants and personnel
Blinding of outcome assessment (detection bias)	Low risk	Panel of neurologists were blinded to entry data
Incomplete outcome data (attrition bias)	Low risk	Low loss to follow-up reported (<10%)
Selective reporting (reporting bias)	Low risk	All prespecified outcomes reported
Defining exposure (confounding)	Unclear risk	Exposure to potassium via food frequency questionnaire validated against 1-week dietary records
Other confounding	Low risk	Models controlled for other common risk factors

Table 2.C.13 Khaw 1987

Methods	Cohort study conducted in the United States of America
Participants	356 men and 503 women aged 50–79 years with no personal history of heart attack, heart failure or stroke at the baseline evaluation
Interventions	Exposure was K intake at baseline Results were presented in terms of 10 mmol increase in K intake
Outcomes	Stroke (fatal)
Notes	Follow-up 12 years on average K measured through 1–24 hour dietary recall and information on supplement use including K supplements was not obtained End points were ascertained through death certificate records and verified with next of kin if the death certificate stated only cardiovascular disease Sex – men and women Fully adjusted models adjusted for age, systolic BP, cholesterol, fasting plasma glucose, BMI, smoking; fully adjusted models were calculated separately for males and females; models did control for BP Less adjusted model adjusted for age, sex, calories; less adjusted model was calculated for males and females combined

BMI, body mass index; BP, blood pressure; K: potassium
Reference: (Khaw & Barrett-Connor, 1987)

Table 2.C.14 Risk of bias table Khaw 1987

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	Low risk	Randomly selected from population of one community
Blinding of participants and personnel (performance bias)	Unclear risk	No description of blinding of participants and personnel
Blinding of outcome assessment (detection bias)	Unclear risk	No description of blinding of outcome assessors
Incomplete outcome data (attrition bias)	Low risk	Attrition low though not quantified
Selective reporting (reporting bias)	Low risk	All prespecified outcomes were reported
Defining exposure (confounding)	High risk	1–24 hour dietary recall and information on supplement use not obtained
Other confounding	Low risk	Models controlled for common confounders

Table 2.C.15 Larsson 2008

Methods	Cohort study conducted in Finland
Participants	26,556 adult men, age range 50–69, BP status not specified, not specified whether taking BP medication
Interventions	Intervention: analysis of K intake in diet • Quintile 1 – 97.5 mmol K/day Quintile 5 – 152.1 mmol K/day
Outcomes	Stroke (fatal and non-fatal) Subtypes
Notes	Follow-up 13.6 years on average K measured through food frequency questionnaire validated through food records End points were ascertained through record linkage with the National Hospital Discharge Register and the National Register of Causes of Death Sex – men only Fully adjusted models adjusted for age, smoking, BMI, systolic BP, diastolic BP, serum total cholesterol, HDL cholesterol, diabetes, history of CHD, physical activities, alcohol and calories Models controlled for BP Less adjusted models adjusted for age, supplementation group

BMI, body mass index; BP, blood pressure; CHD, coronary heart disease; HDL, high-density lipoprotein; K, potassium
Reference: (Larsson et al., 2008)

Table 2.C.16 Risk of bias table Larsson 2008

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	High risk	Participants had originally agreed to participate in study on effect of alpha-tocopherol or beta-carotene on risk of development of lung cancer; all were smokers at baseline
Blinding of participants and personnel (performance bias)	High risk	No description of blinding of participants and personnel
Blinding of outcome assessment (detection bias)	Unclear risk	No description of blinding of outcome assessor
Incomplete outcome data (attrition bias)	Unclear risk	End points were based on record linkage with the National Hospital Discharge Register and National Register of Causes of Death; emigration not accounted of and if record not found participant considered without outcome
Selective reporting (reporting bias)	Low risk	All outcomes reported
Defining exposure (confounding)	Unclear risk	Exposure to potassium via food frequency questionnaire validated through food records
Other confounding	Low risk	Adjusted for all common risk factors

Table 2.C.17 O'Donnell 2011

Methods	Cohort study conducted in 40 countries
Participants	28,880 participants aged 55 years and more from 733 centres from 40 countries with established CVD or high-risk diabetes mellitus; patients were ineligible if they had heart failure, low ejection fraction, significant valvular disease, serum creatinine >3.0 mg/dL, renal artery stenosis, nephrotic range proteinuria, or BP higher that 160/100 mmHg
Interventions	Baseline measurement of K intake and population divided into three subgroups and outcomes compared between subgroups • Subgroup 1 – <1.5 g K/day • Subgroup 2 – 1.5–3 g K/day • Subgroup 3 – >3 g K/day
Outcomes	CVD (fatal and non-fatal combined) CVD (fatal) Stroke (fatal and non-fatal combined)
Notes	Median follow-up was 56 months (25–75 percentiles, 53–60 months) 24-hour K urinary excretion was estimated from a fasting morning urine samples Models are unadjusted Models did not adjust for BP

BP, blood pressure; CVD, cardiovascular disease; K, potassium
Reference: (O'Donnell et al., 2011)

Table 2.C.18 Risk of bias table O'Donnell 2011

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	Low risk	Participants from other trials from 733 centres from 40 countries with established CVD or high-risk diabetes mellitus who provided a baseline urine sample; two cohorts were combined because both trials recruited participants from the same sites, time period, using the same eligibility criteria, and used the same methods to capture baseline clinical data and outcome measures
Blinding of participants and personnel (performance bias)	Unclear risk	No description of blinding of participants and personnel
Blinding of outcome assessment (detection bias)	Unclear risk	No description of blinding of outcome assessor
Incomplete outcome data (attrition bias)	Low risk	Low loss to follow-up reported (0.2%)
Selective reporting (reporting bias)	Low risk	All prespecified outcomes reported
Defining exposure (confounding)	Low risk	24-hour potassium urinary excretion was estimated from a fasting morning urine samples
Other confounding	High risk	Models are unadjusted

CVD, cardiovascular disease

Table 2.C.19 Tunstall-Pedoe 1997

Methods	Cohort study conducted in Scotland
Participants	11,629 adult men and women, age range 40–65, BP status not specified, not specified if taking BP medication
Interventions	Intervention: analysis of K intake in diet • MQ1 – 47.2 mmol K/day men • MQ2 – 59.5 mmol K/day men • MQ3 – 71.3 mmol K/day men • MQ4 – 86.3 mmol K/day men • MQ5 – 138.1 mmol K/day men • WQ1 – 39.7 mmol K/day women • WQ2 –49.4 mmol K/day women • WQ3 –58.5 mmol K/day women • WQ4 –70.2 mmol K/day women • WQ5 –116.4 mmol K/day women
Outcomes	CHD (fatal and non-fatal combined) CHD (fatal) All-cause mortality
Notes	Follow-up time was 7.6 years K intake measured through 24-hour urinary K excretion Outcomes measured through death certificates and hospital/clinician records Fully adjusted models only adjusted for age Models did not adjust for BP

BP, blood pressure; CHD, coronary heart disease; CVD, cardiovascular disease; K, potassium
Reference: (Tunstall-Pedoe et al., 1997)

Table 2.C.20 Risk of bias table Tunstall-Pedoe 1997

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	Low risk	Random select of clinics then patients of clinics; selection from the Scottish Heart Health Study
Blinding of participants and personnel (performance bias)	Low risk	Personnel not aware of urinary potassium excretion while conducting other measurements
Blinding of outcome assessment (detection bias)	Low risk	Mortality was outcome and morbidity measured through hospital and clinician records
Incomplete outcome data (attrition bias)	Unclear risk	Loss to follow-up limited to emigration but amount unclear
Selective reporting (reporting bias)	Low risk	All outcomes reported
Defining exposure (confounding)	Low risk	24-hour urinary potassium excretion
Other confounding	High risk	Models only adjusted for age

Table 2.C.21 Umesawa 2008

Methods	Cohort study conducted in Japan; sample derived from 45 communities across Japan
Participants	11,746 adult men and women, age range 40–79 years, BP status not specified, not specified whether taking BP medication
Interventions	Intervention: analysis of K intake in diet • Quintile 1 – 35 mmol K/day • Quintile 2 – 44 mmol K/day • Quintile 3 – 51 mmol K/day • Quintile 4 – 58 mmol K/day • Quintile 5 – 68 mmol K/day
Outcomes	Stroke (fatal) CHD (fatal) CVD (fatal)
Notes	Follow-up time 12.7 year (average) Sodium intake measured through food frequency questionnaire End points measured by death certificate Fully adjusted models adjusted for age, sex, BMI, smoking, alcohol, history of hypertension, diabetes, menopause and hormone replacement therapy (women), sports activities, walking time, education, perceived mental stress, calcium and sodium intake Models did not control for BP but did control for history of hypertension

BMI, body mass index; BP, blood pressure; CHD, coronary heart disease; CVD, cardiovascular disease; K, potassium
Reference: (Umesawa et al., 2008)

Table 2.C.22 Risk of bias table Umesawa 2008

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	Low risk	Selection from Japanese Collaborative Cohort Study
Blinding of participants and personnel (performance bias)	Unclear risk	Blinding not described
Blinding of outcome assessment (detection bias)	Low risk	Specifically noted that those assessing death certificates were blinded
Incomplete outcome data (attrition bias)	Low risk	Loss to follow-up <5%
Selective reporting (reporting bias)	Low risk	All prespecified outcomes reported
Defining exposure (confounding)	Unclear risk	Exposure to sodium via dietary records
Other confounding	Low risk	Models controlled for common risk factors

Table 2.C.23 Weng 2008

Methods	Cohort study conducted in Taiwan
Participants	1772 adult men and women, age not specified, BP status not specified, not specified whether taking BP medication
Interventions	Intervention: analysis of K intake in diet • Quartile 1 – >80.6 mmol K/day Quartile 2 – 65.4–80.6 mmol K/day Quartile 3–4 – <65.4 mmol K/day (Inverse of risk in quartile 1 calculated to compare quartile 1 and 4)
Outcomes	Ischaemic stroke (fatal and non-fatal)
Notes	Follow-up time 10.6 year (average) K intake measured through food frequency questionnaire validated against three 5-day food records End points measured by interview and verified through hospital/clinic records or death certificate Fully adjusted models adjusted for age, hypertension, use of antihypertensive drugs, diabetes, obesity, alcohol, smoking, BMI, self-reported heart disease, hypercholesterolemia, hypertriglyceridemia, physical activity, fibrinogen, apolipoprotein B, plasminogen Models did not control for BP but did control for history of hypertension

BMI, body mass index; BP, blood pressure; K, potassium
Reference: (Weng et al., 2008)

Table 2.C.24 Risk of bias table Weng 2008

Bias	Authors' judgement	Support for judgement
Selection of participants (selection bias)	Low risk	Random selection from multiple townships in Taiwan
Blinding of participants and personnel (performance bias)	Unclear risk	Not reported
Blinding of outcome assessment (detection bias)	Unclear risk	Not reported
Incomplete outcome data (attrition bias)	Low risk	Reported there was no loss to follow-up
Selective reporting (reporting bias)	Low risk	All outcomes reported
Defining exposure (confounding)	Unclear risk	Potassium intake measured through food frequency questionnaire
Other confounding	Low risk	Models tested for significance of common risk factors

D. Children RCTs, non-RCTs and cohort studies included in the review reporting blood pressure

Table 2.C.1 Geleijnse 1990

Methods	**Cohort** study with prospective design conducted in the Netherlands.
Participants	The total population aged 5-17 years in two districts in Netherlands were invited to participate. (mean age 13 years) The study included a total of 596 children at baseline and 233 at follow-up (108 boys and 125 girls
Interventions	Potassium was measured as urinary potassium excretion. Population was divided and the lowest third in urinary potassium excretion compared with the highest third. K excretion values Lower one-third - 21 - 49 mmol/day Upper one-third - 62 - 100 mmol/day
Outcomes	Change in blood pressure over time
Notes	Average follow-up 7 years. Potassium measured by urinary potassium excretion Participants followed-up directly and blood pressure measured at yearly intervals. Group – **No hypertension** at baseline. Models adjusted for sex, initial age, change in height and weight, sodium excretion.

Table 2.C.2 Risk of bias Geleijnse 1990

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	High risk	Cohort study design
Allocation concealment (selection bias)	High risk	Cohort study design
Blinding of participants and personnel (performance bias)	Unclear risk	No mention of blinding
Blinding of outcome assessment (detection bias)	Unclear risk	No mention of blinding
Incomplete outcome data (attrition bias)	High risk	Very high loss to follow-up (>50%) with little description of why or from what groups
Selective reporting (reporting bias)	Low risk	All outcomes reported

Table 2.C.3 Miller 1987

Methods	**Controlled trial without random allocation of treatment** conducted in the United States of America.
Participants	38 families with twin children who were registered in a twin panel at a local medical facility participated. 38 (24 girls and 14 boys) child participants were 11.6 +/- 3.8 years
Interventions	Liquid potassium supplement (potassium gluconate and potassium citrate) Non-potassium containing placebo liquid provided. No blinding. Urinary excretion (24-hour) Control 37.1 mmol/day +/- 15.1 Intervention 48.6 mmol/day +/- 23.2
Outcomes	Resting systolic and diastolic blood pressure before and after treatment or placebo.
Notes	Duration 4 weeks. Potassium measured by urinary potassium excretion Participants followed-up directly and blood pressure measured before and after treatment or placebo. Group - **No hypertension** at baseline.

Table 2.C.4 Risk of bias Miller 1987

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	High risk	Not random
Allocation concealment (selection bias)	High risk	No allocation concealment
Blinding of participants and personnel (performance bias)	High risk	No blinding
Blinding of outcome assessment (detection bias)	Unclear risk	No mention of blinding
Incomplete outcome data (attrition bias)	Low risk	Reported zero loss-to-follow up
Selective reporting (reporting bias)	Low risk	All prespecified outcomes reported

Table 2.C.5 Sinaiko 1993

Methods	**Randomized controlled trial** conducted in the United States of America.
Participants	210 boys and girls average age 13.3 years. 70- low sodium / 71 potassium chloride / 69 placebo
Interventions	Potassium tablets (potassium chloride) 1mmol/kg body weight per 24 hours. Non-potassium placebo tablets (Also a low sodium group which was not included in this systematic review) Potassium excretion (24 hour) Boys Control 63mmol/day +/- 5 Intervention 100 mmol/day +/- 10 Girls Control 41 mmol/day +/- 3 Interventtion 93 mmol/day +/- 9
Outcomes	Change in blood pressure over time.
Notes	Duration 3 years . Potassium measured by urinary potassium excretion. Participants followed-up directly and blood pressure measured and urinary potassium excretion measured every 3 months. Group - **Hypertension** at baseline (defined as having a systolic blood pressure above 109 mmHg for boys and 108 mmHg girls).

Table 2.C.6 Risk of bias Sinaiko 1993

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No described
Allocation concealment (selection bias)	Unclear risk	Comment: no information provided
Blinding of participants and personnel (performance bias)	Low risk	Blinding
Blinding of outcome assessment (detection bias)	Unclear risk	Not described
Incomplete outcome data (attrition bias)	Low risk	Attrition described and similar between groups
Selective reporting (reporting bias)	High risk	SBP and DBP are reported incompletely so that they cannot be entered in a meta-analysis

Table 2.C.7 Wilson 1996

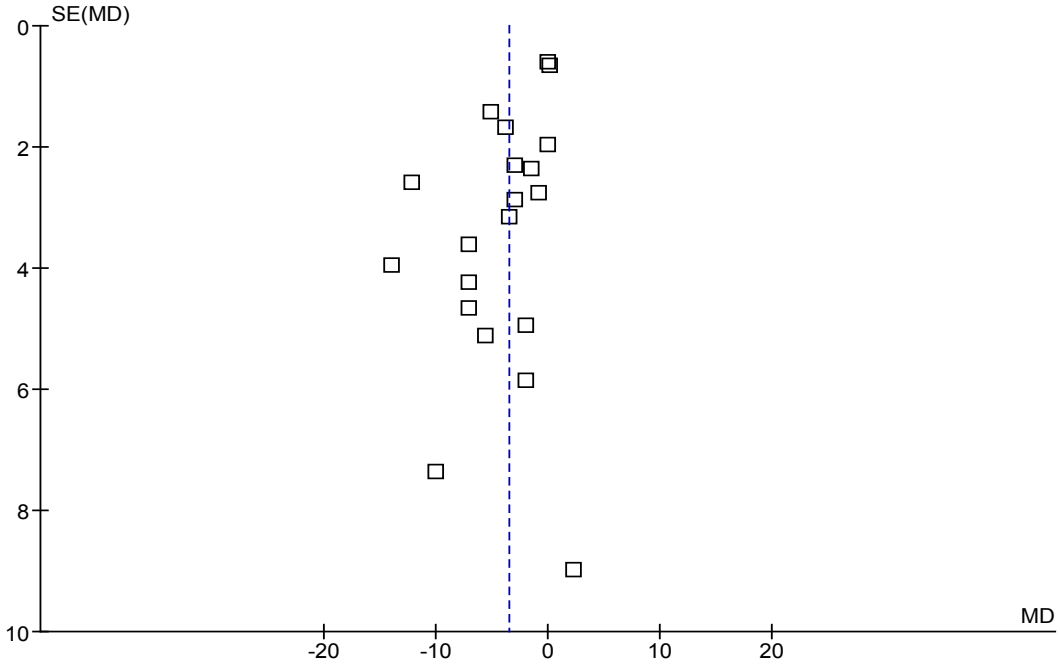
Methods	**Randomized-controlled trial** conducted in the United States of America
Participants	40 (22 boys and 18 girls) African-American adolescents average age 14 years.
Interventions	High potassium or usual potassium diet. Once weekly sessions on diet education, behavioral skills training and feedback on performance. (control group had once weekly sessions to discuss food records and urine collections) Potassium excretion (24 hour) Dippers Control 37mmol/day +/- 8 Intervention 62 mmol/day +/- 19 Non-dippers Control 40 mmol/day +/- 11 Intervention 61 mmol/day +/- 15
Outcomes	Resting systolic and diastolic blood pressure Ambulatory blood pressure (waking hours (day) and sleeping hours (night)) Percentage of participants defined as 'dippers' (i.e. blood pressure declined by at least 10% in sleeping relative to waking hours)
Notes	Duration 3 weeks . Potassium measured by urinary potassium excretion. Participants followed-up directly and blood pressure measured and urinary potassium excretion measured every 3 months. Group - Normotensive at baseline.

Table 2.C.8 Risk of bias Wilson 1996

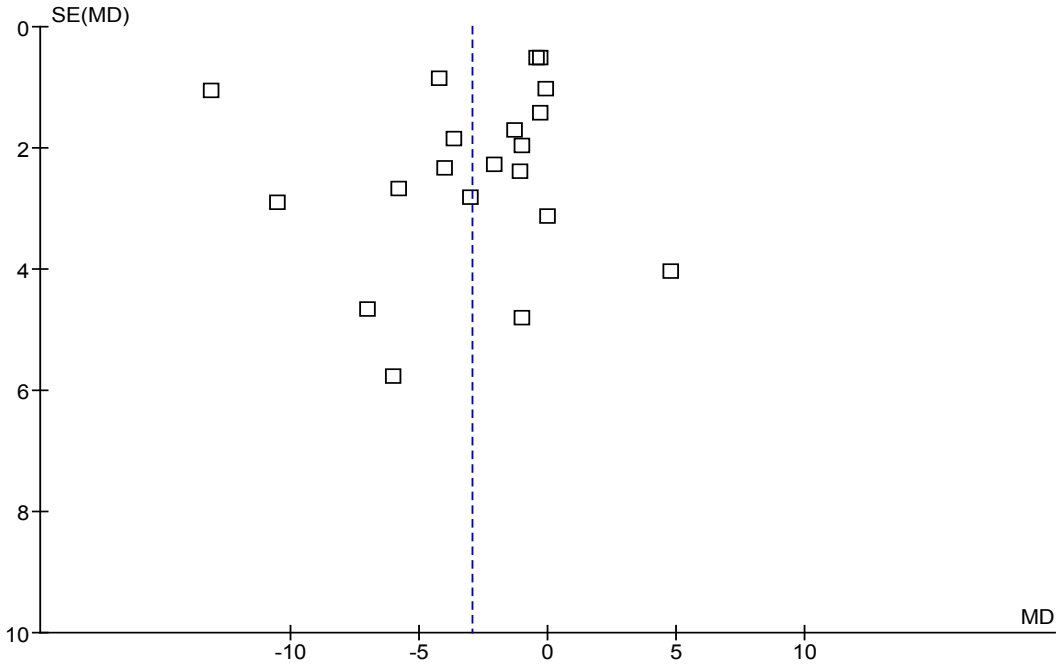
Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described
Allocation concealment (selection bias)	Unclear risk	Not described
Blinding of participants and personnel (performance bias)	High risk	Not possible because of dietary interventions
Blinding of outcome assessment (detection bias)	Unclear risk	Not described
Incomplete outcome data (attrition bias)	Low risk	Zero loss-to-follow-up
Selective reporting (reporting bias)	Low risk	All prespecified outcomes reported

OSM 3: Funnel plots

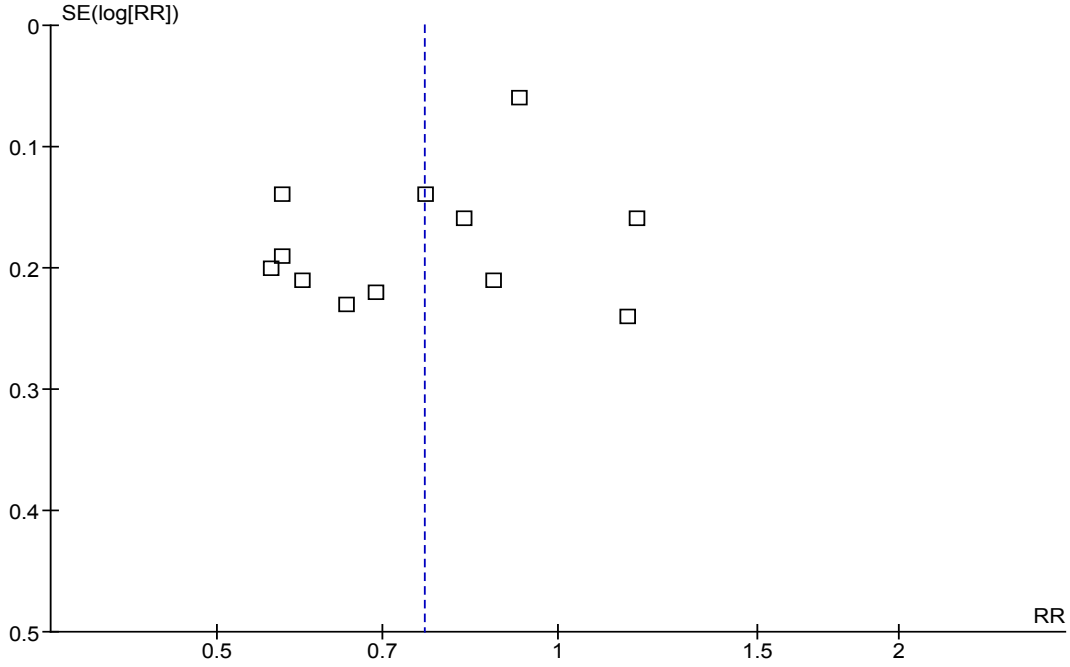
Funnel plot 1: Resting systolic blood pressure in adults



Funnel plot 2: Resting diastolic blood pressure in adults

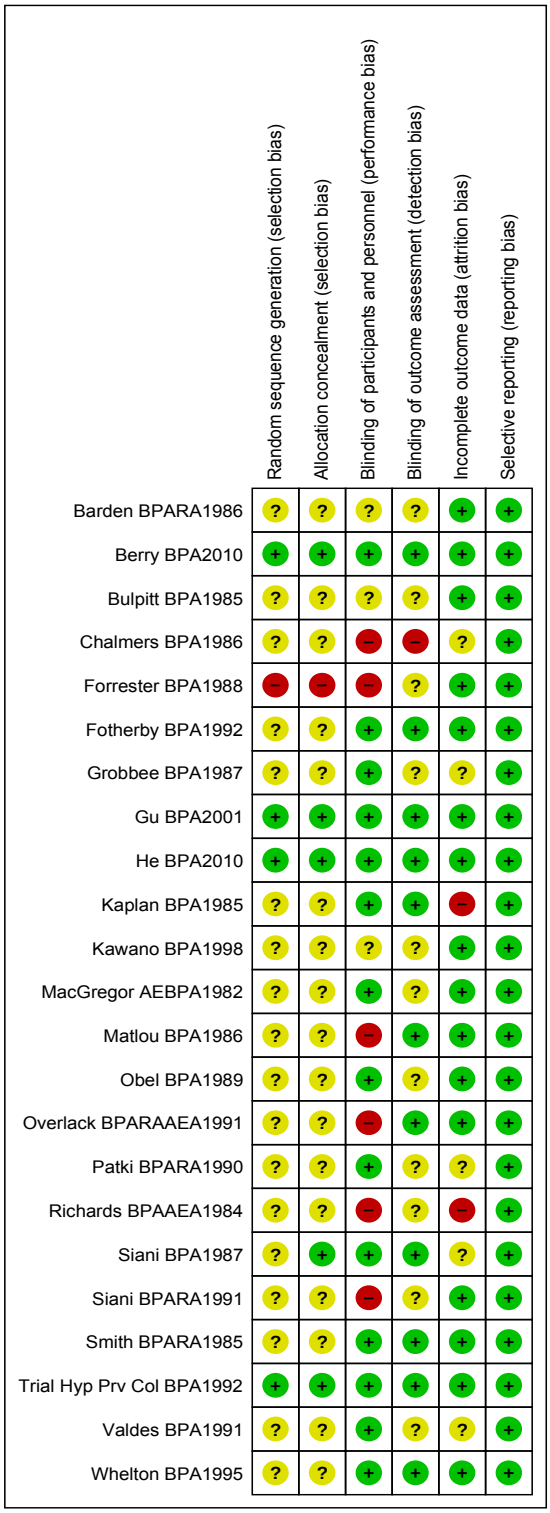


Funnel plot 3: Stroke in adults

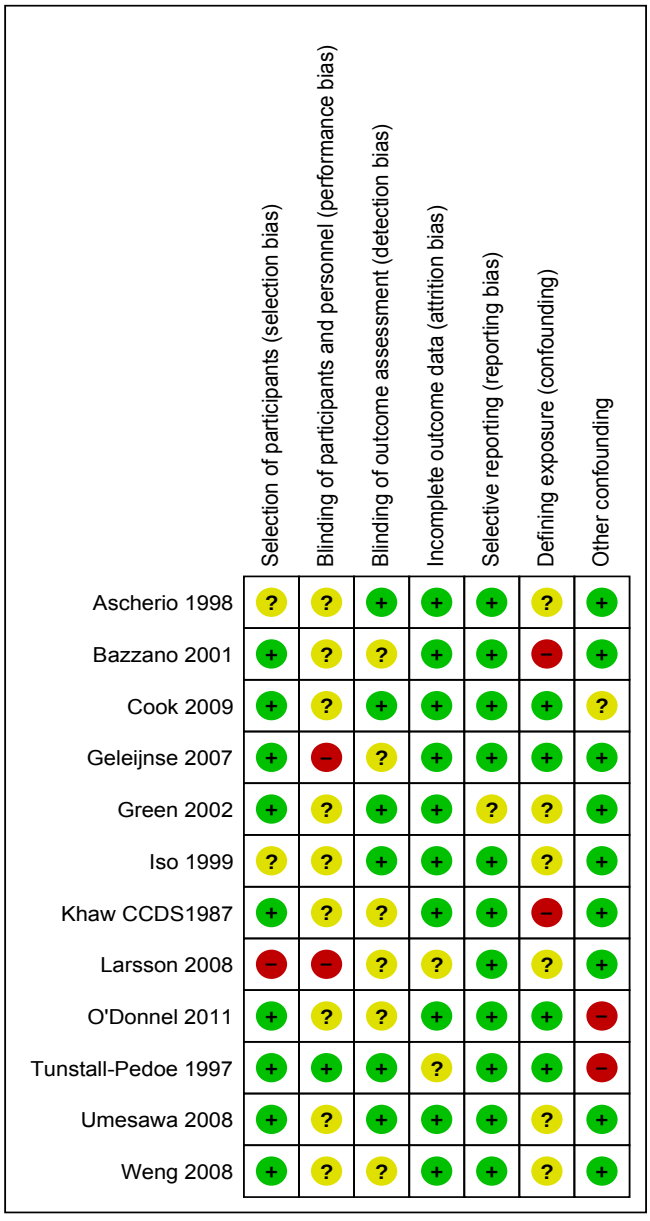


OSM 4: Risk of bias summary

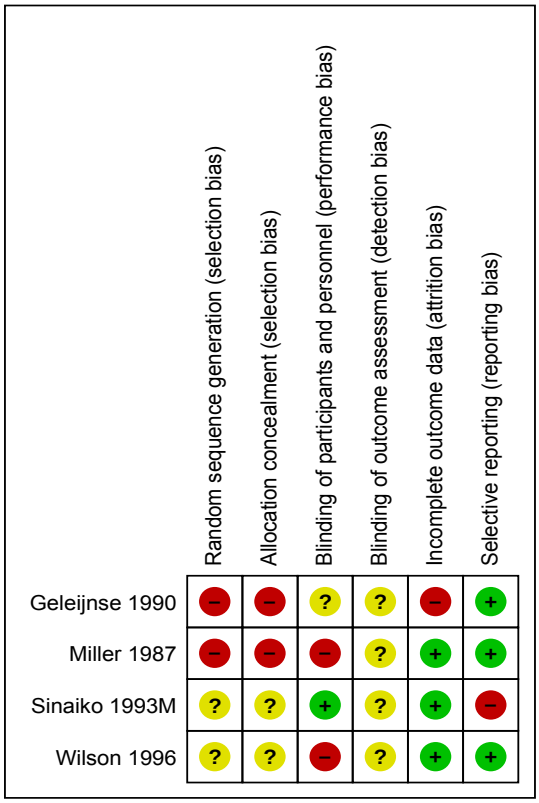
Risk of bias summary: Twenty-three RCTs reporting blood pressure, renal function, blood lipids, or catecholamine levels in adults



Risk of bias summary: Twelve cohort studies reporting all-cause mortality, cardiovascular disease, stroke, or coronary heart disease in adults

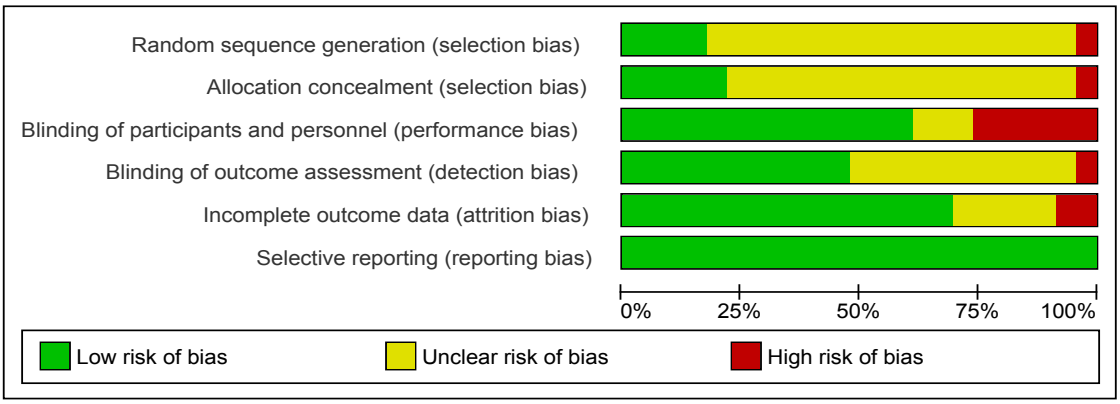


Risk of bias summary: Three controlled-trials and one cohort study reporting blood pressure in children

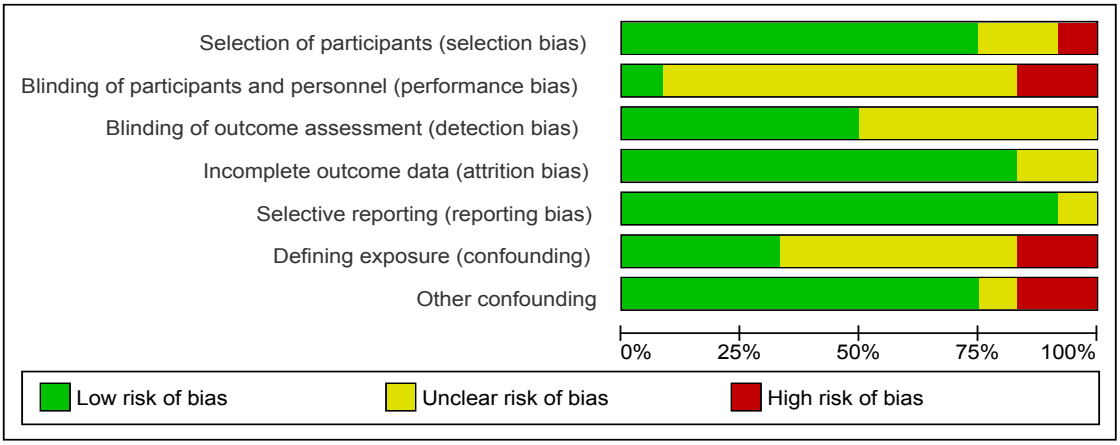


OSM 5: Risk of bias graph

Risk of bias graph: Twenty-three RCTs reporting blood pressure, renal function, blood lipids, or catecholamine levels in adults



Risk of bias graph: Twelve cohort studies reporting all-cause mortality, cardiovascular disease, stroke, or coronary heart disease in adults



Risk of bias graph: Three controlled-trials and one cohort study reporting blood pressure in children