

Potatoes and risk of chronic disease: a systematic review and dose-response meta-analysis

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Abbreviations:

7TT: Seven Townships Taiwan

95% CI: 95% confidence interval

aHEI: alternate Healthy Eating Index

AHS: Adventist Health Study

BCDDP: Breast Cancer Demonstration Project) follow-up study cohort

BMI: Body Mass Index

C: Colon

CHD: Coronary heart disease

COSM: Cohort of Swedish Men

CRC: Colorectal cancer

DASH: Dietary approaches to Stop Hypertension

DDCHS: Danish Diet, Cancer and Health Study

EPIC: European Prospective Investigation Into Cancer and Nutrition

FMCHES: Finnish Mobile Clinic Health Examination Survey

FFQ: Food frequency questionnaire

HF: Heart failure

HR: Hazard ratio

HPFS: Health Professional Follow-up study

IWHS: Iowa Women's Health Study

M: Men

MCCS: Melbourne Collaborative Cohort Study

MDCS: Malmö Diet and Cancer Study

MI: Myocardial infarction

MICOL: Multicentrica Italiana Colelitiasi, Italian, Multicentric study for cholelithiasis

NHS: Nurses' Health Study

NOWAC: Norwegian Women and Cancer study

NUTRIHEP: Nutrition Hepatology Study

NYUWHS: New York University Women's Health Study

OICS: Osteoarthritis Initiative Cohort Study

OR: Odds ratio

R: Rectum

RR: Risk ratio

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SDASE: Study on Diet, antioxidant status and survival in the elderly

SMC: Sweden Mammography cohort

SUN: Seguimiento University of Navarra

SWHS: Shanghai Women's Health Study

T2D: Type 2 diabetes mellitus

US: United States

W: Women

WHS: Women's Health Study

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ESM Material 1:

Search strategy (PubMed):

#1 potato*[tiab] OR solanum tuberosum[tiab] OR french fry[tiab] OR french fries[tiab] OR potato chip*[tiab]

#2 mortality[tiab] OR death[tiab]

#3 cardiovascular[tiab] OR coronary[tiab] OR stroke[tiab] OR vascular[tiab] OR myocardial infarction[tiab] OR heart failure[tiab]

#4 colon[tiab] OR rectum[tiab] OR rectal[tiab] OR colorectal[tiab] OR colorectum[tiab] OR bowel[tiab]

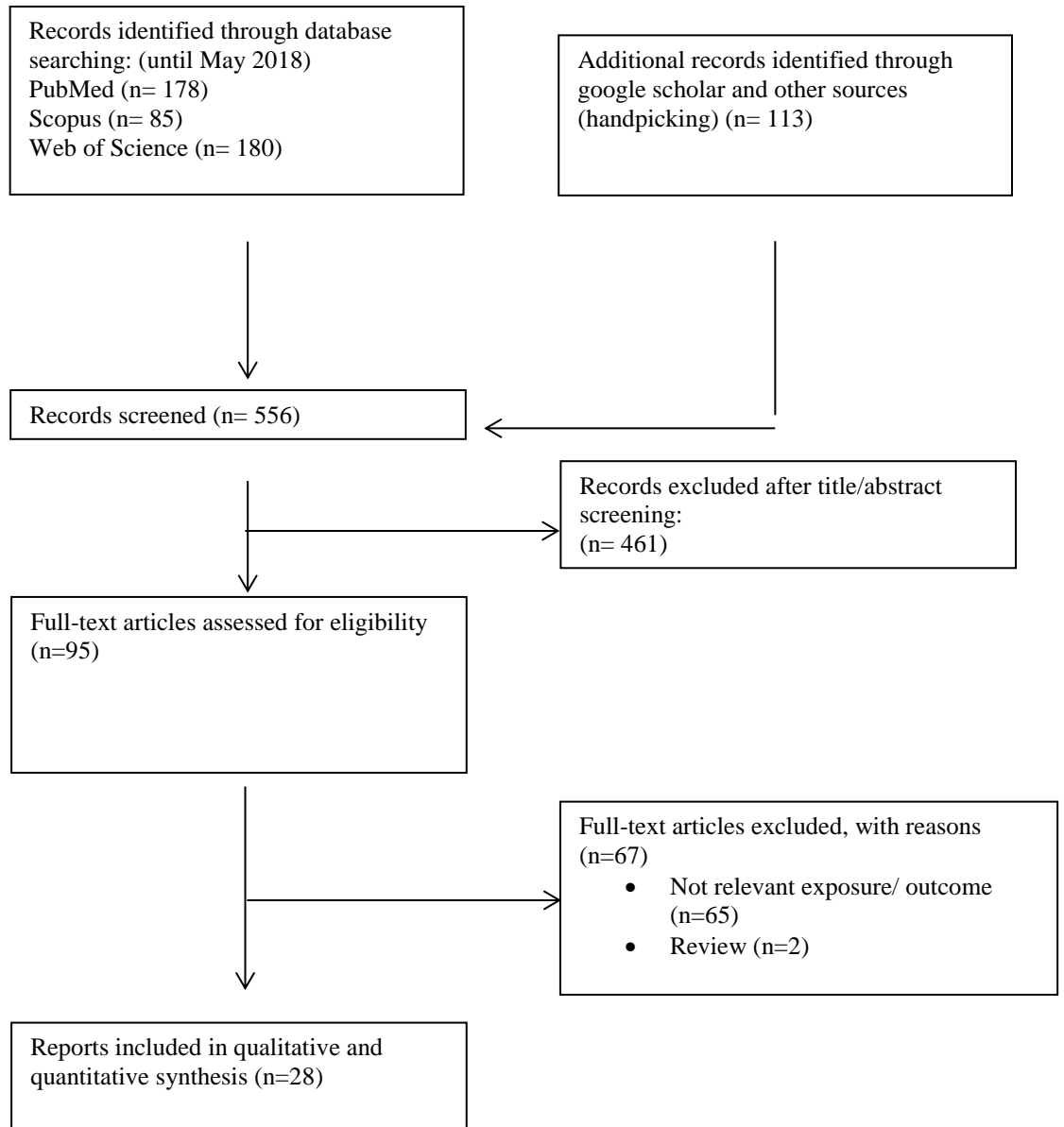
#5 diabetes[tiab]

#6 hypertension[tiab] OR hypertensive[tiab] OR systolic[tiab] OR diastolic[tiab] OR blood pressure[tiab]

#7 prospective OR cohort OR longitudinal OR follow-up OR case-cohort OR nested case-control

#8 (#1 AND #2 OR #3 OR #4 OR #5 OR #6 AND #7)

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ESM Figure 1: Flow diagram for study selection

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ESM Material 2: Full-text publications excluded with reason

(1-65)	Not relevant exposure/ outcome
(66, 67)	Reviews

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ESM Table 1: General study characteristics of the included studies investigating the association between potatoes intake and risk all-cause mortality, coronary heart disease, stroke, heart failure, colorectal cancer, type 2 diabetes, and hypertension.

First Author	Year	Country	Cohort Name	Age at entry, y	Sex	Sample size, n	Total cases, n	Dietary assessment	Outcome	Outcome assessment	Type potatoes	Adjustment factors	Follow up years	Results (high vs. low intake category) RR/HR/OR (95% CI)
Asli	2016	Norway	NOWAC	30-70	W	95,942	912	FFQ, validated	CRC	Linkage to the Cancer Registry of Norway	Total potato consumption (usually boiled potatoes)	Education, smoking, red meat, milk, non-potato fibre, processed meat, hormone replacement therapy, carbohydrate energy, and non-carbohydrate energy, pasta, rice, fruit, and vegetables.	12	1.30 (1.07, 1.57) 3 vs. 1 tertile
Borgi	2016	US	NHS	30-55	W	62,175	35,375	FFQ, validated	Hypertension	Self-reported (validated)	Total potato consumption; Baked, boiled, or mashed potatoes; French fries	Age, race/ethnicity, BMI, smoking status, physical activity, weight change, menopausal status, alcohol intake, analgesic use, family history of hypertension, total energy intake, animal flesh intake, whole grains, sugar sweetened drink intake, artificially sweetened diet drink intake, total fruit, total vegetables	1,034,421 person years	Total potato consumption: 1.07 (0.92, 1.24) 5 vs. 1 quintile Baked, boiled, or mashed: 1.13 (1.02, 1.26) 4 vs. 1 quartile French fries: 1.17 (0.92, 1.50) 4 vs. 1 quartile
Borgi	2016	US	NHS II	25-42	W	88,475	25,246	FFQ, validated	Hypertension	Self-reported (validated)	Total potato consumption;	Age, race/ethnicity, BMI, smoking	1,344,475 person	Total potato consumption: 1.42

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											Baked, boiled, or mashed potatoes; French fries	status, physical activity, weight change, menopausal status, alcohol intake, current oral contraceptive use, analgesic use, family history of hypertension, total energy intake, animal flesh intake, whole grains, sugar sweetened drink intake, artificially sweetened diet drink intake, total fruit, total vegetables	years	(1.18, 1.72) 5 vs. 1 quintile Baked, boiled, or mashed: 1.25 (1.11, 1.41) 4 vs. 1 quartile French fries: 1.17 (1.04, 1.33) 4 vs. 1 quartile
Borgi	2016	US	HPFS	40-75	M	36,803	16,752	FFQ, validated	Hypertension	Self-reported (validated)	Total potato consumption; Baked, boiled, or mashed potatoes; French fries	Age, race/ethnicity, BMI, smoking status, physical activity, weight change, alcohol intake, analgesic use, family history of hypertension, total energy intake, animal flesh intake, whole grains, sugar sweetened drink intake, artificially sweetened diet drink intake, total fruit, total vegetables	560,228 person years	Total potato consumption: 0.96 (0.79, 1.16) 5 vs. 1 quintile Baked, boiled, or mashed: 0.95 (0.84, 1.08) 4 vs. 1 quartile French fries: 1.16 (1.00, 1.33) 4 vs. 1 quartile
Dilis	2012	Greece	EPIC-Greece	20-86	Both	23,929	636	FFQ, validated	CHD	Self-reported/confirmed through medical records	Potatoes	Age, BMI, height, physical activity, years of schooling, energy intake, alcohol consumption, smoking, arterial	10	1.01 (0.91, 1.12) Per 1 SD increment

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												blood pressure, other nutritional variables		
Flood	2002	US	BCDDP	60	W	45,490	314	FFQ, validated	CRC	Self-reported, phone calls, mailing, medical and pathology records	Potatoes (except French fries)	Multivitamin supplement use, BMI, height, use of nonsteroidal anti-inflammatory drugs, smoking status, education level, physical activity, and intakes of grains, red meat, calcium, vitamin D, and alcohol	8.6	0.82 (0.65, 1.15) 5 vs. 1 quintile
Gonzalez	2008	Spain	SDASE	60-85	Both	288	83	FFQ	All-cause mortality	Death registers	Potatoes	Age, sex, BMI, energy intake, hyperglycaemia, hypercholesterolemia, chewing ability, physical activity, smoking, self-perceived health, education level, institution	6	1.32 (1.03, 1.69) Per 1 SD increment
Hodge	2004	Australia	MCCS	40-69	Both	31,641	365	FFQ	T2D	Self-reported/ doctor confirmation	Potatoes	Age, sex, BMI, waist: hip ratio, energy intake, education, alcohol, physical activity, weight change in the last 5 years, country of birth, family history of diabetes	4	0.98 (0.70, 1.37) 4 vs. 1 quartile
Hu	2017	Spain	SUN	36	Both	13,837	1,111	FFQ	Hypertension	Self-reported and validated	Total potato consumption; Cooked and roasted potatoes; Fried potatoes	Age, sex, and recruitment period as well as for BMI, family history of hypertension, physical activity, smoking, education,	6.7	Total potato consumption: 0.98 (0.80, 1.19) 5 vs. 1 quintile

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											television watching, total energy intake, sodium intake, consumption of fast food, low-fat dairy products, fruits, vegetables, tree nuts, fried foods, alcohol, olive oil, and sugar-sweetened beverages		Cooked/ roasted potatoes: 0.88 (0.73, 1.07) 5 vs. 1 quintile Fried potatoes: 0.92 (0.75, 1.13) 5 vs. 1 quintile	
Joshiपुरa	1999	USA	NHS	34-59	W	75,596	366	FFQ, validated	Ischaemic stroke	Self-reported/questionnaire; medical records	Potatoes	Age, smoking, alcohol, family history of myocardial infarction, BMI, vitamin supplement use, vitamin E use, physical activity, aspirin use, 7 time periods for women, hypertension and hypercholesterolemia, total energy intake, postmenopausal hormone use	14	1.09 (0.69, 1.72) 5 vs. 1 quintile
Joshiपुरa	1999	USA	HPFS	40-75	M	38,683	204	FFQ, validated	Ischaemic stroke	Self-reported/questionnaire; medical records	Potatoes	Age, smoking, alcohol, family history of myocardial infarction, BMI, vitamin supplement use, vitamin E use, physical activity, aspirin use, 7 time periods for women, hypertension and hypercholesterolemia, total energy intake, postmenopausal	8	1.23 (0.88, 1.72) 5 vs. 1 quintile

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Joshiपुरa	2001	USA	NHS	34-59	W	84,251	1,127	FFQ, validated	CHD	Records were reviewed by physicians who were blinded to the participants' risk factor status.	Potatoes	hormone use Age, smoking, alcohol, family history of myocardial infarction, BMI, vitamin supplement use, vitamin E use, physical activity, aspirin use, 2-year follow-up period, presence of hypertension, presence of hypercholesterolemia, energy intake, and postmenopausal hormone use	14	0.78 (NA) 5 vs. 1 quintile
Joshiपुरa	2001	USA	HPFS	40-75	M	42,148	1,063	FFQ, validated	CHD	Records were reviewed by physicians who were blinded to the participants' risk factor status.	Potatoes	Age, smoking, alcohol, family history of myocardial infarction, BMI, vitamin supplement use, vitamin E use, physical activity, aspirin use, 2-year follow-up period, presence of hypertension, presence of hypercholesterolemia, energy intake	8	1.41 (NA) 5 vs. 1 quintile
Kahn	1984	US	AHS	>30	Both	27,530	247	Dietary questionnaire	All-cause mortality	Death tapes	Potatoes	NA	21	0.81 (0.67, 0.97) 4 vs. 1 quartile
Kato	1997	US	NYUWH S	34-65	W	14,727	100	FFQ	CRC	Regional cancer registries	Potatoes	Age, energy intake and place at enrolment and highest level of education	7.1	1.05 (0.62, 1.79) 4 vs. 1 quartile
Larsson	2016	Sweden	SMC	49-83	W	32,805	MI: 1,437	FFQ, validated	MI Stroke	Linkage with the	Total potato consumption	Age, education, family history of MI	13	MI: 0.97 (0.80, 1.17)

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							<i>Stroke:</i> 2,022 <i>HF:</i> 1,177		HF	Swedish National Patient Register and the Swedish Cause of Death Register	(Boiled potatoes, fried potatoes, and French fries)	before 60 y of age, smoking, aspirin use, walking or bicycling, exercise, BMI, history of hypertension, history of hypercholesterolemia, alcohol consumption, energy intake, mDASH diet score		Stroke: 0.86 (0.73, 1.00) HF: 1.01 (0.82, 1.25) 5 vs. 1 quintile
Larsson	2016	Sweden	COSM	45-79	M	36,508	<i>MI:</i> 2,979 <i>Stroke:</i> 2,509 <i>HF:</i> 1,462	FFQ, validated	MI Stroke HF	Linkage with the Swedish National Patient Register and the Swedish Cause of Death Register	Total potato consumption (Boiled potatoes, fried potatoes, and French fries)	Age, education, family history of MI before 60 y of age, smoking, aspirin use, walking or bicycling, exercise, BMI, history of hypertension, history of hypercholesterolemia, alcohol consumption, energy intake, mDASH diet score	13	<i>MI:</i> 1.05 (0.92, 1.19) <i>Stroke:</i> 1.00 (0.87, 1.15) <i>HF:</i> 0.91 (0.75, 1.10) 5 vs. 1 quintile
Leenders	2013	Europe	EPIC	25-70	Both	451,151	25,682	Country-specific instruments	All-cause mortality	National Registry	Potatoes	Smoking, alcohol, BMI, physical activity, education, and processed meat consumption, fruit	12.8	1.00 (0.99, 1.01) 3 vs. 1 tertile
Liu	2004	USA	WHS	≥45	W	38,018	1,614	FFQ	T2D	Self-reported/ADA criteria	Potatoes and other tubers	Age, energy intake, BMI, smoking, alcohol, physical activity, hypertension, hypercholesterolemia, family history of diabetes	8.8	1.02 (0.86, 1.22) 5 vs. 1 quintile
Michels	2000	US	NHS	30-55	W	88,764	724	FFQ, validated	C, R	Family reports, National death Index, US	Total potato consumption (mashed or baked, French	Age, family history of colorectal cancer, sigmoidoscopy, height, BMI, pack-	6	C: 1.12 (NA) R:

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										Postal Service, medical and pathology reports	fries, potato chips)	years of smoking, alcohol intake, physical activity, aspirin use, vitamin supplement intake, total caloric intake, and red meat consumption.		1.03 (0.86, 1.22) 5 vs. 1 quintile
Michels	2000	US	HPFS	40-75	M	47,325	457	FFQ, validated	C, R	Family reports, National death Index, US Postal Service, medical and pathology reports	Total potato consumption (mashed or baked, French fries, potato chips)	Age, family history of colorectal cancer, sigmoidoscopy, height, BMI, pack-years of smoking, alcohol intake, physical activity, aspirin use, vitamin supplement intake, total caloric intake, and red meat consumption.	6	C: 1.07 (NA) R: 1.83 (0.86, 1.22) 5 vs. 1 quintile
Mizrahi	2009	Finland	FMCHES	40-74	Both	3,932	625	1-year dietary history interview	Stroke	Finnish Hospital Discharge Register; Statistics Finland	Potatoes	Age, sex, BMI, smoking, physical activity, serum cholesterol level, blood pressure and energy intake	24	0.86 (0.68, 1.09) 4 vs. 1 quartile
Montonen	2003	Finland	FMCHES	40-69	Both	4,316	156	Dietary history interview	T2D	Registration to the Social Insurance Institution	Potatoes	Age, sex, area, energy intake, BMI, smoking, vegetables, fruit and berries	10	1.42 (1.02, 1.98) 4 vs. 1 quartile
Mucci	2006	Sweden	SMC	49-83	W	61,467	741	FFQ, validated	CRC	Swedish Cancer registry	Pan-fried potatoes	Age, BMI, education, alcohol, energy intake, saturated fat, fiber	823,072 person-years	1.10 (0.90, 1.40) 3 vs. 1 tertile
Muraki	2015	US	NHS	30-55	W	70,773	7,436	FFQ, validated	T2D	Self-reported (validated)	Total potato consumption (baked, boiled, or mashed potatoes and French fries)	Age, ethnicity smoking, alcohol intake, multivitamin use, physical activity, a family history of diabetes, menopausal status	1,584,572 person-years	1.27 (1.04, 1.56) 5 vs. 1 quintile

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												and postmenopausal hormone use, total energy intake, aHEI score, BMI		
Muraki	2015	US	NHS II	25-42	W	87,739	4,621	FFQ, validated	T2D	Self-reported (validated)	Total potato consumption (baked, boiled, or mashed potatoes and French fries)	Age, ethnicity smoking, alcohol intake, multivitamin use, physical activity, a family history of diabetes, menopausal status and postmenopausal hormone use, oral contraceptive use, total energy intake, aHEI score, BMI	1,610,311 person-years	1.38 (1.08, 1.76) 5 vs. 1 quintile
Muraki	2015	US	HPFS	40-75	M	40,669	3,305	FFQ, validated	T2D	Self-reported (validated)	Total potato consumption (baked, boiled, or mashed potatoes and French fries)	Age, ethnicity smoking, alcohol intake, multivitamin use, physical activity, a family history of diabetes, total energy intake, aHEI score, BMI	793,124 person-years	1.38 (1.07, 1.78) 5 vs. 1 quintile
Osella	2018	Italy	NUTRIH EP and MICOL	18-95 and >30	Both	2,442	396	FFQ, validated	All-cause mortality	Death certificates	Total potato consumption	Age, project, sex, job, educational level, systolic and diastolic blood pressure at baseline, adherence to Mediterranean diet, BMI, presence of any disease, alcohol intake, total energy intake	11	0.75 (0.53, 1.07) 5 vs. 1 quintile
Sonested	2015	Sweden	MDCS	44-74	Both	26,445	1,344/1,176	Modified diet history method, FFQ, validated	CHD Stroke	Linkage with Swedish Hospital Discharge Registry and Cause-of-	Potatoes	Age, sex, season, diet method version, energy intake, BMI, smoking, alcohol consumption, leisure-time	14	CHD: 1.01 (0.86, 1.17) Stroke: 1.08 (0.90, 1.31)

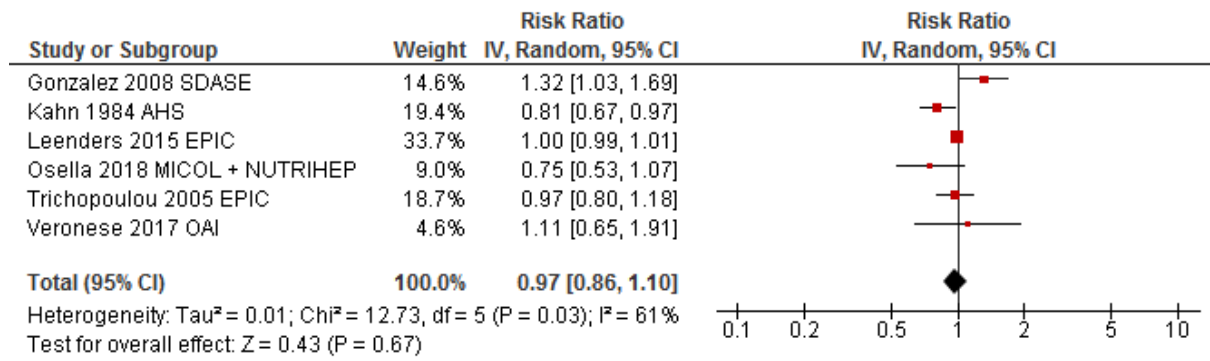
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										death Registry		physical activity, and education.		5 vs. 1 quintile
Steinmetz	1994	US	IWHS	55-69	W	41,837	212	FFQ	C	State Health Registry of Iowa	Potatoes	Age, energy intake	5	1.24 (0.76, 2.04)
														5 vs. 1 quartile
Trichopoulos	2005	Greece	EPIC-Greece	20-86	Both	1,302	131	FFQ, validated	All-cause mortality	Death certificates, which were available in all instances	Potatoes	Age, sex, previous treatment for hypertension and/or previous treatment for hypercholesterolemia, diabetes mellitus at enrolment, years of schooling, smoking status, waist-to-hip ratio, metabolic equivalent score, body mass index, energy intake	3.8	0.97 (0.80, 1.18) per 40 g/d increment
Veronese	2017	US	OICS	45-79	Both	4,440	236	FFQ, validated	All-cause mortality	Confirmed and adjudicated by several methods (autopsy report, coroner's report, death certificate medical records, National Death Index, obituary, or Social Security Death Index)	Fried potatoes	Age, sex, race/ethnicity, BMI, education, smoking habits, yearly income, Physical Activity Scale for Elderly score, Charlson comorbidity index, daily energy intake, alcohol consumption, adherence to a Mediterranean diet, and Centre for Epidemiologic Studies-Depression scale	8	1.11 (0.65, 1.91) 5 vs. 1 quartile
Villegas	2007	China	SWHS	40-70	W	64,227	1,608	FFQ, validated	T2D	Identified through outcome follow-	Potatoes; Sweet potatoes	Multivariable adjusted	4.6	Potatoes 0.72 (NA) Sweet potatoes

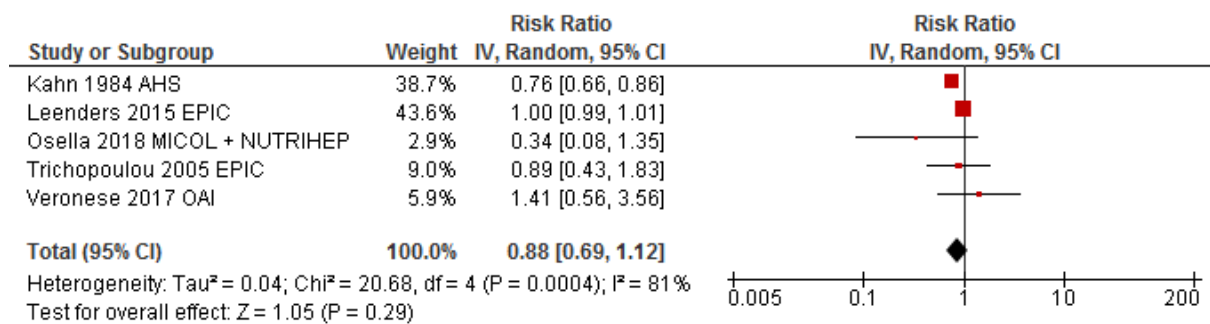
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										up surveys				0.72 (0.51) 5 vs. 1 quintile
von Ruesten	2013	Germany	EPIC-Potsdam	35-65	Both	23,531	837	FFQ, validated	T2D	Self-reported /inquiry to the physician	Potatoes; Fried potatoes	Age, sex, energy intake, Body Mass Index, waist: hip ratio, smoking, alcohol, physical activity, Hypertension, high blood lipid levels, education, vitamin supplementation	8	Potatoes: 1.10 (0.95, 1.27) per 100 g/d increase Fried potatoes: 1.21 (0.75, 1.97) per 100 g/d increase
Würtz	2016	Denmark	DDCHS	50-64	Both	55,171	2,350	FFQ, validated	MI	Danish National Patient Register, Danish Cause of Death Register, Central Population Register	Potatoes	Age, energy intake, alcohol abstinence, alcohol intake, BMI, waist circumference, smoking status, physical activity, duration of schooling, menopausal status and use of hormone replacement therapy, fruits, sweets, soft drinks, lean dairy products, fatty dairy products, potato chips, refined cereals, wholegrain cereals, nuts	13.6	1.03 (0.91, 1.17) Per 150 g/d
Ye	2006	Taiwan	7TT	≥30	Both	22,115	107	FFQ	CRC	Reviewing medical records and death certificates	Sweet Potatoes	NA	10	1.85 (1.08, 3.17) Highest vs. lowest category

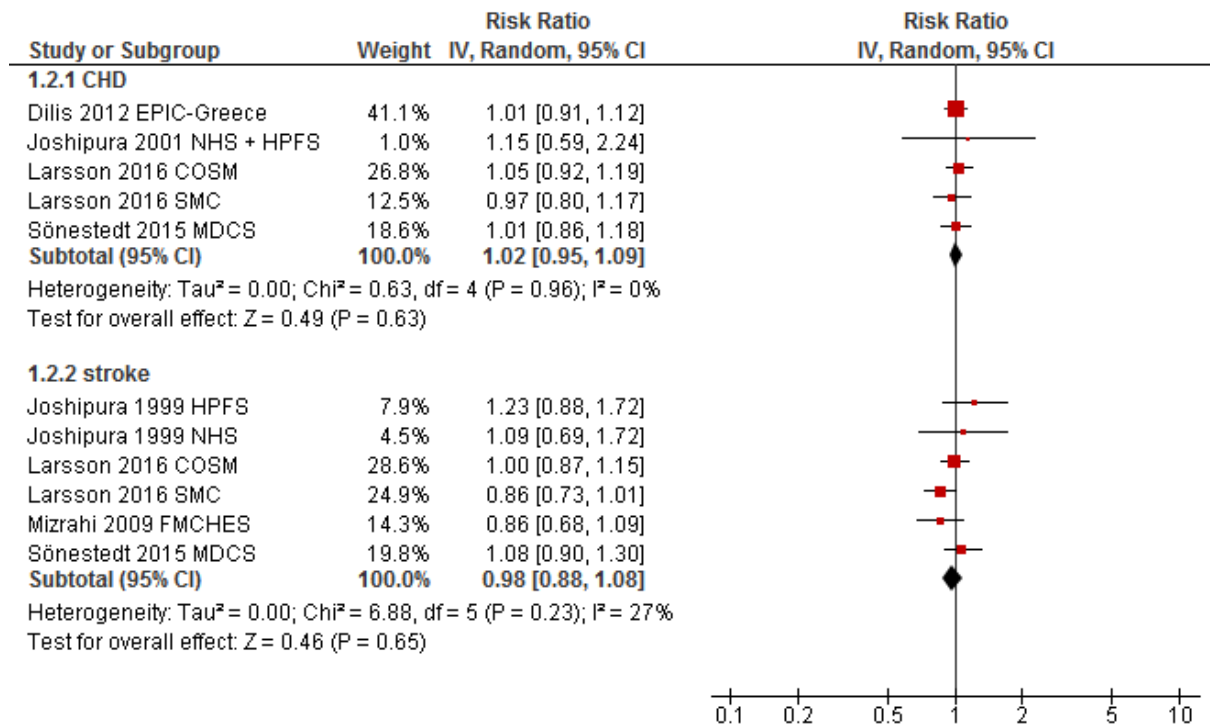
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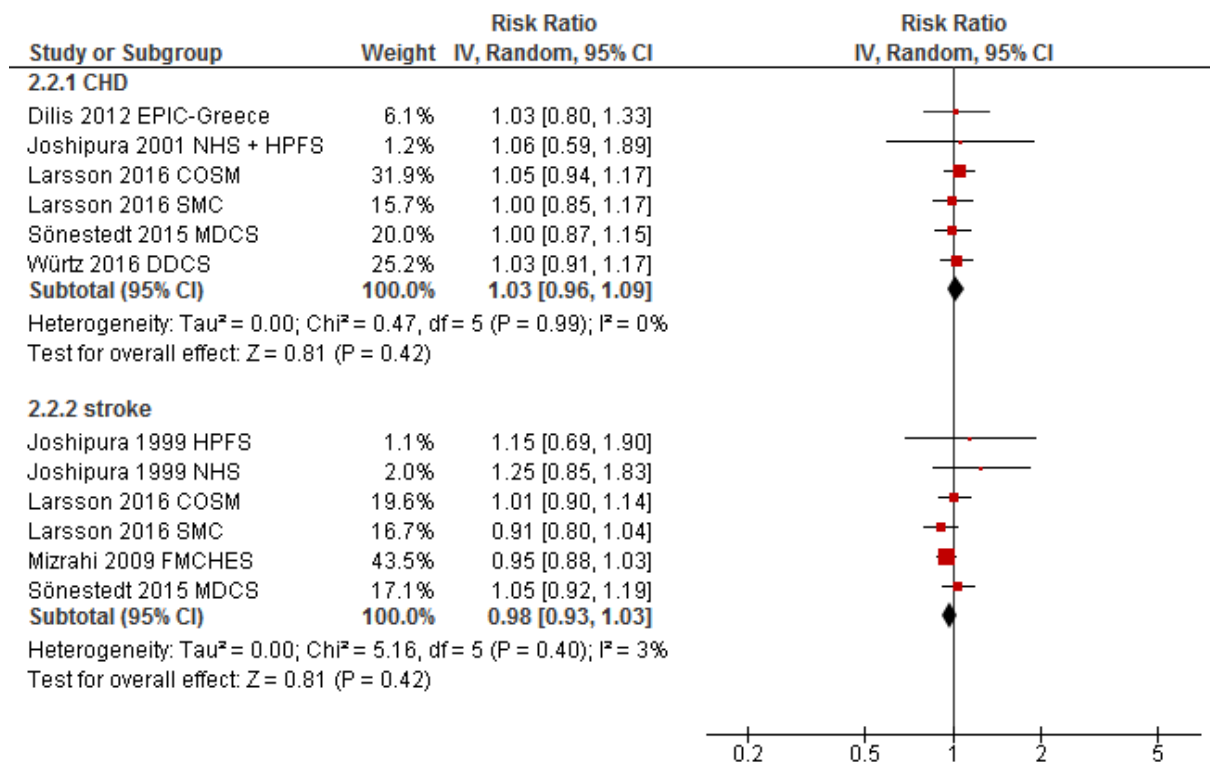
ESM Figure 2: Summary of relative risk of all-cause mortality for high versus low potatoes intake. 95% CI, 95% confidence interval.



ESM Figure 3: Summary of relative risk of all-cause mortality for each 150 g/d increase in potatoes intake. 95% CI, 95% confidence interval.

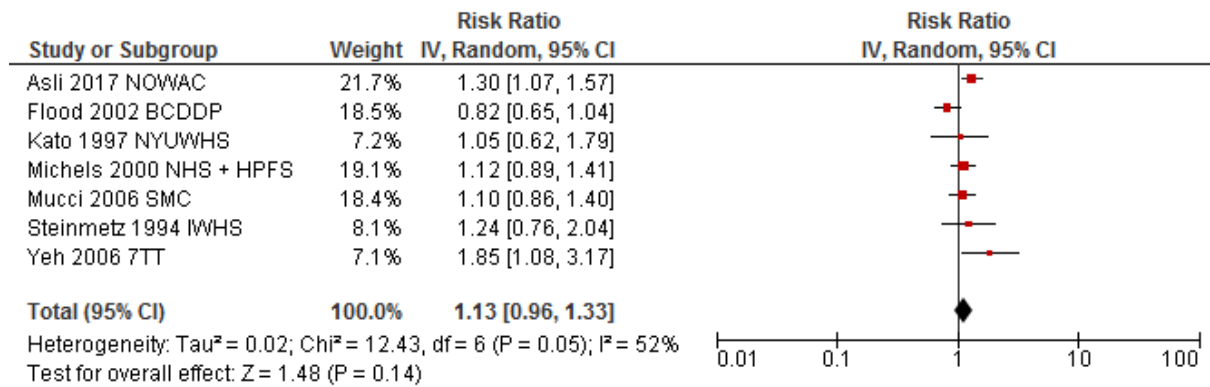


ESM Figure 4: Summary of relative risk of coronary heart disease and stroke for high versus low potatoes intake. 95% CI, 95% confidence interval.

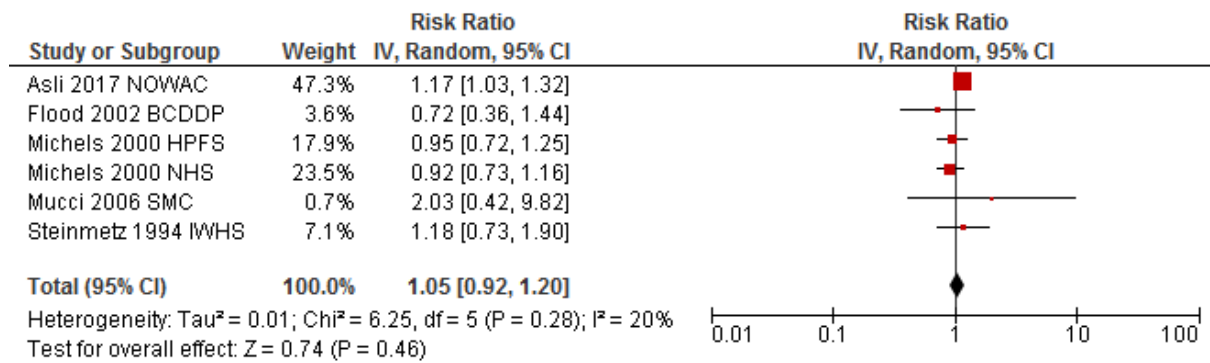


ESM Figure 5: Summary of relative risk of coronary heart disease and stroke for each 150 g/d increase in potatoes intake. 95% CI, 95% confidence interval.

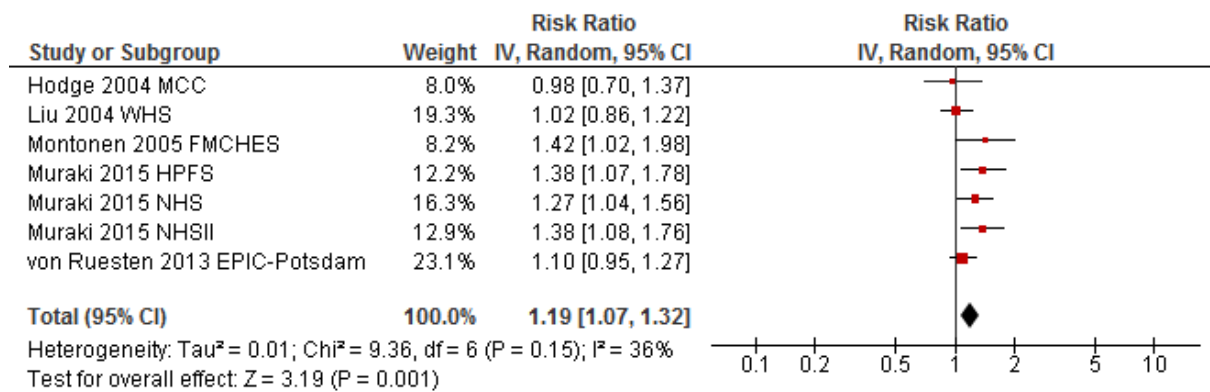
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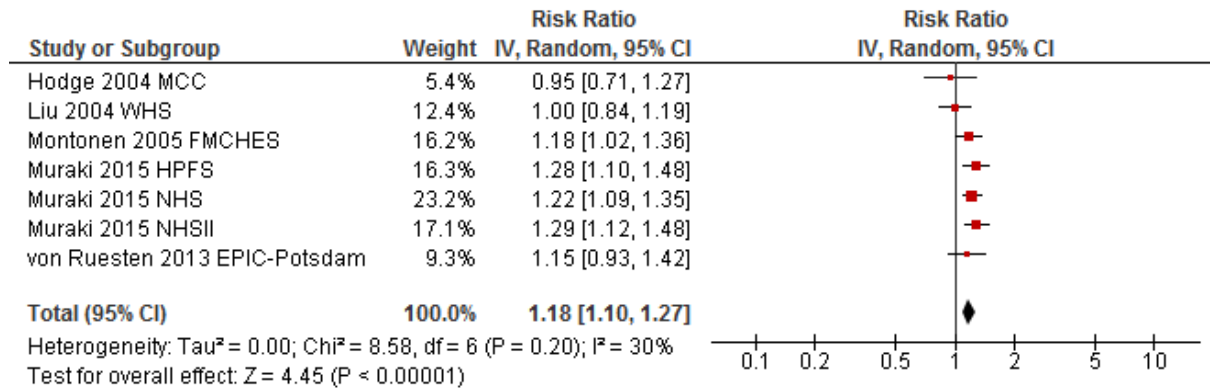
ESM Figure 6: Summary of relative risk of colorectal cancer for high versus low potatoes intake. 95% CI, 95% confidence interval.



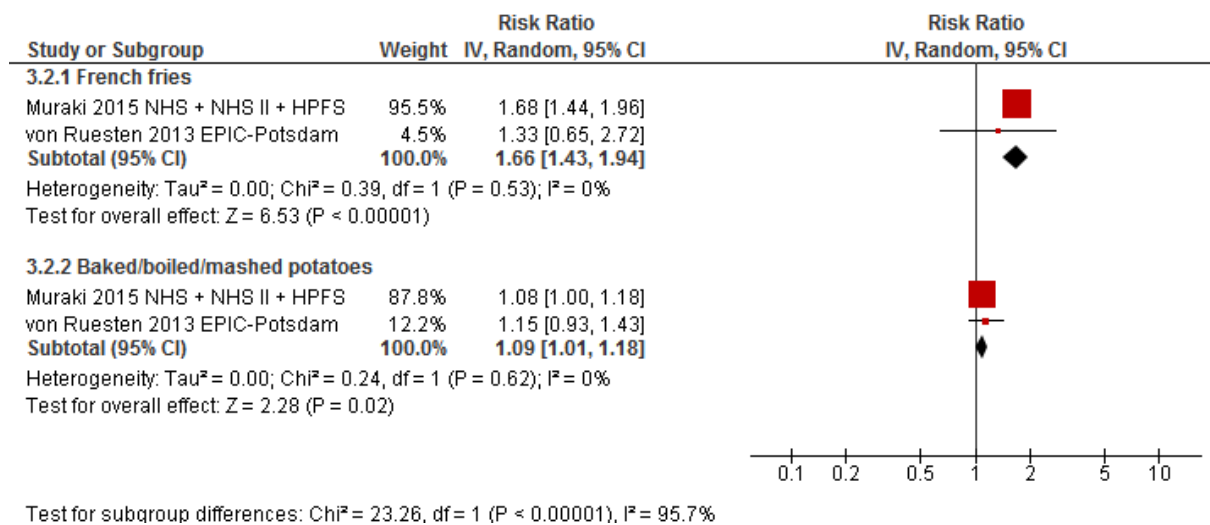
ESM Figure 7: Summary of relative risk of colorectal cancer for each 150 g/d increase in potatoes intake. 95% CI, 95% confidence interval.



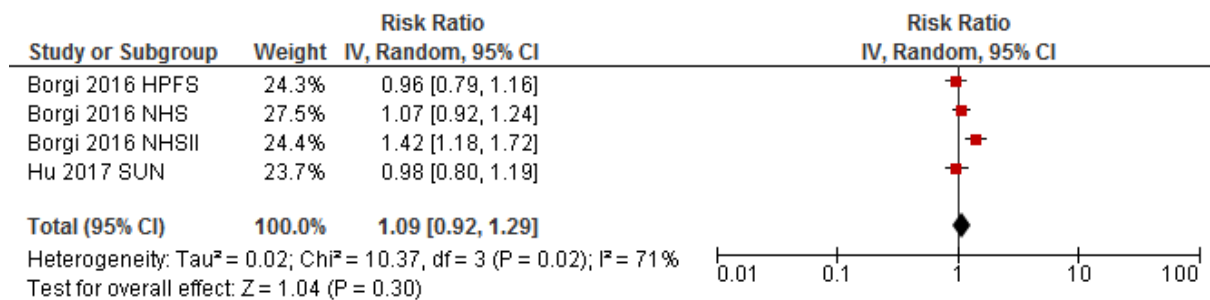
ESM Figure 8: Summary of relative risk of type 2 diabetes for high versus low potatoes intake. 95% CI, 95% confidence interval.



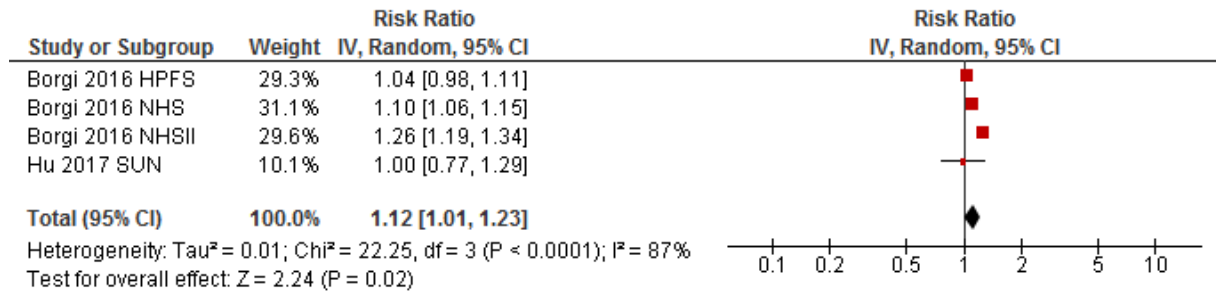
ESM Figure 9: Summary of relative risk of type 2 diabetes for each 150 g/d increase in potatoes intake. 95% CI, 95% confidence interval.



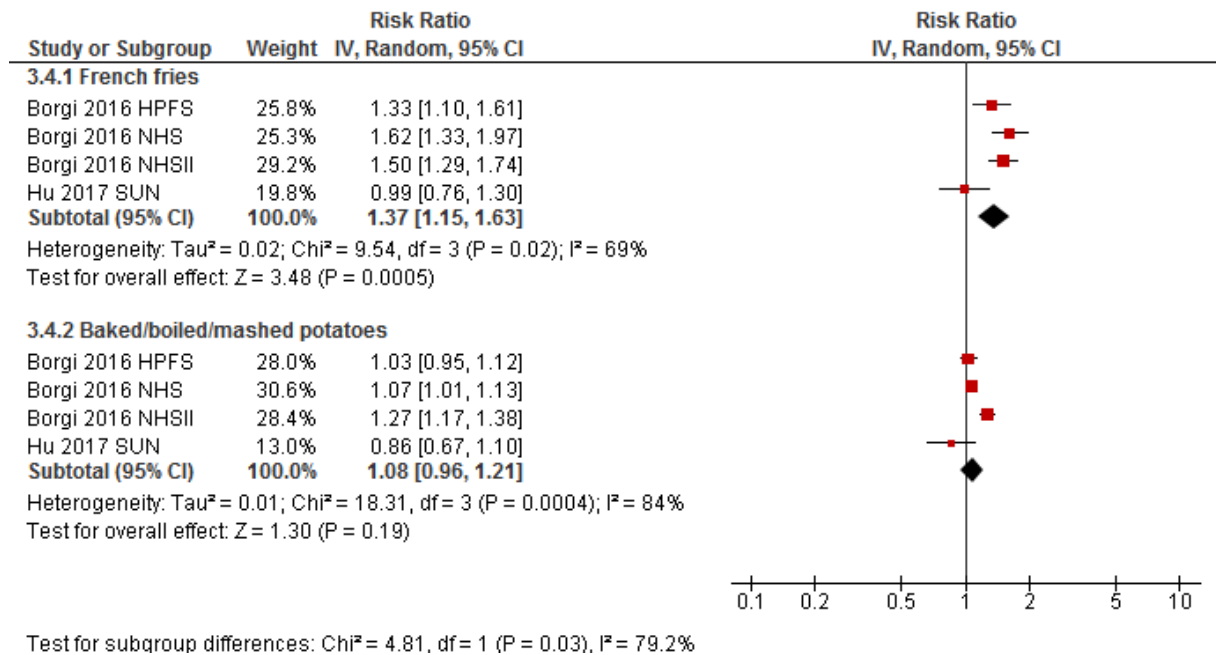
ESM Figure 10: Summary of relative risk of type 2 diabetes for each 150 g/d increase in French fries vs. Baked/boiled/mashed potatoes intake. 95% CI, 95% confidence interval.



ESM Figure 11: Summary of relative risk of hypertension for high versus low potatoes intake. 95% CI, 95% confidence interval.



ESM Figure 12: Summary of relative risk of hypertension for each 150 g/d increase in potatoes intake. 95% CI, 95% confidence interval.



ESM Figure 13: Summary of relative risk of hypertension for each 150 g/d increase in French fries vs. Baked/boiled/mashed potatoes intake. 95% CI, 95% confidence interval.

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ESM Table 2. Dose-response meta-analysis for each daily 150 gram increase in potatoes intake and risk of CHD, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

CHD	No of studies	RR	95% CI	I ² (%)	p-value for subgroup difference
Dose-response	7	1.03	0.96, 1.09	0	
Sex					
Men and women	5	1.02	0.94, 1.11	0	
Men	1	1.05	0.94, 1.17	NA	0.84
Women	1	1.00	0.85, 1.17	NA	
Follow-up					
≥10 years	7	1.03	0.96, 1.09	0	
Geographic location					
Europe	5	1.03	0.96, 1.09	0	0.91
America	2	1.06	0.59, 1.89	NA	
Number of cases					
≥1000	4	1.03	0.96, 1.09	0	0.94
<1000	3	1.03	0.82, 1.30	0	
Dietary assessment					
validated	7	1.03	0.96, 1.09	0	

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ESM Table 3. Dose-response meta-analysis for each daily 150 gram increase in potatoes intake and risk of stroke, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Stroke	No of studies	RR	95% CI	I ² (%)	p-value for subgroup difference
Dose-response	6	0.98	0.93, 1.03	3	
Sex					
Men and women	2	0.98	0.90, 1.08	39	
Men	2	1.02	0.91, 1.15	0	0.95
Women	2	1.01	0.75, 1.36	58	
Follow-up					
≥10 years	6	0.98	0.93, 1.03	3	
Geographic location					
Europe	4	0.97	0.92, 1.03	3	0.16
America	2	1.21	0.89, 1.64	0	
Number of cases					
≥1000	3	0.99	0.91, 1.07	19	0.94
<1000	3	1.00	0.86, 1.15	17	
Dietary assessment					
validated	5	1.00	0.93, 1.08	4	0.32
not validated	1	0.95	0.88, 1.03	NA	

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ESM Table 4. Dose-response meta-analysis for each daily 150 gram increase in potatoes intake and risk of CRC, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

CRC	No of studies	RR	95% CI	I ² (%)	p-value for subgroup difference
Dose-response	6	1.05	0.92, 1.20	20	
Sex					
Men	1	0.95	0.72, 1.25	NA	0.47
Women	5	1.07	0.91, 1.25	24	
Follow-up					
<10 years	4	0.94	0.80, 1.11	0	0.04
≥10 years	2	1.17	1.04, 1.33	0	
Geographic location					
Europe	2	1.17	1.04, 1.33	0	0.04
America	4	0.94	0.80, 1.11	0	
Number of cases					
<1000	6	1.05	0.92, 1.20	20	
Dietary assessment					
validated	5	1.00	0.93, 1.08	4	0.32
not validated	1	0.95	0.88, 1.03	NA	

Electronic Supplemental Material

ESM Table 5. Dose-response meta-analysis for each daily 150 gram increase in potatoes intake and risk of type 2 diabetes, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Type 2 diabetes	No of studies	RR	95% CI	I ² (%)	p-value for subgroup difference
Dose-response	7	1.18	1.10, 1.27	30	
Sex					
Men and women	3	1.13	1.01, 1.27	0	
Men	1	1.28	1.10, 1.48	NA	0.44
Women	3	1.17	1.03, 1.34	61	
Follow-up					
≥10 years	4	1.23	1.16, 1.32	0	0.01
<10 years	3	1.04	0.92, 1.17	0	
Geographic location					
Europe	3	1.11	1.00, 1.23	6	0.05
America	3	1.25	1.16, 1.35	0	
Asia & Australia	1	0.95	0.71, 1.27	NA	
Number of cases					
≥1000	6	1.20	1.12, 1.28	18	0.12
<1000	1	0.95	0.71, 1.27	NA	
Dietary assessment					
validated	5	1.03	0.88, 1.21	35	0.59
not validated	1	1.18	0.73, 1.90	NA	

ESM Table 6: Linear dose-response meta-analysis investigating the association between potatoes intake and the risk of all-cause mortality, coronary heart disease, stroke, colorectal cancer, type 2 diabetes and hypertension, and NutriGrade grading.

Outcome	Type of potato consumption	No of studies	RR	95% CI	I ² (%)	NutriGrade grading
All-cause mortality	Total potato consumption	5	0.88	0.69, 1.12	81	Low
Coronary heart disease	Total potato consumption	7	1.03	0.96, 1.09	0	Low
Stroke	Total potato consumption	6	0.98	0.93, 1.03	3	Low
Colorectal cancer	Total potato consumption	6	1.05	0.92, 1.20	20	Low
Type 2 diabetes	Total potato consumption	7	1.18	1.10, 1.27	30	Low
	French Fries	4	1.66	1.43, 1.94	0	Moderate
	Baked/ boiled/ mashed	4	1.09	1.01, 1.18	0	Low
Hypertension	Total potato consumption	4	1.12	1.01, 1.23	87	Low
	French Fries	4	1.37	1.15, 1.63	69	Moderate
	Baked/ boiled/ mashed	4	1.08	0.96, 1.21	84	Low

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