

Supplementary Data

Table S1. Summary of the studies included in the systematic review.

Table S2. Extraction table for incidence of T2D.

Table S3. Extraction table for incidence of CVD.

A) Continuous exposure

B) Categorical exposure

Table S4. Extraction table for all-cause mortality.

Table S5. GRADE assessment. Does oat consumption influence the risk of T2D and CVD in the general population

Supplementary Data

Table S1. Summary of the studies included in the systematic review.

Author, year	Funding	Country	Cohort name	Cohort size	Mean/median age at entry	% of males	Mean/median years of follow up	Baseline	Finish	Study design	Outcome definition	Dietary assessment method	Frequency of diet assessment	Control intervention	Number of events T2D	Number of events CV D	Number of events all-cause mortality	Adjustments	Stratified analysis by sex, age, BMI / tested interaction with sex, age, BMI	Quality score
Johnsen et al, 2014	Nordforsk and the Danish Cancer Society	Scandinavian	HELGA	119 518 (w ¹ : 801 01, m ² :3 941 7)	W median (5-95th percentile) 51 (40-63)	33	NA	1992-1998	-	prospective	Vital status: National Central Population Registries, cause of death: National Cause of	semi-quantitative, country-specific and validated food-frequency questionnaire (FFQ)	baseline	-	24 w, 70 m	CHD ³ : 29 8 w, 85 8 m, stroke: 13 7 w, 14	783 9	age, follow-up time, education, smoking, alcohol intake, BMI ⁴ and total energy intake	-	7
		Norway	Norwegian Women and Cancer Study	371 11 (w)		0	11.1 median		2009					-			966		-	

Supplementary Data

		Sweden	Vaästербotten Intervention Programme cohort (VIP)	25551 (w:13203, m:12348)	Median (5-95 percentile) 54(31-64)	48.3	14.2 median		2009		Death Registries			-		3m	1367		NA	
		Denmark	Danish Diet Cancer and Health Study (DHC)	56865 (w:29787, m:27069)		47.6	11.9 median		2008					-			5506		NA	
Lacopidan et al, 2015	Nord Forsk (Centre of Excellence programme	Denmark	DCH	55060	W all cases 3269 median (5 - 95th percentiles) 56 (50-64)	47.4	15 median	1995-1997	2011	prospective	T2D identified from the National Diabetes Registry	FFQ	baseline	-	7366	-	-	age, alcohol, smoking, education, participation in sports, intake of meat, total energy intake, waist circumference, body mass index	yes	8

Supplementary Data

	HELGA, the Danish Cancer Society.				M all cases 4097 n all cases 1570 median (5-95th percentiles) 55 (50-64)															
Helnes et, 2016	Danish Cancer Society and Innovation Fund Denmark	Denmark	DHC	54871	all 25921 M median (5-95th percentiles) 55.0 (50.0-64.0) M cases 1676 median age 57.0(51.0-64.0) all 28950 W median	47.2	13.6 median	1993-1997	2009	prospective	fatal MI ⁵ and nonfatal MI, (codes 410.0–410.99 and I21.0–I21.9) of the International Classification of Diseases (ICD). sudden cardiac death	FFQ and 24-h dietary recalls	baseline	-	-	2329	-	School level, smoking, alcohol intake, participation in sports, w: menopausal status, hormone replacement therapy, intakes of fruit, vegetables, fish, red and processed meat, BMI, waist circumference, systolic blood pressure, self-reported hypertension, serum cholesterol,	yes	8

Supplementary Data

					n age 56.0(50.0- 64.0)						diagno sis (ICD 8: 427.27; or ICD 10: I46.0- I46.9).							hypercholester olemia		
					cases W 653 media n age 59.0(51.0- 64.0)															
Hans en et al, 2017	Dani sh Cou ncil for Strat egic Rese arch, The Dani sh Canc er Soci ety	Den mark	DHC	553 38	all media n (5- 95th perce ntile) 56.1(50.7- 64.2)	47 .6	media n 13.5	12. 199 3- 05. 199 7	2009	pros pecti ve	Stroke: rapid onset disturb ance of focal or global cerebra l functio n lasting >24 hours or leading to death	FFQ	base line	-	-	22 83	-	Age, total energy intake, alcohol intake, physical activity, smoking and education, BMI-adjusted waist circumference, atrial fibrillation, hypertension, hypercholester olemia and diabetes.	yes	8
Juan et al, 2017	Nati onal Canc er Instit	US	HPF S	428 23	mean (SD) 53.2(9.5)	10 0	24	198 6	2010	pros pecti ve	Nation al Survey of Stroke,	Semi- quantit ative FFQ	Base line; ever y 4	-	-	90 8 str oke s	-	Age, BMI, smoking status, alcohol intake, physical activity, family	-	7

Supplementary Data

ute, Nati onal Hear t, Lung and Bloo d Insti tute and Nati onal Insti tutes of Heal th (NIH)		NHS	717 50	mean (SD) 50.1(7.1)	0	26	198 4	2010	pros pecti ve	certific ates, hospi tal records , autops y records , telepho ne intervi ew/ letter corresp ondenc e		year s				15 50 str oke s		history of diabetes, cancer and heart disease, multivitamin use, hypertension, high cholesterol at baseline, total energy intake, modified alternative health eating index score. W: menopausal status, postmenopausa l hormone use.	-	
---	--	-----	-----------	-------------------------------	---	----	----------	------	---------------------	---	--	-----------	--	--	--	-----------------------------	--	--	---	--

Supplementary Data

Kyro et al, 2018	Swe dish Rese arch Cou ncil– You ng Rese arch Inve stiga tor Gran t, the Dani sh Canc er Soci ety, Inno vatio n Fund Den mark	Den mark	DHC	554 65	50-65	47 .3	15	199 5	2011	pros pecti ve	inciden t T2D	FFQ	base line	-	74 17	-	-	Age, educational level completed, Cambridge Physical Activity Index, smoking status, alcohol intake, intake of red and processed meat. W: menopausal status; use of menopausal hormone herapy	-	9
------------------------	---	-------------	-----	-----------	-------	----------	----	----------	------	---------------------	------------------	-----	--------------	---	----------	---	---	---	---	---

Supplementary Data

Wu et al, 2019	Academia Sinica	Taiwan	The Biosignature study	1663	no oat: 65.26 ±12.19 oat: 68.82 ±11.65	36.6	26.75 ±8.11 months	-	-	prospective	major cardiovascular events: cardiovascular death, non-fatal MI, non-fatal stroke, revascularization procedures including coronary intervention and bypass surgery	questionnaire	baseline	not eating oat	-	175	-	Age, gender, hypertension, diabetes, smoking, ratio of waist to hip, medication, lipid, HsCRP, TNF- α .	-	6
Xu et al, 2019	University of Technology Sydney Faculty	Australia	45 and Up Study	142503	45-64y 37,626 all cases 65-80y 24,203	-	6	2006-2009	2012-2015	longitudinal	heart disease, stroke, diabetes as response to "has a	brief questions	twice: baseline + 5 years later	-	5283	Heart disease 14148, str	-	Gender, marital status, education level, SEIFA, alcohol drinking, smoking and physical activity levels, BMI and for	stratified by age groups	5

Supplementary Data

	lty of Heal th seed fundi ng, the Hear t Foun datio n, New Sout h Wale s offic e for Heal th and Medi cal Rese arch				all cases >80 y 5967						doctor ever told you that you have”					oke 29 11		fruit, vegetable, red and processed meat consumption.		
Lysk jaer et al, 2020	NA	Den mark	DHC	550 95	medi n (5- 95) 56.1(52.7– 60.3)	47 .6	13.4 media n	12. 199 3- 05. 199 7	30.1 1.20 09	pros pecti ve	Nonfat al and fatal stroke: linkage to the Danish Nation al Patient	192- item FFQ	base line	eggs, yogh urt	-	22 60	-	Total energy intake, sex, alcohol, physical activity, smoking,educat ion level, BMI, mAHEI score, history of diabetes	by age	8

Supplementary Data

											Register.							mellitus, hypercholesterolemia, hypertension.		
Liu et al., 2000	NIH	US	NHS	75521	38-63	0	10	1984	1984	prospective	confirmed type 2 diabetes	FFQ	4 years	-	1879	-	-	Age, body mass index; physical activity; cigarette smoking, alcohol intake; family history of diabetes in a first-degree relative; use of multivitamins or vitamin E supplements; total energy intake.	-	7

Supplementary Data

Olse n et al., 2011	The Dani sh Canc er Soci ety and Nord Fors k	Den mark	DHC	570 53	50-64	46 .3	12	199 7	2009	pros pecti ve	All- cause mortali ty	FFQ	-	-	-	-	412 6	Age, time under study, smoking status, smoking duration, current tobacco consumption, time since cessation, alcohol intake, school education, participation in sports, time spent on sports per week, BMI, intake of red and processed meat, total energy intake	-	9
Liu et al., 1999	NIH	US	NHS	755 21	38-63	0	10	198 4	1.6.1 994	pros pecti ve	inciden t CHD (fatal CHD, any non fatal MI)	FFQ	4 year s	-	-	76 1	-	Age, body mass index, cigarette smoking, alcohol intake, parental or family history of MI before the age of 60 y, self-reported history of hypertension or hypercholestor emia, menopausal status , protein intake, aspirin	-	8

Supplementary Data

																		use, use of multiple vitamin or vitamin E supplements, vigorous activity, total energy intake, for fats, dietary fibers, folate, vitamin B-6, and vitamin E		
Wolk et al., 1999	NIH, Bethesda, Md.	US	NHS	68782	37-64	0	10	1984	1.6.1994	prospective	CHD (symptomatic nonfatal MI or fatal CHD)	FFQ	every 2 years	-	-	591	162	standard CHD risk factors	-	8
Hu et al., 2020	NIH	US	NHS	69139	38-63	0	mean 24	1984	2014	prospective	T2D, confirmed by at least one criteria of the National Diabetes Data Group	semiquantitative FFQ	2 years	-	18629	-	-	Age, ethnicity, smoking, alcohol intake, multivitamin use, physical activity, modified alternative healthy eating index, total energy, family history of diabetes, postmenopausal hormone use, oral contraceptive use, BMI	BMI, physical activity, smoking status, family history of diabetes	7
			NHS II	89120	27-42	0		1991	2017	prospective										
			HPFS	36525	40-75	100		1986	2016	prospective										

Supplementary Data

¹ – women² – men³ – coronary heart disease⁴ - Body Mass Index⁵ - myocardial infarction**Table S2.** Extraction table for incidence of T2D.

Author, year	Outcome definition	Cohort	Total number of events	Category Exposure										Stratified by age
				by group	cases	Total intake median, (5-95th percentile)	Total intake +/- SD	Not-adjusted		Age-adjusted model		Multivariable analysis		
								RR	95% CI	RR	95% CI	RR	95% CI	
Kyro et al, 2018	incident T2D	DHC	7417	m: Oat q1	1185	0 g/d	-	-	-	-	-	1		-
				m: Oat q4	777	>13 g/d	-	-	-	-	-	0.8	0,72-0,89	
				m: oatmealq1	2100	0 g/d	-	-	-	-	-	1		
				m: oatmealq4	686	>21 g/d	-	-	-	-	-	0.73	0,67-0,80	
				w: Oat q1	1099	0 g/d	-	-	-	-	-	1		
				w: Oat q4	695	>13 g/d	-	-	-	-	-	0.92	0,82-1,02	
				w: oatmealq1	1506	0 g/d	-	-	-	-	-	1		
				w: oatmealq4	446	>21 g/d	-	-	-	-	-	0.79	0,71-0,88	
Li et al., 2000	confirmed T2D	NHS	1879	Almost Never	-	-	-	-	-	1			-	-
				<40g/wk	-	-	-	-	-	0.97	0.88	1.07	-	
				80-160/wk	-	-	-	-	-	0.84	0.69	1.03	-	
				200–300/wk	-	-	-	-	-	0.61	0.32	1.15	-	
				≥40g/d	-	-	-	-	-	0.73	0.35	1.54	-	

Supplementary Data

X et al, 2019	diabetes in response to the question 'has a doctor ever told you that you have	45 and Up Study	5283	45-65 y	-	>0	-	0.72	0.65-0.76	-	-	0.85	0.76-0.92	yes
				65-80	-	>0	-	0.73	0.68-0.79	-	-	0.86	0.79-0.92	
				>80y	-	>0	-	0.78	0.69-0.85	-	-	0.86	0.74-0.98	
Kyro et al, 2018	incident T2D	DCH	7417	m: Oat q1	1185	0 g/d	-	-	-	-	-	1		-
				m: Oat q2	1107	0-1 g/d	-	-	-	-	-	0.93	0,86-1,01	
				m: Oat q3	1047	1-13 g/d	-	-	-	-	-	0.94	0,87-1,03	
				m: Oat q4	777	>13 g/d	-	-	-	-	-	0.8	0,72-0,89	
				m: oatmeal q1	2100	0 g/d	-	-	-	-	-	1		
				m: oatmeal q2	385	0-1 g/d	-	-	-	-	-	0.99	0,89-1,10	
				m: oatmeal q3	945	1-21 g/d	-	-	-	-	-	0.99	0,92-1,07	
				m: oatmeal q4	686	>21 g/d	-	-	-	-	-	0.73	0,67-0,80	
				w: Oat q1	1099	0 g/d	-	-	-	-	-	1		
				w: Oat q2	687	0-1 g/d	-	-	-	-	-	1.02	0,92-1,02	
				w: Oat q3	820	1-13 g/d	-	-	-	-	-	1.04	0,94-1,14	
				w: Oat q4	695	>13 g/d	-	-	-	-	-	0.92	0,82-1,02	
				w: oatmeal q1	1506	0 g/d	-	-	-	-	-	1		

Supplementary Data

				w: oatmealq2	394	0-1 g/d	-	-	-	-	-	1.05	0,94-1,18	
				w: oatmealq3	955	1-21 g/d	-	-	-	-	-	1.06	0,98-1,15	
				w: oatmealq4	446	>21 g/d	-	-	-	-	-	0.79	0,71-0,88	
Hu, et al., 2020	incident T2D	NHS	18629	w	9723	never or <40g/month	-	-	-	-	-	1	Ref	yes
		NHS II		w	6821	40g/month- 40g/week						0.95	0.92-0.98	
		HPFS		m	2085	40g/week- 160- 240g/week						0.79	0.75-0.83	
		NHS			4555	never or <40g/month						1	Ref	
					2847	40g/month- 40g/week						0.93	0.89-0.98	
					768	40g/week- 160- 240g/week						0.79	0.73-0.85	
		NHS II			3166	never or <40g/month						1	Ref	
					2961	40g/month- 40g/week						1	0.95-1.05	
					945	40g/week- 160- 240g/week						0.83	0.77-0.89	
		HPFS			2002	never or <40g/month						1	Ref	
					1013	40g/month- 40g/week						0.89	0.83-0.96	

Supplementary Data

					372	40g/week-160-240g/week						0.71	0.63-0.79	
--	--	--	--	--	-----	------------------------	--	--	--	--	--	------	-----------	--

Table S3. Extraction table for incidence of CVD.

A) Continuous exposure

Author, year	Outcome definition	Cohort	Total number of events	groups	cases	Total intake	Total intake +/- SD	continuous assessment	comparison	Not-adjusted		Age-adjusted model		Multivariable analysis		Stratified by age
										RR	95% CI	RR	95% CI	RR	95% CI	
Juan et al, 2017	stroke	HPFS	908	-	-	40g/week	-	1 serving/week	-	-	-	0.79	0.57 - 1.09	0.93	0.67 - 1.28	-
		NHS	1550	-	-	40g/week	-		-	-	-	0.87	0.65 - 1.15	1.05	0.8 - 1.37	
Helnaes et al, 2016	MI	DHC	2329	m	all 25921	oatmeal median (5- 95th percentile) 0.8(0.0-50.0)	13.1+/- 20.1		-	-	-	-	-	-	-	-
						oats 1.0 (0.0-30.5)	8.3+/- 12.4		-	-	-	-	-	-	-	-
					cases 1676	oatmeal 0.0(10.5-50.0)	10.5+/- 18.5		-	-	-	0.81(per 25g	0.75 - 0.88	0.89 (per 25g	0.82 - 0.96	-

Supplementary Data

												increase)		increas e)		
						oats 0.7 (0.0- 30.5)	6.8+/- 11.5		-	-	-	0.89 (per 10g increase)	0.85 - 0.93	0.96 (per 10g increas e)	0.91 - 1.00	-
				w	all 2895 0	oatmeal 0,8(0.0- 50.0)	11.5+/- 18.6		-	-	-	-	-	-	-	-
						oats 1.1 (0.0- 30.5)	7.5+/- 11.6		-	-	-	-	-	-	-	-
					cases 653	oatmeal 0.0(0.0- 50.0)	8.5+/- 16.6		-	-	-	0.82 (per 25g increase)	0.71 - 0.95	0.92 (per 25g increas e)	0.8- 1.05	-
						oats 0.7(0.0- 30.3)	5.7+/- 10.3		-	-	-	0.85 (per 10g increase)	0.78 - 0.92	0.96 (per 10g increas e)	0.88 - 1.05	-
Johnse n et al, 2014	CHD mortality	HELGA	1156	w	298	median 2	5-95th percenti le 0-30	g/day	-	-	-	+follow -up years adjusted per doublin g 0.95	0.9- 1.0	0.95	0.9- 1.01	
				m	858	median 2	5-95th percenti le 0-31		-	-	-	0.98	0.95 - 1.01	0.98	0.95 - 1.02	

Supplementary Data

	fatal stroke		280	w	137	median 2	5-95th percenti le 0-30		-	-	-	0.93	0.86 - 1.01	0.93	0.86 -1.0	
				m	143	median 2	5-95th percenti le 0-31		-	-	-	1.02	0.94 - 1.10	1.02	0.94 - 1.10	
Lyskja er et al, 2020	Probable cases of nonfatal and fatal stroke by linkage to the Danish National Patient Register.	DHC	2260	-	all 5509 5	median 5g	5-95th percenti le 0.0- 150									calendar time, age at enrollme nt
				-	cases 2260	median 0 g	5-95th percenti le 0.0- 50		oatmeal for eggs			+calend ar time 0.94	0.92 - 0.96	0.96	0.94 - 0.99	
									oatmeal for yogurt			+calend ar time 0.97	0.95 - 0.99	0.98	0.98 - 1.01	
Xu et al, 2019	heart disease in response to: question "has a doctor ever told you that you have"	45 and Up Study	-	45- 65 y	-	-	-	-	-	0.6 8	0.61 -0.7	-	-	0.83	0.75 - 0.89	yes
			-	65- 80	-	-	-	-	-	0.6 9	0.63 -0.7	-	-	0.79	0.73 - 0.82	
			-	>80y	-	-	-	-	-	0.7 5	0.67 - 0.78	-	-	0.76	0.66 -0.8	
	-		45- 65 y	-	-	-	-	-	0.6 1	0.5- 0.71	-	-	0.72	0.57 - 0.87		
	-		65- 80	-	-	-	-	-	0.6 1	0.54 - 0.67	-	-	0.71	0.61 -0.8		
	-		>80y	-	-	-	-	-	0.6 2	0.53 - 0.71	-	-	0.58	0.47 - 0.69		

Supplementary Data

Wu et al., 2019	cardiovascular death, non-fatal MI, non-fatal stroke	The Biosignature study	175	oat use	42	-	-	-	-	0.58	0,41 - 0,81	-	-	0.62	0,43 - 0,88	-
				no use	133	-	-	-	-							

B) Categorical exposure

Author, year	Outcome definition	Cohort	Total number of events	Group	Cases by group	Total intake median, (5th-95th percentile)	Age-adjusted model		Multivariable analysis	
							HR	95%CI	HR	95%CI
Juan et al, 2017	stroke	HPFS	908	424		< 40g/month	1		1	
				246		40g/month-40g/week	0.92	0.78-1.07	0.95	0.81-1.11
				238		> 40g/week	0.83	0.7-0.97	0.9	0.76-1.06
		NHS	1550	543		< 40g/month	1		1	
				603		40g/month-40g/week	1.04	0.92-1.17	1.1	0.97-1.24
				404		> 40g/week	0.98	0.86-1.11	1.1	0.96-1.26
Hansen et al, 2017	stroke	DHC	2283	-	1765	<21 g/day	1		1	
				-	518	>=21 g/day	0.76	0.69-0.84	0.85	0.77-0.95
Johnsen et al, 2014	CHD mortality	HELGA	298	w: CHD	298	q 1:0 g/day	-	-	1	
						q 2:0.4	-	-	0.74	0.52-1.05
						q 3:3	-	-	0.85	0.59-1.21
						q 4:14	-	-	0.66	0.45-0.96
	fatal stroke		0	m: CHD	418	q 1:0	-	-	1	
						q 2:0.5	-	-	1.01	0.83-1.23
						q 3:4	-	-	1.01	0.8-1.28
						q 4:30	-	-	0.82	0.65-1.03
					298	q 1:0	-	-	1	

Supplementary Data

				w: stroke		q 2:0.4	-	-	1.03	0.64-1.67
						q 3:3	-	-	0.66	0.38-1.16
						q 4:20	-	-	0.63	0.34-1.15
				m: stroke	418	q 1:0	-	-	1	
						q 2:0.5	-	-	0.67	0.42-1.07
						q 3:5	-	-	1.03	0.6-1.76
						q 4:30	-	-	0.71	0.41-1.21

Table S4. Extraction table for all-cause mortality.

		Category Exposure								Continuous exposure				
Author, year	Cohort	sex	cases by group	Total intake median	Total intake 5th–95th percentiles	Age- and follow up time adjusted		Multivariable analysis		sex	cases	Total intake median in g/day	Multivariable analysis	
						RR	95%CI	RR	95%CI				HR	95%CI
Johnsen et al, 2014	HELGA	w	3658	2	0-30	per doubling effect 0.98	0.96-0.99	0.98	0.96-0.99	w	3658	q ¹ 1: 0	1	
		m	4181	2	0-31	0.98	0.97-1.0	0.98	0.97-1.0			q2: 0.4	0.85	0.78-0.93
	Norwegian Women and Cancer Study	w		1	0-22							q3: 4	0.74	0.67-0.82
	VIP	w		5	0.3-25							q4: 19	0.78	0.7-0.87
		m		5	0.4-31					m	4181	q1: 0	1	
	DHC	w		1	0-30							q2: 0.4	0.87	0.8-0.95
		m	7839	0.9	0-30							q3: 3	0.85	0.77-0.94
												q4: 30	0.76	0.69-0.85

¹ - quartile

Supplementary Data

Table S5. GRADE assessment. Does oat consumption influence the risk of T2D and CVD in the general population.

Quality assessment								No of study subjects		Relative (95% CI)	Quality	Importance
	Design	No of studies	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Total	Events			
Outcome 1												
T2D (low vs high)	Observational ¹	4	No concern ²	No concern ³	No concern ⁴	No concern ⁵	No evident publication bias ⁶ ; no upgrading ⁷	250249	26046	0.78 (0.74-0.82)	low	Critical
Outcome 2												
T2D (consumer vs. non consumer)	Observational ¹	3	-1 ⁸	-1 ⁹	No concern ¹⁰	-1 ¹¹	No evident publication bias ¹² ; no upgrading ¹³	273489	14579	0.86 (0.72-1.03)	very low	Critical
Outcome 3												
CHD and MI	Observational ¹	2	-1 ¹⁴	-1 ¹⁵	No concern ¹⁶	-1 ¹⁷	No evident publication bias ¹⁸ ; no upgrading ¹⁹	197374	16477	0.81 (0.61-1.08)	very low	Critical
Outcome 4												
Stroke	Observational ¹	4	No concern ²⁰	-1 ²¹	No concern ²²	-1 ²³	No evident publication bias ⁶ ; no upgrading ²⁴	312171	7629	0.79 (0.59-1.07)	very low	Critical
Outcome 5												
Composite CVD	Observational ¹	2	-1 ²⁵	-1 ²⁶	No concern ²⁷	-1 ²⁸	No evident publication bias ¹⁸ ; no upgrading ²⁹	121181	1611	0.73 (0.5-1.07)	very low	Critical

Oat intake and risk of type 2 diabetes, cardiovascular disease and all-cause mortality: a systemic review and meta-analysis. Wehrli F

Supplementary Data

¹ All the studies were prospective cohort studies

² All the studies are of high quality, so we do not think bias is a concern in this outcome.

³ $I^2 = 47\%$ (moderate heterogeneity), $p = 0.129$; no wide variation of point estimate across studies; confidence intervals are mostly overlapping

⁴ Two studies included only women, one study included only men, one study included men and women; three studies from North America, one study is from Europe. The study results can be generalized to the general population.

⁵ Large number of participants, including cases with T2D (250,249, therefrom 26,046 T2D cases); effect size statistically significant (95% CI does not include 1).

⁶ Due to a small number of studies ($n=4$), publication bias was not formally assessed.

⁷ No upgrade due to small effect size, accounted for confounders (age, smoking, alcohol intake, postmenopausal hormone use), however, other important confounders were not taken into account (residual confounding); no evidence for dose-response relationship.

⁸ Assessed by Newcastle-Ottawa Scale one study was of good quality, two of fair quality, therefore bias is a concern in this outcome.

⁹ High heterogeneity: $I^2 = 97.6\%$, $p=0.000$ (considerate heterogeneity); point estimates demonstrate high variability, one study has no overlap of 95% CI with others.

¹⁰ One study was conducted in Northern America, one in Europe, one in Australia, therefore we think the results can be generalized to the general population.

¹¹ Large number of participants, including cases with T2D (273,489, therefrom 14,579 T2D cases); effect size is not statistically significant (95% CI includes 1).

¹² Due to a small number of studies ($n=3$), publication bias was not formally assessed.

¹³ No upgrade due to small effect size, accounted for confounders (alcohol intake, smoking), however, other important confounders were not taken into account (residual confounding); no evidence for dose-response relationship.

¹⁴ Assessed by Newcastle-Ottawa Scale one study was of good quality, one of fair quality, therefore, bias is a concern in this outcome.

¹⁵ $I^2 = 99.2\%$, $p=0.000$ (considerate heterogeneity); point estimates demonstrate high variability; 95% confidence intervals do not overlap.

¹⁶ One study conducted in Europe and one from Australia, the study results can be generalized to the general population, both sexes were assessed, no difference between genders, when reported separately.

¹⁷ Large number of participants, including cases with CHD and MI (197,374, therefrom 16,477 CHD and MI cases); effect size is not statistically significant (95% CI includes 1).

¹⁸ Due to a small number of studies ($n=2$), publication bias was not formally assessed.

¹⁹ No upgrade due to small effect size, accounted for confounders (educational status, smoking, alcohol intake, physical activity, fruit and meat intake), however, other important confounders were not taken into account (residual confounding); no evidence for dose-response relationship.

²⁰ Assessed by Newcastle-Ottawa Scale three studies out of four were of fair quality, one of good quality, therefore we not think bias is a concern in this outcome.

²¹ High heterogeneity: $I^2 = 97.2\%$, $p=0.000$ (considerate heterogeneity); point estimates demonstrate high variability, one study has no overlap of 95% CI with others.

²² Two studies were conducted in Northern America, one in Europe and one in Australia, therefore we think the results can be generalized to the general population.

²³ Large number of participants, including cases with stroke (197,374, therefrom 7,629 stroke cases); effect size is not statistically significant (95% CI includes 1).

²⁴ No upgrade due to small effect size, accounted for confounders (BMI, physical activity, alcohol intake, smoking), however, other important confounders were not taken into account (residual confounding); no evidence for dose-response relationship.

²⁵ Assessed by Newcastle-Ottawa Scale both studies were of fair quality, therefore, bias is a concern in this outcome.

²⁶ $I^2 = 79.1\%$, $p=0.029$ (considerate heterogeneity); point estimates demonstrate high variability; 95% confidence intervals barely overlap.

²⁷ One study conducted in Europe and one is from Taiwan, the study results can be generalized to the general population, both sexes were assessed, no difference between genders, when reported separately.

²⁸ Large number of participants, including cases with CVD (121,181, therefrom 1,611 CVD cases); effect size is not statistically significant (95% CI includes 1).

Oat intake and risk of type 2 diabetes, cardiovascular disease and all-cause mortality: a systemic review and meta-analysis. Wehrli F

Supplementary Data

²⁹ No upgrade due to small effect size, accounted for confounders (age and smoking), however, other important confounders were not taken into account (residual confounding); no evidence for dose-response relationship.