

Supporting Information

Combined lifestyle factors, all-cause mortality, and cardiovascular disease: a systematic review and meta-analysis of prospective cohort studies

Yan-Bo Zhang, Xiong-Fei Pan, Junxiang Chen, Anlan Cao, Lu Xia, Yuge Zhang, Jing Wang, Huiqi Li, Gang Liu, An Pan

Table A1. Examples of the definitions of the major lifestyle scores

Factors	Simple Score ^{*,1}	Life's Simple seven Score ²	World Cancer Research Fund Score ³
Smoking	1 point for never smokers; 0 point for ever smokers.	2 points for never smokers or quitting >12 months; 1 point for quitting ≤12 months; 0 point for current smokers.	Not included.
Alcohol drinking	For men and women respectively: 1 point for 5-30/16 g/d; 0 point for <5 g/d or >30/15 g/d.	Not included.	For men and women respectively: 1 point for ≤20/10 grams per day; 0.5 points for 20.1-30/10.1-20 grams per day; 0 point for >30/20 grams per day.
Physical activity	1 point for >30 min moderate to vigorous physical activity per day; 0 point for ≤30 min moderate to vigorous physical activity per day.	2 points for moderate or moderate to vigorous physical activity ≥ 150 minutes per week or vigorous physical activity ≥ 75 minutes per week; 1 point for moderate or moderate to vigorous physical activity for 1-149 minutes per week or vigorous physical activity for 1-74 minutes per week; 0 point for no physical activity.	1 point for manual/heavy manual job, or >2 h/w of vigorous physical activity, or >30 min/d of cycling/sports; 0.5 points for cycling/sports 15-30 min/d; 0 point for moderate physical activity <30 minutes per day or <five days per week or <seven years of the previous 10 years.
Body mass index	1 point for 18.5-24.9 kg/m ² ; 0 point for <18.5 kg/m ² or ≥ 25 kg/m ² .	2 points for <25 kg/m ² ; 1 point for 25-29.99 kg/m ² ; 0 point for ≥ 30 kg/m ² .	1 point for 18.5-24.9 kg/m ² ; 0.5 points for 25.0-29.9 kg/m ² ;; 0 point for <18.5 kg/m ² or ≥30.0 kg/m ² .
Diet	Evaluated by a dietary score, such as the	Evaluated by American Heart Association food	Not included.

Factors	Simple Score ^{*,1}	Life's Simple seven Score²	World Cancer Research Fund Score³
	Alternate Healthy Eating Index, or the Mediterranean Diet Score, or self-defined diet score: 1 point for the top two quintiles; 0 point for the lower three quintiles.	guideline: 2 points for meeting 4-5 components; 1 point for meeting 2-3 components; 0 point for meeting 0-1 component.	
Energy density	Not included.	Not included.	1 point for daily energy density ≤ 125 kcal/100g; 0.5 points for daily energy density 126-175 kcal/100g; 0 point for energy density >175 kcal/100g; 1 point for no sugar-sweetened beverage consumption; 0.5 points for ≤ 250 -gram sugar-sweetened beverage consumption daily; 0 point for >250 -gram sugar-sweetened beverage consumption daily.
Plant food	Not included.	Not included.	1 point for fruits and vegetables consumption ≥ 400 g/d; 0.5 points for fruits and vegetables consumption 200-399 g/d; 0 point for fruits and vegetables consumption <200 g/d; 1 point for dietary fiber consumption ≥ 25 g/d; 0.5 points for dietary fiber consumption 12.5-24.9 g/d; 0 point for dietary fiber consumption <12.5 g/d;
Animal food	Not included.	Not included.	1 point for red meat consumption <500 g/w and processed meat consumption <3 g/d; 0.5 points for red meat consumption <500 g/w

Factors	Simple Score ^{*,1}	Life's Simple seven Score²	World Cancer Research Fund Score³
Blood pressure	Not included.	For systolic blood pressure and diastolic blood pressure: 2 points for SBP <120 and DBP <80 mmHg without medication; 1 point for SBP 120-139 or DBP 80-89 mmHg, or SBP <120 and DBP <80 mmHg with medication; 0 point for SBP ≥140 or DBP ≥90 mmHg.	and processed meat consumption 3-49 g/d; 0 point for red meat consumption ≥500 g/w or processed meat consumption ≥50 g/d. Not included.
Blood glucose	Not included.	For fasting serum glucose: 2 points for <100 mg/dL without medication; 1 point for 100-125 mg/dl or <100 mg/dl with medication; 0 point for ≥126 mg/dl.	Not included.
Blood lipid	Not included.	For blood total cholesterol: 2 points for <200 mg/dl without medication; 1 point for 200-239 mg/dl or <200 mg/dl with medication; 0 point for ≥ 240 mg/dl.	Not included.

*The simple scores only included behavioral factors, and the weights of included behavioral factors are identical. Those are just examples, and different studies may have varied definitions of healthy lifestyle factors for smoking, alcohol drinking, physical activity, body mass index, healthy diet; some studies may give more weight to certain variables, such as two for never smoking, one for past smoking, zero for current smoking, or two for normal weight, one for overweight and zero for obesity; some studies also included some other variables, such as sleep duration or quality, waist circumference, sedentary lifestyle.

DBP, diastolic blood pressure; SBP, systolic blood pressure.

Table A2. List of studies excluded from the main analyses after manual inspections

Study	Reasons for Exclusion from the Main Analyses
Thirty-six articles not reporting HR or RR or OR comparing the highest score group with the lowest score group	
Abdullah Said-2018 ⁴	In the study, each behavior was categorized into three groups, the ideal group, the intermediate group, and the poor group. And an ideal lifestyle was defined as no less than three ideal factors, whereas a poor lifestyle was defined as no less than three poor factors. We cannot differentiate different lifestyle groups by assigning different points to each behavior.
Avanzini-2016 ⁵	The study only reported the HR for one additional healthy lifestyle factor, without reporting the HR comparing the healthiest lifestyle versus the least healthy one.
Bai-2017 ⁶	The study investigated the HRs comparing the healthiest lifestyle versus the others, instead of the least healthy lifestyle.
Berstad-2017 ⁷	The investigators divided the participants into two groups, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Byun-2010 ⁸	The study did not report the confidence interval of the HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Chyou-1997 ⁹	The study divided each behavior into three categories, for example, participants were divided into <21.21, 21.21-26.30 and ≥ 26.31 kg/m ² according to body mass index. It's hard to decide which group was more hazardous, so the data cannot be transformed into the score form.
Dagenais-2018 ¹⁰	The investigators divided the participants into two groups, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Djousse-2009 ¹¹	The study did not report the HR comparing the healthiest lifestyles versus the least healthy lifestyles.
Dobson-2012 ¹²	The study used absolute risk as a statistic.
Foraker-2016 ¹³	The study only reported the HR for one additional healthy lifestyle factor, without reporting the HR comparing the healthiest lifestyle versus the least healthy one.
Hardoon-2008 ¹⁴	The study used population attributable risk as a statistic.
Haveman-Nies-2002 ¹⁵	The study did not report the confidence interval of the HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Heidemann-2009 ¹⁶	The score included height and age which were unmodifiable.
Iestra-2006 ¹⁷	The investigators divided the participants into two groups, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Khawaja-2012 ¹⁸	The investigators divided the participants into two groups, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Kim-2013 ¹⁹	The study used population attributable risk as a statistic.

Study	Reasons for Exclusion from the Main Analyses
Li-2014 ²⁰	The study used population attributable risk as a statistic.
Li-2015 ²¹	The study only reported the HR for one additional healthy lifestyle factor, without reporting the HR comparing the healthiest lifestyle versus the least healthy one.
Manuel-2015 ²²	The study only reported the HR for one additional healthy lifestyle factor, without reporting the HR comparing the healthiest lifestyle versus the least healthy one.
Manuel-2016 ²³	The study used year lose as a statistic.
Menotti-2014 ²⁴	The study used life expectancy at 20 and 40 years old as a statistic.
Menotti-2016 ²⁵	The study used life expectancy at 50 years old as a statistic.
Metzner-1983 ²⁶	The study did not report the HRs comparing the healthiest lifestyle versus the least healthy lifestyle.
Nakano-2006 ²⁷	The investigators divided the participants into two groups, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
O'Doherty-2016 ²⁸	The study compared the participants who were overweight, light or moderate drinker, non-smokers, and partaking in vigorous physical activity with participants who were overweight, light or moderate drinker, smokers, and not partaking in vigorous physical activity, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Pronk-2010 ²⁹	The investigators divided the participants into two groups, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Rhee-2012 ³⁰	The score included age which was unmodifiable.
Rotevatn-1989 ³¹	The study used observed/expected mortality ratio as a statistic.
Shaw-2012 ³²	The study defined non-drinkers and heavy drinkers as high-risk population, but respectively estimated the HRs comparing participants who were smoking, physically inactive and non-drinkers versus participants who were not smoking, physically active and moderate drinkers, and the HRs comparing participants who were smoking, physically inactive and heavy drinkers versus participants who were not smoking, physically active and moderate drinkers. And this restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Spencer-2005 (1) ³³	The investigators divided the participants into two groups, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Spencer-2005 (2) ³⁴	The investigators divided the participants into two groups, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.

Study	Reasons for Exclusion from the Main Analyses
Stampfer-2000 ³⁵	The investigators only estimated the HR comparing participants with all healthy lifestyle factors versus the others, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Takeshita-1995 ³⁶	The investigators divided the participants into two groups, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Tikk-2014 ³⁷	The study used absolute risk as a statistic.
Whitley-2014 ³⁸	The study used population attributable risk as a statistic.
Xanthakis-2014 ³⁹	The study only reported the HR for one additional healthy lifestyle factor, without reporting the HR comparing the healthiest lifestyle versus the least healthy one.
Yokoyama-2017 ⁴⁰	The investigators divided the participants into two groups, which restricted the estimation of HR comparing the healthiest lifestyle versus the least healthy lifestyle.
Three articles investigating the relations of pre-decided outcomes with the change of lifestyle only	
Enserro-2018 ⁴¹	The study only investigated the relationship between the change of the Life's simple seven score and cardiovascular disease incidence/all-cause mortality.
King-2007 ⁴²	The study only investigated the relations of improvement of the score with mortality and incident cardiovascular diseases.
Shah-2015 ⁴³	The study only investigated the relations of improvement of the score with incident heart failure and atrial fibrillation.
Seventeen duplicate reporting from the same cohort studies	
Ahmad-2019 ⁴⁴	There is another study from the National Health and Nutrition Examination Surveys III ⁴⁵ investigating the relation of combined lifestyle factors with CVD mortality with larger sample size.
Belloc-1973 ⁴⁶	There is another study ⁴⁷ from the Alameda cohort investigating the relation of combined lifestyle factors with all-cause mortality with longer follow-up duration.
Cohen-2012 ⁴⁸	The study investigated the relation of a score including non-narcotic analgesics usage with incident hypertension, whereas other analyses from Nurses' Health Study II ^{21, 49} constructed scores using five major behaviors.
Eguchi-2012 ⁵⁰	There is another study ⁵¹ from the Japan Collaborative Cohort Study investigating the relation of combined lifestyle factors with death with longer follow-up duration.
Forman-2009 ⁵²	There are other studies ^{21, 49} from Nurses' Health Study II investigating the relation of combined lifestyle factors with incident hypertension with longer follow-up duration.
Gao-2015 ⁵³	The study investigated the relation of combined lifestyle factors with incident hypertension in the prehypertensive population, whereas

Study	Reasons for Exclusion from the Main Analyses
Kabat-2015 ⁵⁵	<p>another analysis in Kailuan study⁵⁴ was conducted in general population.</p> <p>There is another study⁵⁶ from the American Association of Retired Persons study investigating the relation of combined lifestyle factors with all-cause mortality with longer follow-up duration.</p>
Kurth-2006 ⁵⁷	<p>There is another study⁵⁸ from Women's Health Study investigating the relation of combined lifestyle factors with incident stroke with longer follow-up duration.</p>
Mancini-2019 ⁵⁹	<p>There is another study⁶⁰ from Clinical Outcomes Utilizing Revascularization and Aggressive Drug Evaluation trial investigating the relation of combined lifestyle factors with all-cause mortality with a larger sample size.</p>
Matheson-2012 ⁶¹	<p>There is another study⁴⁵ from National Health and Nutrition Examination Surveys III investigating the relation of combined lifestyle factors with death with longer follow-up duration.</p>
Myint-2011 ⁶²	<p>This study failed to derive the relative risk of combined lifestyle factors for death by Cox regression or logistic regression, whereas another European Prospective Investigation into Cancer and Nutrition-Norfolk study⁶³ conducted such analyses.</p>
Perrot-2017 ⁶⁴	<p>The study investigated the interaction of lifestyle and genetics on incident cardiovascular disease, whereas another European Prospective Investigation into Cancer and Nutrition-Norfolk study⁶⁵ investigated the effects of lifestyle.</p>
Veronese-2016 ⁶⁶	<p>The study investigated the interaction of body weight and lifestyle and failed to report the relative risk for all-cause mortality and cause-specific mortality. Whereas other studies^{1, 67} conducted in Nurses' Health Study and Health Professionals Follow-up Study investigated the relations of combined lifestyle factors with mortality directly.</p>
Weikert-2007 ⁶⁸	<p>There is another study from European Prospective Investigation into Cancer and Nutrition-Potsdam⁶⁹ investigating the relation of combined lifestyle factors with incident stroke with longer follow-up duration.</p>
Yang-2016 ⁷⁰	<p>There is another study from Kailuan study⁷¹ investigating the relation of combined lifestyle factors with incident stroke with longer follow-up duration.</p>
Zhang-2012 ⁷²	<p>The study investigated the interaction of lifestyle and antihypertensive treatment on incident stroke, whereas another MONItoring trends and determinants of Cardiovascular disease-Finland study⁷³ investigated the relation of combined lifestyle factors with incident stroke directly.</p>
Zhao-2016 ⁷⁴	<p>The study investigated the relation of cumulative Life's simple seven score with incident hypertension. Whereas another Kailuan study⁵⁴ investigated the relation of baseline Life's simple seven score with incident hypertension.</p>

HR, hazard ratio.

Table A3. Characteristics of studies related to all-cause mortality

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Ahmed-2013 ⁷⁵	Multi-Ethnic Study of Atherosclerosis	US	2000-2011 (7.60)	47.00	44-84 (62.00)	White 62.00 Black 26.00 Asian 13.00	82.30	general population	6229	All-cause mortality was retrieved from death certificates.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. MPA >150 min/w or VPA >75 min/w; 0. MPA ≤150 min/w and VPA ≤75 min/w. BMI: 1. 18.5-24.9; 0. ≥25 or <18.5. Diet (MDS, FFQ): 1. above the median; 0. below the median.	9
Artero-2012 ^{†, 76}	Aerobics Center Longitudinal Study	US	1987-2003 (11.60)	75.67	20-88 (46.00)	White >99.00	>70.00	general population	11993	All-cause mortality was identified through the National Death Index and death certificates.	Smoking: 1. never smokers; 0. ever smokers; PA: 1. ≥500 MET-min/w; 0. <500 MET-min/w. BMI: 1. 18.5-24.9 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHA, 3-d dietary record): 1. 3-4 components; 0. 0-2 components. SBP/DBP: 1. <120 and 80 mmHg (not treated); 0. <120 and 80 mmHg (treated) or ≥120 or 80 mmHg. FPG: 1. <100 mg/dl (not treated); 0. <100 mg/dl (treated) ≥100 mg/d. TC: 1. <200 mg/dl (not treated); 0. ≥200 mg/dl (treated).	9
Atkins-2018 ⁷⁷	Clinical Practice Research Datalink	UK	2000-2016 (6.25)	48.83	60-69 (63.55)	White predominant	NA	general population	421411	The methods of identifying all-cause mortality, CVD events (CHD,	Clinical Practice Research Datalink: Smoking: 2. never smokers; 1. former smokers; 0. current smokers. PA: 2. vigorous activity; 1. moderate	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	& UK Biobank									stroke, and HF), and cancer cases were not reported.	<p>activity; 0. none or mild activity. BMI: 2. <25 kg/m²; 1. 25-29.99 kg/m²; 0. ≥30 kg/m². SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FSG: 2. <5.6 mmol/l (not treated) or no data on FSG or diabetes; 1. 5.6-7 mmol/l (not treated) or <5.6 mmol/l (treated), or diabetes diagnosis and not treated or with no treatment information; 0. >7 mmol/l or diabetes diagnosis and treated. TC: 2. <5.172 mmol/l (not treated) or no data on TC; 1. 5.172-6.21 mmol/l (not treated), or <5.172 mmol/l (treated), or hypercholesterolemia diagnosis and not treated or with no treatment information; 0. >6.21 mmol/l, or hypercholesterolemia diagnosis and treated.</p> <p>UK Biobank: Smoking: 2. never or quitting >12 m; 1. quitting ≤12 m; 0. current. PA: 2. MPA ≥150 min/w, or VPA ≥75 min/w, or MVPA ≥150 min/w; 1. MPA 1-149 min/w, or VPA 1-74</p>	

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Behrens-2013 ⁵⁶	American Association of Retired Persons	US	1995-2009 (12.50)	59.21	50-71 (62.50)	White 77.90	>77.37	general population	170672	Deaths were identified through the Social Security Administration Death Master File and the National Death Index Plus.	min/w, or MVPA 1-149 min/w; 0. none. BMI: 2. <25 kg/m ² ; 1. 25-29.99 kg/m ² ; 0. ≥30 kg/m ² . SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FSG: 2. no self-reported prevalent diabetes and no insulin medication; 1. self-reported prevalent diabetes but no insulin medication; 0. self-reported prevalent diabetes and insulin medication. TC: 2. no self-reported prevalent high cholesterol and no cholesterol medication; 1. self-reported prevalent high cholesterol but no cholesterol medication; 0. self-reported prevalent high cholesterol and cholesterol medication. Smoking: 1. never smoking or quitting smoking ≥10 years; 0. quitting smoking <10 years or current smoking. PA: 1. MPA ≥30 min/episode and ≥5 episodes/w or VPA ≥20 min/episode and ≥3 episodes/w; 0. MPA <30	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Berard-2017 ⁷⁸	MONitoring trends and determinants of Cardiovascular disease-France	France	1994-2013 (18.00)	73.00	35-64 (51.47)	White predominant	32.30	general population	1311	Death was identified through National Identification Register of Private Individuals, and main and associated causes of death were provided by the French National Institute of Health Research.	min/episode or <5 episodes/w and VPA <20 min/episode or <3 episodes/w. WC (M/F): 1. <102/88 cm; 0. ≥102/88cm. Diet (aMDS, FFQ): 1. ≥5 points; 0. <5 points. Smoking: 6. never smokers; 5. former smokers; 3. current smokers smoking 1-8 cigarettes/d; 2. current smokers smoking 9-15 cigarettes/d; 1. current smokers smoking 17-20 cigarettes/d; 0. current smokers smoking 23-60 cigarettes/d. Alcohol drinking (M/F): 2. 1-2/1 drink/d; 1. teetotalers; -1. ≥3/2 drinks/d. PA: 2. intense PA ≥20 min/episode and ≥3 episodes/w; 1.5. intense PA ≥20 min/episode and 1-2 episodes/w; 1. light PA almost every week; 0. no regular PA. BMI: 2. <25.0 kg/m ² ; 1.5. 25.0-29.9 kg/m ² ; 1. 30.0-39.9 kg/m ² ; 0. ≥40.0 kg/m ² . Diet (score consisting of sugar, FA, DF, fruits, vegetables, fish and sodium consumption, 3-day food	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											record); 4. most adherent quartile; 3. second adherent quartile; 2. third adherent quartile; 1. least adherent quartile. SBP/DBP: 3. <120 and 80 mmHg; 2.5. 120-129 or 80-84 mmHg; 2. 130-139 or 85-89 mmHg; 1.5. 140-159 or 90-99 mmHg; 1. 160-179 or 100-109 mmHg; 0. ≥180 or ≥110 mmHg. FBG: 3. 2.75-4.92 mmol/l; 2. 4.93-5.38 mmol/l; 1. 5.39-5.88 mmol/l; 0. 5.89-18.82 mmol/l. HDL-c: 2. 1.86-3.50 mmol/l; 0. 1.58-1.85 mmol/l; -1. 1.33-1.57 mmol/l; -2. 0.35-1.32 mmol/l.	
Bonaccio-2019 ⁷⁹	Molisan Study	Italy	2005-2015 (8.20)	47.7	35-NA (55.00)	White predominant	>12.90	General population	22839	All-cause mortality was assessed by the Italian mortality registry and validated by Italian death certificates.	Smoking: 1. abstention from smoking; 0. current smoking. PA: 1. LTPA ≥30 min/d; 0. LTPA <30 min/d. WHR (M/F): 1. <0.90/0.85; 0. ≥0.90/0.85. Diet (MDS, FFQ): 1. above the sex-specific medians; 0. not above the sex-specific medians.	9
Booth-2014 ⁸⁰	Reasons for Geograp	US	2003-2009 (4.30)	64.08	45-79 (68.79)	White 58.23 Black 41.77	82.73	CHD patients	4174	All-cause mortality was identified through telephone	Smoking: 1. not current smokers; 0. current smokers. PA: 1. ≥4 times/w; 0. <4 times/w.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	hic and Racial Differences in Stroke									contact with participants or proxies, adjudicated by medical records, death certificates, autopsy reports, online sources, and the National Death Index.	WC (M/F): 1. ≤102/88 cm; 0. >102/88 cm. Diet (MDS, FFQ): 1. top 20%; 0. lower 80%.	
Booth-2016 ⁸¹	Reasons for Geographic and Racial Differences in Stroke	US	2003-2012 (5.80)	57.56	45-79 (66.60)	White 58.23 Black 41.77	89.14	population with a 10-year predicted risk ≥7.5%	5709	All-cause mortality was identified through telephone contact with participants or proxies, adjudicated by medical records, death certificates, autopsy reports, online sources, and the National Death Index.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. ≥5 times/w; 0. <5 times/w. WC (M/F): 1. ≤102/88 cm; 0. >102/88 cm. Diet (MDS, FFQ): 1. top 20%; 0. lower 80%. Diet (SFA intake): 1. top 20%; 0. lower 80%.	8
Breslow-1980 ⁴⁷	"Alameda cohort"	US	1965-1974 (8.61)	44.22	NA (<53.28)	White 84.00	NA	general population	4864	All-cause mortality was identified through active follow-up.	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking: 1. ≤4 drinks/episode; 0. >4 drinks/episode. PA: 1. often or sometimes engage in active sports, swim or take long walks, or often garden or do physical	5

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Carlsson-2010 ⁸²	"Stockholm County 1969"	Sweden	1969-1996 (NA)	50.85	18-64 (NA)	White predominant	NA	general population	1174	All-cause mortality was identified through the National Cause of Death Register	<p>exercises; 0. not often or sometimes engage in active sports, swim or take long walks, or often garden or do physical exercises.</p> <p>BMI (M/F): 1. between 20%-95%/10%-90% desirable weight for height; 0. <20%/10% or >95%/90% desirable weight for height.</p> <p>Diet (eating breakfast almost every day): 1. yes; 0. no.</p> <p>Diet (eating between meals once in a while, rarely or never): 1. yes; 0. no.</p> <p>Sleep: 1. 7-8 h/d; 0. <7 or >8 h/d.</p> <p>Smoking: 1. non-smokers; 0. smokers.</p> <p>Physically fitness (median maximal oxygen consumption): 1. >30 ml/kg/min; 0. ≤30 ml/kg/min.</p> <p>BMI: 1. <30 kg/m²; 0. ≥30 kg/m².</p>	8
Carlsson-2013 ⁸³	"Stockholm County 1997"	Sweden	1997-NA (10.85)	48.18	60-60 (60.00)	White predominant	37.89	general population	4232	All-cause mortality was identified through the In Hospital Care Register and the Cause of Death Register.	<p>Smoking: 1. not current smokers; 0. current smokers.</p> <p>Alcohol drinking: 1. 0.6-30 g/d; 0. <0.6 g/d or >30 g/d.</p> <p>PA: 1. LTPA (MVPA) ≥once /w; 0. LTPA <once /w.</p> <p>Diet (fish intake): 1. weekly; 0. <once /w.</p> <p>Diet (processed meats as a main</p>	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Cerhan-2004 ^{†, 84}	Iowa Women's Health Study	US	1986-1998 (11.39)	0	55-69 (61.70)	White predominant	86.10	general population	29838	All-cause mortality was identified through mailed follow-up surveys and linkage to the National Death Index.	meal): 1. <once /w; 0. weekly; Diet (fruit intake): 1. daily; 0. <once /d. Diet (vegetable intake): 1. daily; 0. <once /d. Alcohol drinking: 1. <1 drink/d (14 g/d); 0. ≥1 drinks/d. PA: 1. exercise moderately daily and vigorously ≥1 h/w; 0. exercise moderately <once /d or vigorously <1 h/w. BMI: 1. ≤25.0 kg/m ² ; 0. >25.0 kg/m ² . Weight gain since age 18: 1. <11 pounds; 0. ≥11 pounds. Diet (vegetable and fruit intake excluding pulses and starchy, FFQ): 1. ≥5 servings/d; 0. <5 servings/d. Diet (complex carbohydrates intake, FFQ): 1. ≥400 g/d; 0. <400 g/d. Diet (red meat intake, FFQ): 1. <80 g/d; 0. ≥80 g/d. Diet (consumption of fat as percentage total calories, FFQ): 1. ≤30%; 0. >30%. Diet (sodium, FFQ): 1. <2400 mg/d; 0. ≥2400 mg/d.	7
Chakravarty-2012 ⁸⁵	“a cohort of	US	1986-2005 (15.60)	77.20	NA (68.00)	White predominant	100	general population	2327	All-cause mortality was ascertained	Smoking: 1. not current smokers; 0. current smokers.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Cheng-2018 ⁸⁶	University of Pennsylvania alumni” Iowa Women’s Health Study	US	1986-2012 (≥16.63)	0	55-69 (61.70)	White predominant	86.10	General population	35221	Deaths were identified through the State Health Registry of Iowa and the National Death Index. The underlying cause of death was assigned and coded by state vital registries according to the ICD.	PA: 1. any VPA that works up a sweat; 0. absence of VPA that works up a sweat. BMI: 1. 18.5-25.0 kg/m ² ; 0. <18.5 kg/m ² or >25.0 kg/m ² . Smoking: 5. never smokers; 2.24. former smokers; 0.56. current smokers. PA: 7.25. VPA ≥twice/w or MPA >4 times/w; 3.95. VPA once/w plus MPA once/w, or MPA 2–4 times/w; 1. no VPA or MPA <twice/w. BMI: 5. <25.0 kg/m ² ; 3.09. 25.0–29.9 kg/m ² ; 0.78. ≥30.0 kg/m ² .	8
Cloud-2015 ⁸⁷	Breast Cancer Family Registry	US	1995-2012 (9.17)	0	NA (48.87)	White 100	90-92.6	women with breast cancer or a family history of breast cancer	2905	All-cause mortality was identified through self or relative report and matching of participants to the National Death Index.	Alcohol drinking: 1. ≤1 drink/d; 0. >1 drink/d; PA: 1. MPA ≥150 min/w; 0. MPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² .	7
Diaz-2014 ⁸⁸	Reasons for Geograp	US	2003-NA (4.50)	49.20	45-NA (67.60)	White 39.50 Black 60.50	80.80	apparent treatment-resistant	2043	All-cause mortality was identified through interviews	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 1-14/7	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	hic and Racial Differences in Stroke							hypertensi on patients		of participants, proxy, next-of-kin, or medical record.	drinks/w; 0. <1 drink/w or >14/7 drinks/w. PA: 1. ≥ 4 d/w; 0. <4 d/w. WC (M/F): 1. $\leq 102/88$ cm; 0. >102/88 cm. Diet (DASH score, FFQ): 1. highest quartile (≥ 27 points); 0. lower three quartiles (<27 points). Diet (sodium/potassium intake, FFQ): 1. lowest quartile (≤ 0.71 g/d); 0. higher three quartiles (>0.71 g/d).	
Ding-2015 ⁸⁹	45 and Up Study	Australia	2006-2014 (6.00)	47.10	45-NA (NA)	NA	67.42	general population	231048	All-cause mortality was ascertained from the NSW Registry of Births, Deaths and Marriages.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. ≤ 14 drinks/w (one drink=one glass of wine, 1.5 pints of beer, one shot of spirits); 0. >14 drinks/w PA: 1. MVPA ≥ 150 min/w; 0. MVPA <150 min/w. Sedentary behavior: 1. sitting ≤ 7 h/d; 0. sitting >7 h/d. Diet (Dietary Guidelines for Australians, consisting of vegetable, fruit, fish, processed meat, and types of milk, questionnaire): 1. ≥ 6 points; 0. <6 points. Sleeping: 1. 7-9 h/d; 0. <7 h/d or >9 h/d.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Dong-2012 ⁹⁰	Northern Manhattan Study	US	1993-2011 (11.00)	36.30	40-107 (69.00)	White 75.00 Black 24.99	43.20	general population	2981	All-cause mortality was identified through death certificates, medical records of hospitalizations, family interviews, and primary care physicians.	Smoking: 1. never smokers or quitting >1 year; 0. quitting ≤1 year or current smokers; PA: 1. MPA ≥150 min/w or VPA ≥75 min/w or MVPA ≥150 min/w; 0. MPA <150 min/w and VPA <75 min/w and MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. <120 and 80 mmHg (not treated); 0. <120 and 80 mmHg (treated) or ≥120 or 80 mmHg. FPG: 1. <100 mg/dl (not treated); 0. <100 mg/dl (treated) ≥100 mg/d. TC: 1. <200 mg/dl (not treated); 0. or <200 mg/dl (treated) ≥200 mg/dl.	8
Dunkler-2016 ⁹¹	Ongoing Telmisartan Alone and in Combination with Ramipril Global Endpoint Trial	International	NA (NA)	68.10	55-NA (66.00)	White 67.30 Asian 17.00	NA	type 2 diabetes mellitus patients	6854	How to identify all-cause mortality was not reported in the article.	Smoking: 1. never smokers; 0.5. former smokers; 0. current smokers. PA: 1. ≥once /d; 0.5. 2-6 times/w; 0. ≤once /w BMI: 1. 23-30 kg/m ² ; 0. <23 or >30 kg/m ² . Diet (AHEI, FFQ): 1. ≥28 points; 0.5. 21-28 points; 0. <21 points. Social network score: 1. ≥25 points; 0.5. 13-24 points; 0. <13 points.	7
Eguchi-	Japan	Japan	1988-2009	43.24	40-79	Asian	63.88	general	42647	All-cause mortality	Smoking: 1. not current smokers; 0.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
2017 ⁵¹	Collaborative Cohort Study		(19.30)		(55.52)	predominant		population		was determined by reviewing death certificates.	current smokers. Alcohol drinking: 1. <2 gou/d (46g ethanol/d); 0. ≥2 gou/d. PA: 1. ≥0.5 h/d or ≥5 h/w; 0. <0.5 h/d and <5 h/w. BMI: 1. 21-25 kg/m ² ; 0. <21 kg/m ² or >25 kg/m ² . Diet (fruit): 1. ≥1 servings/d; 0. <1 serving/d. Diet (fish): 1. ≥1 servings/d; 0. <1 serving/d. Diet (milk): 1. almost daily; 0. <once /d. Sleeping: 1. 5.5-7.4 h/d; 0. <5.5 h/d or >7.4 h/d. ‡	
Emberson-2005 ⁹²	British Regional Heart Study	UK	1978-2000 (NA)	100	40-59 (49.20)	White predominant	NA	general population	6452	All-cause mortality was identified through the National Health Service registers.	Smoking: 1. never smokers; 0. ever smokers. PA: 1. moderately vigorous or vigorous; 0. moderate, light, occasional or none PA. BMI: 1. ≤25 kg/m ² ; 0. >25 kg/m ² .	7
Fazel-Tabar Malekshah-2016 ⁹³	Golestan Cohort	Iran	2004-2015 (8.08)	42.75	40-75 (51.54)	White >75.59	<31.10	general population	40708	All-cause mortality was identified through active follow up and confirmed by verbal autopsy and extensive medical	Smoking: 1. never smokers; 0. ever smokers. PA: 1. MVPA ≥30 min/d; 0. MVPA <30 min/d. Diet (AHEI, FFQ): 1. highest 40%; 0. lower 60%.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Ford-2011 ⁴⁵	National Health and Nutrition Examination Surveys III	US	1988-2006 (NA)	46.75	17-NA (59.00)	White 81.10 Black 11.10	61.88	general population	16958	documents. All-cause mortality was identified through the National Death Index.	Smoking: 1. <100 cigarettes; 0. ≥100 cigarettes. Alcohol drinking (M/F): 1. 0.1-59.9/29.9 drinks/m; 0. none or ≥60/30 drinks/m. PA: 1. VPA ≥3 times/w or MPA ≥5 times/w; 0. VPA <3 times/w and MPA <5 times/w. Diet (a single 24-h recall, HEI): 1. top 40%; 0. lower 60%.	8
Ford-2012 (1) ⁹⁴	National Health and Nutrition Examination Surveys 1999	US	1999-2006 (5.80)	47.69	20-NA (45.79)	White 72.22	52.90	general population	7622	All-cause mortality was identified through the National Death Index.	Smoking: 1. quitting >12 m or never smokers; 0. quitting ≤12 m or current smokers. PA: 1. MVPA ≥150 min/w; 0. MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (single 24-h recall, HEI): 1. ≥81 points; 0. <81 points. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or ≥200 mg/dl. SBP/DBP: 1. <120 and 80 mmHg (untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. HbA1c: 1. <5.7%; 0. ≥5.7%.	8
Ford-2012 (2) ^{†, 95}	National Health and	US	1999-2006 (5.70)	50.11	20-NA (45.60)	White 72.64 Black 19.15	52.90	general population	8375	All-cause mortality was identified through the	Smoking: 1. not current smokers; 0. current smokers. PA: 1. MVPA ≥150 min/w; 0. MVPA	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Foster-2018 ^{†, 96}	Nutrition Examination Surveys 1999 UK Biobank	UK	2006-2016 (4.90)	45.41	40-69 (55.71)	White 94.79	46.10	General population	328594	National Death Index. Deaths were obtained from death certificates held by the NHS Information Centre and the NHS Central Register.	<150 min/w. Diet (HEI, a single 24-h recall): 1. top 40%; 0. lower 60%. Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. not consume (almost) daily; 0. consume (almost) daily. PA: 1. MPA ≥150 min/w or VPA ≥75 min/w; 0. MPA <150 min/w and VPA <75 min/w. Diet (fruits and vegetables, 24-h dietary recall): 1. ≥400 g/d; 0. <400 g/d. Diet (oily fish, 24-h dietary recall): 1. ≥one portion/w; 0. <one portion/w. Diet (red meat, 24-h dietary recall): 1. ≤3 portions/w; 0. >3 portions/w. Diet (processed meat, 24-h dietary recall): 1. ≤1 portions/w; 0. >1 portions/w. Television viewing: 1. <4 h/d; 0. ≥4 h/d. Sleeping: 1. 7-9 h/d; 0. <7 h/d or >9 h/d.	8
Gopinath-2010 ⁹⁷	Blue Mountains Eye Study	Australia	1992-2007 (NA)	NA	49-NA (>62.51)	NA	NA	general population	2283	All-cause mortality was identified through the Australian National Death Index data.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. ≤21/14 units/w; 0. >21/14 units/w. PA: 1. ≥3 episodes/w; 0. <3 episodes/w. Diet (fruits and vegetables	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Greenlee-2017 ⁹⁸	Cardiovascular Health Study	US	1989-2011 (15.00)	38.56	65-98 (72.00)	White 86.71 Black 11.72	72.91	general population	3491	All-cause mortality was identified from National Death Index and interviews with proxy respondents.	consumption): 1. ≥ 3 episodes/d; 0. < 3 episodes/d. ACS: Smoking: 2. never smokers or quitting > 1 year; 1. quitting ≤ 1 year; 0. current smokers. Alcohol drinking (M/F): 2. non-drinker; 1. $< 2/1$ unit/d; 0. $> 2/1$ unit/d. PA: 2. LTPA ≥ 8.75 MET-h/w; 1. LTPA 0.10-8.74 MET-h/w; 0. zero MET-h/w. BMI: 2. < 25 kg/m ² at baseline and age 50; 1. 25-29.9 kg/m ² at baseline and < 30 kg/m ² at age 50, or 25-29.9 kg/m ² at age 50 and < 30 kg/m ² at baseline; 0. ≥ 30 kg/m ² either baseline, age 50, or both. Diet (ACS, including vegetables and fruits, red and processed meats, and whole grains consumption, FFQ): 2. ≥ 6 points; 1. 3-5 points; 0. < 3 points. AHA: Smoking: 2. never smokers or quitting > 1 year; 1. quitting ≤ 1 year; 0. current smokers. PA: 2. LTPA ≥ 8.75 MET-h/w; 1. LTPA 0.10-8.74 MET-h/w; 0. zero MET-h/w.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² . Diet (AHA, FFQ): 2. 4-5 components; 1. 2-3 components; 0. 0-1 components. SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg (untreated) or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FPG: 2. <100 mg/dl (untreated); 1. 100-125 mg/dl (untreated) or <100 mg/dl (treated); 0. ≥126 mg/dl. TC: 2. <200 mg/dl (untreated); 1. 200-239 mg/dl (untreated) or <200 mg/dl (treated); 0. ≥ 240 mg/dl.	
Hamer-2011 ⁹⁹	National Diet and Nutrition Survey	UK	NA-2008 (9.20)	50.75	65-99 (76.50)	White predominant	NA	general population	1062	All-cause mortality was identified through National Health Service administrative mortality data.	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking (M/F): 1. 1-21/14 units/w; 0. zero or >21/14 units/w. PA: 1. regular moderate to vigorous PA; 0. irregular or no moderate to vigorous PA. Diet (daily Vitamin C intake): 1. ≥50 mU; 0. <50 mU.	8
Heitz-2017 ¹⁰⁰	4-Corners Women	US	1999-2009 (NA)	0	25-79 (55.21)	White 100	88.17	invasive breast cancer	837	All-cause mortality was identified through the	Smoking: 2. never smokers; 1. former smokers; 0. current smokers. Alcohol drinking: 2. ≤0.5 drinks/d; 1.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Health Study							patients		National Death Index.	0.5-1 drinks/d; 0. >1 drinks/d. PA: 2. VPA >75 min/w; 1. VPA ≤75 min/w; 0. none VPA. BMI: 2. <25 kg/m ² ; 1. 25-30 kg/m ² ; 0. ≥30 kg/m ² . WHR: 2. <0.775; 1. 0.775-0.84; 0. ≥0.84. Diet (score consisting of dairy fat, refined grains, snacks, gravies and sauces, potatoes, bacon, beef, sugary drinks and desserts, prepared foods, fast foods, and fresh fruits and vegetables): 2. lowest tertile; 1. medium tertile; 0. highest tertile.	
Inoue-Choi-2013 ¹⁰¹	Iowa Women's Health Study	US	2004-2009 (5.40)	0	73-87 (78.90)	White predominant	86.10	cancer patients	2017	All-cause mortality was identified through the State Health Registry of Iowa, supplemented with the National Death Index (National Center for Health Statistics).	Alcohol drinking: 1. ≤10.0 g/d; 0.5. 10.1-20.0 g/d; 0. >20.0 g/d. PA: 1. ≥30.0 min/d; 0.5. 0.1-29.9 min/d; 0. none. BMI: 1. 18.5-24.9 kg/m ² ; 0.5. 25.0-29.9 kg/m ² ; 0. ≥30.0 kg/m ² . Diet (SSB, FFQ): 1. zero g/d; 0.5. <250 g/d; 0. ≥250 g/d. Diet (fruit and vegetable, FFQ): 1. ≥5 servings/d; 0.5. 3-4 servings/d; 0. <3 servings/d. Diet (DF, FFQ): 1. ≥25.0 g/d; 0.5. 12.5-24.9 g/d; 0. <12.5 g/d. Diet (red meat and processed meat,	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Iversen-2010 ¹⁰²	Royal College of General Practitioners' Oral Contraception Study	UK	1994-2006 (11.81)	0	42-81 (56.10)	White 96.00	NA	general population	7603	All-cause mortality was identified through the Oral Contraception Study database	FFQ: 1. <500 g/d and <3 g/d; 0.5. <500 g/d and 3-49 g/d; 0. ≥500 g/d or ≥50 g/d. Diet (sodium, FFQ): 1. ≤1500 mg/d; 0.5. 1501-2400 mg/d; 0. >2400 mg/d. Smoking 1. never smoking; 0. ever smoking. Alcohol drinking: 1. 0.1-6.9 units/w; 0. none or ≥7.0 units/w. PA: 1. >28 h/w; 0. ≤28 h/w. BMI: 1. 18.50-24.99 kg/m ² ; 0. <18.50 kg/m ² or ≥25.00 kg/m ² .	8
Jin-2017 ¹⁰³	InCHIA NTI study	Italy	1998-2010 (9.10)	45.00	65-95 (74.00)	White predominant	<45.92	general population	928	All-cause mortality was identified through Tuscany Region Mortality General Registry and death certificates at the registry office of the municipality of residence.	Smoking: 2. never smokers; 1. former smokers; 0. current smokers. PA: 2. light exercise ≥4 h/w, moderate exercise ≥1-2 h/w, or intense exercise many times/w; 1. light exercise 2-4 h/w; 0. inactive or with some walking. BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² . Diet (MDS, FFQ): 2. 6-9 points; 1. 4-5 points; 0. 0-3 points. SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Khaw-2008 [†] , 63	European Prospective Investigation into Cancer and Nutrition-Norfolk	UK	1993-2006 (11.00)	45.35	45-79 (58.13)	White 99.50	53.38	general population	20244	All-cause mortality was identified through death certification at the Office of National Statistics.	mmHg (untreated) or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FPG: 2. <100 mg/dl (untreated); 1. 100-125 mg/dl (untreated) or <100 mg/dl (treated); 0. ≥126 mg/dl. TC: 2. <200 mg/dl (untreated); 1. 200-239 mg/dl (untreated) or <200 mg/dl (treated); 0. ≥ 240 mg/dl. Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. 1-14 units/w (1 unit≈8 g alcohol); 0. none or >14 units/w. PA: 1. LTPA ≥0.5 h/d; 0. LTPA <0.5 h/d. Diet (plant food intake, blood Vitamin C level): 1. ≥50 mmol/l; 0. <50 mmol/l.	9
Kim-2013 ¹⁰⁴	Seoul Male Cohort Study	South Korea	1993-2011 (18.40)	100	40-59 (47.53)	Asian predominant	>53.73	general population	12538	All-cause mortality was identified through the National Statistics Office.	Smoking: 1. never smokers; 0. ever smokers. PA: 1. MPA ≥150 min/w, VPA ≥75 min/w, or MVPA ≥150 min/w; 0. MPA <150 min/w, MVPA <150 min/w, and VPA <75 min/w. BMI: 1. 23.1-24.9 kg/m ² ; 0. ≥25 kg/m ² . Diet (Korean dietary pattern, FFQ):	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
King-2013 [†] , 105	National Health and Nutrition Examination Surveys III	US	1988-2006 (NA)	18.50	21-NA (NA)	White 81.10 Black 11.10	61.88	population with normal blood pressure, low-density lipoprotein cholesterol or C-reactive protein level	11481	All-cause mortality was determined by the National Death Index.	1. ≥ 2 points; 0. < 2 points. SBP/DBP: 1. < 120 and 80 mmHg (without medication); 0. ≥ 120 or 80 mmHg, or < 120 and 80 mmHg (with medication). FBG: 1. < 100 mg/dl (without medication); 0. ≥ 100 mg/d, or < 100 mg/dl (with medication). TC: 1. < 200 mg/dl (without medication); 0. ≥ 200 mg/dl, or < 200 mg/dl (with medication). Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. $0.1-2/1$ drinks/d; 0. none or $> 2/1$ drinks/d. PA: 1. > 12 times/m; 0. ≤ 12 times/m. BMI: 1. $18.5-29.9$ kg/m ² ; 0. < 18.5 kg/m ² or ≥ 30 kg/m ² . Diet (fruit and vegetables): 1. ≥ 5 servings/d; 0. < 5 servings/d.	7
Knoops-2004 ¹⁰⁶	Healthy Ageing: a Longitudinal	Europe	1988-2000 (10.00)	64.43	70-90 (74.24)	White predominant	< 66.86	general population	2339	The identification of all-cause mortality was not reported.	Smoking: 1. never smokers or quitting > 15 years; 0. quitting ≤ 15 years or current smokers. Alcohol drinking: 1. > 0 g/d; 0. none.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	inal study in Europe										PA (Voorrips or Morris questionnaire): 1. the intermediate and the highest tertile; 0. the lowest tertile. Diet (mMDS, dietary history method): 1. ≥ 4 points; 0. < 4 points.	
Krokstad-2017 ¹⁰⁷	Nord-Trøndelag Health Study	Norway	1995-2010 (14.10)	47.00	20-69 (43.60)	White predominant	73.41	general population	37785	All-cause mortality was identified through Norwegian Causes of Death Registry. Cardio-metabolic diseases (including diseases of the circulatory system, and endocrine, nutritional and metabolic disease; ICD-9, 240-279, and 390-459; ICD-10, E10-E16, E65-E68, and I00-I99) mortality was identified through Norwegian Causes of Death Registry.	Smoking: 1. not current smokers; 0. current smokers. Drinking (Cut-Annoyed-Guilty-Eyeopener questionnaire): 1. < 2 points; 0. ≥ 2 points. PA: 1. LPA ≥ 3 h/w, or LPA ≥ 1 h/w and VPA ≥ 1 h/w; 0. LPA < 1 h/w or VPA < 1 h/w, or LPA < 3 h/w. Sedentary behavior: 1. > 7 h/d; 0. ≤ 7 h/d. Sleeping: 1. 6.1-9.9 h/d; 0. ≤ 6.0 h/d or ≥ 10.0 h/d. Social participation: 1. often; 0. never or only a few times a year.	8
Kvaavik-2010 ¹⁰⁸	Health and	UK	1985-2005 (20.00)	51.35	18-NA (43.70)	White 98.00	NA	general population	4886	All-cause mortality was ascertained	Smoking: 1. not current smokers; 0. current smokers.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Lifestyle Survey									from death certificates.	Alcohol drinking (M/F): 1. ≤21/14 units/w; 0. >21/14 units/w. PA: 1. ≥120 min/w; 0. <120 min/w. Diet (fruits and vegetables consumption, FFQ): 1. ≥3 times/d; 0. <3 times/d.	
Larsson-2017 ¹⁰⁹	Cohort of Swedish Men & Swedish Mammography Cohort	Sweden	1998-2014 (15.49)	52.20	45-83 (59.92)	White predominant	>18.49	general population	64093	All-cause mortality was identified through the Swedish Cause of Death Register	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. 0-14 drinks/w; 0. >14 drinks/w. PA: 1. ≥150 min/w; 0. <150 min/w. Diet (DASH score, FFQ): 1. above the median (22); 0. below the median.	9
Lee-2009 ¹¹⁰	Aerobics Center Longitudinal Study	US	1971-2003 (14.70)	100	30-79 (44.13)	White >95.00	>70.00	general population	23657	All-cause mortality was identified through the National Death Index and official death certificates.	Smoking: 1. never smoking; 0. ever smoking. Fitness (CRF): 1. higher 80%; 0. lower 20%. WC: 1. <94 cm; 0. ≥94 cm.	7
Leger-2018 ¹¹¹	"Fred Hutchinson Cancer Research Center Study"	US	2010-2016 (NA)	46.74	20.20-83.30 (55.90)	White 89.15	NA	hematopoietic cell transplantation survivors	2198	All-cause mortality was identified through annual contact with patients and families, referring providers, and periodic searches of	Smoking: 1. not a non-current smokers; 0. current smokers. PA: 1. VPA ≥75 min/w or MPA ≥150 min/w; 0. VPA <75 min/w and MPA <150 min/w. Diet (fruit/vegetable intake): 1. ≥5 servings/d; 0. <5 servings/d.	6

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Li-2018 ¹	Nurses' Health Study & Health Professionals Follow-Up Study	US	1980-2014 (27.20-33.90)	36.00	34-75 (48.96)	White 96.34	Predominant	general population	123219	public sources for patients without recent contact. All-cause mortality was identified from state vital statistics records, the National Death Index, reports by the families, and the postal system.	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking (M/F): 1. 5-30/15 g/d; 0. <5 g/d or >30/15 g/d. MVPA: 1. >30 min/d; 0. ≤30 min/d. BMI: 1. 18.5-24.9 kg/m ² ; 0. <18.5 kg/m ² or ≥25 kg/m ² . Diet (AHEI, FFQ): 1. top 40% of each cohort distribution; 0. lower 60% of each cohort distribution.	8
Lin-2012 ¹¹²	Taichung Diabetes Study	China	2002-2008 (4.02)	51.93	30-NA (58.51)	Asian predominant	NA	type 2 diabetes mellitus patients	5686	All-cause mortality was identified through the Taiwan National Death Index.	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking: 1. abstainer; 0. drinker. PA: 1. ≥once /w for >1 m continuously; 0. <once /w or <1 m continuously. Diet (carbohydrate intake, 24-h food diary): 1. <65%E; 0. ≥65%E.	7
Lin-2015 ^{†, 113}	National Health and Nutrition Examination	US	1988-2006 (8.17)	48.60	18-NA (NA)	White 81.10 Black 11.10	61.88	stroke patients	420	All-cause mortality was identified through the National Death Index.	Smoking: 1. never smokers; 1. ever smokers. PA: 1. MVPA ≥150 min/w; 1. MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (HEI, FFQ): 1. >80 points; 0.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Surveys III										<p>≤80 points.</p> <p>SBP/DBP: 1. <120 and 80 mmHg (untreated); 0. ≥120 or 80 mmHg or <120 and 80 mmHg (treated).</p> <p>HbA1c: 1. <5.7% (untreated); 0. ≥5.7% or <5.7% (treated).</p> <p>TC: 1. <200 mg/dl (untreated); 0. ≥200 mg/dl or <200 mg/dl (treated).</p>	
Lingfors-2019 ¹¹⁴	"Habo study"	Sweden	1985-2013 (>22.23)	100	33-42 (<42)	White predominant	20.00	General population	635	All-cause mortality data from the register of patients treated in hospitals and causes of mortality were also available.	<p>Smoking: 4. not current smokers; 0. current smokers.</p> <p>Alcohol drinking: 2. ≤109 g spirits/w; 0. >109 g spirits/w.</p> <p>PA: 2. high level; 0. low-to-moderate level.</p> <p>Diet (a weighted score consisting of consumption of vegetables, fine white bread, coarse fiber-rich bread, and visible fat, 4-item questionnaire): 3. 5–7 points; 0. 0–4 points.</p>	8
Liu-2014 ¹¹⁵	Kailuan Study	China	2006-2010 (4.02)	79.75	18-98 (51.46)	Asian predominant	>6.91	general population	95429	All-cause mortality was ascertained by discharge lists from local hospitals and death certificates from state vital statistics offices and active follow-up.	<p>Smoking: 1. never smokers; 0. ever smokers;</p> <p>PA: 1. MVPA ≥80 min/w; 0. MVPA <80 min/w.</p> <p>BMI: 1. <25 kg/m²; 0. ≥25 kg/m².</p> <p>Diet (salt intake): 1. low salt intake; 0. intermediate and high salt intake.</p> <p>SBP/DBP: 1. <120 and 80 mmHg</p>	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Lohse-2016 †, 116	MONITORING trends and determinants of Cardiovascular disease-Switzerland & National Research Programme1A	Switzerland	1977-NA (21.70)	50.60	25-74 (46.06)	White predominant	58.85	general population	16722	All-cause mortality was identified through the Swiss National Cohort.	(not treated); 0. <120 and 80 mmHg (treated) or ≥120 or 80 mmHg. FPG: 1. <100 mg/dl (not treated); 0. <100 mg/dl (treated) ≥100 mg/d. TC: 1. <200 mg/dl (not treated); 0. or <200 mg/dl (treated) ≥200 mg/dl. Alcohol drinking: 1. didn't drink yesterday; 0. drank yesterday. PA (MPA ≥60 min/d or VPA ≥30 min/d): 1. ≥2 d/w; 0.5. one d/w; 0. <1 d/w. Sedentary behavior: 1. regular exercise or exhausting; 0.5. walking, cycling, other regular activities such as gardening, or average; 0. mostly sitting or sedentary. BMI: 1. 18.5-24.9 kg/m ² ; 0.5. 25-29.9 kg/m ² ; 0. <18.5 kg/m ² or ≥30 kg/m ² . Diet (energy density, score consisting of fat for cooking, bread, or salad, cut away fat from meat, and sweets/chocolate): 1. 2-3 points; 0.5. one point; 0. zero points. Diet (fruits and vegetables): 1. yesterday consume both fruits and vegetables; 0.5. yesterday consume either fruits or vegetables; 0.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Maron-2018 ⁶⁰	Clinical Outcomes Utilizing Revascularization and Aggressive Drug Evaluation trial	Canada & US	NA (6.80)	85.54	NA (62.11)	White 86.58	NA	Patients with stable ischemic heart disease	2102	All-cause mortality was determined using the National Death Index and the Department of Veterans Affairs Corporate Data Warehouse.	<p>yesterday consume no fruits and vegetables.</p> <p>Diet (grains): 1. consume yesterday; 0. no yesterday.</p> <p>Diet (processed meat): 1. didn't consume yesterday; 0.5. consume meat yesterday; 0. consume sausage products yesterday.</p> <p>Diet (salt): 1. never adding salt; 0.5. sometimes adding salt; 0. always adding salt.</p> <p>Smoking: 1. not smoking; 0. smoking.</p> <p>PA: 1. MPA \geq150 min/w; 0. MPA <150 min/w.</p> <p>BMI: 1. <25 kg/m² or \geq10% weight loss if baseline BMI >27.5 kg/m²; 0. \geq25 kg/m² or <10% weight loss if baseline BMI >27.5 kg/m².</p> <p>Diet (American Heart Association Step 2 diet, questionnaire): 1. <30% of calories from fat, <7% of calories from saturated fat, and <200 mg/day of dietary cholesterol; 0. \geq30% of calories from fat, \geq7% of calories from saturated fat, or \geq200 mg/day of dietary cholesterol.</p> <p>SBP: 1. <130 mmHg; 0. \geq130</p>	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Martin-Diener-2014 ¹¹⁷	MONITORing trends and determinants of Cardiovascular disease-Switzerland & National Research Program meIA	Switzerland	1977-2008 (21.35)	48.60	16-90 (45.10)	White predominant	<65.77	general population	16721	All-cause mortality was identified through the Swiss National Cohort.	mmHg; LDLC: 1. <85 mg/dl; 0. ≥85 mg/dl. Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. <40/20 g/d; 0. >40/20 g/d. PA: 1. frequent walking or cycling, other frequent activities such as gardening, or regular VPA; 0. light PA, mostly sedentary. Diet (fruit intake on the previous day): 1. yes; 0. no.	8
Martínez-González-2013 ¹¹⁸	"Spanish national prospective cohort study"	Spain	2000-2011 (9.00)	43.98	60-NA (71.77)	White 100	<13.16	general population	3465	All-cause mortality was identified through the National Death Index.	6-point score: Smoking: 1. never smokers or quitting >15 years; 0. current smokers or quitting ≤15 years. PA: 1. very or moderately physically active compared with their age-peers; 0. less active or inactive compared with their age-peers. Sedentary behavior: 1. <8 h/d; 0. ≥8 h/d. Diet (score consisting of fruits,	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
McCullough-2011 ¹¹⁹	Cancer Prevention Study-II Nutrition Cohort	US	1992-2006 (13.07)	45.31	50-74 (62.67)	White 97.99	92.66	current non-smokers	111966	All-cause mortality was identified through National Death Index.	vegetables, whole grain, vegetable fats, fish, red or processed meat, and animal fats consumption, FFQ); 1. \geq median (4 points); 0. <median. Sleeping: 1. 7-8 h/d; 0. <7 h/d or >8 h/d. Social interaction with friends: 1. daily; 0. less than daily. 3-point score: smoking, PA and diet. Alcohol drinking (M/F): 2. 0.1-2/1 drinks/d; 1. none; 0. >2/1 drinks/d. PA: 2. \geq 17.5 MET-h/w; 1. 8.75-17.4 MET-h/w; 0. <8.75 MET-h/w. BMI: 2. 18.5-24.9 kg/m ² at both time points; 1. 25-30 kg/m ² at both time points, or 18.5-24.9 kg/m ² at one time point and \geq 25 kg/m ² at another time point; 0. >30 kg/m ² at both time points, or >30 kg/m ² at one time point and 25-30 kg/m ² at another time point. Diet (ACS, FFQ): 2. 7-9 points; 1. 3-6 points; 0. 0-2 points.	7
Meng-1999 ¹²⁰	"Hawaii Department of Health survey"	US	1975-1994 (15.61)	49.50	18-NA (44.81)	White 31.06 Asian 62.61	NA	general population	31700	All-cause mortality was identified through the mortality files from the Department of	Smoking: 4. never smokers; 3. former smokers; 2. current smokers \leq 1 ppd; 1. current smokers 1.1-1.5 ppd; 0. current smokers >1.5 ppd. Alcohol drinking (M/F): 1. 1-7/3	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
										Health.	drinks/w; 0. none or >7/3 drinks/w. BMI: 3. 19.6-24.8 kg/m ² ; 2. <19.6 kg/m ² or 24.9-29.2 kg/m ² ; 1. 29.3-32.5 kg/m ² ; 0. ≥32.6 kg/m ² . Diet (fat intake from animal products): 1. >385 g/w; 0. ≤385 g/w. Diet (fruit and vegetable consumption): 1. >1350 g/w; 0. ≤1350 g/w.	
Minlikeeva-2019 ¹²¹	Ovarian Cancer Association Consortium	International	1992-2015 (2.99-7.97)	0	NA (NA)	Mixed	NA	Patients with invasive epithelial ovarian cancer	7022	All-cause mortality was actively followed up.	Smoking: 1. never smokers; 0.5. former smokers; 0. current smokers. PA: 1. physically active; 0. physically inactive; BMI: 1. 18.5-24.9 kg/m ² ; 0. ≥25 kg/m ² .	6
Mok-2018 ¹²²	Atherosclerosis Risk in Communities Study	US	1987-2013 (3.30)	43.80	45-64 (54.50)	White 75.60 Black 24.40	70.50	myocardial infarction patients	1277	All-cause mortality was identified through active surveillance.	Smoking: 2. never smokers and former smokers quitting >1 year; 1. former smokers quitting ≤1 year; 0. current smokers. MVPA: 2. ≥150 min/w; 1. 1-150 min/w; 0. none. BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² . Diet (AHA, FFQ): 2. 4-5 components; 1. 2-3 components; 0. 0-1 component. SBP/DBP: 2. <120/80 mmHg (untreated); 1. <120/80 mmHg	6

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Muntner-2013 ¹²³	Reasons for Geographic and Racial Differences in Stroke	US	2003-2009 (4.00)	45.10	45-NA (72.20)	White 57.70 Black 42.30	80.80	chronic kidney disease patients	3093	All-cause mortality was identified through contact with proxies.	(treated) and 120-139/80-89 mmHg; 0. \geq 140/90 mmHg. FBG: 2. $<$ 5.6 mmol/l (untreated); 1. $<$ 5.6 mmol/l (treated) or 5.6-6.9 mmol/l; 0. \geq 7.0 mmol/l. TC: 2. $<$ 5.2 mmol/l (untreated); 1. $<$ 5.2 mmol/l (treated) or 5.2-6.1 mmol/l; 0. \geq 6.2 mmol/l. Smoking: 1. never smokers or quitting $>$ 12 m; 0. quitting \leq 12 m or current smokers; PA: 1. \geq 4 times/w; 0. $<$ 4 times/w. BMI: 1. $<$ 25 kg/m ² ; 0. \geq 25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. $<$ 120 and 80 mmHg (not treated); 0. $<$ 120 and 80 mmHg (treated) or \geq 120 or 80 mmHg. FPG: 1. $<$ 100 mg/dl (not treated); 0. $<$ 100 mg/dl (treated) \geq 100 mg/d. TC: 1. $<$ 200 mg/dl (not treated); 0. \geq 200 mg/dl (treated).	6
Nechuta-2010 ¹²⁴	Shanghai Women's Health Study	China	1996-2007 (9.10)	0	40-70 ($<$ 56.95)	Asian 100	42.10	non-smokers and non-drinker	63791	All-cause mortality was identified through Shanghai cancer and vital statistics registries.	9-point score: Exposed to spouse smoke: 1. never; 0. ever. PA: 2. \geq 2.0 MET h/d; 1. 0.1-1.99 MET h/d; 0. none. BMI: 2. 18.5-24.99 kg/m ² ; 1. 25.0-	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Nöthlings-2010 ¹²⁵	European Prospective Investigation into Cancer and Nutrition	Germany	1994-NA (7.70)	56.05	35-65 (57.00)	White predominant	53.35	diabetic patients	1263	All-cause mortality was ascertained by inquiries to municipality registries, regional health departments, physicians, or hospitals.	<p>29.99 kg/m²; 0. \geq30.0 kg/m² or <18.5 kg/m².</p> <p>WHR: 2. tertile one (<0.786); 1. tertile 2; 0. tertile three (\geq0.830).</p> <p>Diet (fruit and vegetable intake, FFQ): 2. tertile three (\geq626.5 g/d); 1. tertile 2; 0. tertile one (<404.3 g/d).</p> <p>5-point score: Exposed to spouse smoke: 1. never; 0. ever.</p> <p>PA: 1. \geq2.0 MET h/d; 0. <2.0 MET h/d.</p> <p>BMI: 1. 18.5-24.99 kg/m²; 0. \geq25.0 kg/m² or <18.5 kg/m².</p> <p>WHR: 1. tertile one (<0.786); 0. tertile two and three (\geq0.786).</p> <p>Diet (fruit and vegetable intake, FFQ): 1. tertile three (\geq626.5 g/d); 0. tertile two and one (<626.5 g/d).</p> <p>Smoking: 1. never smokers; 0. ever smokers.</p> <p>Alcohol drinking (M/F): 1. 5-25/15 g/d; 0. <5 or >25/15 g/d.</p> <p>PA: 1. \geq3.5 h/w; 0. <3.5 h/w.</p> <p>BMI: 1. <30 kg/m²; 0. \geq30 kg/m².</p> <p>Diet (z-scores of consumption of fruits and vegetables, whole-grain bread, and red meat, FFQ):</p>	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Odegaard-2011 ^{§, 126}	-Potsdam Singapore Chinese Health Study	Singapore	1993-2016 (20.60)	45.10	45-74 (55.30)	Asian predominant	<32.70	general population	44052	All-cause mortality was obtained through linkage with the nationwide Singapore Birth and Death Registry.	1. >median; 0. ≤median. 6-point score: Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking (M/F): 1. 0.1-14/7 drinks/w; 0. none or >14/7 drinks/w. PA: 1. moderate activity ≥2 h/w, or strenuous activity ≥0.5 h/w; 0. moderate activity <2 h/w, or strenuous activity <0.5 h/w. BMI (aged <65/aged ≥65): 1. 18.5-21.4/24.4 kg/m ² ; 0. <18.5 or ≥21.5/24.5 kg/m ² . Diet (AHEI-2010, FFQ): 1. highest 40%; 0. Lower 60%. Sleeping: 1. 7-8 h/d; 0. <7 or >8 h/d. 5-point score: smoking, drinking, PA, BMI, and diet. 4-point score: smoking, PA, BMI, and diet.	8
Patel-2018 ¹²⁷	Physicians' Health Study	US	1997-NA (9.00)	100	NA (69.00)	White predominant	Predominant	type 2 diabetes mellitus patients	1163	All-cause mortality was identified by active follow-up and confirmed by medical records.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. 1-2 drinks/d; 0. <1 drink/d or >2 drinks/d. PA: 1. VPA ≥once /w; 0. VPA <once /w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHEI 2010, FFQ): 1. top two	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Pelser-2014 ¹²⁸	American Association of Retired Persons	US	1996-2008 (5.00)	67.58	50-71 (69.32)	White 97.95 Black 1.10	92.65	colon cancer patients	5727	All-cause mortality was identified through the National Death Index and Social Security Administration Death Master File.	quintiles; 0. low three quintiles. Smoking: 1. never smokers or quitting ≥1 year; 0. quitting <1 year or current smokers. Alcohol drinking (M/F): 1. ≤2/1 drinks/d; 0. >2/1 drinks/d. PA: 1. ≥3 episodes/w; 0. <3 episodes/w. BMI: 1. 18.5-24.9 kg/m ² ; 0. ≥25.0 kg/m ² . Diet (HEI, FFQ): 1. top two quintiles; 0. lower three quintiles.	7
Petersen-2015 ¹²⁹	Diet, Cancer and Health cohort study	Denmark	1993-2010 (14.00)	47.10	50-64 (55.53)	White predominant	11.00	general population	51521	All-cause mortality was identified through the Central Population Registry and Register of Causes of Death.	5-point score: Smoking: 1. never smokers or quitting ≥15 years; 0. current smokers or quitting <15 years. Alcohol drinking (M/F): 1. ≤14/7 units/w; 0. >14/7 units/w. PA: 1. ≥30 min/d; 0. <30 min/d. WC: 1. ≤102 cm; 0. >102 cm. Diet (score consisting of fat, red and processed meat, fish, whole grain, and fruit and vegetable consumption, FFQ): 1. 2-5 components; 0. 0-1 component. 4-point score: smoking, drinking, PA, and diet.	8
Prinelli-	"two	Italy	1991-2012	49.59	40-74	White	<46.51	general	974	All-cause mortality	Smoking: 1. never smokers; 0. ever	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
2015 ¹³⁰	towns in Northern Italy cohort"		(17.40)		(55.75)	predominant		population		was identified through Regional Registries of the Informative System of the Local Health Authority of Milan 1.	smokers. PA: 1. engage ≥ 1 sport/d; 0. engage no sport. Diet (MDS, FFQ): 1. lowest tertile; 0. highest tertile.	
Ricardo-2013 ¹³¹	National Health and Nutrition Examination Surveys III	US	1988-2006 (13.00)	40.00	18->80 (59.00)	White 81.00 Black 12.00	61.88	chronic kidney disease patients	2145	All-cause mortality was identified through National Health and Nutrition Examination Surveys III Linked Mortality Public-use File.	Smoking: 9. never smoking; 7. Past smoking; 0. current smoking. PA: 3. moderate LTPA ≥ 5 times/w or vigorous PA ≥ 3 times/w or the combination; 2. moderate LTPA < 5 times/w or vigorous PA < 3 times/w or the combination; 0. no LTPA. BMI: 2. ≥ 30 kg/m ² ; 0. 22-29.9 kg/m ² ; -4. 18.5-21.9 kg/m ² . Diet (HEI, 24h recall): 1. 73.1-100 points; 0. < 73.1 points.	8
Ricardo-2015 ¹³²	Chronic Renal Insufficiency Cohort	US	2003-2011 (4.00)	52.00	21-74 (58.00)	White 47.17 Black 43.95	84.50	population with eGFR 20–70 ml/min/1.73m ²	3006	All-cause mortality was identified through reports by next of kin, death certificates, hospital records, and linkage with the Social Security Death Master File.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. MPA ≥ 150 min/w, or VPA ≥ 75 min/w, or MVPA ≥ 150 min/w; 0. MPA < 150 min/w, or VPA < 75 min/w, or MVPA < 150 min/w. BMI: 1. 20.0-24.9 kg/m ² ; 0. < 20.0 kg/m ² or ≥ 25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 points; 0. 0-3 points.	6

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Rizzuto-2016 ¹³³	Kungsholmen cohort	Sweden	1987-2013 (NA)	25.31	75-NA (81.27)	White predominant	47.19	general population	1229	All-cause mortality was identified through death certificates.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. any leisure activities; 0. no leisure activities. Social network: 1. rich or moderate; 0. poor.	9
Romaguera-2015 ³	European Prospective Investigation into Cancer and Nutrition	Europe	1992-2009 (4.20)	45.47	NA (64.60)	White predominant	<57.90	colorectal cancer patients	3292	All-cause mortality was identified through health insurance records, cancer and pathology registries, and active follow-up through study subjects and their next-of-kin	Alcohol drinking (M/F): 1. ≤20/10 g/d; 0.5. 20.1-30/10.1-20 g/d; 0. >30/20 g/d. PA: 1. Manual/heavy manual job, or >2 h/w of VPA, or >30 min/d of cycling/sports; 0.5. cycling/sports 15-30 min/d; 0. cycling/sports <15 min/d. BMI: 1. 18.5-24.9 kg/m ² ; 0.5. 25-29.9 kg/m ² ; 0. <18.5 kg/m ² or ≥30 kg/m ² . Diet (energy-dense, dietary questionnaires): 1. ≤125 kcal/100g/d; 0.5. 126-175 kcal/100g/d; 0. >175 kcal/100g/d. Diet (SSB, dietary questionnaires): 1. zero g/d; 0.5. ≤250 g/d; 0. >250 g/d. Diet (fruit and vegetables, dietary questionnaires): 1. ≥400 g/d; 0.5. 200-399 g/d; 0. <200 g/d. Diet (DF, dietary questionnaires): 1. ≥25 g/d; 0.5. 12.5-24.9 g/d; 0. <12.5	6

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Sovic-2012 ¹³⁴	Croatian Health Survey	Croatia	2003-NA (4.79)	32.24	18-NA (54.78)	White predominant	NA	general population	7490	The methods for all-cause mortality identification were not reported.	g/d. Diet (red and processed meat, dietary questionnaires): 1. <500 g/w and <3 g/d; 0.5. <500 g/w and 3-49 g/d; 0. ≥500 g/w or ≥50 g/d. Cumulative breastfeeding: 1. ≥6 m; 0.5. 0.1-5.9 m; 0. zero m. Smoking: 1. never smokers or smoking <5 years in the previous 10 years; 0. current smokers or smoking ≥5 years in the previous 10 years. Alcohol drinking: 1. <6 shooters, glasses or bottles at one occasion or <once /m, or not drinking spirits, vine or beer every day combined with received advice to drink less from health care professional or member of the family; 0. ≥6 shooters, glasses or bottles at one occasion at least once a month, or drinking spirits, vine or beer every day combined with received advice to drink less from health care professional or member of the family. PA (not working, working at home, travelling to work by public transport or working within a 15-min walking	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											or cycling distance, easy or very easy job (sedentary or walking), physical activity for at least 30 min less than twice a week during leisure time, advice received from a health care professional within the past year to increase physical activity): 1. met <3 items; 0. met ≥3 items. Diet (consuming animal fat, consuming milk and milk products with more than 3.2% fat, not eating fruits every day, consuming cured meat every day or almost every day, adding salt prior to meal tasting): 1. met 0-1 items; 0. met ≥2 items.	
Tamakoshi-2009 †, 135	Japan Collaborative Cohort Study	Japan	1988-2003 (12.5)	44.41	40-79 (NA)	Asian predominant	63.88	general population	62106	All-cause mortality was identified though death certificates.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. ≤22.8 g alcohol/occasion; 0. >22.8 g alcohol/occasion. PA (walking): 1. ≥1 h/d; 0. <1 h/d. BMI: 1. 18.5-24.9 kg/m ² ; 0. <18.5 kg/m ² or ≥25.0 kg/m ² . Diet (green leafy vegetables): 1. ≥once /d; 0. <once /d. Sleeping: 1. 6.5-7.4 h/d; 0. <6.5 h/d or >7.4 h/d.	8
Tamakoshi-	Japan	Japan	1988-2006	44.41	40-79	Asian	63.88	general	62106	All-cause mortality	Smoking: 1. not current smokers; 0.	6

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
2010 ^{†, 136}	Collaborative Cohort Study		(14.5)		(NA)	predominant		population		was identified though death certificates.	current smokers. Alcohol drinking: 1. ≤ 23 g alcohol/occasion; 0. > 23 g alcohol/occasion. PA (walking): 1. ≥ 1 h/d; 0. < 1 h/d. BMI: 1. 18.5-24.9 kg/m ² ; 0. < 18.5 kg/m ² or ≥ 25.0 kg/m ² . Diet (green leafy vegetables): 1. \geq once /d; 0. $<$ once /d. Sleeping: 1. 6.5-7.4 h/d; 0. < 6.5 h/d or > 7.4 h/d.	
Tamosiunas-2014 ¹³⁷	MONitoring trends and determinants of Cardiovascular disease-Lithuania & Health, Alcohol and Psychosocial Factors	Lithuania	1983-2011 (13.30)	46.13	45-64 (55.18)	White predominant	63.66	general population	5635	All-cause mortality was identified through the regional mortality register.	Smoking: 1. never smokers; 0. ever smokers. PA (LTPA): 1. ≥ 7 h/w; 0. < 7 h/w. BMI: 1. < 25.0 kg/m ² ; 0. ≥ 25.0 kg/m ² . SBP/DBP: 1. < 120 and 80 mmHg (untreated); 0. ≥ 120 or 80 mmHg, or < 120 and 80 mmHg (treated). FBG: 1. < 5.55 mmol/L; 0. ≥ 5.55 mmol/L. TC: 1. < 5.2 mmol/L; 0. ≥ 5.2 mmol/L.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Thomson-2014 ¹³⁸	in Eastern Europe Study Women's Health Initiative Observational Study	US	1993-NA (12.60)	0	50-79 (63.23)	White 88.57 Black 7.01 Asian 2.97	>79.57	postmenopausal women	65838	All-cause mortality was identified through self-reported data and verified through Medical records and the National Death Index.	Alcohol drinking: 2. nondrinker; 1. 0.1-1 drink/d; 0. >1 drink/d PA: 2. >17.5 MET-h/w; 1. 8.75-17.5 MET-h/w; 0. <8.75 MET-h/w. BMI: 2. <25 kg/m ² at age 18 years and baseline; 1. 25-29.9 kg/m ² at age 18 years and baseline; 0. ≥30 kg/m ² at age 18 years and baseline. Diet (score consisting of fruit and vegetable intake, total carotenoids level, whole grains%, and red and processed meat, FFQ): 2. 7-9 components; 1. 3-6 components; 0. 0-2 components.	8
Towfighi-2012 ^{†, 139}	National Health and Nutrition Examination Surveys III	US	1988-2000 (NA)	50.00	NA (67.00)	White 81.10 Black 11.10	61.88	stroke patients	388	All-cause mortality was identified through the National Death Index death certificate records.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 0.1-2/1 drinks/d; 0. none or >2/1 drinks/d. PA: 1. >12 times/m; 0. ≤12 times/m. BMI: 1. 18.5-29.9 kg/m ² ; 0. <18.5 or ≥30 kg/m ² . Diet (fruit and vegetables): 1. ≥5 servings/d; 0. <5 servings/d.	8
Tsubono-	"Wakuya	Japan	1988-1992	39.76	40-NA	Asian	NA	general	3312	All-cause mortality	Smoking: 1. never smokers; 0. ever	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
1993 ¹⁴⁰	Town survey"		(NA)		(NA)	predominant		population		was identified through residents' registration of the town.	smokers. Alcohol drinking: 1. never drinker; 0. ever drinker. PA: 1. ≥1 h/w; 0. <1 h/w. BMI: 1. ≥21.2 kg/m ² ; 0. <21.2 kg/m ² . Sleeping: 1. 7-8 h/night; 0. <7 h/night or >8 h/night.	
Tsubono-2004 ¹⁴¹	"Miya Prefecture cohort"	Japan	1990-2001 (10.36)	49.37	40-64 (50.76)	Asian predominant	62.61	general population who were not past smokers and past drinkers	28333	All-cause mortality was identified through residential Registration Record and death certificates.	Smoking: 1. never smokers; 0. current smokers. Alcohol drinking: 1. <22.8 g/d; 0. ≥22.8 g/d. PA: 1. ≥1 h/d; 0. <1 h/d. BMI: 1. 18.5-29.9 kg/m ² ; 0. <18.5 kg/m ² or ≥30.0 kg/m ² .	8
Van Blarigan-2018 ¹⁴²	The CALGB 89803/Alliance Trial	US	1999-2009 (7.00)	56.65	21-85 (59.60)	White 89.01	NA	stage III colon cancer patients	992	The methods of identifying all-cause mortality were not reported.	8-point score: Alcohol drinking (M/F): 2. 0.1-2/1 drinks/d; 1. non-drinker; 0. >2/1 drinks/d. PA: 2. ≥17.5 MET-h/w; 1. 8.75-17.49 MET-h/w; 0. <8.75 MET-h/w. BMI: 2. 18.5-24.9 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² . Diet (score including fruits and vegetables, whole grains, red and processed meat, fish and SSB, FFQ): 2. 11-15 points; 1. 6-10 points; 0. 0-5 points. 6-point score: PA, BMI, and diet.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Van Dam-2008 †, 67	Nurses' Health Study	US	1980-2004 (22.62)	0	34-59 (NA)	White predominant	Predominant	general population	77782	All-cause mortality was identified through reports by next of kin, the postal authorities, death certificates, medical records, and National Death Index.	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking: 1. 1-14.9 g/d; 0. <1 g/d or ≥15.0 g/d. PA (MVPA): 1. ≥30 min/d; 0. <30 min/d. BMI: 1. 18.5-25.0 kg/m ² ; 0. >25.0 kg/m ² . Diet (AHEI, FFQ): 1. upper two fifths; 0. lower three fifths.	6
Van Den Brandt-2011 ¹⁴³	Netherlands Cohort Study	Netherlands	1986-1996 (NA)	48.22	55-69 (>59.46)	White predominant	45.16-55.62	general population	120852	All-cause mortality was identified through the Dutch Central Bureau of Genealogy.	Smoking: 1. never smokers or quitting ≥10 years; 0. current smokers or quitting <10 years; PA: 1. ≥30 min/d; 0. <30 min/d. BMI: 1. 18.5-24.9 kg/m ² ; 0. <18.5 kg/m ² or ≥25.0 kg/m ² . Diet (aMDS, FFQ): 1. 5-9 points; 0. 0-4 points.	8
van Lee-2016 ¹⁴⁴	Rotterdam Study	Netherlands	1990-2011 (20.00)	40.47	55-NA (65.43)	White predominant	69.73	general population	3593	All-cause mortality was identified through municipal population registries.	Alcohol drinking (M/F): 10. ≤20/10 g/d; 0. >20/10 g/d. PA: 10. ≥150 min/w; 0. <150 min/w. Diet (vegetable consumption, FFQ): 10. 150-200 g/d; 0. <150 g/d or >200 g/d. Diet (fruit consumption, FFQ): 10. ≥200 g/d; 0. <200 g/d. Diet (DF, FFQ): 10. 30-40 g/d; 0. <30 g/d or >40 g/d.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Vergnaud-2013 ¹⁴⁵	European Prospective Investigation into Cancer and Nutrition	Europe	1992-2010 (12.80)	32.05	25-70 (51.90)	White predominant	<67.34	general population	378864	All-cause mortality was identified through cancer registries, boards of health, and death indexes, or active follow-up including inquiries to participants, municipal registries, regional health departments, physicians and hospitals.	<p>Diet (fish consumption, FFQ): 10. ≥ 2 portions/w and ≥ 1 oily fish; 0. < 2 portions/w or < 1 oily fish.</p> <p>Diet (SFA, FFQ): 10. $< 10\%E$; 0. $\geq 10\%E$.</p> <p>Diet (mono trans-FA, FFQ): 10. $< 1\%E$; 0. $\geq 1\%E$.</p> <p>Diet (salt, FFQ): 10. ≤ 6 g/d; 0. > 6 g/d.</p> <p>Alcohol drinking (M/F): 1. $\leq 20/10$ g/d; 0.5. 21-30/11-20 g/d; 0. $> 30/20$ g/d.</p> <p>PA: 1. manual/heavy manual job, or > 2 h/w of vigorous PA, or > 30 min/d of cycling/sports; 0.5. cycling/sports 15-30 min/d; 0. cycling/sports < 15 min/d.</p> <p>BMI: 1. 18.5-24.9 kg/m²; 0.5. 25-29.9 kg/m²; 0. < 18.5 kg/m² or ≥ 30.0 kg/m².</p> <p>Diet (energy-dense, dietary questionnaires): 0.5. ≤ 125 kcal/100g/d; 0.25. 126-175 kcal/100g/d; 0. > 175 kcal/100g/d.</p> <p>Diet (SSB, dietary questionnaires): 0.5. zero g/d; 0.25. ≤ 250 g/d; 0. > 250 g/d.</p> <p>Diet (fruit and vegetable</p>	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Warren Andersen-2018 ¹⁴⁶	the Southern Community Cohort Study	US	2002-2013 (8.00)	40.51	40-79 (50.65)	White 31.10 Black 68.90	70.90	general population	74732	All-cause mortality was identified through National Death Index.	consumption, dietary questionnaires): 0.5. ≥ 400 g/d; 0.25. 200-399 g/d 0. < 200 g/d. Diet (DF, dietary questionnaires): 0.5. ≥ 25 g/d; 0.25. 12.5-24.9 g/d; 0. < 12.5 g/d. Diet (red and processed meat consumption, dietary questionnaires): 1. < 500 g/w and < 3 g/d; 0.5. < 500 g/w and 3-49 g/d; 0. ≥ 500 g/w or ≥ 50 g/d. Cumulative breastfeeding: 1. ≥ 6 m; 0.5. 0.1-5.9 m; 0. zero m. Alcohol drinking (M/F): 1. $\leq 2/1$ drink/d; 0. $> 2/1$ drink/d. PA: 1. MPA ≥ 150 min/w, or VPA ≥ 75 min/w, or MVPA ≥ 150 min/w; 0. MPA < 150 min/w, and VPA < 75 min/w, and MVPA < 150 min/w. Sedentary behavior: 1. limit; 0. not limit. Diet (HEI, FFQ): 1. higher; 0. lower.	8
Wingard-1982 ¹⁴⁷	Human Population Laboratory	US	1965-1974 (NA)	47.17	30-69 (< 53.28)	NA	NA	general population	4725	All-cause mortality was identified through California Death Registry.	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking: 1. < 45 drinks/m; 0. > 45 drinks/m. PA: 1. active; 0. inactive. Quetelet index (weight in	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Yang-2012 [†] , 148	National Health and Nutrition Examination Surveys III	US	1988-2006 (14.50)	48.20	20-NA (45.00)	White 81.10 Black 11.10	61.88	general population	13312	All-cause mortality was identified through the National Death Index.	pounds/(height in inches) ²) based on Metropolitan Life Insurance reports: 1. 9.9% underweight-29.9% overweight; 0. extreme underweight or overweight. Sleeping: 1. 7-8 h/night; 0. <7 h/night or >8 h/night. Smoking: 1. not current smokers; 0. current smokers. PA: 1. 3-5.9 METs for ≥5 times/w or ≥6 METs for ≥3 times/w; 0. 3-5.9 METs for <5 times/w and <6 METs for <3 times/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHA, FFQ): 1. ≥2 points; 0. <2 points. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or ≥200 mg/dl. SBP/DBP: 1. <120 and 80 mmHg (untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. HbA1c: 1. <5.7%; 0. ≥5.7%.	8
Yates-2008 ¹⁴⁹	Physicians' Health Study	US	1981-2006 (14.25)	100	66-84 (72.00)	White predominant	Predominant	general population	2357	All-cause mortality was confirmed by medical records, autopsy reports and death certificates.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. not lack of exercise; 0. lack of exercise. BMI: 1. not obese; 0. obesity. Hypertension: 1. no; 0. yes.	6

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Yun-2012 ¹⁵⁰	Korean Cancer Prevention Study	South Korea	1994-2009 (10.30)	53.14	30-84 (47.17)	Asian predominant	NA	general population	59941	All-cause mortality was identified through National Statistical Office.	DM: 1. no; 0. yes. 5-point score: Smoking: 1. never smokers or quitting ≥10 years; 0. current smokers or quitting <10 years. Alcohol drinking (M/F): 1. ≤2/1 drinks/d; 0. >2/1 drinks/d. PA: 1. ≥3 times/w; 0. <3 times/w. BMI: 1. ≤25 kg/m ² ; 0. >25 kg/m ² . Diet (fruit and vegetable consumption): 1. highest quartile; 0. lower three quartiles. 4-point score: smoking, drinking, PA and BMI.	7
Zhang-2017 ¹⁵¹	Shanghai Men's Health Study	China	2002-2013 (9.29)	100	40-74 (55.34)	Asian predominant	59.90	general population	59747	All-cause mortality was identified through Shanghai Vital Statistics.	Smoking: 1. never smokers or quitting ≥10 years; 0. current smokers or quitting <10 years. Alcohol drinking: 1. ≤14 drinks/w; 0. >14 drinks/w. PA: 1. MVPA ≥150 min/w (2 MET-h/d); 0. MVPA <150 min/w. Diet (Chinese Food Pagoda score consisting of grains, vegetables, fruits, dairy, beans, meat and poultry, fish and shrimp, eggs, fats and oils, and salt, FFQ): 1. top three quintiles; 0. lower two quintiles.	8
Zhou-	The	China	1983-2005	49.57	35-59	Asian 100	NA	general	938	All-cause mortality	Smoking: 1. never smokers; 0. ever	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
2018 ¹⁵²	People's Republic of China-USA Collaborative Study of Cardiovascular and Coronary Epidemiology		(20.30)		(45.80)			population		was identified through death certificates or hospital records obtained from next-of-kin or local death registration department.	smokers. PA: 1. took part in physical exercises regularly; 0. not took part in physical exercises regularly. BMI: 1. <24 kg/m ² ; 0. ≥24 kg/m ² . Diet (AHA, 24-h dietary recall): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. <120/80 mmHg (untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. FBG: 1. <100 mg/dl (untreated); 0. <100 mg/dl (treated) or ≥100 mg/dl. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or ≥200 mg/dl.	

^{*} The percentage of ethnic groups may not sum to 100% since some participants belonged to the other ethnic groups or did not report the information.

[†] These studies were only used in stratified analyses.

[‡] This study also used a 5-point score, which integrated alcohol, fruit, fish, milk, vegetable, and bean intake as a diet item.

[§] The author provided updated analyses for all-cause mortality, cardiovascular disease mortality and cancer mortality, so the information and data were based on the updated analyses.

%E, percentage of total energy intake; ACS, American Cancer Society; AHA, American Heart Association; AHEI, Alternative Healthy Eating Index; aMDS, alternative Mediterranean diet score; BMI, body mass index; CHD, coronary heart disease; CRF, cardiorespiratory fitness; CVD, cardiovascular disease; DASH, Dietary Approaches to Stop Hypertension; DBP, diastolic blood pressure; DF, dietary fiber; eGFR, estimated glomerular filtration rate; FA, fatty acid; FBG, fasting blood glucose; FFQ, food frequency questionnaire; FPG, fasting plasma glucose; FSG, fasting serum glucose; HbA_{1c}, glycosylated hemoglobin; HDL-c, high-density lipoprotein cholesterol; HEI, Healthy Eating Index; HF, heart failure; ICD, International Classification of Diseases; LPA, light physical activity; LTPA, leisure-time physical activity; M/F, for male and female respectively; MDS, Mediterranean diet score; MET, metabolic equivalent of task; mMDS, modified Mediterranean diet score; MPA, moderate physical activity; MVPA, moderate to vigorous physical activity; NA, not available; NOS, Newcastle–Ottawa Scale; PA, physical activity; SBP, systolic blood pressure; SFA, saturated fatty acid; SSB, sugar-sweetened beverage; TC, total cholesterol; UK, the United Kingdom; US, the United States; VPA, vigorous physical activity; WC, waist circumference; WHR, waist-to-hip ratio.

Table A4. Characteristics of studies related to cardiovascular disease mortality

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Artero-2012 †, 76	Aerobics Center Longitudinal Study	US	1987-2003 (11.60)	75.67	20-88 (46.00)	White >99.00	>70.00	general population	11993	CVD mortality (ICD-9, 390-449.9; ICD-10, I00-I78) was identified through the National Death Index and death certificates.	Smoking: 1. never smokers; 0. ever smokers; PA: 1. ≥ 500 MET-min/w; 0. < 500 MET-min/w. BMI: 1. 18.5-24.9 kg/m ² ; 0. ≥ 25 kg/m ² . Diet (AHA, 3-d dietary record): 1. 3-4 components; 0. 0-2 components. SBP/DBP: 1. < 120 and 80 mmHg (not treated); 0. < 120 and 80 mmHg (treated) or ≥ 120 or 80 mmHg. FPG: 1. < 100 mg/dl (not treated); 0. < 100 mg/dl (treated) ≥ 100 mg/d. TC: 1. < 200 mg/dl (not treated); 0. ≥ 200 mg/dl (treated).	9
Berard-2017 ⁷⁸	MONITORing trends and determinants of Cardiovascular disease-France	France	1994-2013 (18.00)	73.00	35-64 (51.47)	White predominant	32.30	general population	1311	Death were identified through National Identification Register of Private Individuals, and main and associated causes of death were provided by the French National Institute of Health Research. Death from a CVD cause included hypertension, IHD, conduction disorders, cardiac	Smoking: 6. never smokers; 5. former smokers; 3. current smokers smoking 1-8 cig/d; 2. current smokers smoking 9-15 cig/d; 1. current smokers smoking 17-20 cig/d; 0. current smokers smoking 23-60 cig/d. Alcohol drinking (M/F): 2. 1-2/1 drink/d; 1. teetotalers; -1. $\geq 3/2$ drinks/d. PA: 2. intense PA ≥ 20 min/episode and ≥ 3 episodes/w; 1.5. intense PA ≥ 20 min/episode and 1-2 episodes/w; 1. light PA almost every week; 0. no regular PA. BMI: 2. < 25.0 kg/m ² ; 1.5. 25.0-29.9 kg/m ² ; 1. 30.0-39.9 kg/m ² ; 0. ≥ 40.0	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Bonaccio-2019 ⁷⁹	Moli-sani Study	Italy	2005-2015 (8.20)	47.7	35-NA (55.00)	White predominant	>12.90	General population	22839	dysrhythmias, HF, atherosclerotic cerebrovascular disease, atherosclerosis, and sudden death. CVD mortality (ICD-9, 390-459) was assessed by the Italian mortality registry, and validated by Italian death certificates.	kg/m ² . Diet (score consisting of sugar, FA, DF, fruits, vegetables, fish and sodium consumption, 3-day food record): 4. most adherent quartile; 3. second adherent quartile; 2. third adherent quartile; 1. least adherent quartile. SBP/DBP: 3. <120 and 80 mmHg; 2.5. 120-129 or 80-84 mmHg; 2. 130-139 or 85-89 mmHg; 1.5. 140-159 or 90-99 mmHg; 1. 160-179 or 100-109 mmHg; 0. ≥180 or ≥110 mmHg. FBG: 3. 2.75-4.92 mmol/l; 2. 4.93-5.38 mmol/l; 1. 5.39-5.88 mmol/l; 0. 5.89-18.82 mmol/l. HDL-c: 2. 1.86-3.50 mmol/l; 0. 1.58-1.85 mmol/l; -1. 1.33-1.57 mmol/l; -2. 0.35-1.32 mmol/l. Smoking: 1. abstention from smoking; 0. current smoking. PA: 1. LTPA ≥30 min/d; 0. LTPA <30 min/d. WHR (M/F): 1. <0.90/0.85; 0. ≥0.90/0.85. Diet (MDS, FFQ): 1. above the sex-specific medians; 0. not above the sex-specific medians.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Breslow-1980 ⁴⁷	"Alameda cohort"	US	1965-1974 (8.61)	44.22	NA (<53.28)	White 84.00	NA	general population	4864	CVD mortality (ICD-8, 140-209) was identified through active follow-up.	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking: 1. ≤4 drinks/episode; 0. >4 drinks/episode. PA: 1. often or sometimes engage in active sports, swim or take long walks, or often garden or do physical exercises; 0. not often or sometimes engage in active sports, swim or take long walks, or often garden or do physical exercises. BMI (M/F): 1. between 20%-95%/10%-90% desirable weight for height; 0. <20%/10% or >95%/90% desirable weight for height. Diet (eating breakfast almost every day): 1. yes; 0. no. Diet (eating between meals once in a while, rarely or never): 1. yes; 0. no. Sleep: 1. 7-8 h/d; 0. <7 or >8 h/d.	5
Cerhan-2004 ^{†, 84}	Iowa Women's Health Study	US	1986-1998 (11.39)	0	55-69 (61.70)	White predominant	86.10	postmenopausal women	29838	CVD mortality were determined by linkage to Iowa death certificates.	Alcohol drinking: 1. <1 drink/d (14 g/d); 0. ≥1 drinks/d. PA: 1. exercise moderately daily and vigorously ≥1 h/w; 0. exercise moderately <once /d or vigorously <1 h/w. BMI: 1. ≤25.0 kg/m ² ; 0. >25.0 kg/m ² . Weight gain since age 18: 1. <11 pounds; 0. ≥11 pounds. Diet (vegetable and fruit intake excluding pulses and starchy, FFQ): 1. ≥5 servings/d; 0. <5 servings/d. Diet (complex carbohydrates intake, FFQ): 1. ≥400 g/d; 0. <400 g/d.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Cheng-2018 ⁸⁶	Iowa Women's Health Study	US	1986-2012 (≥16.63)	0	55-69 (61.70)	White predominant	86.10	General population	35221	Deaths were identified through the State Health Registry of Iowa and the National Death Index. CVD mortality was defined using ICD-9 codes 390–459 and ICD-10 codes I00–I99.	Diet (red meat intake, FFQ): 1. <80 g/d; 0. ≥ 80g/d. Diet (consumption of fat as percentage total calories, FFQ): 1. ≤30%; 0. >30%. Diet (sodium, FFQ): 1. <2400 mg/d; 0. ≥2400 mg/d. Smoking: 5. never smokers; 2.14. former smokers; 0.45. current smokers. PA: 7.69. VPA ≥twice/w or MPA >4 times/w; 4.62.VPA once/w plus MPA once/w, or MPA 2–4 times/w; 1. no VPA or MPA <twice/w. BMI: 5. <25.0 kg/m ² ; 2.91. 25.0–29.9 kg/m ² ; 0.78. ≥30.0 kg/m ² .	8
Chiuvè-2011 ^{†, 153}	Nurses' Health Study	US	1984-2010 (NA)	0	38-63 (50.74)	White predominant	Predominant	general population	81722	Sudden cardiac deaths (the death or cardiac arrest occurred within one hour of symptom onset) were confirmed through reviews of medical records and autopsy reports, and further ascertained with next of kin.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. MVPA ≥30 min/d; 0. MVPA <30 min/d. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (aMDS, FFQ): 1. top 40%; 0. lower 60%.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Diaz-2014 ⁸⁸	Reasons for Geographic and Racial Differences in Stroke	US	2003-NA (4.50)	49.20	45-NA (67.60)	White 39.50 Black 60.50	80.80	apparent treatment-resistant hypertension on patients	2043	CVD events (fatal CVD events including death within 28 days of a definite or probable MI or sudden death or a confirmed stroke, and non-fatal CVD events including non-fatal definite or probable MI or stroke) were identified through interviews of participants, proxy, or next-of-kin.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 1-14/7 drinks/w; 0. <1 drink/w or >14/7 drinks/w. PA: 1. ≥ 4 d/w; 0. <4 d/w. WC (M/F): 1. $\leq 102/88$ cm; 0. >102/88 cm. Diet (DASH score, FFQ): 1. highest quartile (≥ 27 points); 0. lower three quartiles (<27 points). Diet (sodium and potassium intake, FFQ): 1. lowest quartile (≤ 0.71 g/d); 0. higher three quartiles (>0.71 g/d).	7
Dong-2012 ⁹⁰	Northern Manhattan Study	US	1993-2011 (11.00)	36.30	40-107 (69.00)	White 75.00 Black 24.99	43.20	general population	2981	CVD mortality including stroke, MI, HF, cardiac arrhythmia was identified through death certificates, medical records of hospitalizations, family interviews and primary care physicians.	Smoking: 1. never smokers or quitting >1 year; 0. quitting ≤ 1 year or current smokers; PA: 1. MPA ≥ 150 min/w or VPA ≥ 75 min/w or MVPA ≥ 150 min/w; 0. MPA <150 min/w and VPA <75 min/w and MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. ≥ 25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. <120 and 80 mmHg (not treated); 0. <120 and 80 mmHg (treated) or ≥ 120 or 80 mmHg. FPG: 1. <100 mg/dl (not treated); 0. <100 mg/dl (treated) ≥ 100 mg/d. TC: 1. <200 mg/dl (not treated); 0. or <200 mg/dl (treated) ≥ 200 mg/dl.	98

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Eguchi-2012 †, 154	Japan Collaborative Cohort Study	Japan	1988-2006 (16.50)	43.59	40-79 (55.88)	Asian predominant	63.88	general population	43010	Cause and date of death were determined by reviewing death certificates. ICD-10 for stroke, CHD, and total CVD were I60-I69, I20-I25, and I01-I99.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. <46 g/d; 0. ≥46 g/d. PA: 1. sports ≥5 h/w or walking >1 h/d; 0. sports <5 h/w and walking ≤1 h/d. BMI: 1. 21-25 kg/m ² ; 0. <21 kg/m ² or >25 kg/m ² . Diet (fruit): 1. ≥1 servings/d; 0. <1 serving/d. Diet (fish): 1. ≥1 servings/d; 0. <1 serving/d. Diet (milk): 1. almost daily; 0. <once /d. Sleeping: 1. 5.5-7.5 h/d; 0. <5.5 h/d or >7.5 h/d.	8
Eguchi-2014 †, 155	Japan Collaborative Cohort Study	Japan	1988-2009 (19.30)	43.61	40-79 (55.24)	Asian predominant	63.88	general population	42946	Cause and date of death were determined by reviewing death certificates. ICD-10 for stroke, CHD, and total CVD were I60-I69, I20-I25, and I01-I99.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. <46 g/d; 0. ≥46 g/d. PA: 1. sports ≥5 h/w or walking >0.5 h/d; 0. sports <5 h/w and walking ≤0.5 h/d. Diet (fruit): 1. ≥1 servings/d; 0. <1 serving/d. Diet (fish): 1. ≥1 servings/d; 0. <1 serving/d. Diet (milk): 1. almost daily; 0. <once /d. Sleeping: 1. 5.5-7.4 h/d; 0. <5.5 h/d or >7.4 h/d.	9
Eguchi-2017 ⁵¹	Japan Collaborative Cohort Study	Japan	1988-2009 (19.30)	43.24	40-79 (55.52)	Asian predominant	63.88	general population	42647	Cause and date of death were	Smoking: 1. not current smokers; 0. current smokers.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	ative Cohort Study									determined by reviewing death certificates. ICD-10 for stroke, CHD, and total CVD were I60-I69, I20-I25, and I01-I99.	Alcohol drinking: 1. <2 gou/d (46g ethanol/d); 0. ≥2 gou/d. PA: 1. ≥0.5 h/d or ≥5 h/w; 0. <0.5 h/d and <5 h/w. BMI: 1. 21-25 kg/m ² ; 0. <21 kg/m ² or >25 kg/m ² . Diet (fruit): 1. ≥1 servings/d; 0. <1 serving/d. Diet (fish): 1. ≥1 servings/d; 0. <1 serving/d. Diet (milk): 1. almost daily; 0. <once /d. Sleeping: 1. 5.5-7.4 h/d; 0. <5.5 h/d or >7.4 h/d. ‡ Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 1-21/14 units/w; 0. <1 or >21/14 units/w. PA: 1. MPA ≥5 h/w or VPA ≥2.5 h/w; 0. MPA <5 h/w and VPA <2.5 h/w. Diet (vegetables and fruits, simple dietary questionnaire): 1. ≥5.5 times/w; 0. <5.5 times/w.	
Eriksen-2015 ¹⁵⁶	Southall and Brent Revisited	UK	1988-2011 (21.00)	84.56	40-69 (52.09)	White 52.00 Asian 48.00	NA	general population	2096	CVD mortality including fatal CHD (deaths caused from angina, MI or its sequelae or atherosclerotic heart disease. ICD-9, 410-415; ICD-10, I200-I259) and fatal stroke (deaths caused from following ICD-9 codes 430-439 or ICD-10 codes I600-I698), were identified through health and lifestyle questionnaires, medical record review, attendance		7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Fazel-Tabar Malekshah-2016 ⁹³	Golestan Cohort	Iran	2004-2015 (8.08)	42.75	40-75 (51.54)	White >75.59	<31.10	general population	40708	at a study clinic visit, and the Office of National Statistics. CVD mortality (ICD-10, not reported) was identified through active follow-up, and confirmed by verbal autopsy and extensive medical documents.	Smoking: 1. never smokers; 0. ever smokers. PA: 1. MVPA \geq 30 min/d; 0. MVPA <30 min/d. Diet (AHEI, FFQ): 1. highest 40%; 0. lower 60%.	8
Ford-2011 ⁴⁵	National Health and Nutrition Examination Surveys III	US	1988-2006 (NA)	46.75	17-NA (59.00)	White 81.10 Black 11.10	61.88	general population	16958	Major CVD mortality (ICD-10, I00-I78) was identified through the National Death Index.	Smoking: 1. <100 cigarettes; 0. \geq 100 cigarettes. Alcohol drinking (M/F): 1. 0.1-59.9/29.9 drinks/m; 0. none or \geq 60/30 drinks/m. PA: 1. VPA \geq 3 times/w or MPA \geq 5 times/w; 0. VPA <3 times/w and MPA <5 times/w. Diet (a single 24-h recall, HEI): 1. top 40%; 0. lower 60%.	8
Ford-2012 (1) ⁹⁴	National Health and Nutrition Examination Surveys 1999	US	1999-2006 (5.80)	47.69	20-NA (45.79)	White 72.22	52.90	general population	7622	CVD mortality was identified through the National Death Index.	Smoking: 1. quitting >12 m or never smokers; 0. quitting \leq 12 m or current smokers. PA: 1. MVPA \geq 150 min/w; 0. MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. \geq 25 kg/m ² . Diet (single 24-h recall, HEI): 1. \geq 81 points; 0. <81 points. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or \geq 200 mg/dl. SBP/DBP: 1. <120 and 80 mmHg	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Ford-2012 (2) ^{†, 95}	National Health and Nutrition Examination Surveys 1999	US	1999-2006 (5.70)	50.11	20-NA (45.60)	White 72.64 Black 19.15	52.90	general population	8375	CVD mortality (ICD-10, I00-I78) was identified through the National Death Index.	(untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. HbA1c: 1. <5.7%; 0. ≥5.7%. Smoking: 1. not current smokers; 0. current smokers. PA: 1. MVPA ≥150 min/w; 0. MVPA <150 min/w. Diet (HEI, a single 24-h recall): 1. top 40%; 0. lower 60%.	8
Foster-2018 ⁹⁶	UK Biobank	UK	2006-2015 (4.90)	45.41	40-69 (55.71)	White 94.79	46.10	General population	328594	Deaths were obtained from death certificates held by the NHS Information Centre and the NHS Central Register.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. not consume (almost) daily; 0. consume (almost) daily. PA: 1. MPA ≥150 min/w or VPA ≥75 min/w; 0. MPA <150 min/w and VPA <75 min/w. Diet (fruits and vegetables, 24-h dietary recall): 1. ≥400 g/d; 0. <400 g/d. Diet (oily fish, 24-h dietary recall): 1. ≥one portion/w; 0. <one portion/w. Diet (red meat, 24-h dietary recall): 1. ≤3 portions/w; 0. >3 portions/w. Diet (processed meat, 24-h dietary recall): 1. ≤1 portions/w; 0. >1 portions/w. Television viewing: 1. <4 h/d; 0. ≥4 h/d. Sleeping: 1. 7-9 h/d; 0. <7 h/d or >9 h/d.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Gopinath-2010 ⁹⁷	Blue Mountains Eye Study	Australia	1992-2007 (NA)	NA	49-NA (NA)	NA	NA	general population	2283	CVD mortality was assessed using ICD-9 and identified through the Australian National Death Index data.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. $\leq 21/14$ units/w; 0. $> 21/14$ units/w. PA: 1. ≥ 3 times/w; 0. < 3 times/w. Diet (fruits and vegetables consumption): 1. ≥ 3 times/d; 0. < 3 times/d.	8
Greenlee-2017 ⁹⁸	Cardiovascular Health Study	US	1989-2011 (15.00)	38.56	65-98 (72.00)	White 86.71 Black 11.72	72.91	general population	3491	CVD deaths included atherosclerotic coronary disease, CBVD, other atherosclerotic disease (such as aortic aneurysm), and other vascular disease (such as valvular heart disease or PE), and were identified from National Death Index and interviews with proxy respondents.	ACS: Smoking: 2. never smokers or quitting > 1 year; 1. quitting ≤ 1 year; 0. current smokers. Alcohol drinking (M/F): 2. non-drinker; 1. $< 2/1$ unit/d; 0. $> 2/1$ unit/d. PA: 2. LTPA ≥ 8.75 MET-h/w; 1. LTPA 0.10-8.74 MET-h/w; 0. zero MET-h/w. BMI: 2. < 25 kg/m ² at baseline and age 50; 1. 25-29.9 kg/m ² at baseline and < 30 kg/m ² at age 50, or 25-29.9 kg/m ² at age 50 and < 30 kg/m ² at baseline; 0. ≥ 30 kg/m ² either baseline, age 50, or both. Diet (ACS, including vegetables and fruits, red and processed meats, and whole grains consumption, FFQ): 2. ≥ 6 score; 1. 3-5 score; 0. < 3 score. AHA: Smoking: 2. never smokers or quitting > 1 year; 1. quitting ≤ 1 year; 0. current smokers. PA: 2. LTPA ≥ 8.75 MET-h/w; 1. LTPA 0.10-8.74 MET-h/w; 0. zero MET-h/w.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Hamer-2011 ⁹⁹	National Diet and Nutrition Survey	UK	NA-2008 (9.20)	50.75	65-99 (76.50)	White predominant	NA	general population	1062	CVD mortality was identified through National Health Service administrative mortality data.	BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² . Diet (AHA, FFQ): 2. 4-5 components; 1. 2-3 components; 0. 0-1 components. SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg (untreated) or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FPG: 2. <100 mg/dl (untreated); 1. 100-125 mg/dl (untreated) or <100 mg/dl (treated); 0. ≥126 mg/dl. TC: 2. <200 mg/dl (untreated); 1. 200-239 mg/dl (untreated) or <200 mg/dl (treated); 0. ≥ 240 mg/dl. Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking (M/F): 1. 1-21/14 units/w; 0. zero or >21/14 units/w. PA: 1. regular MVPA; 0. irregular or no MVPA. Diet (daily vitamin C intake): 1. ≥50 mU; 0. <50 mU.	8
Han-2018 ¹⁵⁷	Prediction for ASCVD Risk in China project	China	1998-2015 (7.24)	40.22	20->65 (51.64)	Asian 100	NA	general population	93987	ASCVD mortality was death caused by ASCVD, which was identified through hospital records or death certificates.	7-point score: Smoking: 1. never smokers or former smokers quitting >12 m; 0. current smokers or former smokers quitting ≤12 m. PA: 1. MPA ≥150 min/w or VPA ≥75 min/w or MVPA ≥150 min/w; 0. MPA <150 min/w and VPA <75 min/w and MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² .	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Hoevenaar-Blom-2014 ^{†,158}	Monitoring Project on Risk Factors for Chronic Diseases	Netherlands	1994-2008 (12.00)	45.58	20-65 (42.00)	White predominant	53.44	general population	14639	CVD mortality (ICD-10, I00-I99, G45, and R96) was identified through municipal population registries and "Statistics Netherlands".	Diet (AHA, FFQ): 1. 4-5 components; 0-3 components. SBP/DBP: 1. <120/80 mmHg (untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. FBG: 1. <100 mg/dl (untreated); 0. <100 mg/dl (treated) or ≥100 mg/dl. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or ≥200 mg/dl. 4-point score: smoking, PA, BMI, and diet. 5-point score: Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. <1 glass/m; 0. ≥1 glass/m. PA: 1. ≥3.5 h/w cycling and sports; 0. <3.5 h/w cycling and sports. Diet (MDS, FFQ): 1. 5-8; 0. 0-4. Sleep: 1. ≥7 h; 0. <7 h. 4-point score: without sleep Alcohol drinking: 1. ≤10.0 g/d; 0.5. 10.1-20.0 g/d; 0. >20.0 g/d. PA: 1. ≥30.0 min/d; 0.5. 0.1-29.9 min/d; 0. none. BMI: 1. 18.5-24.9 kg/m ² ; 0.5. 25.0-29.9 kg/m ² ; 0. ≥30.0 kg/m ² . Diet (SSB, FFQ): 1. zero g/d; 0.5. <250 g/d; 0. ≥250 g/d. Diet (fruit and vegetable, FFQ): 1. ≥5 servings/d; 0.5. 3-4 servings/d; 0. <3 servings/d. Diet (DF, FFQ): 1. ≥25.0 g/d; 0.5. 12.5-24.9 g/d; 0. <12.5 g/d.	8
Inoue-Choi-2013 ¹⁰¹	Iowa Women's Health Study	US	2004-2009 (5.40)	0	73-87 (78.90)	White predominant	86.10	cancer patients	2017	CVD mortality was identified through the State Health Registry of Iowa, supplemented with the National Death Index (National Center for Health Statistics).		8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Jin-2017 ¹⁰³	InCHIA NTI study	Italy	1998-2010 (9.10)	45.00	65-95 (74.00)	White predominant	<45.92	general population	928	CVD mortality (including heart disease, stroke, and other CVD; ICD-9, 390-398, 402, 410-438, and 440-448) was identified through the Tuscany Region Mortality General Registry and death certificates at the registry office of the municipality of residence.	Diet (red meat and processed meat, FFQ): 1. <500 g/d and <3 g/d; 0.5. <500 g/d and 3-49 g/d; 0. ≥500 g/d or ≥50 g/d. Diet (sodium, FFQ): 1. ≤1500 mg/d; 0.5. 1501-2400 mg/d; 0. >2400 mg/d. Smoking: 2. never smokers; 1. former smokers; 0. current smokers. PA: 2. light exercise ≥4 h/w, moderate exercise ≥1-2 h/w, or intense exercise many times/w; 1. light exercise 2-4 h/w; 0. inactive or with some walking. BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² . Diet (MDS, FFQ): 2. 6-9 points; 1. 4-5 points; 0. 0-3 points. SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg (untreated) or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FPG: 2. <100 mg/dl (untreated); 1. 100-125 mg/dl (untreated) or <100 mg/dl (treated); 0. ≥126 mg/dl. TC: 2. <200 mg/dl (untreated); 1. 200-239 mg/dl (untreated) or <200 mg/dl (treated); 0. ≥ 240 mg/dl.	9
Khaw-2008 ⁶³	European Prospective Investigation into	UK	1993-2006 (11.00)	45.35	45-79 (58.13)	White 99.50	53.38	CVD or cancer patients	2057	CVD mortality (ICD-9, 400-438; ICD-10, I10-I79) was identified through death certification at the	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. 1-14 units/w (1 unit≈8 g alcohol); 0. none or >14 units/w. PA: 1. LTPA ≥0.5 h/d; 0. LTPA <0.5	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Kim-2013 ¹⁰⁴	Cancer and Nutrition -Norfolk Seoul Male Cohort Study	South Korea	1993-2011 (18.40)	100	40-59 (47.53)	Asian predominant	>53.73	general population	12538	Office of National Statistics. CVD mortality (ICD-10, I01-I99) was identified through the National Statistics Office.	h/d. Diet (plant food intake, blood vitamin C level): 1. ≥ 50 mmol/l; 0. <50 mmol/l. Smoking: 1. never smokers; 0. ever smokers. PA: 1. MPA ≥ 150 min/w, VPA ≥ 75 min/w, or MVPA ≥ 150 min/w; 0. MPA <150 min/w, MVPA <150 min/w, and VPA <75 min/w. BMI: 1. 23.1-24.9 kg/m ² ; 0. ≥ 25 kg/m ² . Diet (Korean dietary pattern, FFQ): 1. ≥ 2 points; 0. <2 points. SBP/DBP: 1. <120 and 80 mmHg (without medication); 0. ≥ 120 or 80 mmHg, or <120 and 80 mmHg (with medication). FBG: 1. <100 mg/dl (without medication); 0. ≥ 100 mg/d, or <100 mg/dl (with medication). TC: 1. <200 mg/dl (without medication); 0. ≥ 200 mg/dl, or <200 mg/dl (with medication).	9
King-2013 ^{†, 105}	National Health and Nutrition Examination Surveys III	US	1988-2006 (NA)	18.50	21-NA (NA)	White 81.10 Black 11.10	61.88	people with normal blood pressure, low-density lipoprotein cholesterol or C-	11481	CVD mortality was determined by the National Death Index.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 0.1-2/1 drinks/d; 0. none or >2/1 drinks/d. PA: 1. >12 times/m; 0. ≤ 12 times/m. BMI: 1. 18.5-29.9 kg/m ² ; 0. <18.5 kg/m ² or ≥ 30 kg/m ² . Diet (fruit and vegetables): 1. ≥ 5 servings/d; 0. <5 servings/d.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Knoops-2004 ¹⁰⁶	Healthy Ageing: a Longitudinal study in Europe	Europe	1988-2000 (10.00)	64.43	70-90 (74.24)	White predominant	<66.86	reactive protein level general population	2339	Identification of CVD mortality (ICD-9, 390-459) and CHD mortality (ICD-9, 410-414) was not reported.	Smoking: 1. never smokers or quitting >15 years; 0. quitting ≤15 years or current smokers. Alcohol drinking: 1. >0 g/d; 0. none. PA (Voorrips or Morris questionnaire): 1. the intermediate and the highest tertile; 0. the lowest tertile. Diet (mMDS, dietary history method): 1. ≥4 points; 0. <4 points.	8
Kvaavik-2010 ¹⁰⁸	Health and Lifestyle Survey	UK	1985-2005 (20.00)	51.35	18-NA (43.70)	White 98.00	NA	general population	4886	CVD-cause mortality (ICD-9, 390-434 and 436-448) was ascertained from death certificates.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. ≤21/14 units/w; 0. >21/14 units/w. PA: 1. ≥120 min/w; 0. <120 min/w. Diet (fruits and vegetables consumption, FFQ): 1. ≥3 times/d; 0. <3 times/d.	8
Lee-2009 ^{†, 110}	Aerobics Center Longitudinal Study	US	1971-2003 (14.70)	100	30-79 (44.13)	White >95.00	>70.00	general population	23657	CVD mortality (ICD-9, 390-449.9; ICD-10, I00-I78) were identified through the National Death Index and official death certificates.	Smoking: 1. never smoking; 0. ever smoking. Fitness (CRF): 1. higher 80%; 0. lower 20%. WC: 1. <94 cm; 0. ≥94 cm.	7
Li-2018 ¹	Nurses' Health Study & Health Professio	US	1980-2014 (27.20-33.90)	36.00	34-75 (48.96)	White 96.34	Predomina nt	general population	123219	CVD mortality was identified from state vital statistics records, the National Death	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking (M/F): 1. 5-30/15 g/d; 0. <5 g/d or >30/15 g/d. MVPA: 1. >30 min/d; 0. ≤30 min/d.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Lin-2012 ¹¹²	nals Follow-Up Study Taichung Diabetes Study	China	2002-2008 (4.02)	51.93	30-NA (58.51)	Asian predominant	NA	type 2 diabetes mellitus patients	5686	Index, reports by the families, and the postal system. CVD mortality (ICD-9-CM, 390- 459) was identified through the Taiwan National Death Index.	BMI: 1. 18.5-24.9 kg/m ² ; 0. <18.5 kg/m ² or ≥25 kg/m ² . Diet (AHEI, FFQ): 1. top 40% of each cohort distribution; 0. lower 60% of each cohort distribution. Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking: 1. abstainer; 0. drinker. PA: 1. ≥once /w for >1 m continuously; 0. <once /w or <1 m continuously. Diet (carbohydrate intake, 24-h food diary): 1. <65%E; 0. ≥65%E. Smoking: 1. never smokers; 0. ever smokers. PA: 1. MVPA ≥80 min/w; 0. MVPA <80 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (salt intake): 1. low salt intake; 0. intermediate and high salt intake. SBP/DBP: 1. <120 and 80 mmHg (not treated); 0. <120 and 80 mmHg (treated) or ≥120 or 80 mmHg. FPG: 1. <100 mg/dl (not treated); 0. <100 mg/dl (treated) ≥100 mg/d. TC: 1. <200 mg/dl (not treated); 0. or <200 mg/dl (treated) ≥200 mg/dl.	7
Liu-2014 ¹¹⁵	Kailuan Study	China	2006-2010 (4.02)	79.75	18-98 (51.46)	Asian predominant	>6.91	general population	95429	CVD mortality (ICD-10, I05-I09, I11, I20-I27, and I30-I52) was ascertained by discharge lists from local hospitals and death certificates from state vital statistics offices and active follow-up.	BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (salt intake): 1. low salt intake; 0. intermediate and high salt intake. SBP/DBP: 1. <120 and 80 mmHg (not treated); 0. <120 and 80 mmHg (treated) or ≥120 or 80 mmHg. FPG: 1. <100 mg/dl (not treated); 0. <100 mg/dl (treated) ≥100 mg/d. TC: 1. <200 mg/dl (not treated); 0. or <200 mg/dl (treated) ≥200 mg/dl.	8
Liu-2018 ¹⁵⁹	Nurses' Health Study & Health Professionals	US	1980-2014 (13.30)	22.18	34-75 (62.61)	White 95.13	Predominant	diabetes patients	11527	CVD mortality (ICD-8, 390-458 and 795) were identified through the National Death Index or reports by	5-point score: Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 5-30/15 g/d; 0. <5 g/d or >30/15 g/d.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Follow-Up Study									next of kin or postal authorities.	MVPA: 1. ≥ 150 min/w; 0. < 150 min/w. BMI: 1. < 25.0 kg/m ² ; 0. ≥ 25.0 kg/m ² . Diet (AHEI, FFQ): 1. top 40% of each cohort distribution; 0. lower 60% of each cohort distribution. 4-point score: smoking, drinking, MVPA, and diet. Alcohol drinking: 1. didn't drink yesterday; 0. drank yesterday. PA (MPA ≥ 60 min/d or VPA ≥ 30 min/d): 1. ≥ 2 d/w; 0.5. one d/w; 0. < 1 d/w. Sedentary behavior: 1. regular exercise or exhausting; 0.5. walking, cycling, other regular activities such as gardening, or average; 0. mostly sitting or sedentary. BMI: 1. 18.5-24.9 kg/m ² ; 0.5. 25-29.9 kg/m ² ; 0. < 18.5 kg/m ² or ≥ 30 kg/m ² . Diet (energy density, score consisting of fat for cooking, bread, or salad, cut away fat from meat, and sweets/chocolate): 1. 2-3 points; 0.5. one point; 0. zero points. Diet (fruits and vegetables): 1. yesterday consume both fruits and vegetables; 0.5. yesterday consume either fruits or vegetables; 0. yesterday consume no fruits and vegetables. Diet (grains): 1. consume yesterday; 0. no yesterday.	
Lohse-2016 [†] ₁₁₆	MONitoring trends and determinants of CARDIOvascular disease-Switzerland & National Research Program meIA	Switzerland	1977-NA (21.70)	50.60	25-74 (46.06)	White predominant	58.85	general population	16722	CVD mortality (ICD-8, 410-458; ICD-10, I20-I99) was identified through the Swiss National Cohort.		9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Luoto-1998 ¹⁶⁰	"The Finnish National Public Health Institute Study"	Finland	1978-1993 (9.00)	46.74	15-64 (NA)	White predominant	NA	general population	18974	CVD mortality was identified through the Central Population Register.	Diet (processed meat): 1. didn't consume yesterday; 0.5. consume meat yesterday; 0. consume sausage products yesterday. Diet (salt): 1. never adding salt; 0.5. sometimes adding salt; 0. always adding salt. Smoking: 1. not smoking; 0. smoking. PA: 1. ≥2-3 times/m; 0. <2-3 times/m. Diet: 1. use of butter on bread and whole milk containing <3.9% fat; 0. use of butter on bread and whole milk containing ≥3.9% fat.	9
Martin-Diener-2014 ¹¹⁷	MONITORing trends and determinants of Cardiovascular disease-Switzerland & National Research Programme I	Switzerland	1977-2008 (21.35)	48.60	16-90 (45.10)	White predominant	<65.77	general population	16721	CVD mortality (ICD-8, 410-438; ICD-10, I00-I99) was identified through the Swiss National Cohort.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. <40/20 g/d; 0. >40/20 g/d. PA: 1. frequent walking or cycling, other frequent activities such as gardening, or regular VPA; 0. light PA, mostly sedentary. Diet (fruit intake on the previous day): 1. yes; 0. no.	8
McCullough-2011 ¹¹⁹	Cancer Prevention Study-II	US	1992-2006 (13.07)	45.31	50-74 (62.67)	White 97.99	92.66	current non-smokers	111966	CVD mortality (ICD-9, 390-459; ICD-10, I00-I99) was identified	Alcohol drinking (M/F): 2. 0.1-2/1 drinks/d; 1. none; 0. >2/1 drinks/d. PA: 2. ≥17.5 MET-h/w; 1. 8.75-17.4 MET-h/w; 0. <8.75 MET-h/w.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Nutrition Cohort									through National Death Index.	BMI: 2. 18.5-24.9 kg/m ² at both time points; 1. 25-30 kg/m ² at both time points, or 18.5-24.9 kg/m ² at one time point and ≥25 kg/m ² at another time point; 0. >30 kg/m ² at both time points, or >30 kg/m ² at one time point and 25-30 kg/m ² at another time point. Diet (ACS, FFQ): 2. 7-9 points; 1. 3-6 points; 0. 0-2 points.	
Mitchell-2010 ¹⁶¹	Aerobics Center Longitudinal Study	US	1974-2003 (16.10)	100	20-84 (43.80)	White 96.00 Black 1.00	>70.00	healthy middle or upper socioeconomic population	38110	CVD mortality (ICD-9, 390-449.9; ICD-10, I00-I78) was identified through the National Death Index and death certificates	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. 1-14 drinks/w; 0. none or >14 drinks/w. PA: 1. moderate or high PA; 0. low PA. BMI: 1. 18.5-24.9 kg/m ² ; 0. ≥25 kg/m ² . CRF: 1. moderate/high CRF (upper two-thirds); 0. low CRF.	8
Mok-2018 ¹²²	Atherosclerosis Risk in Communities Study	US	1987-2013 (3.30)	43.80	45-64 (54.50)	White 75.60 Black 24.40	70.50	myocardial infarction patients	1277	CVD mortality was defined as death attributable to CHD, HF, or stroke.	Smoking: 2. never smokers and former smokers quitting >1 year; 1. former smokers quitting ≤1 year; 0. current smokers. MVPA: 2. ≥150 min/w; 1. 1-150 min/w; 0. none. BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² . Diet (AHA, FFQ): 2. 4-5 components; 1. 2-3 components; 0. 0-1 component. SBP/DBP: 2. <120/80 mmHg (untreated); 1. <120/80 mmHg	6

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Nechuta-2010 ¹²⁴	Shanghai Women's Health Study	China	1996-2007 (9.10)	0	40-70 (<56.95)	Asian 100	42.10	non-smokers and non-drinker	63791	CVD mortality (ICD-9, 390-459) was identified through Shanghai cancer, vital statistics registries, and death certificates.	(treated) and 120-139/80-89 mmHg; 0. \geq 140/90 mmHg. FBG: 2. <5.6 mmol/l (untreated); 1. <5.6 mmol/l (treated) or 5.6-6.9 mmol/l; 0. \geq 7.0 mmol/l. TC: 2. <5.2 mmol/l (untreated); 1. <5.2 mmol/l (treated) or 5.2-6.1 mmol/l; 0. \geq 6.2 mmol/l. 9-point score: Exposed to spouse smoke: 1. never; 0. ever. PA: 2. \geq 2.0 MET h/d; 1. 0.1-1.99 MET h/d; 0. none. BMI: 2. 18.5-24.99 kg/m ² ; 1. 25.0-29.99 kg/m ² ; 0. \geq 30.0 kg/m ² or <18.5 kg/m ² . WHR: 2. tertile one (<0.786); 1. tertile 2; 0. tertile three (\geq 0.830). Diet (fruit and vegetable intake, FFQ): 2. tertile three (\geq 626.5 g/d); 1. tertile 2; 0. tertile one (<404.3 g/d). 5-point score: Exposed to spouse smoke: 1. never; 0. ever. PA: 1. \geq 2.0 MET h/d; 0. <2.0 MET h/d. BMI: 1. 18.5-24.99 kg/m ² ; 0. \geq 25.0 kg/m ² or <18.5 kg/m ² . WHR: 1. tertile one (<0.786); 0. tertile two and three (\geq 0.786). Diet (fruit and vegetable intake, FFQ): 1. tertile three (\geq 626.5 g/d); 0. tertile two and one (<626.5 g/d).	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Odegaard-2011 ^{8, 126}	Singapore Chinese Health Study	Singapore	1993-2016 (20.60)	45.10	45-74 (55.30)	Asian predominant	<32.70	general population	44052	CVD mortality (ICD-9, 390-459; ICD-10, I00-I99) was obtained through linkage with the nationwide Singapore Birth and Death Registry.	6-point score: Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking (M/F): 1. 0.1-14/7 drinks/w; 0. none or >14/7 drinks/w. PA: 1. moderate activity ≥ 2 h/w, or strenuous activity ≥ 0.5 h/w; 0. moderate activity <2 h/w, or strenuous activity <0.5 h/w. BMI (aged <65/aged ≥ 65): 1. 18.5-21.4/24.4 kg/m ² ; 0. <18.5 or $\geq 21.5/24.5$ kg/m ² . Diet (AHEI-2010, FFQ): 1. highest 40%; 0. Lower 60%. Sleeping: 1. 7-8 h/d; 0. <7 or >8 h/d. 5-point score: smoking, drinking, PA, BMI, and diet. 4-point score: smoking, PA, BMI, and diet.	8
Petersen-2015 ¹²⁹	Diet, Cancer and Health cohort study	Denmark	1993-2010 (14.00)	47.10	50-64 (55.53)	White predominant	11.00	general population	51521	CVD mortality (ICD-10, I10-I25, I27-I52, I60-I64, and I70-I79) was identified through the Central Population Registry and Register of Causes of Death.	5-point score: Smoking: 1. never smokers or quitting ≥ 15 years; 0. current smokers or quitting <15 years. Alcohol drinking (M/F): 1. $\leq 14/7$ units/w; 0. >14/7 units/w. PA: 1. ≥ 30 min/d; 0. <30 min/d. WC: 1. ≤ 102 cm; 0. >102 cm. Diet (score consisting of fat, red and processed meat, fish, whole grain, and fruits and vegetables consumption, FFQ): 1. 2-5 components; 0. 0-1 component. 4-point score: smoking, drinking, PA, and diet.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Struijk-2014 ^{†, 162}	European Prospective Investigation into Cancer and Nutrition - Netherlands	Netherlands	1993-2008 (12.20)	25.90	20-70 (48.90)	White predominant	20.70	general population	33671	CVD cases (including CHD, stroke and other cardiovascular events such as PAD and HF; ICD-9, 410-414, 427.5, 428, 415.1, 443.9, 430-438, 440-442, 444, 798.1, 798.2, 798.9; ICD-10, I20-I25, I46, R96, G45, I60-I67, I69, I70-I74, I50) and CHD cases (including IHD, cardiac arrest and sudden death; ICD-9, 410-414, 427.5, 798.1, 798.2, 798.9; ICD-10, I20-I25, I46, R96) were identified through Dutch Centre for Health Care Information.	Alcohol drinking (M/F): 10. ≤20/10 g/d; 0. ≥60/40 g/d. PA: 10. ≥3.5 h/w; 0. zero h/w. Diet (vegetables, FFQ): 10. ≥200 g/d; 0. zero g/d. Diet (fruit, FFQ): 10. ≥200 g/d; 0. zero g/d. Diet (DF, FFQ): 10. ≥14 g/4.2MJ; 0. zero g/4.2MJ. Diet (EPA/DHA, FFQ): 10. ≥450 mg/d; 0. zero mg/d. Diet (SFA, FFQ): 10. <10%E; 0. ≥15%E. Diet (mono trans-FA, FFQ): 10. ≥1%E; 0. <1%E. Diet (sodium, FFQ): 10. <1.68 g/d; 0. ≥2.52 g/d.	9
Tamosiunas-2014 ¹³⁷	MONITORING trends and determinants of Cardiovascular disease-	Lithuania	1983-2011 (13.30)	46.13	45-64 (55.18)	White predominant	63.66	general population	5635	CVD mortality (ICD-9, 390-458; ICD-10, I00-I99) and CHD mortality (ICD-9, 410-414; ICD-10, I20-I25) were identified through regional mortality register.	Smoking: 1. never smokers; 0. ever smokers. PA (LTPA): 1. ≥7 h/w; 0. <7 h/w. BMI: 1. <25.0 kg/m ² ; 0. ≥25.0 kg/m ² . SBP/DBP: 1. <120 and 80 mmHg (untreated); 0. ≥120 or 80 mmHg, or <120 and 80 mmHg (treated). FBG: 1. <5.55 mmol/L; 0. ≥5.55 mmol/L.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Lithuania & Health, Alcohol and Psychosocial Factors in Eastern Europe Study										TC: 1. <5.2 mmol/L; 0. ≥5.2 mmol/L.	
Towfighi-2012 ^{†, 139}	National Health and Nutrition Examination Surveys III	US	1988-2000 (NA)	50.00	NA (67.00)	White 81.10 Black 11.10	61.88	stroke patients	388	Cardiovascular disease mortality including deaths from any heart disease, cerebrovascular cause, atherosclerosis or hypertension (UCOD-113 codes 054-074), was identified through National Death Index death certificate records.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 0.1-2/1 drinks/d; 0. none or >2/1 drinks/d. PA: 1. >12 times/m; 0. ≤12 times/m. BMI: 1. 18.5-29.9 kg/m ² ; 0. <18.5 or ≥30 kg/m ² . Diet (fruit and vegetables): 1. ≥5 servings/d; 0. <5 servings/d.	8
Van Dam-2008 ^{†, 67}	Nurses' Health Study	US	1980-2004 (22.62)	0	34-59 (NA)	White predominant	Predominant	general population	77782	CVD mortality (ICD-8, 390-459 and 795) was identified through reports by next of kin, the postal authorities, death	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking: 1. 1-14.9 g/d; 0. <1 g/d or ≥15.0 g/d. PA (MVPA): 1. ≥30 min/d; 0. <30 min/d. BMI: 1. 18.5-25.0 kg/m ² ; 0. >25.0	6

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
van Lee-2016 ¹⁴⁴	Rotterdam Study	Netherlands	1990-2011 (20.00)	40.47	55-NA (65.43)	White predominant	69.73	general population	2987	certificates, medical records, and National Death Index. CVD mortality (ICD-10, I00-I99), CHD mortality (ICD-10, I21, I24, I25, I46, I49, I50) and stroke mortality (ICD-10, I60-I69) were identified through municipal population registries.	kg/m ² . Diet (AHEI, FFQ): 1. upper two fifths; 0. lower three fifths. Alcohol drinking (M/F): 1. ≤20/10 g/d; 0. >20/10 g/d. PA: 1. ≥150 min/w; 0. <150 min/w. Diet (vegetable consumption, FFQ): 1. 150-200 g/d; 0. <150 g/d or >200 g/d. Diet (fruit consumption, FFQ): 1. ≥200 g/d; 0. <200 g/d. Diet (DF, FFQ): 1. 30-40 g/d; 0. <30 g/d or >40 g/d. Diet (fish consumption, FFQ): 1. ≥2 portions/w and ≥1 oily fish; 0. <2 portions/w or <1 oily fish. Diet (SFA, FFQ): 1. <10%E; 0. ≥10%E. Diet (mono trans-FA, FFQ): 1. <1%E; 0. ≥1%E. Diet (salt, FFQ): 1. ≤6 g/d; 0. >6 g/d.	9
Vergnaud-2013 ¹⁴⁵	European Prospective Investigation into Cancer and Nutrition	Europe	1992-2010 (12.80)	32.05	25-70 (51.90)	White predominant	<67.34	general population	378864	Circulatory disease (ICD-10, I00-I99) was identified through cancer registries, boards of health, and death indexes, or active follow-up including inquiries to participants, municipal registries, regional	Alcohol drinking (M/F): 1. ≤20/10 g/d; 0.5. 21-30/11-20 g/d; 0. >30/20 g/d. PA: 1. manual/heavy manual job, or >2 h/w of vigorous PA, or >30 min/d of cycling/sports; 0.5. cycling/sports 15-30 min/d; 0. cycling/sports <15 min/d. BMI: 1. 18.5-24.9 kg/m ² ; 0.5. 25-29.9 kg/m ² ; 0. <18.5 kg/m ² or ≥30.0 kg/m ² . Diet (energy-dense, dietary	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Warren Andersen-2016 ¹⁶³	the Southern Community Cohort Study	US	2002-2011 (NA)	85.49	40-79 (50.65)	White 31.36 Black 68.64	73.06	general population	75689	health departments, physicians and hospitals. CVD mortality (ICD-10, I00-I69) was identified through the Social Security Administration's Death Master File and National Death Index.	questionnaires): 0.5. ≤125 kcal/100g/d; 0.25. 126-175 kcal/100g/d; 0. >175 kcal/100g/d. Diet (SSB, dietary questionnaires): 0.5. zero g/d; 0.25. ≤250 g/d; 0. >250 g/d. Diet (fruit and vegetable consumption, dietary questionnaires): 0.5. ≥400 g/d; 0.25. 200-399 g/d 0. <200 g/d. Diet (DF, dietary questionnaires): 0.5. ≥25 g/d; 0.25. 12.5-24.9 g/d; 0. <12.5 g/d. Diet (red and processed meat consumption, dietary questionnaires): 1. <500 g/w and <3 g/d; 0.5. <500 g/w and 3-49 g/d; 0. ≥500 g/w or ≥50 g/d. Cumulative breastfeeding: 1. ≥6 m; 0.5. 0.1-5.9 m; 0. zero m. Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking (M/F): 1. ≤2/1 drink/d; 0. >2/1 drink/d. PA: 1. MPA ≥150 min/w, or VPA ≥75 min/w, or MVPA ≥150 min/w; 0. MPA <150 min/w, and VPA <75 min/w, and MVPA <150 min/w. Sedentary behavior: 1. ≤5.75 h/d; 0. >5.75 h/d (lowest quartile). Diet (HEI, FFQ): 1. >66.7 points (highest quartile); 0. ≤66.7 points.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Wingard-1982 ¹⁴⁷	Human Population Laboratory	US	1965-1974 (NA)	47.17	30-69 (<53.28)	NA	NA	general population	4725	IHD and other circulatory disease mortality were identified through California Death Registry.	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking: 1. <45 drinks/m; 0. >45 drinks/m. PA: 1. active; 0. inactive. Quetelet index (weight in pounds/(height in inches) ²) based on Metropolitan Life Insurance reports: 1. 9.9% underweight-29.9% overweight; 0. extreme underweight or overweight. Sleeping: 1. 7-8 h/night; 0. <7 h/night or >8 h/night.	7
Yang-2012 ^{†, 148}	National Health and Nutrition Examination Surveys III	US	1988-2006 (14.50)	48.20	20-NA (45.00)	White 81.10 Black 11.10	61.88	general population	13312	CVD mortality (ICD-10, I00-I78) and IHD mortality (ICD-10, I20-I25) were identified through the National Death Index.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. 3-5.9 METs for ≥5 times/w or ≥6 METs for ≥3 times/w; 0. 3-5.9 METs for <5 times/w and <6 METs for <3 times/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHA, FFQ): 1. ≥2 points; 0. <2 points. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or ≥200 mg/dl. SBP/DBP: 1. <120 and 80 mmHg (untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. HbA1c: 1. <5.7%; 0. ≥5.7%.	8
Zhang-2017 ¹⁵¹	Shanghai Men's Health Study	China	2002-2013 (9.29)	100	40-74 (55.34)	Asian predominant	59.90	general population	59747	CVD mortality (ICD-9, 390-459) was identified through Shanghai Vital Statistics.	Smoking: 1. never smokers or quitting ≥10 years; 0. current smokers or quitting <10 years. Alcohol drinking: 1. ≤14 drinks/w; 0. >14 drinks/w. PA: 1. MVPA ≥150 min/w (2 MET-	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Zhou-2018 ¹⁵²	The People's Republic of China-USA Collaborative Study of Cardiovascular and Coronary Epidemiology	China	1983-2005 (20.30)	49.57	35-59 (45.80)	Asian 100	NA	general population	938	CVD mortality was identified through death certificates or hospital records obtained from next-of-kin or local death registration department.	h/d); 0. MVPA <150 min/w. Diet (Chinese Food Pagoda score consisting of grains, vegetables, fruits, dairy, beans, meat and poultry, fish and shrimp, eggs, fats and oils, and salt, FFQ): 1. top three quintiles; 0. lower two quintiles. Smoking: 1. never smokers; 0. ever smokers. PA: 1. took part in physical exercises regularly; 0. not took part in physical exercises regularly. BMI: 1. <24 kg/m ² ; 0. ≥24 kg/m ² . Diet (AHA, 24-h dietary recall): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. <120/80 mmHg (untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. FBG: 1. <100 mg/dl (untreated); 0. <100 mg/dl (treated) or ≥100 mg/dl. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or ≥200 mg/dl.	8

* The percentage of ethnic groups may not sum to 100% since some participants belonged to the other ethnic groups or did not report the information.

† These studies were only used in stratified analyses.

‡ This study also used a 5-point score, which integrated alcohol, fruit, fish, milk, vegetable, and bean intake as a diet item.

§ The author provided updated analyses for all-cause mortality, cardiovascular disease mortality and cancer mortality, so the information and data were based on the updated analyses.

%E, percentage of total energy intake; ACS, American Cancer Society; AHA, American Heart Association; AHEI, Alternative Healthy Eating Index; aMDS, alternative Mediterranean diet score; ASCVD, atherosclerotic cardiovascular disease; BMI, body mass index; CBVD, cerebrovascular disease; CHD, coronary heart disease; CRF, cardiorespiratory fitness; CVD, cardiovascular disease; DASH, Dietary Approaches to Stop Hypertension; DBP, diastolic blood pressure; DF, dietary fiber; DHA, docosahexaenoic acid; EPA, eicosapentaenoic acid; FA, fatty acid; FBG, fasting blood glucose; FFQ, food frequency questionnaire; FPG, fasting plasma glucose; HbA1c, glycosylated hemoglobin; HDL-c, high-density lipoprotein cholesterol; HEI, Healthy Eating Index; HF, heart failure; ICD, International Classification of Diseases; IHD, ischemic heart disease; LTPA, leisure-time physical activity; M/F, for male and female respectively; MDS, Mediterranean diet score; MET, metabolic equivalent of task; MI, myocardial infarction; mMDS, modified Mediterranean diet score; MPA, moderate physical activity; MVPA, moderate to vigorous physical activity; NA, not

available; NOS, Newcastle–Ottawa Scale; PA, physical activity; PAD, peripheral artery disease; PE, pulmonary embolism; SBP, systolic blood pressure; SFA, saturated fatty acid; SSB, sugar-sweetened beverage; TC, total cholesterol; UK, the United Kingdom; US, the United States; VPA, vigorous physical activity; WC, waist circumference; WHR, waist-to-hip ratio.

Table A5. Characteristics of studies related to cardiovascular disease incidence

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Booth-2016 ⁸¹	Reasons for Geographic and Racial Differences in Stroke	US	2003-2012 (5.80)	57.56	45-79 (66.60)	White 58.23 Black 41.77	89.14	population with a 10-year predicted risk $\geq 7.5\%$	5709	ASCVD (nonfatal or fatal and ischemic or hemorrhagic) and CHD (nonfatal MI or CHD death) event, were identified through telephone contact with participants or proxies, adjudicated by medical records, death certificates, autopsy reports, online sources, and the National Death Index.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. ≥ 5 times/w; 0. < 5 times/w. WC (M/F): 1. $\leq 102/88$ cm; 0. $> 102/88$ cm. Diet (MDS, FFQ): 1. top 20%; 0. lower 80%. Diet (SFA intake): 1. top 20%; 0. lower 80%.	8
Carlsson-2013 ⁸³	"Stockholm County 1997"	Sweden	1997-NA (10.85)	48.18	60-60 (60.00)	White predominant	37.89	general population	4232	Ischemic CVD (ICD-10, I20, I21, I25. I46, I63-I66) including all fatal and non-fatal MI, fatal and non-fatal ischemic stroke, and hospitalizations due to angina pectoris as the primary cause was	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. 0.6-30 g/d; 0. < 0.6 g/d or > 30 g/d. PA: 1. LTPA (MVPA) \geq once /w; 0. LTPA $<$ once /w. Diet (fish intake): 1. weekly; 0. $<$ once /w. Diet (processed meats as a main meal): 1. $<$ once /w; 0. weekly; Diet (fruit intake): 1. daily; 0. $<$ once	9

Diaz-2014 ⁸⁸	Reasons for Geographic and Racial Differences in Stroke	US	2003-NA (4.50)	49.20	45-NA (67.60)	White 39.50 Black 60.50	80.80	apparent treatment-resistant hypertension on patients	2043	identified through the In Hospital Care Register and the Cause of Death Register. CVD events (fatal CVD events including death within 28 days of a definite or probable MI or sudden death or a confirmed stroke, and non-fatal CVD events including non-fatal definite or probable MI or stroke) were identified through interviews of participants, proxy, next-of-kin, or medical record.	/d. Diet (vegetable intake): 1. daily; 0. <once /d. Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 1-14/7 drinks/w; 0. <1 drink/w or >14/7 drinks/w. PA: 1. ≥ 4 d/w; 0. <4 d/w. WC (M/F): 1. $\leq 102/88$ cm; 0. >102/88 cm. Diet (DASH score, FFQ): 1. highest quartile (≥ 27 points); 0. lower three quartiles (<27 points). Diet (sodium/potassium intake, FFQ): 1. lowest quartile (≤ 0.71 g/d); 0. higher three quartiles (>0.71 g/d).	7
Díaz Gutiérrez-2017 ¹⁶⁴	<i>Seguimiento Universitario de Navarra Cohort</i>	Spain	1999-2017 (10.40)	38.58	19-91 (37.32)	White predominant	100	general population	19336	Primary CVD (death from CVD causes, incident nonfatal acute coronary syndromes, or	Smoking: 1. never smoking; 0. ever smoking. Drinking (M/F): 1. 0.1-10/5 g/d; 0. none or >10/5 g/d. Binge drinking: 1. ≤ 5 alcoholic drinks anytime; 0. >5 alcoholic	8

Dong-2012 ⁹⁰	Northern Manhattan Study	US	1993-2011 (11.00)	36.30	40-107 (69.00)	White 75.00 Black 24.99	43.2	general population	2981	incidental nonfatal stroke) were identified from questionnaires and confirmed by medical records, The Spanish National Death Index, and the Spanish National Institute of Statistics. Stroke cases were identified through telephone interviews and verified by a positive screen. MI cases were identified through telephone interviews and verified by a positive screen.	drinks sometimes. PA: 1. >20 METs-h/w; 0. ≤20 METs-h/w. Sedentary behavior (television exposure): 1. ≤2 h/d; 0. >2 h/d. Diet (MDS, FFQ): 1. ≥4/8 points; 0. <4/8 points. Sleep (a short afternoon nap): 1. 0.1-0.5 h/d; 0. none or >0.5 h/d. Meeting up with friends: 1. >1 h/d; 0. ≤1 h/d. Working: 1. >40 h/w; 0. ≤40 h/w. Smoking: 1. never smokers or quitting >1 year; 0. quitting ≤1 year or current smokers; PA: 1. MPA ≥150 min/w or VPA ≥75 min/w or MVPA ≥150 min/w; 0. MPA <150 min/w and VPA <75 min/w and MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. <120 and 80 mmHg (not treated); 0. <120 and 80 mmHg (treated) or ≥120 or 80 mmHg. FPG: 1. <100 mg/dl (not treated); 0. <100 mg/dl (treated) ≥100 mg/d. TC: 1. <200 mg/dl (not treated); 0. or	98
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Emberson-2005 ⁹²	British Regional Heart Study	UK	1978-2000 (NA)	100	40-59 (49.20)	White predominant	NA	general population	6452	Major CVD events including death from CHD (ICD-9, 410-414) and stroke (ICD-9, 430-438) along with non-fatal MI or stroke were identified through the National Health Service registers and general practitioner reports.	<200 mg/dl (treated) ≥200 mg/dl. Smoking: 1. never smokers; 0. ever smokers. PA: 1. moderately vigorous or vigorous; 0. moderate, light, occasional or none PA. BMI: 1. ≤25 kg/m ² ; 0. >25 kg/m ² .	7
Eriksen-2015 ¹⁵⁶	Southall and Brent Revisited	UK	1988-2011 (21.00)	84.56	40-69 (52.09)	White 52.00 Asian 48.00	NA	general population	2096	CVD included fatal CHD (deaths caused by angina, MI or its sequelae or atherosclerotic heart disease. ICD-9, 410-415; ICD-10, I200-I259), fatal stroke (deaths caused from following ICD-9 codes 430-439 or ICD-10 codes I600-I698), and non-fatal CHD and stroke.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 1-21/14 units/w; 0. <1 or >21/14 units/w. PA: 1. MPA ≥5 h/w or VPA ≥2.5 h/w; 0. MPA <5 h/w and VPA <2.5 h/w. Diet (vegetables and fruits, simple dietary questionnaire): 1. ≥5.5 times/w; 0. <5.5 times/w.	7

Folsom-2011 ¹⁶⁵	Atherosclerosis Risk in Communities Study	US	1987-2007 (18.70)	43.86	45-64 (54.00)	White 75.62 Black 24.38	80.00	general population	12744	<p>CHD included fatal CHD and nonfatal CHD. Outcomes were identified through health and lifestyle questionnaires, medical record review, attendance at a study clinic visit, and the Office of National Statistics.</p> <p>CVD events comprised HF (ICD-9, 428; ICD-10, I50), definite or probable MI, definite fatal CHD, and definite or probable stroke, and were ascertained by active follow-up, discharge lists from the local hospital, and death certificates from state vital statistics</p>	<p>Smoking: 1. quitting >12 m or never smokers; 0. quitting ≤12 m or current smokers.</p> <p>PA: 1. MPA ≥150 min/w, or VPA ≥75 min/w, or MVPA ≥150 min/w; 0. MPA <150 min/w, and VPA <75 min/w, MVPA <150 min/w.</p> <p>BMI: 1. <25 kg/m²; 0. ≥25 kg/m².</p> <p>Diet (AHA, FFQ): 1. ≥81 points; 0. <81 points.</p> <p>TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or ≥200 mg/dl.</p> <p>SBP/DBP: 1. <120 and 80 mmHg (untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg.</p>	8
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Foraker-2016 ¹⁶⁶	Women's Health Initiative Observational Study	US	1993-2010 (12.90)	0	NA (63.50)	White 86.59 Black 8.84	94.92	general population	115306	offices. CVD (MI, stroke, coronary bypass surgery, percutaneous transluminal coronary angioplasty, angina, or CVD related death) diagnoses were classified by Women's Health Initiative Observational Study physician adjudicators following review of medical records, death certificates, and autopsy reports.	FSG: 1. <100 mg/dl (untreated); 0. <100 mg/dl (treated) or ≥100 mg/dl. Smoking: 1. Never or quitting >12 months; 0. quitting ≤12 months or current. PA: 1. MPA/MVPA >150 min/w or VPA >75 min/w; 0. MPA/MVPA <150 min/w and VPA <75 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. <120/80 mmHg without medication; 0. ≥120/80 mmHg or treated to <120/80 mmHg. FPG: 1. <100 mg/dl without medication; 0. ≥100 mg/dl or treated to <100 mg/dl. TC: 1. <200 mg/dl without medication; 0. ≥200 mg/dl or treated to <200 mg/dl.	9
Foster-2018 ⁹⁶	UK Biobank	UK	2006-2015 (4.10)	45.41	40-69 (55.71)	White 94.79	46.10	General population	328594	Incident CVD was defined as a hospital admission (via record linkage to Health Episode Statistics and to the Scottish Morbidity	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. not consume (almost) daily; 0. consume (almost) daily. PA: 1. MPA ≥150 min/w or VPA ≥75 min/w; 0. MPA <150 min/w and VPA <75 min/w.	8

Greenlee-2017 ⁹⁸	Cardiovascular Health Study	US	1989-2011 (15.00)	38.56	65-98 (72.00)	White 86.71 Black 11.72	72.91	general population	3491	Records) or death with ICD-10 code I05–I89.9. CVD events were identified through hospital records and interviews with participants/proxies, including MI, congestive HF, and stroke.	Diet (fruits and vegetables, 24-h dietary recall): 1. ≥ 400 g/d; 0. < 400 g/d. Diet (oily fish, 24-h dietary recall): 1. \geq one portion/w; 0. $<$ one portion/w. Diet (red meat, 24-h dietary recall): 1. ≤ 3 portions/w; 0. > 3 portions/w. Diet (processed meat, 24-h dietary recall): 1. ≤ 1 portions/w; 0. > 1 portions/w. Television viewing: 1. < 4 h/d; 0. ≥ 4 h/d. Sleeping: 1. 7-9 h/d; 0. < 7 h/d or > 9 h/d. ACS: Smoking: 2. never smokers or quitting > 1 year; 1. quitting ≤ 1 year; 0. current smokers. Alcohol drinking (M/F): 2. non-drinker; 1. $< 2/1$ unit/d; 0. $> 2/1$ unit/d. PA: 2. LTPA ≥ 8.75 MET-h/w; 1. LTPA 0.10-8.74 MET-h/w; 0. zero MET-h/w. BMI: 2. < 25 kg/m ² at baseline and age 50; 1. 25-29.9 kg/m ² at baseline and < 30 kg/m ² at age 50, or 25-29.9 kg/m ² at age 50 and < 30 kg/m ² at baseline; 0. ≥ 30 kg/m ² either baseline, age 50, or both. Diet (ACS, including vegetables and fruits, red and processed meats, and	8
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Han-2018 ¹⁵⁷	Prediction for ASCVD	China	1998-2015 (7.24)	40.22	20->65 (51.64)	Asian 100	NA	general population	93987	ASCVD cases were identified through hospital records or	<p>whole grains consumption, FFQ): 2. ≥ 6 score; 1. 3-5 score; 0. < 3 score.</p> <p>AHA:</p> <p>Smoking: 2. never smokers or quitting > 1 year; 1. quitting ≤ 1 year; 0. current smokers.</p> <p>PA: 2. LTPA ≥ 8.75 MET-h/w; 1. LTPA 0.10-8.74 MET-h/w; 0. zero MET-h/w.</p> <p>BMI: 2. < 25 kg/m²; 1. 25-29.9 kg/m²; 0. ≥ 30 kg/m².</p> <p>Diet (AHA, FFQ): 2. 4-5 components; 1. 2-3 components; 0. 0-1 components.</p> <p>SBP/DBP: 2. < 120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg (untreated) or < 120 and 80 mmHg (treated); 0. ≥ 140 or 90 mmHg.</p> <p>FPG: 2. < 100 mg/dl (untreated); 1. 100-125 mg/dl (untreated) or < 100 mg/dl (treated); 0. ≥ 126 mg/dl.</p> <p>TC: 2. < 200 mg/dl (untreated); 1. 200-239 mg/dl (untreated) or < 200 mg/dl (treated); 0. ≥ 240 mg/dl.</p> <p>7-point score: Smoking: 1. never smokers or former smokers quitting > 12 m; 0. current</p>	9
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Risk in
China
project

death certificates.

smokers or former smokers quitting
≤12 m.
PA: 1. MPA ≥150 min/w or VPA ≥75
min/w or MVPA ≥150 min/w; 0.
MPA <150 min/w and VPA <75
min/w and MVPA <150 min/w.
BMI: 1. <25 kg/m²; 0. ≥25 kg/m².
Diet (AHA, FFQ): 1. 4-5
components; 0-3 components.
SBP/DBP: 1. <120/80 mmHg
(untreated); 0. <120/80 mmHg
(treated) or ≥120/80 mmHg.
FBG: 1. <100 mg/dl (untreated); 0.
<100 mg/dl (treated) or ≥100 mg/dl.
TC: 1. <200 mg/dl (untreated); 0.
<200 mg/dl (treated) or ≥200 mg/dl.
4-point score: smoking, PA, BMI,
and diet.

Hoevenaar- Blom-2014 †,158	Monitoring Project on Risk Factors for Chronic Diseases	Netherlands	1994-2008 (12.00)	45.58	20-65 (42.00)	White predominant	53.44	general population	14639	CVD cases including fatal CVD (ICD-9, 390- 459 and 798), nonfatal MI (410- 412 and 414), and stroke (430-434 and 436) were identified through the National Medical	5-point score: Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. <1 glass/m; 0. ≥1 glass/m. PA: 1. ≥3.5 h/w cycling and sports; 0. <3.5 h/w cycling and sports. Diet (MDS, FFQ): 1. 5-8; 0. 0-4. Sleep: 1. ≥7 h; 0. <7 h. 4-point score: smoking, drinking, PA,	8
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Hulsegge-2016 ¹⁶⁷	Doetinchem Cohort	Netherlands	1993-2013 (12.20)	46.00	26-66 (46.00)	White predominant	36.00	general population	5263	Register with the Dutch Hospital Discharge data. Fatal CVD cases were ascertained through linkage with Statistics Netherlands, and non-fatal CVD cases were obtained through probabilistic linkage with the Dutch Hospital Discharge Registry. ICD-9 codes were 410-414, 415.1, 427.5, 428, 430-438, 440-442, 443.9, 444, 798.1, 798.2, 798.9, and corresponding ICD-10.	and diet. Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. one drink/m-2/1 drinks/d (1 drink=10 g); 0. <1 drink/m or >2/1 drinks/d. PA: 1. ≥3.5 h/w; 0. <3.5 h/w. BMI: 1. <30 kg/m ² . 0. ≥30 kg/m ² . Diet (MDS, FFQ): 1. ≥5; 0. <5.	9
Lachman-2016 ⁶⁵	European Prospective Investigation	UK	1993-2008 (10.00)	44.10	39-79 (57.00)	White 99.50	53.38	general population	10043	CVD cases including CHD (ICD-10, I20-I25) and stroke were identified through	Smoking: 2. never smokers; 1. ever smokers; 0. current smokers; PA: 2. sedentary job with >1.0 h/d recreational activity or standing job with 0.5 h/d recreational activity or	7

tion into
Cancer
and
Nutrition
-Norfolk

the East Norfolk
Health Authority
database and death
certificates (ICD-
10, CHD, I20-I25;
stroke, I60-I63).

physical job with at least some
recreational activity or heavy manual
job; 1. sedentary job with 0.1-1.0 h/d
recreational activity or standing job
with ≤0.5 h/d recreational activity or
physical job with no recreational
activity; 0. sedentary job and no
recreational activity.

BMI: 2. <25 kg/m²; 1. 25-29.99
kg/m²; 0. ≥30 kg/m².

Diet (AHA, FFQ): 2. 4-5
components; 1. 2-3 components; 0.
0-1 components.

SBP/DBP: 2. <120 and 80 mmHg
(not treated); 1. 120-139 or 80-89
mmHg, or <120 and 80 mmHg
(treated) 0. ≥140 or 90 mmHg.

HbA1c: 2. <5.7%; 1. 5.7-6.5%; 0.
≥6.5%.

TC: 2. <5.2 mmol/l; 1. 5.2-6.2
mmol/l; 0. ≥6.2 mmol/l.

Smoking: 4. not current smokers; 0.
current smokers.

Alcohol drinking: 2. ≤109 g
spirits/w; 0. >109 g spirits/w.

PA: 2. high level; 0. low-to-
moderate level.

Diet (a weighted score consisting of

Lingfors- 2019 ¹⁴	"Habo study"	Sweden	1985-2013 (>22.23)	100	33-42 (<42)	White predominant	20.00	General population	635	ICD-9 diagnoses until 1997 were 410, 411 and 431-6, and the ICD-10 diagnoses from 1997 were G45, I21-22, I61, I63-66	Smoking: 4. not current smokers; 0. current smokers. Alcohol drinking: 2. ≤109 g spirits/w; 0. >109 g spirits/w. PA: 2. high level; 0. low-to- moderate level. Diet (a weighted score consisting of	8
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Liu-2018 ¹⁵⁹	Nurses' Health Study & Health Professionals Follow-Up Study	US	1980-2014 (13.30)	22.18	34-75 (62.61)	White 95.13	Predominant	diabetes patients	11527	and FN (surgical operations of coronary arteries). Data from the register of patients treated in hospital and the causes of mortality were also available. Incident CVD was defined as fatal and nonfatal CHD and stroke. Medical records were reviewed when the participants reported cardiovascular events on questionnaires. CHD cases including coronary artery bypass graft surgery and nonfatal MI (ascertained according to the WHO criteria) were	consumption of vegetables, fine white bread, coarse fiber-rich bread, and visible fat, 4-item questionnaire): 3. 5–7 points; 0. 0–4 points. 5-point score: Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 5-30/15 g/d; 0. <5 g/d or >30/15 g/d. MVPA: 1. ≥150 min/w; 0. <150 min/w. BMI: 1. <25.0 kg/m ² ; 0. ≥25.0 kg/m ² . Diet (AHEI, FFQ): 1. top 40% of each cohort distribution; 0. lower 60% of each cohort distribution. 4-point score: smoking, drinking, MVPA, and diet.	9
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Long-2014 ¹⁶⁸	ADDITI ON-Cambridge study	UK	2002-2009 (5.00)	61.00	40-69 (61.10)	White 97.00	NA	type 2 diabetes mellitus patients	600	identified through medical records. Nonfatal stroke cases defined based on the National Survey of Stroke criteria were identified through medical records. Cardiovascular events including CVD mortality, nonfatal MI, nonfatal stroke, and revascularization, were identified through the Office of National Statistics, hospital records, and coroner offices.	Alcohol drinking: 1. decreasing/stopping alcohol consumption; 0. continuing/increasing alcohol consumption. PA: 1. increasing PA; 0. maintaining or decreasing PA. Diet (daily fiber and vitamin C intake, FFQ): 1. increasing; 0. decreasing or maintaining. Diet (daily energy and total fat intake, FFQ): 1. decreasing; 0. increasing or maintaining.	9
Miao-2015 ⁷¹	Kailuan study	China	2006-2013 (6.81)	79.50	NA (51.60)	Asian predominant	>6.90	general population	91598	CVD events including MI and stroke were identified through discharge summaries, medical	Smoking: 2. never smokers; 1. former smokers; 0. current smokers. PA: 2. ≥80 min/w; 1. 0-80 min/w; 2. never exercise. BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² .	9

Ommerborn- 2016 ¹⁶⁹	Jackson Heart Study	US	2000-2011 (8.30)	35.58	<43->7 2 (54.29)	Black predominant	83.94	general population	3132	records, and death certificates. CVD cases including MI, stroke, cardiac procedures and CVD mortality were identified through active surveillance, medical record abstraction unit, and interviews with the next of kin, physicians, medical examiners or coroners.	Diet: 2. light salt intake; 1. moderate salt intake; 0. heavy salt intake. SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg (untreated) or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FBG: 2. <100 mg/dl (untreated); 1. 100-125 mg/dl (untreated) or <100 mg/dl (treated); 0. ≥126 mg/dl. TC: 2. <200 mg/dl (untreated); 1. 200-239 mg/dl (untreated) or <200 mg/dl (treated); 0. ≥ 240 mg/dl. Smoking: 1. never smokers or quitting ≥12 m; 0. current smokers or quitting <12 m. PA: 1. MPA ≥150 min/w, or VPA ≥75 min/w, or MVPA ≥150 min/w; 0. MPA <150 min/w, and VPA <75 min/w, and MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 healthy components; 0. 0-3 healthy components. SBP/DBP: 1. <120 and 80 mmHg (untreated); 0. ≥120 or 80 mmHg, or <120 and 80 mmHg (treated). FPG: 1. <100 mg/dl; 0. ≥ 100 mg/dL,	8
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Paynter-2014 ^{†, 170}	Women's Health Initiative Observational Study	US	1993-2008 (10.00)	0	50-79 (69.00)	White 83.47 Black 8.53	>79.57	postmenopausal nonsmoking women	3279	MCE including MI (confirmation used medical records, ECG readings, and cardiac enzyme and troponin levels), stroke, and death resulting from cardiovascular causes, were identified through self-reported data and adjudicated through medical record and death certificates review.	or <100 mg/dl (treated). TC: 1. <200 mg/dl; 0. ≥200 mg/dl or <200 mg/dl (treated). Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1.0.1-1 drink/d; 0. none or >1 drinks/d. PA: 1. MPA ≥2.5 h/w or VPA ≥75 min/w; 0. MPA <2.5 h/w and VPA <75 min/w. BMI/WC: 1. 18.5-24.9 kg/m ² or bottom two quintiles; 0. <18.5 kg/m ² or ≥25.0 kg/m ² and top three quintiles. Diet (AHEI, FFQ): 1. top two quintiles; 0. low three quintiles.	9
Ricardo-2015 ¹³²	Chronic Renal Insufficiency Cohort	US	2003-2011 (4.00)	52.00	21-74 (58.00)	White 47.17 Black 43.95	84.50	population with eGFR 20-70 ml/min/1.73m ²	3006	Atherosclerotic cardiovascular events including MI, stroke, or PAD, were identified through hospital records.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. MPA ≥150 min/w, or VPA ≥75 min/w, or MVPA ≥150 min/w; 0. MPA <150 min/w, or VPA <75 min/w, or MVPA <150 min/w. BMI: 1. 20.0-24.9 kg/m ² ; 0. <20.0 kg/m ² or ≥25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 points; 0. 0-	6

Struijk-2014 ¹⁶²	European Prospective Investigation into Cancer and Nutrition - Netherlands	Netherlands	1993-2008 (12.20)	25.90	20-70 (48.90)	White predominant	20.70	general population	33671	CVD cases including CHD (including IHD, cardiac arrest and sudden death, ICD-9, 410-414, 427.5, 798.1, 798.2, 798.9; ICD-10, I20-I25, I46, R96), stroke (ICD-9, 430-434, 436; ICD-10, I60-I66) and other cardiovascular events such as PAD and HF (ICD-9, 428, 415.1, 443.9, 435, 437, 438, 440-442, 444; ICD-10, G45, I67, I69, I70-I74, I50) were identified through Dutch Centre for Health Care Information.	3 points. Alcohol drinking (M/F): 10. $\leq 20/10$ g/d; 0. $\geq 60/40$ g/d. PA: 10. ≥ 3.5 h/w; 0. zero h/w. Diet (vegetables, FFQ): 10. ≥ 200 g/d; 0. zero g/d. Diet (fruit, FFQ): 10. ≥ 200 g/d; 0. zero g/d. Diet (DF, FFQ): 10. ≥ 14 g/4.2MJ; 0. zero g/4.2MJ. Diet (EPA/DHA, FFQ): 10. ≥ 450 mg/d; 0. zero mg/d. Diet (SFA, FFQ): 10. $< 10\%E$; 0. $\geq 15\%E$. Diet (mono trans-FA, FFQ): 10. $\geq 1\%E$; 0. $< 1\%E$. Diet (sodium, FFQ): 10. < 1.68 g/d; 0. ≥ 2.52 g/d.	9
Wu-2012 ^{†, 171}	Kailuan Study	China	2006-2010 (NA)	79.42	18-98 (51.52)	Asian predominant	> 6.99	general population	91698	CVD events including fatal nonfatal MI	Smoking: 1. never smokers; 0. ever smokers. PA: 1. ≥ 80 min/w; 0. < 80 min/w.	7

									(diagnosed as per chest pain symptoms, ECG changes, and cardiac enzyme levels), cerebral infarction, and cerebral hemorrhage (diagnosed as per signs and symptoms and photocopied neuroimages) were identified through discharge lists from local hospitals and death certificates from state vital statistics offices.	BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (salt): 1. low salt; 0. general or high salt. SBP/DBP: 1. <120 and 80 mmHg (not treated); 0. ≥120 or 80 mmHg, or <120 and 80 mmHg (treated). FBG: 1. <100 mg/dl (not treated); 0. ≥100 mg/dl or <100 mg/dl (treated). TC: 1. <200 mg/dl (treated); 0. ≥200 mg/dl or <200 mg/dl (treated).		
Zhou-2018 ¹⁵²	The People's Republic of China-USA Collaborative Study of	China	1983-2005 (20.30)	49.57	35-59 (45.80)	Asian 100	NA	general population	938	CVD cases were defined as MI, CHD, sudden cardiac death, fatal or nonfatal stroke, and were identified through death certificates or hospital records	Smoking: 1. never smokers; 0. ever smokers. PA: 1. took part in physical exercises regularly; 0. not took part in physical exercises regularly. BMI: 1. <24 kg/m ² ; 0. ≥24 kg/m ² . Diet (AHA, 24-h dietary recall): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. <120/80 mmHg	8

Cardiovascular
and
Cardiovascular
Epidemiology

obtained from next-of-kin or local death registration department. (untreated); 0. <120/80 mmHg (treated) or \geq 120/80 mmHg. FBG: 1. <100 mg/dl (untreated); 0. <100 mg/dl (treated) or \geq 100 mg/dl. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or \geq 200 mg/dl.

* The percentage of ethnic groups may not sum to 100% since some participants belonged to the other ethnic groups or did not report the information.

† These studies were only used in stratified analyses.

%E, percentage of total energy intake; ACS, American Cancer Society; AHA, American Heart Association; AHEI, Alternative Healthy Eating Index; ASCVD, atherosclerotic cardiovascular disease; BMI, body mass index; CHD, coronary heart disease; CVD, cardiovascular disease; DASH, Dietary Approaches to Stop Hypertension; DBP, diastolic blood pressure; DHA, docosahexaenoic acid; ECG, electrocardiogram; eGFR, estimated glomerular filtration rate; EPA, eicosapentaenoic acid; FA, fatty acid; FBG, fasting blood glucose; FFQ, food frequency questionnaire; FPG, fasting plasma glucose; FSG, fasting serum glucose; HbA1c, glycosylated hemoglobin; HF, heart failure; ICD, International Classification of Diseases; IHD, ischemic heart disease; LDL-c, low-density lipoprotein cholesterol; LTPA, leisure-time physical activity; M/F, for male and female respectively; MCE, major cardiovascular events; MDS, Mediterranean diet score; MET, metabolic equivalent of task; MI, myocardial infarction; MPA, moderate physical activity; MVPA, moderate to vigorous physical activity; NA, not available; NOS, Newcastle–Ottawa Scale; PA, physical activity; PAD, peripheral artery disease; SBP, systolic blood pressure; SFA, saturated fatty acid; SSB, sugar-sweetened beverage; TC, total cholesterol; UK, the United Kingdom; US, the United States; VPA, vigorous physical activity; WC, waist circumference; WHO, World Health Organization.

Table A6. Characteristics of studies related to coronary heart disease mortality and stroke mortality

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
CHD Mortality												
Britton-2008 ¹⁷²	Whitehall II	UK	1985-2004 (17.00)	66.74	35-55 (44.37)	White predominant	NA	general population	9655	CHD incidence was based on clinically verified events and included fatal CHD (ICD-9, 410-414; ICD-10, I20-I25) or incident non-fatal MI (defined following MONItoring trends and determinants of CARdiovascular disease criteria).	Smoking: 1. not current smokers; 0. current smokers. PA: 1. MPA or VPA ≥ 3 h/w; 0. MPA or VPA < 3 h/w. Diet (questionnaire): 1. eat fruit or vegetables daily; 0. not eat fruit or vegetables daily.	7
Eguchi-2017 ⁵¹	Japan Collaborative Cohort Study	Japan	1988-2009 (19.30)	43.24	40-79 (55.52)	Asian predominant	63.88	general population	42647	The cause and date of death were determined by reviewing death certificates. ICD-10 for CHD was I20-I25.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. < 2 gou/d (46g ethanol/d); 0. ≥ 2 gou/d. PA: 1. ≥ 0.5 h/d or ≥ 5 h/w; 0. < 0.5 h/d and < 5 h/w. BMI: 1. 21-25 kg/m ² ; 0. < 21 kg/m ² or > 25 kg/m ² . Diet (fruit): 1. ≥ 1 servings/d; 0. < 1 serving/d.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Knoops-2004 ¹⁰⁶	Healthy Ageing: a Longitudinal study in Europe	Europe	1988-2000 (10.00)	64.43	70-90 (74.24)	White predominant	<66.86	general population	2339	Identification of CVD mortality (ICD-9, 390-459) and CHD mortality (ICD-9, 410-414) was not reported.	Diet (fish): 1. ≥1 servings/d; 0. <1 serving/d. Diet (milk): 1. almost daily; 0. <once/d. Sleeping: 1. 5.5-7.4 h/d; 0. <5.5 h/d or >7.4 h/d. Smoking: 1. never smokers or quitting >15 years; 0. quitting ≤15 years or current smokers. Alcohol drinking: 1. >0 g/d; 0. none. PA (Voorrips or Morris questionnaire): 1. the intermediate and the highest tertile; 0. the lowest tertile. Diet (mMDS, dietary history method): 1. ≥4 points; 0. <4 points.	8
Meng-1999 ¹²⁰	"Hawaii Department of Health survey"	US	1975-1994 (15.36)	49.50	18-NA (44.81)	White 31.06 Asian 62.61	NA	general population	31700	CHD mortality and stroke mortality were identified through the mortality files from the Department of Health.	Smoking: 4. never smokers; 3. former smokers; 2. current smokers ≤1 ppd; 1. current smokers 1.1-1.5 ppd; 0. current smokers >1.5 ppd. Alcohol drinking (M/F): 1. 1-7/3 drinks/w; 0. none or >7/3 drinks/w. BMI: 3. 19.6-24.8 kg/m ² ; 2. <19.6 kg/m ² or 24.9-29.2 kg/m ² ; 1. 29.3-32.5 kg/m ² ; 0. ≥32.6 kg/m ² .	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Odegaard-2011 ¹²⁶	Singapore Chinese Health Study	Singapore	1993-2009 (11.75)	45.09	45-74 (55.35)	Asian predominant	<32.70	general population	50466	CHD mortality (ICD-9, 410.0-414.9 and 427.5) was identified through nationwide registry of birth and death.	Diet (fat intake from animal products): 1. >385 g/w; 0. ≤385 g/w. Diet (fruit and vegetables consumption): 1. >1350 g/w; 0. ≤1350 g/w. Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking: 1. 1-14 drinks/w; 0. none or >2 drinks/d. PA: 1. MPA ≥2 h/w or any strenuous activity; 0. MPA <2 h/w or no strenuous activity. BMI (age <65 years/ ≥65 years): 1. 18.5-21.5/24.5 kg/m ² ; 0. <18.5 kg/m ² or >21.5/24.5 kg/m ² . Diet (dietary pattern score characterized by high intake of vegetables, fruits, and soy, FFQ): 1. upper 60%; 0. lowest 40%. Sleeping: 1. 6-8 h/d; 0. <6 h/d or ≥9 h/d.	7
Struijk-2014 ¹⁶²	European Prospective	Netherlands	1993-2008 (12.20)	25.90	20-70 (48.90)	White predominant	20.70	general population	33671	CHD cases (including IHD, cardiac arrest and sudden death; ICD-	Alcohol drinking (M/F): 10. ≤20/10 g/d; 0. ≥60/40 g/d. PA: 10. ≥3.5 h/w; 0. zero h/w. Diet (vegetables, FFQ): 10. ≥200	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Investigation into Cancer and Nutrition - Netherlands									9, 410-414, 427.5, 798.1, 798.2, 798.9; ICD-10, I20-I25, I46, R96) were identified through Dutch Centre for Health Care Information.	g/d; 0. zero g/d. Diet (fruit, FFQ): 10. \geq 200 g/d; 0. zero g/d. Diet (DF, FFQ): 10. \geq 14 g/4.2MJ; 0. zero g/4.2MJ. Diet (EPA/DHA, FFQ): 10. \geq 450 mg/d; 0. zero mg/d. Diet (SFA, FFQ): 10. $<$ 10%E; 0. \geq 15%E. Diet (mono trans-FA, FFQ): 10. \geq 1%E; 0. $<$ 1%E. Diet (sodium, FFQ): 10. $<$ 1.68 g/d; 0. \geq 2.52 g/d.	
Tamosiunas-2014 ¹³⁷	MONITORING trends and determinants of Cardiovascular disease-Lithuania & Health,	Lithuania	1983-2011 (13.30)	46.13	45-64 (55.18)	White predominant	63.66	general population	5635	CHD mortality (ICD-9, 410-414; ICD-10, I20-I25) were identified through the regional mortality register.	Smoking: 1. never smokers; 0. ever smokers. PA (LTPA): 1. \geq 7 h/w; 0. $<$ 7 h/w. BMI: 1. $<$ 25.0 kg/m ² ; 0. \geq 25.0 kg/m ² . SBP/DBP: 1. $<$ 120 and 80 mmHg (untreated); 0. \geq 120 or 80 mmHg, or $<$ 120 and 80 mmHg (treated). FBG: 1. $<$ 5.55 mmol/L; 0. \geq 5.55 mmol/L. TC: 1. $<$ 5.2 mmol/L; 0. \geq 5.2 mmol/L.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
van Lee-2016 ¹⁴⁴	Alcohol and Psychosocial Factors in Eastern Europe Study Rotterdam Study	Netherlands	1990-2011 (20.00)	40.47	55-NA (65.43)	White predominant	69.73	general population	2987	CVD mortality (ICD-10, I00-I99), CHD mortality (ICD-10, I21, I24, I25, I46, I49, I50) and stroke mortality (ICD-10, I60-I69) were identified through municipal population registries.	Alcohol drinking (M/F): 1. ≤20/10 g/d; 0. >20/10 g/d. PA: 1. ≥150 min/w; 0. <150 min/w. Diet (vegetable consumption, FFQ): 1. 150-200 g/d; 0. <150 g/d or >200 g/d. Diet (fruit consumption, FFQ): 1. ≥200 g/d; 0. <200 g/d. Diet (DF, FFQ): 1. 30-40 g/d; 0. <30 g/d or >40 g/d. Diet (fish consumption, FFQ): 1. ≥2 portions/w and ≥1 oily fish; 0. <2 portions/w or <1 oily fish. Diet (SFA, FFQ): 1. <10%E; 0. ≥10%E. Diet (mono trans-FA, FFQ): 1.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Wingard-1982 ¹⁴⁷	Human Population Laboratory	US	1965-1974 (NA)	47.17	30-69 (<53.28)	NA	NA	general population	4725	All-cause mortality was identified through California Death Registry.	<1%E; 0. ≥1%E. Diet (salt, FFQ): 1. ≤6 g/d; 0. >6 g/d. Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking: 1. <45 drinks/m; 0. >45 drinks/m. PA: 1. active; 0. inactive. Quetelet index (weight in pounds/(height in inches) ²) based on Metropolitan Life Insurance reports: 1. 9.9% underweight-29.9% overweight; 0. extreme underweight or overweight. Sleeping: 1. 7-8 h/night; 0. <7 h/night or >8 h/night.	7
Yang-2012 ¹⁴⁸	National Health and Nutrition Examination Surveys III	US	1988-2006 (14.50)	48.20	20-NA (45.00)	White 81.10 Black 11.10	61.88	general population	13312	IHD mortality (ICD-10, I20-I25) were identified through the National Death Index.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. 3-5.9 METs for ≥5 times/w or ≥6 METs for ≥3 times/w; 0. 3-5.9 METs for <5 times/w and <6 METs for <3 times/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHA, FFQ): 1. ≥2 points; 0. <2 points. TC: 1. <200 mg/dl (untreated); 0.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											<200 mg/dl (treated) or ≥200 mg/dl. SBP/DBP: 1. <120 and 80 mmHg (untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. HbA1c: 1. <5.7%; 0. ≥5.7%.	
Stroke Mortality												
Eguchi-2017 ⁵¹	Japan Collaborative Cohort Study	Japan	1988-2009 (19.30)	43.24	40-79 (55.52)	Asian predominant	63.88	general population	42647	The cause and date of death were determined by reviewing death certificates. ICD-10 for stroke was I01-199.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. <2 gou/d (46g ethanol/d); 0. ≥2 gou/d. PA: 1. ≥0.5 h/d or ≥5 h/w; 0. <0.5 h/d and <5 h/w. BMI: 1. 21-25 kg/m ² ; 0. <21 kg/m ² or >25 kg/m ² . Diet (fruit): 1. ≥1 servings/d; 0. <1 serving/d. Diet (fish): 1. ≥1 servings/d; 0. <1 serving/d. Diet (milk): 1. almost daily; 0. <once/d. Sleeping: 1. 5.5-7.4 h/d; 0. <5.5 h/d or >7.4 h/d.	8
Li-2018 ¹	Nurses' Health Study &	US	1980-2014 (27.20-33.90)	36.00	34-75 (48.96)	White 96.34	Predominant	general population	123219	Stroke mortality was identified from state vital statistics	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking (M/F): 1. 5-30/15	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Health Professionals Follow-Up Study									records, the National Death Index, reports by the families, and the postal system.	g/d; 0. <5 g/d or >30/15 g/d. MVPA: 1. >30 min/d; 0. ≤30 min/d. BMI: 1. 18.5-24.9 kg/m ² ; 0. <18.5 kg/m ² or ≥25 kg/m ² . Diet (AHEI, FFQ): 1. top 40% of each cohort distribution; 0. lower 60% of each cohort distribution.	
Meng-1999 ¹²⁰	"Hawaii Department of Health survey"	US	1975-1994 (15.36)	49.50	18-NA (44.81)	White 31.06 Asian 62.61	NA	general population	31700	Stroke mortality was identified through the mortality files from the Department of Health.	Smoking: 4. never smokers; 3. former smokers; 2. current smokers ≤1 ppd; 1. current smokers 1.1-1.5 ppd; 0. current smokers >1.5 ppd. Alcohol drinking (M/F): 1. 1-7/3 drinks/w; 0. none or >7/3 drinks/w. BMI: 3. 19.6-24.8 kg/m ² ; 2. <19.6 kg/m ² or 24.9-29.2 kg/m ² ; 1. 29.3-32.5 kg/m ² ; 0. ≥32.6 kg/m ² . Diet (fat intake from animal products): 1. >385 g/w; 0. ≤385 g/w. Diet (fruit and vegetables consumption): 1. >1350 g/w; 0. ≤1350 g/w.	8
Odegaard-2011 ¹²⁶	Singapore Chinese Health	Singapore	1993-2009 (11.75)	45.09	45-74 (55.35)	Asian predominant	<32.70	general population	50466	CBVD mortality (ICD-9, 430.0-438.0) was identified through	Smoking: 1. never smokers; 0. ever smokers. Alcohol drinking: 1. 1-14 drinks/w; 0. none or >2 drinks/d.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Study									nationwide registry of birth and death.	PA: 1. MPA ≥ 2 h/w or any strenuous activity; 0. MPA < 2 h/w or no strenuous activity. BMI (age < 65 years/ ≥ 65 years): 1. 18.5-21.5/24.5 kg/m ² ; 0. < 18.5 kg/m ² or $> 21.5/24.5$ kg/m ² . Diet (dietary pattern score characterized by high intake of vegetables, fruits, and soy, FFQ): 1. upper 60%; 0. lowest 40%. Sleeping: 1. 6-8 h/d; 0. < 6 h/d or ≥ 9 h/d.	
van Lee-2016 ¹⁴⁴	Rotterdam Study	Netherlands	1990-2011 (20.00)	40.47	55-NA (65.43)	White predominant	69.73	general population	2987	Stroke mortality (ICD-10, I60-I69) were identified through municipal population registries.	Alcohol drinking (M/F): 1. $\leq 20/10$ g/d; 0. $> 20/10$ g/d. PA: 1. ≥ 150 min/w; 0. < 150 min/w. Diet (vegetable consumption, FFQ): 1. 150-200 g/d; 0. < 150 g/d or > 200 g/d. Diet (fruit consumption, FFQ): 1. ≥ 200 g/d; 0. < 200 g/d. Diet (DF, FFQ): 1. 30-40 g/d; 0. < 30 g/d or > 40 g/d. Diet (fish consumption, FFQ): 1. ≥ 2 portions/w and ≥ 1 oily fish; 0. < 2 portions/w or < 1 oily fish.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											Diet (SFA, FFQ): 1. <10%E; 0. ≥10%E. Diet (mono trans-FA, FFQ): 1. <1%E; 0. ≥1%E. Diet (salt, FFQ): 1. ≤6 g/d; 0. >6 g/d.	

* The percentage of ethnic groups may not sum to 100% since some participants belonged to the other ethnic groups or did not report the information.

%E, percentage of total energy intake; AHA, American Heart Association; AHEI, Alternative Healthy Eating Index; BMI, body mass index; CHD, coronary heart disease; DBP, diastolic blood pressure; DF, dietary fiber; DHA, docosahexaenoic acid; EPA, eicosapentaenoic acid; FA, fatty acid; FBG, fasting blood glucose; FFQ, food frequency questionnaire; HbA1c, glycosylated hemoglobin; ICD, International Classification of Diseases; IHD, ischemic heart disease; LTPA, leisure-time physical activity; M/F, for male and female respectively; MET, metabolic equivalent of task; MI, myocardial infarction; mMDS, modified Mediterranean diet score; MPA, moderate physical activity; MVPA, moderate to vigorous physical activity; NA, not available; NOS, Newcastle–Ottawa Scale; PA, physical activity; SBP, systolic blood pressure; SFA, saturated fatty acid; TC, total cholesterol; UK, the United Kingdom; US, the United States; VPA, vigorous physical activity.

Table A7. Characteristics of studies related to incident coronary heart disease, stroke, heart failure, hypertension, atrial fibrillation, and peripheral artery disease

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Incident CHD												
Ahmed-2013 ⁷⁵	Multi-Ethnic Study of Atherosclerosis	US	2000-2011 (7.60)	47.00	44-84 (62.00)	White 62.00 Black 26.00 Asian 13.00	82.30	general population	6229	CHD events consisting of nonfatal MI, resuscitated cardiac arrest, angina, coronary revascularization, and death due to CHD, were identified through death certificates, medical records, and next-of-kin interviews.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. MPA >150 min/w or VPA >75 min/w; 0. MPA ≤150 min/w and VPA ≤75 min/w. BMI: 1. 18.5-24.9; 0. ≥25 or <18.5. Diet (MDS, FFQ): 1. above the median; 0. below the median.	9
Akesson-2007 ¹⁷³	"Swedish women 48 to 83 year"	Sweden	1997-2003 (6.20)	0	48-83 (59.18)	White predominant	>23.40	general population	24444	MI cases (ICD-10, I21) were identified through the Swedish National Inpatient and Cause of Death Registers and the Swedish Death Registry.	Smoking: 1. never smokers or quitting smoking ≥1 year; 0. quitting smoking <1 year or current smokers. Alcohol drinking: 1. ≥5 g/d; 0. <5 g/d. PA: 1. walked/cycled ≥40 min/d and vigorous exercise ≥1 h/w; 0. walked/cycled <40 min/d and vigorous exercise <1 h/w. WC: 1. <85 cm; 0. ≥85 cm. Diet (Healthy dietary pattern, consisting of vegetables, fruits, and	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Akesson-2014 ¹⁷⁴	"Swedish men 45 to 79 years"	Sweden	1997-2009 (11.00)	100	45-79 (58.60)	White predominant	>19.60	general population	20721	MI cases (ICD-10, I21) were identified through the Swedish National Inpatient and Cause of Death Registers and the Swedish Death Registry.	legumes, FFQ): 1. top 60%; 0. lower 40%. Smoking: 1. never smokers or quitting smoking ≥20 years; 0. quitting smoking <20 years or current smokers. Alcohol drinking: 1. 10-30 g/d; 0. <10 g/d or >30 g/d. PA: 1. walked/cycled ≥40 min/d and vigorous exercise ≥1 h/w; 0. walked/cycled <40 min/d and vigorous exercise <1 h/w. WC: 1. <95 cm; 0. ≥95 cm. Diet (Recommended Food Score, consisting of fruits, vegetables, legumes, nuts, reduced-fat dairy products, whole grains, and fish, FFQ): 1. top 20%; 0. lower 80%.	9
Atkins-2018 ⁷⁷	Clinical Practice Research Datalink & UK Biobank	UK	2000-2016 (6.25)	48.83	60-69 (63.55)	White predominant	NA	general population	421411	The methods of identifying CHD cases were not reported.	Clinical Practice Research Datalink: Smoking: 2. never smokers; 1. former smokers; 0. current smokers. PA: 2. vigorous activity; 1. moderate activity; 0. none or mild activity. BMI: 2. <25 kg/ m ² ; 1. 25-29.99 kg/ m ² ; 0. ≥30 kg/ m ² .	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											<p>SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg.</p> <p>FSG: 2. <5.6 mmol/l (not treated) or no data on FSG or diabetes; 1. 5.6-7 mmol/l (not treated) or <5.6 mmol/l (treated), or diabetes diagnosis and not treated or with no treatment information; 0. >7 mmol/l or diabetes diagnosis and treated.</p> <p>TC: 2. <5.172 mmol/l (not treated) or no data on TC; 1. 5.172-6.21 mmol/l (not treated), or <5.172 mmol/l (treated), or hypercholesterolemia diagnosis and not treated or with no treatment information; 0. >6.21 mmol/l, or hypercholesterolemia diagnosis and treated.</p> <p>UK Biobank:</p> <p>Smoking: 2. never or quitting >12 m; 1. quitting ≤12 m; 0. current.</p> <p>PA: 2. MPA ≥150 min/w, or VPA ≥75 min/w, or MVPA ≥150 min/w; 1. MPA 1-149 min/w, or VPA 1-74</p>	

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Booth-2014 ⁸⁰	Reasons for Geographic and	US	2003-2009 (4.30)	64.08	45-79 (68.79)	White 58.23 Black 41.77	82.73	CHD patients	4174	CHD (nonfatal MI or acute CHD death) was identified through telephone	min/w, or MVPA 1-149 min/w; 0. none. BMI: 2. <25 kg/ m ² ; 1. 25-29.99 kg/ m ² ; 0. ≥30 kg/ m ² . SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FSG: 2. no self-reported prevalent diabetes and no insulin medication; 1. self-reported prevalent diabetes but no insulin medication; 0. self-reported prevalent diabetes and insulin medication. TC: 2. no self-reported prevalent high cholesterol and no cholesterol medication; 1. self-reported prevalent high cholesterol but no cholesterol medication; 0. self-reported prevalent high cholesterol and cholesterol medication. Smoking: 1. not current smokers; 0. current smokers. PA: 1. ≥4 times/w; 0. <4 times/w. WC (M/F): 1. ≤102/88 cm; 0. >102/88	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Racial Difference in Stroke									contacts with participants or proxies, adjudicated by medical records, death certificates, autopsy reports, online sources, and the National Death Index.	cm. Diet (MDS, FFQ): 1. top 20%; 0. lower 80%.	
Chiuve-2006 ¹⁷⁵	Health Professionals Follow-up Study	US	1986-2002 (NA)	100	40-75 (53.50)	White predominant	Predominant	general population	33759	Incident CHD (nonfatal MI or fatal CHD, confirmed MIs were defined according to WHO criteria, and cardiac-specific troponin levels when available) were identified through medical records, autopsy or hospital records, and some probable cases	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. 5-30 g/d; 0. <5 g/d or >30 g/d. PA: 1. MVPA ≥30 min/d; 0. MVPA <30 min/d. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHEI, FFQ): 1. top 40%; 0. lower 60%.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Chomistek-2015 ⁴⁹	Nurses' Health Study II	US	1991-2011 (NA)	0	27-44 (37.10)	White predominant	Predominant	general population	88940	Incident CHD (nonfatal MI according to WHO criteria including symptoms and either diagnostic ECG changes or elevated cardiac enzymes, or fatal CHD) were self-reported and further confirmed by medical records, and autopsy or hospital records.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. 0.1-14.9 g/d; 0. none or ≥ 15 g/d. PA: 1. MVPA ≥ 2.5 h/w; 0. MVPA < 2.5 h/w. Sedentary behavior (watching television): 1. ≤ 7 h/w; 0. > 7 h/w. BMI: 1. 18.5-24.9 kg/m ² ; 0. < 18.5 kg/m ² or ≥ 25 kg/m ² . Diet (AHEI-2010, FFQ): 1. top 40% (≥ 47 points); 0. lower 60%.	8 [†]
Dong-2012 ⁹⁰	Northern Manhattan Study	US	1993-2011 (11.00)	36.30	40-107 (69.00)	White 75.00 Black 24.99	43.20	general population	2981	MI cases were identified through telephone interviews and verified by a positive screen.	Smoking: 1. never smokers or quitting > 1 year; 0. quitting ≤ 1 year or current smokers; PA: 1. MPA ≥ 150 min/w or VPA ≥ 75 min/w or MVPA ≥ 150 min/w; 0. MPA < 150 min/w and VPA < 75 min/w and MVPA < 150 min/w. BMI: 1. < 25 kg/m ² ; 0. ≥ 25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. < 120 and 80 mmHg (not	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Eriksen-2015 ¹⁵⁶	Southall and Brent Revisited	UK	1988-2011 (21.00)	84.56	40-69 (52.09)	White 52.00 Asian 48.00	NA	general population	2096	CVD included fatal CHD (deaths caused by angina, MI or its sequelae or atherosclerotic heart disease. ICD-9, 410-415; ICD-10, I200-I259), fatal stroke (deaths caused from following ICD-9 codes 430-439 or ICD-10 codes I600-I698), and non-fatal CHD and stroke. CHD included fatal CHD and nonfatal CHD. Outcomes were identified through health and	treated); 0. <120 and 80 mmHg (treated) or ≥120 or 80 mmHg. FPG: 1. <100 mg/dl (not treated); 0. <100 mg/dl (treated) ≥100 mg/d. TC: 1. <200 mg/dl (not treated); 0. or <200 mg/dl (treated) ≥200 mg/dl. Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 1-21/14 units/w; 0. <1 or >21/14 units/w. PA: 1. MPA ≥5 h/w or VPA ≥2.5 h/w; 0. MPA <5 h/w and VPA <2.5 h/w. Diet (vegetables and fruits, simple dietary questionnaire): 1. ≥5.5 times/w; 0. <5.5 times/w.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											lifestyle questionnaires, medical record review, attendance at a study clinic visit, and the Office of National Statistics.	
Ford-2009 ⁶⁹	European Prospective Investigation into Cancer and Nutrition-Potsdam	Germany	1994-2006 (7.80)	38.72	35-65 (49.30)	White predominant	62.40	general population	23153	MI cases (diagnosed according to WHO MONItoring trends and determinants of CARDiovascular disease criteria; ICD-10, I21) were identified through self-reports and verified through medical records.	Smoking: 1. never smokers; 0. ever smokers. PA: 1. ≥3.5 h/w; 0. <3.5 h/w. BMI: 1. <30 kg/m ² ; 0. ≥30 kg/mw. Diet (summed z score consisting of fruits and vegetables, whole grain bread, and red meat consumption, FFQ): 1. >median; 0. ≤median.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Han-2018 ¹⁵⁷	Prediction for ASCVD Risk in China project	China	1998-2015 (7.24)	40.22	20->65 (51.64)	Asian 100	NA	general population	93987	CHD cases were identified through hospital records or death certificates.	7-point score: Smoking: 1. never smokers or former smokers quitting >12 m; 0. current smokers or former smokers quitting ≤12 m. PA: 1. MPA ≥150 min/w or VPA ≥75 min/w or MVPA ≥150 min/w; 0. MPA <150 min/w and VPA <75 min/w and MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 components; 0-3 components. SBP/DBP: 1. <120/80 mmHg (untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. FBG: 1. <100 mg/dl (untreated); 0. <100 mg/dl (treated) or ≥100 mg/dl. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or ≥200 mg/dl. 4-point score: smoking, PA, BMI, and diet.	9
Khera-2016 ¹⁷⁶	Atherosclerosis Risk in Commun	US	1987-NA (19.76)	23.38	45-64 (55.82)	NA	NA	general population	51425	CHD events including MI, coronary revascularization,	Smoking: 1. not current smokers; 0. current smokers. PA: 1. ≥once /w; 0. <once /w. BMI: 1. <30 kg/m ² ; 0. ≥30 kg/m ² .	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Lachman-2016 ⁶⁵	ities Study & Malmö Diet and Cancer Study & Women's Genome Health Study European Prospective Investigation into Cancer and Nutrition -Norfolk	UK	1993-2008 (10.00)	44.10	39-79 (57.00)	White 99.50	53.38	general population	10043	and death from coronary causes, were identified through medical records. CVD cases including CHD (ICD-10, I20-I25) and stroke were identified through the East Norfolk Health Authority database and death certificates (ICD- 10, CHD, I20-I25; stroke, I60-I63).	Diet (score consisting of fruits, nuts, vegetables, whole grains, fish, dairy products, refined grains, processed meats, unprocessed red meats, and SSB, FFQ): 1. ≥ 6 points; 0. < 6 points. Smoking: 2. never smokers; 1. ever smokers; 0. current smokers; PA: 2. sedentary job with > 1.0 h/d recreational activity or standing job with 0.5 h/d recreational activity or physical job with at least some recreational activity or heavy manual job; 1. sedentary job with 0.1-1.0 h/d recreational activity or standing job with ≤ 0.5 h/d recreational activity or physical job with no recreational activity; 0. sedentary job and no recreational activity. BMI: 2. < 25 kg/m ² ; 1. 25-29.99 kg/m ² ; 0. ≥ 30 kg/m ² .	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Lee-2009 ¹¹⁰	Aerobics Center Longitudinal Study	US	1971-2003 (14.70)	100	30-79 (44.13)	White >95.00	>70.00	general population	23657	CHD events including nonfatal MI, coronary revascularization and definite fatal CHD (ICD-9, 410-414; ICD-10, I20-I25) were identified from mail-back health surveys and the National Death Index and official death certificates.	Diet (AHA, FFQ): 2. 4-5 components; 1. 2-3 components; 0. 0-1 components. SBP/DBP: 2. <120 and 80 mmHg (not treated); 1. 120-139 or 80-89 mmHg, or <120 and 80 mmHg (treated) 0. ≥140 or 90 mmHg. HbA1c: 2. <5.7%; 1. 5.7-6.5%; 0. ≥6.5%. TC: 2. <5.2 mmol/l; 1. 5.2-6.2 mmol/l; 0. ≥6.2 mmol/l. Smoking: 1. never smoking; 0. ever smoking. Fitness (CRF): 1. higher 80%; 0. lower 20%. WC: 1. <94 cm; 0. ≥94 cm.	7
Leger-	"Fred"	US	2010-2016	46.74	20.20-	White 89.15	NA	hematopoi	2198	IHD (not specified)	Smoking: 1. not current smokers; 0.	6

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
2018 ¹¹¹	Hutchinson Cancer Research Center Study"		(NA)		83.30 (55.90)			etic cell transplantation survivors		in the article) were identified through annual surveys and annual contact with families, referring providers, and periodic searches of public sources.	current smokers. PA: 1. VPA \geq 75 min/w or MPA \geq 150 min/w; 0. VPA <75 min/w and MPA <150 min/w. Diet (fruit/vegetable intake): 1. \geq 5 servings/d; 0. <5 servings/d.	
Liu-2018 ¹⁵⁹	Nurses' Health Study & Health Professionals Follow-Up Study	US	1980-2014 (13.30)	22.18	34-75 (62.61)	White 95.13	Predominant	diabetes patients	11527	CHD cases including coronary artery bypass graft surgery and nonfatal MI (ascertained according to the WHO criteria) were identified through medical records.	5-point score: Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 5-30/15 g/d; 0. <5 g/d or >30/15 g/d. MVPA: 1. \geq 150 min/w; 0. <150 min/w. BMI: 1. <25.0 kg/m ² ; 0. \geq 25.0 kg/m ² . Diet (AHEI, FFQ): 1. top 40% of each cohort distribution; 0. lower 60% of each cohort distribution. 4-point score: smoking, drinking, MVPA, and diet.	9
Lv-2017 ¹⁷⁷	China Kadoorie Biobank	China	2004-2015 (7.20)	41.01	30-79 (50.69)	Asian predominant	<49.45	general population	461211	IHD cases (including IHD death and nonfatal	Smoking: 1. never smokers or stopped for reasons other than illness; 0. current smokers or stopped	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Miao-2015 ⁷¹	Kailuan study	China	2006-2013 (6.81)	79.50	NA (51.60)	Asian predominant	>6.90	general population	91598	MI cases were identified through discharge summaries, medical records, and death certificates.	MI) were identified through local disease and death registries, the national health insurance system, and active follow-up. for illness. Alcohol drinking: 1. 0.1-29.9 g/d; 0. none or ≥ 30 g/d. PA: 1. sex-specific upper quarter of the PA level; 0. sex-specific lower three-quarter of the PA level. BMI: 1. 18.5-23.9 kg/m ² ; 0. <18.5 kg/m ² or ≥ 24.0 kg/m ² . WHR (M/F): 1. <0.90/0.85; 0. $\geq 0.90/0.85$. Diet (FFQ): 1. eating vegetables, fruits, and wheat every day and red meat less than daily; 0. not eating vegetables, fruits or wheat every day, or eat red meat daily. Smoking: 2. never smokers; 1. former smokers; 0. current smokers. PA: 2. ≥ 80 min/w; 1. 0-80 min/w; 2. never exercise. BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥ 30 kg/m ² . Diet: 2. light salt intake; 1. moderate salt intake; 0. heavy salt intake. SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Mok-2018 ¹²²	Atherosclerosis Risk in Communities Study	US	1987-2013 (24.20)	43.80	45-64 (54.50)	White 75.60 Black 24.40	70.50	general population	13079	MI cases were collected from hospital discharges for insurance status, medical history, and inpatient pharmacologic treatment.	mmHg (untreated) or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FBG: 2. <100 mg/dl (untreated); 1. 100-125 mg/dl (untreated) or <100 mg/dl (treated); 0. ≥126 mg/dl. TC: 2. <200 mg/dl (untreated); 1. 200-239 mg/dl (untreated) or <200 mg/dl (treated); 0. ≥ 240 mg/dl. Smoking: 2. never smokers and former smokers quitting >1 year; 1. former smokers quitting ≤1 year; 0. current smokers. MVPA: 2. ≥150 min/w; 1. 1-150 min/w; 0. none. BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² . Diet (AHA, FFQ): 2. 4-5 components; 1. 2-3 components; 0. 0-1 component. SBP/DBP: 2. <120/80 mmHg (untreated); 1. <120/80 mmHg (treated) and 120-139/80-89 mmHg; 0. ≥140/90 mmHg. FBG: 2. <5.6 mmol/l (untreated); 1.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Struijk-2014 ¹⁶²	European Prospective Investigation into Cancer and Nutrition - Netherlands	Netherlands	1993-2008 (12.20)	25.90	20-70 (48.90)	White predominant	20.70	general population	33671	CHD cases (including IHD, cardiac arrest, and sudden death, ICD-9, 410-414, 427.5, 798.1, 798.2, 798.9; ICD-10, I20-I25, I46, R96) were identified through Dutch Centre for Health Care Information.	<5.6 mmol/l (treated) or 5.6-6.9 mmol/l; 0. ≥7.0 mmol/l. TC: 2. <5.2 mmol/l (untreated); 1. <5.2 mmol/l (treated) or 5.2-6.1 mmol/l; 0. ≥6.2 mmol/l. Alcohol drinking (M/F): 10. ≤20/10 g/d; 0. ≥60/40 g/d. PA: 10. ≥3.5 h/w; 0. zero h/w. Diet (vegetables, FFQ): 10. ≥200 g/d; 0. zero g/d. Diet (fruit, FFQ): 10. ≥200 g/d; 0. zero g/d. Diet (DF, FFQ): 10. ≥14 g/4.2MJ; 0. zero g/4.2MJ. Diet (EPA/DHA, FFQ): 10. ≥450 mg/d; 0. zero mg/d. Diet (SFA, FFQ): 10. <10%E; 0. ≥15%E. Diet (mono trans-FA, FFQ): 10. ≥1%E; 0. <1%E. Diet (sodium, FFQ): 10. <1.68 g/d; 0. ≥2.52 g/d.	9
Taubman-2009 ¹⁷⁸	Nurses' Health Study	US	1982-2002 (NA)	0	36-55 (NA)	White predominant	Predominant	general population	78746	Methods for identifying fatal and nonfatal MI cases	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. ≥5 g alcohol/d;	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
										were not reported.	0. <5 g alcohol/d. PA: 1. ≥30 min/d; 0. <30 min/d. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (score consisting of trans fat, glycemic load, cereal fiber, marine n-3 fatty acids, folate, and the ratio of PUFA to SFA): 1. top two quintiles; 0. lower three quintiles.	
Zhou-2018 ¹⁵²	The People's Republic of China-USA Collaborative Study of Cardiovascular and Coronary Epidemiology	China	1983-2005 (20.30)	49.57	35-59 (45.80)	Asian 100	NA	general population	938	CVD cases were defined as MI, CHD, sudden cardiac death, fatal or nonfatal stroke, and were identified through death certificates or hospital records obtained from next-of-kin or local death registration department.	Smoking: 1. never smokers; 0. ever smokers. PA: 1. took part in physical exercises regularly; 0. not took part in physical exercises regularly. BMI: 1. <24 kg/m ² ; 0. ≥24 kg/m ² . Diet (AHA, 24-h dietary recall): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. <120/80 mmHg (untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. FBG: 1. <100 mg/dl (untreated); 0. <100 mg/dl (treated) or ≥100 mg/dl. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or ≥200 mg/dl.	8

Incident Stroke

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Atkins-2018 ⁷⁷	Clinical Practice Research Datalink & UK Biobank	UK	2000-2016 (6.25)	48.83	60-69 (63.55)	White predominant	NA	general population	421411	The methods of identifying stroke cases were not reported.	Clinical Practice Research Datalink: Smoking: 2. never smokers; 1. former smokers; 0. current smokers. PA: 2. vigorous activity; 1. moderate activity; 0. none or mild activity. BMI: 2. <25 kg/ m ² ; 1. 25-29.99 kg/ m ² ; 0. ≥30 kg/ m ² . SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FSG: 2. <5.6 mmol/l (not treated) or no data on FSG or diabetes; 1. 5.6-7 mmol/l (not treated) or <5.6 mmol/l (treated), or diabetes diagnosis and not treated or with no treatment information; 0. >7 mmol/l or diabetes diagnosis and treated. TC: 2. <5.172 mmol/l (not treated) or no data on TC; 1. 5.172-6.21 mmol/l (not treated), or <5.172 mmol/l (treated), or hypercholesterolemia diagnosis and not treated or with no treatment information; 0. >6.21 mmol/l, or hypercholesterolemia	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											<p>diagnosis and treated.</p> <p>UK Biobank:</p> <p>Smoking: 2. never or quitting >12 m; 1. quitting ≤12 m; 0. current.</p> <p>PA: 2. MPA ≥150 min/w, or VPA ≥75 min/w, or MVPA ≥150 min/w; 1. MPA 1-149 min/w, or VPA 1-74 min/w, or MVPA 1-149 min/w; 0. none.</p> <p>BMI: 2. <25 kg/ m²; 1. 25-29.99 kg/ m²; 0. ≥30 kg/ m².</p> <p>SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg.</p> <p>FSG: 2. no self-reported prevalent diabetes and no insulin medication; 1. self-reported prevalent diabetes but no insulin medication; 0. self-reported prevalent diabetes and insulin medication.</p> <p>TC: 2. no self-reported prevalent high cholesterol and no cholesterol medication; 1. self-reported prevalent high cholesterol but no cholesterol</p>	

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Chiuvè-2008 ¹⁷⁹	Health Professionals Follow-up Study & Nurses' Health Study	US	1986-2004 (>19.56)	38.01	NA (53.50)	White predominant	Predominant	general population	114928	Confirmed strokes (neurological deficit, rapid or sudden onset, lasting ≥24 h or until death, National Survey of Stroke criteria) were identified through self-reported physician diagnosis, adjudicated by medical records. If medical records are unavailable, the cases will be designated as probable cases (25% in Nurses' Health Study and 23% in Health	medication; 0. self-reported prevalent high cholesterol and cholesterol medication. Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 5-30/15 g/d; 0. <5 g/d or >30/15 g/d. PA: 1. MPA ≥30 min/d; 0. MPA <30 min/d. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHEI, FFQ): 1. top 40%; 0. lower 60%.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Dong-2012 ⁹⁰	Northern Manhattan Study	US	1993-2011 (11.00)	36.30	40-107 (69.00)	White 75.00 Black 24.99	43.20	general population	2981	Professionals (Follow-up Study). Fatal stroke cases were identified by next of kin, postal authorities or the National Death Index and confirmed by medical records, autopsy reports and death certificates. Stroke cases were identified through telephone interviews and verified by a positive screen.	Smoking: 1. never smokers or quitting >1 year; 0. quitting ≤1 year or current smokers; PA: 1. MPA ≥150 min/w or VPA ≥75 min/w or MVPA ≥150 min/w; 0. MPA <150 min/w and VPA <75 min/w and MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. <120 and 80 mmHg (not treated); 0. <120 and 80 mmHg (treated) or ≥120 or 80 mmHg.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											FPG: 1. <100 mg/dl (not treated); 0. <100 mg/dl (treated) ≥100 mg/d. TC: 1. <200 mg/dl (not treated); 0. or <200 mg/dl (treated) ≥200 mg/dl.	
Ford-2009 ⁶⁹	European Prospective Investigation into Cancer and Nutrition-Potsdam	Germany	1994-2006 (7.80)	38.72	35-65 (49.30)	White predominant	62.40	general population	23153	Stroke cases (ICD-10, I160, I161, I163, I164) were identified through self-reports and verified through medical records.	Smoking: 1. never smokers; 0. ever smokers. PA: 1. ≥3.5 h/w; 0. <3.5 h/w. BMI: 1. <30 kg/m ² ; 0. ≥30 kg/mw. Diet (summed z score consisting of fruits and vegetables, whole grain bread, and red meat consumption, FFQ): 1. >median; 0. ≤median.	8
Han-2018 ¹⁵⁷	Prediction for ASCVD Risk in China project	China	1998-2015 (7.24)	40.22	20->65 (51.64)	Asian 100	NA	general population	93987	Stroke cases were identified through hospital records or death certificates.	7-point score: Smoking: 1. never smokers or former smokers quitting >12 m; 0. current smokers or former smokers quitting ≤12 m. PA: 1. MPA ≥150 min/w or VPA ≥75 min/w or MVPA ≥150 min/w; 0. MPA <150 min/w and VPA <75 min/w and MVPA <150 min/w.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Kulshreshtha -2013 ¹⁸⁰	Reasons for Geographic and Racial Differences in Stroke	US	2003-2010 (4.90)	42.00	45-98 (65.00)	White 58.31 Black 41.69	89.14	general population	22914	Stroke events (defined according to the WHO definition, and those characterized by symptoms lasting <24 h with neuroimaging consistent with acute ischemia or hemorrhage were also defined) were identified by	BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 components; 0-3 components. SBP/DBP: 1. <120/80 mmHg (untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. FBG: 1. <100 mg/dl (untreated); 0. <100 mg/dl (treated) or ≥100 mg/dl. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or ≥200 mg/dl. 4-point score: smoking, PA, BMI, and diet. Smoking: 2. never smokers or quitting >1 year; 1. quitting ≤1 year; 0. current smokers. PA: 2. intense PA ≥4 times/w; 1. intense PA 1-3 times/w; 0. no PA. BMI: 2. <25 kg/m ² ; 1. 25-29.99 kg/m ² ; 0. ≥30 kg/m ² . Diet (AHA, FFQ): 2. 4-5 components; 1. 2-3 components; 0. 0-1 components. SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg or <120 and 80 mmHg	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
										contacting with participants or their proxies medical records	(treated); 0. \geq 140 or 90 mmHg. FBG: 2. <100 mg/dl (untreated); 1. 100-125 mg/dl or <100 mg/dl (treated); 0. \geq 126 mg/dl. TC: 2. <200 mg/dl (untreated); 1. 200-239 mg/dl or <200 mg/dl (treated); 0. \geq 240 mg/dl.	
Larsson-2014 ¹⁸¹	Swedish Mammography Cohort	Sweden	1998-2008 (10.40)	0	49-83 (60.95)	White predominant	>20.29	general population	31696	Stroke cases (ICD-10, cerebral infarction I63, intracerebral hemorrhage I61, subarachnoid hemorrhage I60, and unspecified stroke I64) were identified from the Swedish National Patient Register and the Swedish Cause of Death Register.	Smoking: 1. never smokers; 0. ever smokers. Drinking: 1. 5-15 g/d; 0. <5 g/d or >15 g/d. PA: 1. walking/bicycling \geq 40 min/d and exercise \geq 1 h/w; 0. walking/bicycling <40 min/d or exercise <1 h/w. BMI: 1. <25 kg/m ² ; 0. \geq 25 kg/m ² . Diet (Recommended Food Score consisting of fruits, vegetables, legumes, nuts, low-fat dairy foods, whole-grain foods, and fish, FFQ): 1. above the median (21 points); 0. below the median.	8
Larsson-2015 ¹⁸²	Cohort of	Sweden	1997-2008 (9.80)	100	45-79 (59.00)	White predominant	>18.00	general population	35455	Stroke cases including ischemic	Smoking: 1. not current smokers; 0. current smokers.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Swedish Men									stroke (ICD-10, I63), hemorrhagic stroke (ICD-10, I60-I61) and unspecified stroke (I64) were identified through the Swedish National Inpatient Register and the Swedish Cause of Death Register.	Alcohol drinking: 1. 0.1-30 g/d; 0. none or >30 g/d. PA (walking/bicycling or exercise): 1. ≥150 min/w; 0. <150 min/w. BMI: 1. 18.5-25 kg/m ² ; 0. ≥25 kg/m ² . Diet (≥5 servings/d fruits and vegetables and <30 g/d processed meat, FFQ): 1. yes; 0. no.	
Liu-2018 ¹⁵⁹	Nurses' Health Study & Professionals Follow-Up Study	US	1980-2014 (13.30)	22.18	34-75 (62.61)	White 95.13	Predominant	diabetes patients	11527	Nonfatal stroke cases defined based on the National Survey of Stroke criteria were identified through medical records.	5-point score: Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 5-30/15 g/d; 0. <5 g/d or >30/15 g/d. MVPA: 1. ≥150 min/w; 0. <150 min/w. BMI: 1. <25.0 kg/m ² ; 0. ≥25.0 kg/m ² . Diet (AHEI, FFQ): 1. top 40% of each cohort distribution; 0. lower 60% of each cohort distribution. 4-point score: smoking, drinking,	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Lv-2017 ¹⁷⁷	China Kadoorie Biobank	China	2004-2015 (7.20)	41.01	30-79 (50.69)	Asian predominant	<49.45	general population	461211	Ischemic stroke cases (ICD-10, I20-I25, and I63) were identified through local disease and death registries, the national health insurance system, and active follow-up.	MVPA, and diet. Smoking: 1. never smokers or stopped for reasons other than illness; 0. current smokers or stopped for illness. Alcohol drinking: 1. 0.1-29.9 g/d; 0. none or ≥30 g/d. PA: 1. sex-specific upper quarter of the PA level; 0. sex-specific lower three-quarter of the PA level. BMI: 1. 18.5-23.9 kg/m ² ; 0. <18.5 kg/m ² or ≥24.0 kg/m ² . WHR (M/F): 1. <0.90/0.85; 0. ≥0.90/0.85. Diet (FFQ): 1. eating vegetables, fruits, and wheat every day and red meat less than daily; 0. not eating vegetables, fruits or wheat every day, or eat red meat daily.	9
Miao-2015 ⁷¹	Kailuan study	China	2006-2013 (6.81)	79.50	NA (51.60)	Asian predominant	>6.90	general population	91598	Stroke cases were identified through discharge summaries, medical records, and death certificates.	Smoking: 2. never smokers; 1. former smokers; 0. current smokers. PA: 2. ≥80 min/w; 1. 0-80 min/w; 2. never exercise. BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² .	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Mok-2018 ¹²²	Atherosclerosis Risk in Communities Study	US	1987-2013 (3.30)	43.80	45-64 (54.50)	White 75.60 Black 24.40	70.50	myocardial infarction patients	1277	Stroke was defined as incident definite or probable strokes identified by a computer algorithm using National Survey of Stroke criteria.	Diet: 2. light salt intake; 1. moderate salt intake; 0. heavy salt intake. SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg (untreated) or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FBG: 2. <100 mg/dl (untreated); 1. 100-125 mg/dl (untreated) or <100 mg/dl (treated); 0. ≥126 mg/dl. TC: 2. <200 mg/dl (untreated); 1. 200-239 mg/dl (untreated) or <200 mg/dl (treated); 0. ≥ 240 mg/dl. Smoking: 2. never smokers and former smokers quitting >1 year; 1. former smokers quitting ≤1 year; 0. current smokers. MVPA: 2. ≥150 min/w; 1. 1-150 min/w; 0. none. BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² . Diet (AHA, FFQ): 2. 4-5 components; 1. 2-3 components; 0. 0-1 component. SBP/DBP: 2. <120/80 mmHg	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Myint-2009 ¹⁸³	European Prospective Investigation into Cancer and Nutrition-Norfolk	UK	1993-2007 (11.50)	44.75	40-79 (58.27)	White 99.50	53.38	general population	20040	Stroke cases were identified through death certificate data and hospital record linkage.	(untreated); 1. <120/80 mmHg (treated) and 120-139/80-89 mmHg; 0. ≥140/90 mmHg. FBG: 2. <5.6 mmol/l (untreated); 1. <5.6 mmol/l (treated) or 5.6-6.9 mmol/l; 0. ≥7.0 mmol/l. TC: 2. <5.2 mmol/l (untreated); 1. <5.2 mmol/l (treated) or 5.2-6.1 mmol/l; 0. ≥6.2 mmol/l. Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. 1-14 units/w; 0. none or >14 units/w. PA: 1. non-sedentary occupation or LTPA ≥30 min/d; 0. sedentary occupation and LTPA <30 min/d. Diet (plasma vitamin C level): 1. ≥50 μmol/l; 0. <50 μmol/l.	8
Pase-2016 ¹⁸⁴	Framingham Offspring cohort	US	1998-2011 (>12.57)	45.00	45-89 (62.00)	White predominant	96.00	general population	2631	Stroke was defined as focal neurological symptoms of rapid onset and presumed vascular origin,	Smoking: 1. never or quitting >12 m; 0. current or quitting ≤12 m. PA: 1. MPA ≥150 min/w or VPA ≥75 min/w or MVPA ≥75 min/w; 0. MPA <150 min/w and VPA <75 min/w and MVPA <75 min/w.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Rist-2016 ⁵⁸	Women's Health Study	US	1992-NA (17.20)	0	45-NA (54.67)	White 94.42 Black 2.17	44.06	general population	37634	lasting >24 hours or resulting in death within 24 hours, and was identified through medical records. Stroke cases were identified through self-reported data and confirmed by medical records.	BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (score consisting of fruit and vegetables, fish, fiber-rich whole grains, sodium, and SSB consumption, FFQ): 1. >2 components; 0. ≤2 components. SBP/DBP: 1. <120 and 80 mmHg (not treated); 0. ≥120 or 80 mmHg, or <120 and 80 mmHg (treated). FPG: 1. <100 mg/dl (not treated); 0. ≥100 mg/dl or <100 mg/dl (treated). TC: 1. <200 mg/dl (treated); 0. ≥200 mg/dl or <200 mg/dl (treated). Smoking: 0. current smokers smoking ≥15 cigarettes/d; 1. current smokers smoking <15 cigarettes/d; 2. former smokers smoking ≥20 pack-years; 3. past smokers smoking <20 pack-year; 4. never smokers. Alcohol drinking: 0. never; 1. <1 drink/w; 2. ≥10.5 drinks/w; 3. 1-3 drinks/w; 4. 4-10.4 drinks/w. PA (strenuous exercise): 0. rarely or never; 1. <once /w; 2. once /w; 3. 2-3 times/w; 4. ≥4 times/w.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Struijk-2014 ¹⁶²	European Prospective Investigation into Cancer and Nutrition - Netherlands	Netherlands	1993-2008 (12.20)	25.90	20-70 (48.90)	White predominant	20.70	general population	33671	Stroke (ICD-9, 430-434, 436; ICD-10, I60-I66) cases were identified through the Dutch Centre for Health Care Information.	<p>BMI: 0. ≥ 35.0 kg/m²; 1. 30.0-34.9 kg/m²; 2. 25.0-29.9 kg/m²; 3. 22.0-24.9 kg/m²; 4. < 22.0 kg/m².</p> <p>Diet (score consisting of cereal fiber, folate, the ratio of PUFA to SFA, omega-3 fatty acids, trans fats, and glycemic load, FFQ): 0. quintile 1; 1. quintile 2; 2. quintile 3; 3. quintile 4; 4. quintile 5.</p> <p>Alcohol drinking (M/F): 10. $\leq 20/10$ g/d; 0. $\geq 60/40$ g/d.</p> <p>PA: 10. ≥ 3.5 h/w; 0. zero h/w.</p> <p>Diet (vegetables, FFQ): 10. ≥ 200 g/d; 0. zero g/d.</p> <p>Diet (fruit, FFQ): 10. ≥ 200 g/d; 0. zero g/d.</p> <p>Diet (DF, FFQ): 10. ≥ 14 g/4.2MJ; 0. zero g/4.2MJ.</p> <p>Diet (EPA/DHA, FFQ): 10. ≥ 450 mg/d; 0. zero mg/d.</p> <p>Diet (SFA, FFQ): 10. $< 10\%$E; 0. $\geq 15\%$E.</p> <p>Diet (mono trans-FA, FFQ): 10. $\geq 1\%$E; 0. $< 1\%$E.</p> <p>Diet (sodium, FFQ): 10. < 1.68 g/d; 0.</p>	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											≥2.52 g/d.	
Zhang-2011 ⁷³	MONItoring trends and determinants of Cardiovascular disease-Finland	Finland	1982-2007 (13.70)	47.12	25-74 (45.81)	White predominant	<90.58	general population	36686	Stroke cases (including fatal and nonfatal cases; ICD-8/9, 430-438; ICD-10, I60-I66) were identified through Statistics Finland and National Hospital Discharge Register	Smoking: 1. never smokers; 0. ever smokers; Alcohol drinking (M/F): 1. 1-209/139 g/w; 0. none or ≥210/140 g/w. PA: 1. moderate or high level of occupational or LTPA; 0. light level of both occupational and LTPA. BMI: 1. ≥25 kg/mw; 0. <25 kg/m ² . Diet (vegetable consumption): 1. ≥3 times/w; 0. ≤2 times/w.	8
Zhang-2013 ^{‡, 185}	Kailuan Study	China	2006-2010 (4.00)	79.42	18-98 (51.52)	Asian predominant	>6.99	general population	91698	Stroke cases (fatal and nonfatal strokes)	Smoking: 1. never smokers; 0. ever smokers.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
										were diagnosed according to WHO criteria combined with a brain CT or MR) were identified through active follow-up, discharge summaries, medical records, and death certificates.	PA (MVPA): 1. >80 min/w; 0. ≤80 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (salt, 24-hour dietary salt intake): 1. <6 g/d; 0. ≥6 g/d. SBP/DBP: 1. <120 and 80 mmHg (without medication); 0. ≥120 or 80 mmHg, or <120 and 80 mmHg (with medicine). FBG: 1. <100 mg/dl (without medication); 0. ≥100 mg/dl or <100 mg/dl (with medication). TC: 1. <200 mg/dl (without medication); 0. ≥200 mg/dl (without medication) or <200 mg/dl (with medication).	
Zhou-2018 ¹⁵²	The People's Republic of China-USA Collaborative Study of	China	1983-2005 (20.30)	49.57	35-59 (45.80)	Asian 100	NA	general population	938	CVD cases were defined as MI, CHD, sudden cardiac death, fatal or nonfatal stroke, and were identified through death certificates or hospital records	Smoking: 1. never smokers; 0. ever smokers. PA: 1. took part in physical exercises regularly; 0. not took part in physical exercises regularly. BMI: 1. <24 kg/m ² ; 0. ≥24 kg/m ² . Diet (AHA, 24-h dietary recall): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. <120/80 mmHg	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Cardiovascular and Coronary Epidemiology									obtained from next-of-kin or local death registration department.	(untreated); 0. <120/80 mmHg (treated) or ≥120/80 mmHg. FBG: 1. <100 mg/dl (untreated); 0. <100 mg/dl (treated) or ≥100 mg/dl. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or ≥200 mg/dl.	
Incident Heart Failure												
Agha-2014 ¹⁸⁶	Women's Health Initiative Observational Study	US	1993-1998 (11.00)	0	50-79 (63.50)	White 88.38 Black 7.37	95.38	general population	84537	Hospital HF cases were identified through medical record.	Smoking: 1. not current smokers; 0. current smokers. PA: 1. MPA ≥150 min/w or VPA ≥75 min/w; 0. MPA <150 min/w and VPA <75 min/w. BMI: 1. 18.5-24.9; 0. ≥25. Diet (AHEI, FFQ): 1. top 20%; 0. lower 80%.	8
Atkins-2018 ⁷⁷	Clinical Practice Research Datalink & UK Biobank	UK	2000-2016 (6.25)	48.83	60-69 (63.55)	White predominant	NA	general population	421411	The methods of identifying HF cases were not reported.	Clinical Practice Research Datalink: Smoking: 2. never smokers; 1. former smokers; 0. current smokers. PA: 2. vigorous activity; 1. moderate activity; 0. none or mild activity. BMI: 2. <25 kg/ m ² ; 1. 25-29.99 kg/ m ² ; 0. ≥30 kg/ m ² . SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											<p>mmHg or <120 and 80 mmHg (treated); 0. \geq140 or 90 mmHg.</p> <p>FSG: 2. <5.6 mmol/l (not treated) or no data on FSG or diabetes; 1. 5.6-7 mmol/l (not treated) or <5.6 mmol/l (treated), or diabetes diagnosis and not treated or with no treatment information; 0. >7 mmol/l or diabetes diagnosis and treated.</p> <p>TC: 2. <5.172 mmol/l (not treated) or no data on TG; 1. 5.172-6.21 mmol/l (not treated), or <5.172 mmol/l (treated), or hypercholesterolemia diagnosis and not treated or with no treatment information; 0. >6.21 mmol/l, or hypercholesterolemia diagnosis and treated.</p> <p>UK Biobank:</p> <p>Smoking: 2. never or quitting >12 m; 1. quitting \leq12 m; 0. current.</p> <p>PA: 2. MPA \geq150 min/w, or VPA \geq75 min/w, or MVPA \geq150 min/w; 1. MPA 1-149 min/w, or VPA 1-74 min/w, or MVPA 1-149 min/w; 0. none.</p>	

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											BMI: 2. <25 kg/ m ² ; 1. 25-29.99 kg/ m ² ; 0. ≥30 kg/ m ² . SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FSG: 2. no self-reported prevalent diabetes and no insulin medication; 1. self-reported prevalent diabetes but no insulin medication; 0. self-reported prevalent diabetes and insulin medication. TC: 2. no self-reported prevalent high cholesterol and no cholesterol medication; 1. self-reported prevalent high cholesterol but no cholesterol medication; 0. self-reported prevalent high cholesterol and cholesterol medication.	
Del Gobbo-2015 ¹⁸⁷	Cardiovascular Health Study	US	1989-NA (21.50)	39.00	65-NA (72.00)	White 89.00 Black 11.00	72.91	general population	4490	Incident HF cases were identified through annual clinic examinations and telephone inquiries, and	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. ≥1 drink/w; 0. <1 drink/w. PA: 1. LTPA ≥850 kcal/w; 0. LTPA <850 kcal/w.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
										adjudicated by medical records, diagnostic tests, clinical consultations, and interview. Confirmation of HF required diagnosis by a treating physician, HF symptoms plus signs or supportive findings on echocardiography, contrast ventriculography or chest radiograph, and medical therapy for HF.	BMI: 1. <30 kg/m ² ; 0. ≥30 kg/m ² . walking pace: 1. ≥2 mph; 0. <2 mph.	
Folsom-2015 ²	Atherosclerosis Risk in Communities Study	US	1987-2011 (22.50)	45.40	45-64 (54.10)	White 75.72 Black 24.28	80.00	general population	13462	HF (ICD-9, 428.0-428.9; ICD-10, I50) including hospitalization or death were identified through	Smoking: 2. Never or quitting >12 months; 1. quitting <12 months; 0. current. PA: 2. MPA/MVPA >150 min/w or VPA >75 min/w; 1. MPA/MVPA 1-149 min/w or VPA 1-74 min/w; 0.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
										contact with participants and ascertained by discharge lists and death certificates.	<p>none PA.</p> <p>BMI: 2. <25 kg/m²; 1. 25-29.99 kg/m²; 0. ≥30 kg/m².</p> <p>Diet (AHA, FFQ): 2. 4-5 components; 1. 2-3 components; 0. 0-1 components.</p> <p>SBP/DBP: 2. <120/80 mmHg without medication; 1. 120-139/80-89 mmHg or treated to <120/80 mmHg; 0. ≥140/90 mmHg.</p> <p>FSG: 2. <100 mg/dl without medication; 1. 100-125 mg/dl or treated to <100 mg/dl; 0. ≥126 mg/dl.</p> <p>TC: 2. <200 mg/dl without medication; 1. 200-239 mg/dl or treated to <200 mg/dl; 0. >240 mg/dl.</p>	
Larsson-2016 (1) ¹⁸⁸	Cohort of Swedish Men & Swedish Mammography Cohort	Sweden	1997-2010 (12.10)	52.51	45-79 (60.06)	White predominant	>18.00	general population	64679	HF cases (ICD-10, I50, and I11.0) were ascertained by linkage with the Swedish National Patient Register and the Swedish Cause of Death Register.	<p>Smoking: 1. not current smokers; 0. current smokers.</p> <p>PA: 1. ≥150 min/w; 0. <150 min/w.</p> <p>BMI: 1. 18.5-25 kg/m²; 0. >25 kg/m².</p> <p>Diet (mMDS, FFQ): 1. 4-8 points; 0. 0-3 points.</p>	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Nayor-2016 ¹⁸⁹	Framingham Offspring cohort	US	1995-2011 (12.30)	47.00	NA (59.00)	White predominant	96.00	general population	3201	HF cases were identified through medical records.	Smoking: 2. never smokers or quitting >12 m; 1. quitting ≤12 m; 0. current smokers. PA (physical activity index): 2. top quartile; 1. second quartile; 0. lower two quartiles. BMI: 2. <25 kg/m ² ; 1. 25-29.9 kg/m ² ; 0. ≥30 kg/m ² . Diet (AHA, FFQ): 2. 2-5 components; 1. one component; 0. zero component. SBP/DBP: 2. <120 and 80 mmHg (untreated); 1. 120-139 or 80-89 mmHg (untreated) or <120 and 80 mmHg (treated); 0. ≥140 or 90 mmHg. FPG: 2. <100 mg/dl (untreated); 1. 100-125 mg/dl (untreated) or <100 mg/dl (treated); 0. ≥126 mg/dl. TC: 2. <200 mg/dl (untreated); 1. 200-239 mg/dl (untreated) or <200 mg/dl (treated); 0. ≥ 240 mg/dl.	8
Ogunmoroti-2017 ¹⁹⁰	Multi-Ethnic Study of	US	2000-NA (12.20)	47.00	45-84 (62.00)	White 61.00 Black 28.00 Asian 11.00	82.30	general population	6506	HF cases were reported by participants and	Smoking: 1. never smokers and former smokers quitting >12 m; 0. former smokers quitting ≤12 m and	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	Atherosclerosis									verified from death certificates, medical records for all hospitalizations, and outpatient diagnoses.	current smokers. PA: 1. MPA \geq 150 min/w or MVPA \geq 75 min/w; 0. MPA <150 min/w or VPA <75 min/w. BMI: 1. <25 kg/m ² ; 0. \geq 25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 components; 0. 0-3 components. SBP/DBP: 1. <120/80 mmHg (untreated); 0. <120/80 mmHg (treated) or \geq 120/80 mmHg. FBG: 1. <100 mg/dl (untreated); 0. <100 mg/dl (treated) or \geq 100 mg/dl. TC: 1. <200 mg/dl (untreated); 0. <200 mg/dl (treated) or \geq 200 mg/dl.	
Spahillari-2017 ¹⁹¹	Jackson Heart Study	US	2000-2012 (9.90)	35.00	38.8-66.3 (54.40)	Black 100	62.74	general population	3585	HF hospitalizations (ICD-9, 428; ICD-10, I50) were identified through annual follow-up telephone interviews and compared with annual hospital discharge lists and death certificates.	Smoking: 1. never smokers or quitting \geq 12 m; 0. current smokers or quitting <12 m. PA: 1. MPA \geq 150 min/w, or VPA \geq 75 min/w, or MVPA \geq 150 min/w; 0. MPA <150 min/w, and VPA <75 min/w, and MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. \geq 25 kg/m ² . Diet (AHA, FFQ): 1. 4-5 healthy components; 0. 0-3 healthy components.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Wang-2011 ¹⁹²	FINRIS K Study	Finland	1982-2007 (14.10)	48.18	25-74 (NA)	White predominant	<87.78	general population	38075	HF cases (ICD-8, 427.00 and 427.10; ICD-9, 428, 4029B and 4148A-X; ICD-10, I50, I11.0, I13.0 and I13.2) were identified through the Finnish Hospital Discharge Register and the National Social Insurance Institution's Register.	SBP/DBP: 1. <120 and 80 mmHg (untreated); 0. ≥120 or 80 mmHg, or <120 and 80 mmHg (treated). FPG/HbA1c: 1. <100 mg/dl or <5.7%; 0. ≥ 100 mg/dL and ≥5.7%, or <100 mg/dl or <5.7% (treated). TC: 1. <200 mg/dl; 0. ≥200 mg/dl or <200 mg/dl (treated). Smoking: 1. not current smokers; 0. current smokers. PA: 1. moderate or high; 0. low. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (vegetable consumption): 1. ≥3 times/w; 0. ≤2 times/w.	9
Incident AF												
Di Benedetto-2018 ¹⁹³	European Prospective	UK	1993-2015 (17.10)	45.18	39-79 (58.53)	White 99.50	53.38	General population	21499	AF (ICD-10, I48) was obtained through routine	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. <14 units/w; 0.	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Larsson-2016 (2) ¹⁹⁴	Investigation into Cancer and Nutrition -Norfolk Cohort of Swedish Men & Swedish Mammography Cohort	Sweden	1998-2009 (10.90)	54.29	45-79 (60.46)	White predominant	17.00	General population	72390	AF (ICD-10 code I48) was obtained through the linkage of study participants, using the unique personal identification number assigned to each Swedish citizen, with the Swedish National Inpatient Register.	annual record linkage to National Health Service hospital information systems. Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. ≤2/1 drinks/d; 0. >2/1 drinks/d. PA: 1. regular exercise for ≥20 min/d; 0. exercise for <20 min/d. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² .	8
Incident PAD												
Lopez-Laguna-2018 ¹⁹⁵	PREvención con DIeta MEDiter	Spain	2003-NA (4.80)	42.50	55-80 (67.08)	White predominant	22.21	High-risk population	7122	PAD cases were obtained by medical records and confirmed by at	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking (M/F): 1. 10-50/5-25 g/d; 0. <10/5 or >50/25 g/d.	8

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
	ránea trial									least one of the following criteria: an ankle-brachial index lower than 0.9 at rest, clinical evidence of arterial occlusive disease, or an endovascular or open surgical revascularization (or amputation).	PA: 1. ≥ 500 METs-min/w; 0. < 500 METs-min/w. BMI: 1. < 25 kg/m ² ; 0. ≥ 25 kg/m ² . Diet (MDS, FFQ): 1. ≥ 9 points; 0. < 9 points.	
Unkart-2019 ¹⁹⁶	Multi-Ethnic Study of Atherosclerosis	US	2000-2012 (9.20)	47.35	44-84 (61.32)	White 61.87 Black 25.57 Asian 12.55	> 66.12	General population	5529	PAD was defined as an ankle-brachial index ≤ 0.9 .	Smoking: 2. never smokers and former smokers quitting > 12 m; 1. former smokers quitting ≤ 12 m; 0. current smokers. PA: 2. MPA ≥ 150 min/w or VPA ≥ 75 min/w; 1. MPA 1-149 min/w or VPA 1-74 min/w; 0. no exercise. BMI: 2. < 25.00 kg/m ² ; 1. 25.00-29.99 kg/m ² ; 0. ≥ 30.00 kg/m ² . Diet (AHA, FFQ): 2. 4-5 components; 1. 2-3 components; 0. 0-1 component. SBP/DBP: 2. $< 120/80$ mmHg (untreated); 1. 120-139/80-89 mmHg	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%)*	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
											or <120/80 mmHg (treated); 0. \geq 140/90 mmHg. FBG: 2. <100 mg/dl (untreated); 1. 100-125 mg/dl or <100 mg/dl (treated); 0. \geq 126 mg/dl. TC: 2. <200 mg/dl (untreated); 1. 200-239 mg/dl or <200 mg/dl (treated); 0. \geq 240 mg/dl.	
Incident Hypertension												
Andriolo-2019 ¹⁹⁷	European Prospective Investigation into Cancer and Nutrition-Potsdam	Germany	1994-NA (10.30)	32.01	36-65 (47.38)	White predominant	62.40	General population	11923	Incident hypertension was self-reported and verified and confirmed by the treating physician (ICD-10: I10).	Smoking: 1. never smoking; 0. current and former smoking. PA (Improved Physical Activity Index): 1. moderately active and active/very active; 0. inactive. BMI: 1. \leq 25 kg/m ² ; 0. >25 kg/m ² ; WC (M/F): 1. \leq 102/88 cm; 0. >102/88 cm. Diet (modified DASH, FFQ): 1. top 2 tertiles; 0. lowest tertile.	9

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
Banda-2010 ¹⁹⁸	Aerobics Center Longitudinal Study	US	1974-2004 (10.70)	100	20-82 (44.00)	White predominant	Predominant	general population	14568	Hypertension was identified through questionnaires by asking whether a physician had ever told them they had hypertension.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. 1-14 drinks/w; 0. zero or >14 drinks/w. PA: 1. report any activities in the prior three months; 0. report no activities in the prior three months. BMI: 1. 18.5-24.9 kg/m ² ; 0. ≥25.0 kg/m ² . Physically fit (CRF): 1. upper two tertiles; 0. the lowest tertile.	8
Chomistek-2015 ⁴⁹	Nurses' Health Study II	US	1991-2011 (NA)	0	27-44 (37.10)	White predominant	Predominant	general population	88940	Hypertension cases were self-reported from biennial questionnaires.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. 0.1-14.9 g/d; 0. none or ≥15 g/d. PA: 1. MVPA ≥2.5 h/w; 0. MVPA <2.5 h/w. Sedentary behavior (watching television): 1. ≤7 h/w; 0. >7 h/w. BMI: 1. 18.5-24.9 kg/m ² ; 0. <18.5 kg/m ² or ≥25 kg/m ² . Diet (AHEI-2010, FFQ): 1. top 40% (≥47 points); 0. lower 60%.	7 [†]
Díaz Gutiérrez-	<i>Seguimiento</i>	Spain	1999-2014 (10.20)	32.99	19-91 (35.27)	White predominant	100	General population	14057	Hypertension was self-reported, which	Smoking: 1. never smokers; 0. current or former smokers.	

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
2019 ¹⁹⁹	<i>Universidad de Navarra</i> Cohort									was validated by a subsample of the cohort.	Alcohol drinking (M/F): 1. 0.1-10/5 g/d; 0. abstainer or >10/5 g/d. Binge drinking (≤5 alcoholic drinks on any occasion): 1. never; 0. ever. PA: 1. >20 METs-h/w; 0. ≤20 METs-h/w. BMI: 1. ≤22 kg/m ² ; 0. >22 kg/m ² . Diet (MDS, FFQ): 1. ≥4 points; 0. <4 points.	
Nguyen-2019 ²⁰⁰	45 and Up Study	Australia	2006-NA (2.70)	42.03	45-NA (58.30)	White predominant	74.00	General population	32393	Hypertension was self-reported.	Smoking: 1. not current smokers; 0. current smokers. Alcohol drinking: 1. ≤14 drinks/w; 0. >14 drinks/d. PA: 1. MVPA ≥150 min/w; 0. MVPA <150 min/w. BMI: 1. <25 kg/m ² ; 0. ≥25 kg/m ² . Diet (questionnaire): 1. ≥2 serves fruit and/or ≥3 serves vegetables per day; 0. <2 serves fruit and <3 serves vegetables per day. Psychological distress (Kessler-10 scale): 1. <22 points; 0. ≥22 points.	5
Zhang-2014 ⁵⁴	Kailuan Study	China	2006-2011 (3.63)	75.27	NA (47.20)	Asian predominant	>9.64	general population	46147	Hypertension cases were diagnosed if the SBP/DBP	Smoking: 1. never smokers; 0. ever smokers. PA: 1. ≥3 episodes/w and ≥30	7

Author-year	Cohort	Country	Follow-up duration (mean or median)	Men (%)	Age (mean)	Ethnicity (%) [*]	Proportion of high school graduates (%)	Health status	Sample size	Outcome attainment	Definition of healthy lifestyle	NOS score
										≥140/90 mmHg during physical examination, or participants reported hypertension was diagnosed and antihypertension medication was taken.	min/episode; 0. <3 episodes/w or <30 min/episode. BMI: 1. <24 kg/m ² ; 0. ≥24 kg/m ² . Diet (salt, 24-hour dietary salt intake): 1. <6 g/d; 0. ≥6 g/d. SBP/DBP: 1. <120 and 80 mmHg (without medication); 0. ≥120 or 80 mmHg, or <120 and 80 mmHg (with medicine). FPG: 1. <5.6 mmol/l (without medication); 0. ≥5.6 mmol/l or <5.6 mmol/l (with medication). TC: 1. <5.2 mmol/l (without medication); 0. ≥5.2 mmol/l (without medication) or <5.2 mmol/l (with medication)。	

^{*} The percentage of ethnic groups may not sum to 100% since some participants belonged to the other ethnic groups or did not report the information.

[†] Because of the attainments of coronary heart disease cases and hypertension cases were different, the NOS score for coronary heart disease was 8, whereas the NOS score for hypertension was 7.

[‡] The study was only used in stratified analysis.

%E, percentage of total energy intake; ACS, American Cancer Society; AHA, American Heart Association; AHEI, Alternative Healthy Eating Index; AICR, American Institute for Cancer Research; AF, atrial fibrillation; ASCVD, atherosclerotic cardiovascular disease; BMI, body mass index; CBVD, cerebrovascular disease; CHD, coronary heart disease; CRF, cardiorespiratory fitness; CVD, cardiovascular disease; DASH, Dietary Approaches to Stop Hypertension; DBP, diastolic blood pressure; DF, dietary fiber; DHA, docosahexaenoic acid; DM, diabetes mellitus; ECG, electrocardiogram; EPA, eicosapentaenoic acid; FA, fatty acid; FBG, fasting blood glucose; FFQ, food frequency questionnaire; FPG, fasting plasma glucose; FSG, fasting serum glucose; HbA1c, glycosylated hemoglobin; HF, heart failure; ICD, International Classification of Diseases; IHD, ischemic heart disease; LTPA, leisure-time physical activity; M/F, for male and female respectively; MDS, Mediterranean diet score; MET, metabolic equivalent of task; MI, myocardial infarction; mMDS, modified Mediterranean diet score; MPA, moderate physical activity; MVPA, moderate to

vigorous physical activity; NA, not available; NOS, Newcastle–Ottawa Scale; PA, physical activity; PAD, peripheral artery disease; PUFA, polyunsaturated fatty acid; SBP, systolic blood pressure; SFA, saturated fatty acid; SSB, sugar-sweetened beverage; TC, total cholesterol; UK, the United Kingdom; US, the United States; VPA, vigorous physical activity; WC, waist circumference; WCRF, World Cancer Research Fund; WHO, World Health Organization; WHR, waist-to-hip ratio.

Table A8. Risk of bias within studies evaluated by the Newcastle–Ottawa Scale

Author-year	Selection of cohorts				Comparability of cohorts*			Assessment of outcome			NOS score
	REC	SNEC	AE	NO	Demographic characteristic	Complications	Other factors	AO	FULE [†]	AFUC [‡]	
Agha-2014 ¹⁸⁶	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	0	8
Ahmed-2013 ⁷⁵	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Akesson-2007 ¹⁷³	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Akesson-2014 ¹⁷⁴	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Andriolo-2019 ¹⁹⁷	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Artero-2012 ⁷⁶	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Atkins-2018 ⁷⁷	1	1	1	1	Adjusted	Not adjusted	Adjusted	0	1	0	7
Banda-2010 ¹⁹⁸	1	1	1	1	Adjusted	Adjusted	Adjusted	0	1	1	8
Behrens-2013 ⁵⁶	1	1	0	1	Adjusted	Not adjusted	Adjusted	1	1	1	8
Berard-2017 ⁷⁸	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Bonaccio-2019 ⁷⁹	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Booth-2014 ⁸⁰	1	1	1	1	Adjusted	Adjusted	Adjusted	1	0	1	8
Booth-2016 ⁸¹	1	1	1	1	Adjusted	Adjusted	Adjusted	0	1	1	8
Breslow-1980 ⁴⁷	1	1	0	1	Adjusted	Not adjusted	Not adjusted	0	1	1	6
Britton-2008 ¹⁷²	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Carlsson-2010 ⁸²	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Carlsson-2013 ⁸³	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Cerhan-2004 ⁸⁴	1	1	0	1	Adjusted	Not adjusted	Not adjusted	1	1	1	7
Chakravarty- 2012 ⁸⁵	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Cheng-2018 ⁸⁶	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Chiuve-2006 ¹⁷⁵	1	1	0	1	Adjusted	Adjusted	Adjusted	0	1	1	7
Chiuve-2008 ¹⁷⁹	1	1	0	1	Adjusted	Not adjusted	Adjusted	0	1	1	7
Chiuve-2011 ¹⁵³	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Chomistek-2015 ⁴⁹	1	1	0	1	Adjusted	Adjusted	Adjusted	1/0	1	1	8/7 [§]
Cloud-2015 ⁸⁷	1	1	0	1	Adjusted	Not adjusted	Not adjusted	1	1	1	7

Author-year	Selection of cohorts				Comparability of cohorts*			Assessment of outcome			NOS score
	REC	SNEC	AE	NO	Demographic characteristic	Complications	Other factors	AO	FULE [†]	AFUC [‡]	
Del Gobbo-2015 ¹⁸⁷	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Di Benedetto-2018 ¹⁹³	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	0	7
Diaz-2014 ⁸⁸	1	1	1	1	Adjusted	Adjusted	Adjusted	0	0	1	7
Díaz Gutiérrez-2017 ¹⁶⁴	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Díaz Gutiérrez-2019 ¹⁹⁹	1	1	0	1	Adjusted	Adjusted	Adjusted	0	1	1	7
Ding-2015 ⁸⁹	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Dong-2012 ⁹⁰	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Dunkler-2016 ⁹¹	1	1	1	1	Adjusted	Not adjusted	Adjusted	0	1	1	8
Eguchi-2012 ¹⁵⁴	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Eguchi-2014 ¹⁵⁵	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Eguchi-2017 ⁵¹	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Emberson-2005 ⁹²	1	1	1	1	Not adjusted	Not adjusted	Not adjusted	1	1	1	7
Eriksen-2015 ¹⁵⁶	1	1	1	1	Adjusted	Adjusted	Adjusted	0	1	0	7
Fazel-Tabar Malekshah-2016 ⁹³	1	1	1	1	Adjusted	Not adjusted	Adjusted	0	1	1	8
Folsom-2011 ¹⁶⁵	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Folsom-2015 ²	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Foraker-2016 ¹⁶⁶	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Ford-2009 ⁶⁹	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Ford-2011 ⁴⁵	1	1	1	1	Adjusted	Adjusted	Not adjusted	1	1	0	8
Ford-2012 (1) ⁹⁴	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	0	8
Ford-2012 (2) ⁹⁵	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	0	8
Foster-2018 ⁹⁶	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	0	8

Author-year	Selection of cohorts				Comparability of cohorts*			Assessment of outcome			NOS score
	REC	SNEC	AE	NO	Demographic characteristic	Complications	Other factors	AO	FULE [†]	AFUC [‡]	
Gopinath-2010 ⁹⁷	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	0	8
Greenlee-2017 ⁹⁸	1	1	01	1	Adjusted	Adjusted	Adjusted	0	1	1	8
Hamer-2011 ⁹⁹	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	0	8
Han-2018 ¹⁵⁷	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Heitz-2017 ¹⁰⁰	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	0	7
Hoevenaer-Blom-2014 ¹⁵⁸	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Hulsegge-2016 ¹⁶⁷	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Inoue-Choi-2013 ¹⁰¹	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Iversen-2010 ¹⁰²	1	1	0	1	Adjusted	Not adjusted	Adjusted	1	1	1	8
Jin-2017 ¹⁰³	1	1	1	1	Adjusted	Adjusted	Not adjusted	1	1	1	9
Khaw-2008 ⁶³	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Khera-2016 ¹⁷⁶	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	0	8
Kim-2013 ¹⁰⁴	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
King-2013 ¹⁰⁵	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	0	7
Knoops-2004 ¹⁰⁶	1	1	1	1	Adjusted	Not adjusted	Adjusted	0	1	1	8
Krokstad-2017 ¹⁰⁷	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	0	8
Kulshreshtha-2013 ¹⁸⁰	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	0	1	8
Kvaavik-2010 ¹⁰⁸	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	0	8
Lachman-2016 ⁶⁵	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	0	7
Larsson-2014 ¹⁸¹	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Larsson-2015 ¹⁸²	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Larsson-2016 (1) 188	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Larsson-2016	1	1	0	1	Adjusted	Not adjusted	Adjusted	1	1	1	8

Author-year	Selection of cohorts				Comparability of cohorts*			Assessment of outcome			NOS score
	REC	SNEC	AE	NO	Demographic characteristic	Complications	Other factors	AO	FULE [†]	AFUC [‡]	
(2) ¹⁹⁴											
Larsson-2017 ¹⁰⁹	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Lee-2009 ¹¹⁰	1	1	1	1	Adjusted	Adjusted	Adjusted	0	1	0	7
Leger-2018 ¹¹¹	1	1	0	1	Adjusted	Not adjusted	Adjusted	0	0	1	6
Li-2018 ¹	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Lin-2012 ¹¹²	1	1	1	1	Adjusted	Adjusted	Adjusted	1	0	0	7
Lin-2015 ¹¹³	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Lingfors-2019 ¹¹⁴	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Liu-2014 ¹¹⁵	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	0	1	8
Liu-2018 ¹⁵⁹	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Lohse-2016 ¹¹⁶	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Long-2014 ¹⁶⁸	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Lopez-Laguna-2018 ¹⁹⁵	1	1	1	1	Adjusted	Adjusted	Adjusted	1	0	1	9
Luoto-1998 ¹⁶⁰	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Lv-2017 ¹⁷⁷	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Maron-2018 ⁶⁰	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Martin-Diener-2014 ¹¹⁷	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	8
Martínez-González-2013 ¹¹⁸	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	0	8
McCullough-2011 ¹¹⁹	1	1	0	1	Adjusted	Not adjusted	Adjusted	1	1	0	7
Meng-1999 ¹²⁰	1	1	0	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Miao-2015 ⁷¹	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Minlikeeva-2019 ¹²¹	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	0	0	7

Author-year	Selection of cohorts				Comparability of cohorts *			Assessment of outcome			NOS score
	REC	SNEC	AE	NO	Demographic characteristic	Complications	Other factors	AO	FULE †	AFUC ‡	
Mitchell-2010 ¹⁶¹	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	0	8
Mok-2018 ¹²²	1	1	1	1	Adjusted	Adjusted	Adjusted	1	0	0	7
	1	1	1	1				0	0	0	6
	1	1	1	1				1	1	0	7
Muntner-2013 ¹²³	1	1	1	1	Adjusted	Adjusted	Adjusted	0	0	0	6
Myint-2009 ¹⁸³	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	0	8
Naylor-2016 ¹⁸⁹	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	0	8
Nechuta-2010 ¹²⁴	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Nguyen-2019 ²⁰⁰	1	1	0	1	Adjusted	Not adjusted	Adjusted	0	0	0	5
Nöthlings-2010 ²⁸	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	0	8
Odegaard-2011 ¹²⁶	1	1	0	1	Adjusted	Not adjusted	Adjusted	1	1	0	7
Ogunmoroti-2017 ¹⁹⁰	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	0	8
Ommerborn-2016 ¹⁶⁹	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Patel-2018 ¹²⁷	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	0	7
Paynter-2014 ¹⁷⁰	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Pelser-2014 ¹²⁸	1	1	0	1	Adjusted	Not adjusted	Adjusted	1	1	0	7
Petersen-2015 ¹²⁹	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8
Prinelli-2015 ¹³⁰	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Ricardo-2013 ¹³¹	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	0	8
Ricardo-2015 ¹³²	1	1	1	1	Adjusted	Adjusted	Adjusted	0	0	0	6
Rist-2016 ⁵⁸	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	0	7
Rizzuto-2016 ¹³³	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Romaguera-2015 ³	1	1	0	1	Adjusted	Not adjusted	Adjusted	0	0	1	6
Sovic-2012 ¹³⁴	1	1	1	1	Adjusted	Adjusted	Adjusted	0	0	1	7
Spahillari-2017 ¹⁹¹	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	1	8

Author-year	Selection of cohorts				Comparability of cohorts *			Assessment of outcome			NOS score
	REC	SNEC	AE	NO	Demographic characteristic	Complications	Other factors	AO	FULE †	AFUC ‡	
Struijk-2014 ¹⁶²	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Tamakoshi-2009 ¹³⁵	1	1	0	1	Adjusted	Not adjusted	Adjusted	1	1	1	8
Tamakoshi-2010 ¹³⁶	1	1	0	1	Adjusted	Not adjusted	Not adjusted	1	1	0	6
Tamosiunas-2014 ¹³⁷	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	0	8
Taubman-2009 ¹⁷⁸	1	1	0	1	Adjusted	Not adjusted	Adjusted	0	1	1	7
Thomson-2014 ¹³⁸	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	0	8
Towfighi-2012 ¹³⁹	1	1	1	1	Adjusted	Adjusted	Not adjusted	1	1	0	8
Tsubono-1993 ¹⁴⁰	1	1	0	1	Adjusted	Not adjusted	Adjusted	1	0	1	7
Tsubono-2004 ¹⁴¹	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
Unkart-2019 ¹⁹⁶	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	0	7
Van Blarigan-2018 ¹⁴²	1	1	1	1	Adjusted	Adjusted	Adjusted	0	1	1	8
Van Dam-2008 ⁶⁷	1	1	0	1	Adjusted	Not adjusted	Adjusted	0	1	0	6
Van Den Brandt-2011 ¹⁴³	1	1	0	1	Adjusted	Adjusted	Adjusted	1	1	1	8
van Lee-2016 ¹⁴⁴	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	1	9
Vergnaud-2013 ¹⁴⁵	1	1	0	1	Adjusted	Not adjusted	Adjusted	0	1	1	7
Wang-2011 ¹⁹²	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	1	9
Warren Andersen-2016 ¹⁶³	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	0	0	7
Warren Andersen-2018 ¹⁴⁶	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	0	8
Wingard-1982 ¹⁴⁷	1	1	0	1	Adjusted	Not adjusted	Adjusted	1	0	1	7
Wu-2012 ¹⁷¹	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	0	1	7

Author-year	Selection of cohorts				Comparability of cohorts*			Assessment of outcome			NOS score
	REC	SNEC	AE	NO	Demographic characteristic	Complications	Other factors	AO	FULE [†]	AFUC [‡]	
Yang-2012 ¹⁴⁸	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	0	8
Yates-2008 ¹⁴⁹	1	1	1	1	Not adjusted	Not adjusted	Not adjusted	1	1	0	6
Yun-2012 ¹⁵⁰	1	1	1	1	Adjusted	Not adjusted	Not adjusted	1	1	0	7
Zhang-2011 ⁷³	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	0	8
Zhang-2013 ¹⁸⁵	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	0	0	7
Zhang-2014 ⁵⁴	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	0	0	7
Zhang-2017 (1) ¹⁵¹	1	1	1	1	Adjusted	Adjusted	Adjusted	1	1	0	8
Zhou-2018 ¹⁵²	1	1	1	1	Adjusted	Not adjusted	Adjusted	1	1	0	8

*To evaluate the comparability of the exposed cohort and non-exposed cohort, if the authors performed stratified analyses or adjustments for one of the following demographic characteristics, age, gender, race, marriage, education, occupation or income, then a point would be assigned to this study. If the authors performed stratified analyses or adjustments for participants' health status or other characteristics, another point would be assigned to this study.

[†]The follow-up duration was not deemed as long enough for outcome to occur if the median or mean follow-up duration was less than five years. When the median or mean follow-up duration was not reported, the follow-up duration was not deemed as long enough for outcome to occur if the study duration was less than 10 years or not reported.

[‡]The follow up of a cohort was deemed as inadequate if more than 20% of the participants failed to be followed up or the study failed to report this information.

[§]Because of the attainments of coronary heart disease cases and hypertension cases were different, the NOS score for coronary heart disease was 8, whereas the NOS score for hypertension was 7.

^{||}Since the study investigated the relation of life's simple seven with various cardiovascular disease incidence and mortality in different population. The first line is the evaluation for cardiovascular disease incidence in patients with myocardial infarction, the second line is the evaluation for mortality in patients with myocardial infarction, and the third line is the evaluation for myocardial infarction incidence in the whole population.

AE, ascertainment of exposure; AFUC, adequacy of follow up of cohorts; AO, assessment of outcome; FULE, was follow-up long enough for outcome to occur; NO, demonstration that outcome of interest was not present at start of study; NOS, Newcastle–Ottawa Scale; REC, representativeness of the exposed cohort; SNEC, selection of the non-exposed cohort.

Table A9. Results of publication bias test

Outcomes	Classic fail-safe N	<i>P</i>-value for Begg and Mazumdar rank correlation	<i>P</i>-value for Egger's regression intercept
All-cause mortality	119803	0.03	0.05
Cardiovascular disease mortality	17161	0.03	0.001
Coronary heart disease mortality	603	0.19	0.04
Stroke mortality	155	0.71	0.37
Incident cardiovascular disease	5615	0.21	0.06
Incident coronary heart disease	6550	0.32	0.04
Incident stroke	2423	0.90	0.08

Table A10. Results of subgroup analyses for incident coronary heart disease

Subgroup	Studies	Participants	Cases	HR (95% CI)	<i>P</i>	<i>I</i> ² , %
All	22	1,492,174	62,126	0.31 (0.24 to 0.40)	<0.001	93.0
Continent					<i>P</i> _{between-group} =0.43	
America	11	308,901	13,452	0.29 (0.20 to 0.40)	<0.001	87.4
Asia	4	647,734	23,407	0.46 (0.31 to 0.70)	<0.001	82.0
Europe	7	535,539	25,267	0.28 (0.17 to 0.46)	<0.001	95.7
High-income country					<i>P</i> _{between-group} =0.19	
Yes	18	844,440	38,719	0.28 (0.21 to 0.39)	<0.001	93.9
No	4	647,734	23,407	0.46 (0.31 to 0.70)	<0.001	82.0
Ethnicity *					<i>P</i> _{between-group} =0.69	
Asian	5	648,740	23,704	0.44 (0.30 to 0.65)	<0.001	77.6
African, American	0	0	0	NA	NA	NA
White	13	773,360	32,312	0.29 (0.20 to 0.41)	<0.001	94.7
Mixed	4	26,463	2,237	0.31 (0.14 to 0.69)	0.004	83.7
Missing	1	43,611	3,873	0.25 (0.15 to 0.44)	<0.001	81.8
Follow-up					<i>P</i> _{between-group} =0.67	
≥10 years	12	350,690	15,870	0.28 (0.18 to 0.44)	<0.001	94.2
<10 years	10	1,141,484	46,256	0.34 (0.26 to 0.45)	<0.001	88.3
Average age *					<i>P</i> _{between-group} =0.24	
≥60 years old	6	>446,322 †	>23,059 †	0.38 (0.29 to 0.50)	<0.001	72.6
<60 years old	17	>951,865 †	>38,279 †	0.27 (0.19 to 0.38)	<0.001	93.8
Sex *					<i>P</i> _{between-group} =0.73	
Men	6	>267,755 †	>13,251 †	0.30 (0.17 to 0.55)	<0.001	81.8
Women	7	>485,883 †	>16,701 †	0.26 (0.16 to 0.43)	<0.001	85.6
Both	13	644,549	31,386	0.33 (0.24 to 0.47)	<0.001	94.4
Proportion of high school graduates					<i>P</i> _{between-group} =0.66	
≥80%	7	225,471	8,049	0.33 (0.20 to 0.54)	<0.001	87.0
<80%	10	704,558	29,088	0.25 (0.14 to 0.43)	<0.001	95.4
Missing	5	562,145	24,989	0.35 (0.26 to 0.48)	<0.001	86.9
Score *					<i>P</i> _{between-group} =0.08	
Simple score	14	457,242	15,133	0.31 (0.23 to 0.42)	<0.001	84.4
LS7 score	7	634,037	24,294	0.26 (0.18 to 0.37)	<0.001	86.7
Others	2	494,882	23,487	0.72 (0.36 to 1.44)	0.35	97.2
Factors included in score *					<i>P</i> _{between-group} =0.07	
All five factors	6	630,408	29,872	0.29 (0.18 to 0.48)	<0.001	90.7
Alcohol drinking excluded	13	737,059	29,673	0.31 (0.24 to 0.40)	<0.001	84.9
Body weight excluded	4	49,492	4,027	0.52 (0.31 to 0.86)	0.01	89.2
Diet excluded	2	445,068	20,737	0.35 (0.25 to 0.49)	<0.001	84.9
Physical activity excluded	1	88,940	456	0.08 (0.03 to 0.22)	<0.001	NA
Smoking excluded	1	33,671	1,630	1.02 (0.89 to 1.16)	<0.001	NA

* Studies from several cohorts conducted stratified analyses, and thusly the total number of the studies from different groups exceeded the number of studies used in the main analysis.

† Several studies did not report the number of participants and cases in each subgroup.

CI, confidence interval; HR, hazard ratio; LS7, Life's Simple 7; NA, not available.

Table A11. Results of subgroup analyses for incident stroke

Subgroup	Studies	Participants	Cases	HR (95% CI)	<i>P</i>	<i>I</i> ² , %
All	17	1,441,107	45,696	0.45 (0.37 to 0.54)	<0.001	80.0
Continent					<i>P</i> _{between-group} =0.84	
America	6	191,261	4,731	0.43 (0.32 to 0.57)	<0.001	46.7
Asia	4	647,734	24,701	0.40 (0.24 to 0.68)	0.001	94.6
Europe	7	602,112	16,264	0.49 (0.39 to 0.62)	<0.001	72.2
High-income country					<i>P</i> _{between-group} =0.73	
Yes	13	793,373	20,995	0.46 (0.38 to 0.55)	<0.001	64.1
No	4	647,734	24,701	0.40 (0.24 to 0.68)	<0.001	94.6
Ethnicity *					<i>P</i> _{between-group} =0.61	
Asian	4	647,734	24,701	0.40 (0.24 to 0.68)	0.001	94.6
African, American	2	14,106	312	0.46 (0.15 to 1.43)	0.18	35.5
White	12	777,990	20,554	0.45 (0.38 to 0.54)	<0.001	62.8
Mixed	1	1,277	129	1.03 (0.36 to 2.95)	0.96	NA
Missing	0	0	0	NA	NA	NA
Follow-up					<i>P</i> _{between-group} =0.32	
≥10 years	9	290,101	8,384	0.40 (0.29 to 0.55)	<0.001	76.7
<10 years	8	1,151,006	37,312	0.49 (0.39 to 0.63)	<0.001	84.7
Average age *					<i>P</i> _{between-group} =0.13	
≥60 years old	8	>517,711 †	>13,616 †	0.49 (0.44 to 0.56)	<0.001	5.6
<60 years old	12	>829,509 †	>28,269 †	0.33 (0.24 to 0.45)	<0.001	82.3
Sex *					<i>P</i> _{between-group} =0.006	
Men	8	>313,584 †	>13,538 †	0.33 (0.26 to 0.41)	<0.001	9.0
Women	9	>516,402 †	>16,580 †	0.33 (0.24 to 0.45)	<0.001	63.4
Both	7	516,934	11,767	0.57 (0.47 to 0.69)	<0.001	54.5
Proportion of high school graduates					<i>P</i> _{between-group} =0.39	
≥80%	4	186,055	4,961	0.36 (0.26 to 0.50)	<0.001	55.3
<80%	10	738,716	28,227	0.47 (0.36 to 0.63)	<0.001	77.1
Missing	3	516,336	12,508	0.51 (0.37 to 0.70)	<0.001	87.6
Score *					<i>P</i> _{between-group} =0.26	
Simple score	9	405,106	12,639	0.42 (0.31 to 0.56)	<0.001	76.9
LS7 score	7	635,106	15,900	0.39 (0.30 to 0.52)	<0.001	80.8
Others	2	494,882	19,875	0.65 (0.39 to 1.06)	0.08	89.2
Factors included in score *					<i>P</i> _{between-group} =0.28	
All five factors	7	729,137	28,475	0.39 (0.31 to 0.48)	<0.001	43.7
Alcohol drinking excluded	8	658,259	16,095	0.47 (0.36 to 0.62)	<0.001	86.0
Body weight excluded	3	65,238	1,624	0.50 (0.27 to 0.95)	0.04	87.2
Diet excluded	1	421,411	9,734	0.51 (0.45 to 0.58)	<0.001	NA
Physical activity excluded	0	0	0	NA	NA	NA
Smoking excluded	1	33,671	527	0.83 (0.66 to 1.04)	0.11	NA

* Studies from several cohorts conducted stratified analyses, and thusly the total number of the studies from different groups exceeded the number of studies used in the main analysis.

† Several studies did not report the number of participants and cases in each subgroup.

CI, confidence interval; HR, hazard ratio; LS7, Life's Simple 7; NA, not available.

Figure A1. Hazard ratios (95% CI) comparing individuals with the healthiest versus the least healthy lifestyles for all-cause mortality.

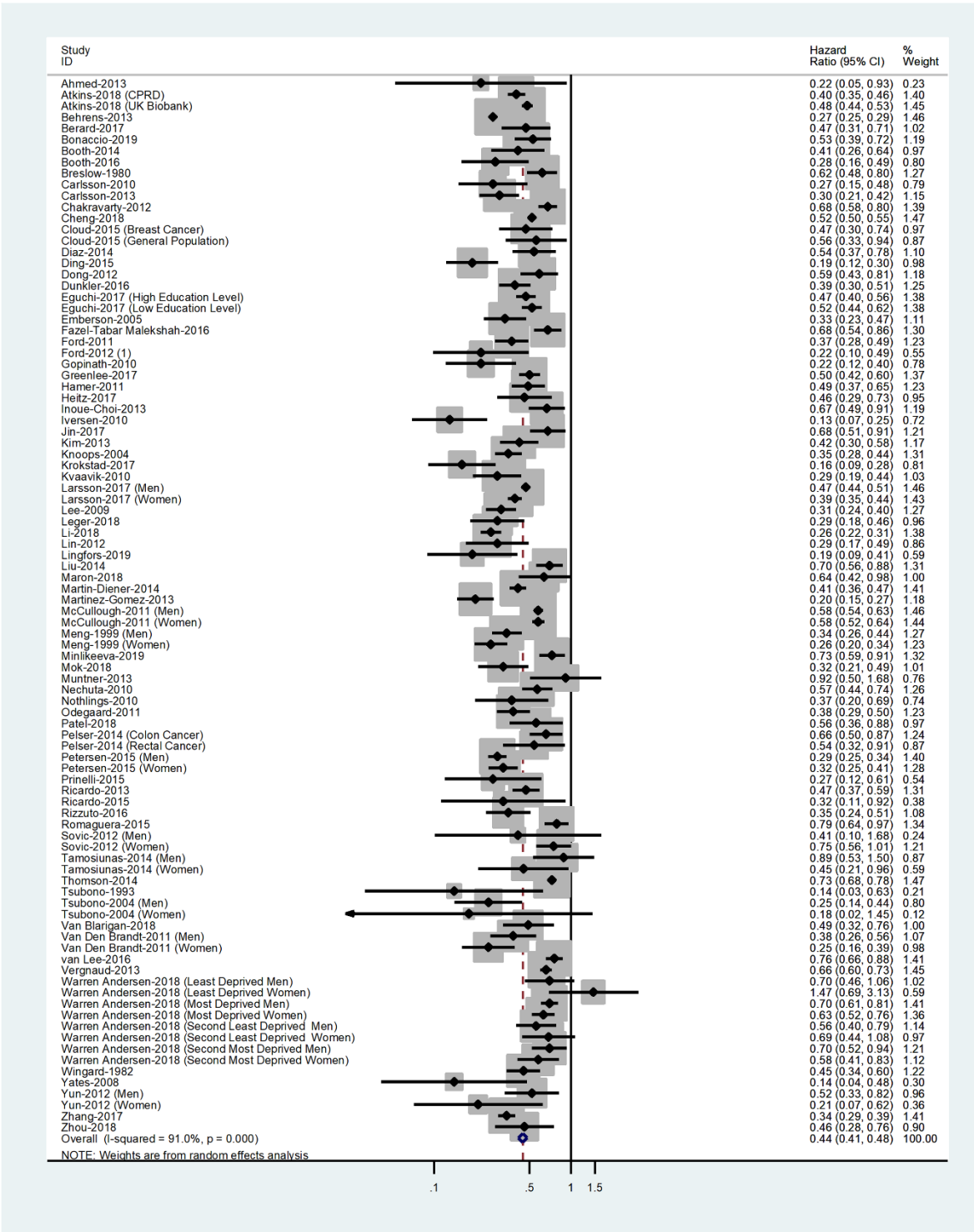


Figure A2. Hazard ratios (95% CI) comparing individuals with the healthiest versus the least healthy lifestyles for cardiovascular disease mortality.

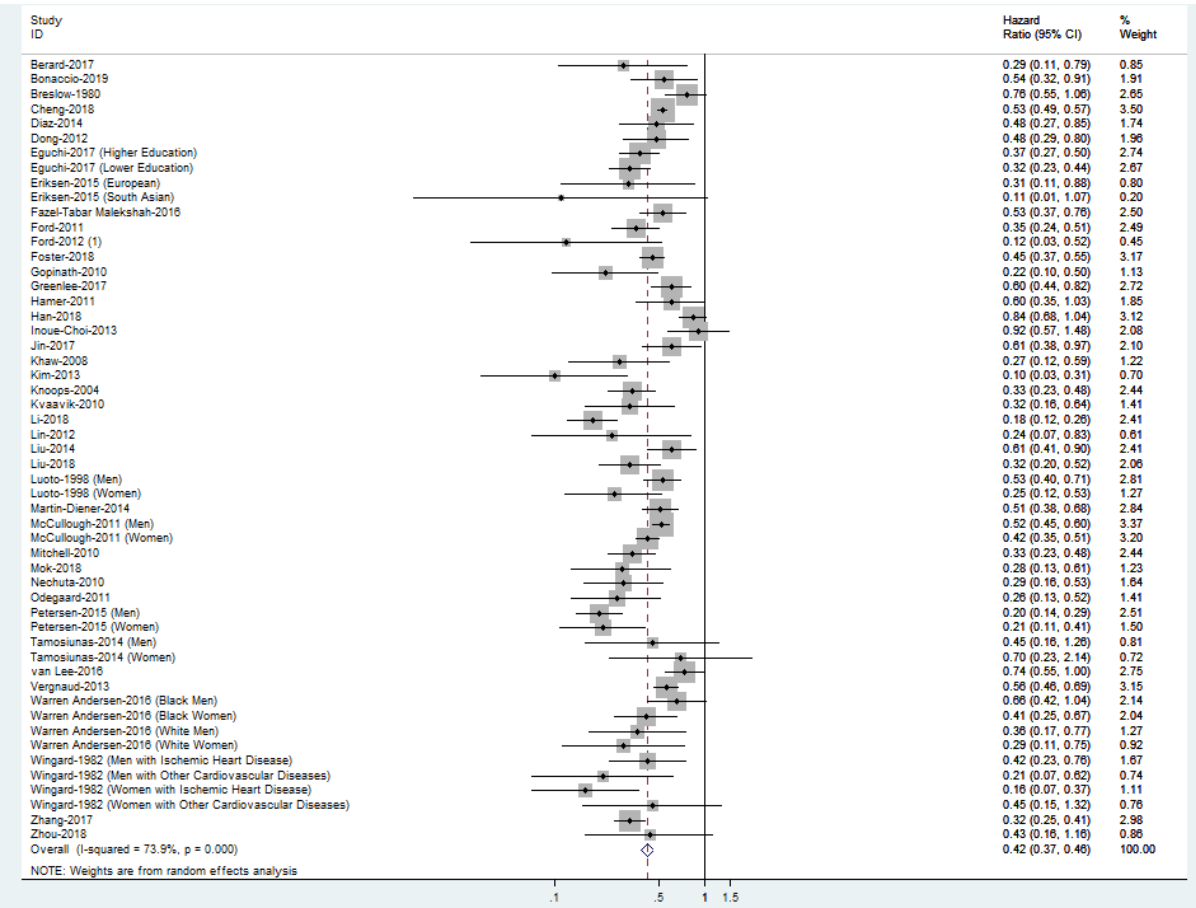


Figure A3. Hazard ratios (95% CI) comparing individuals with the healthiest versus the least healthy lifestyles for coronary heart disease mortality.

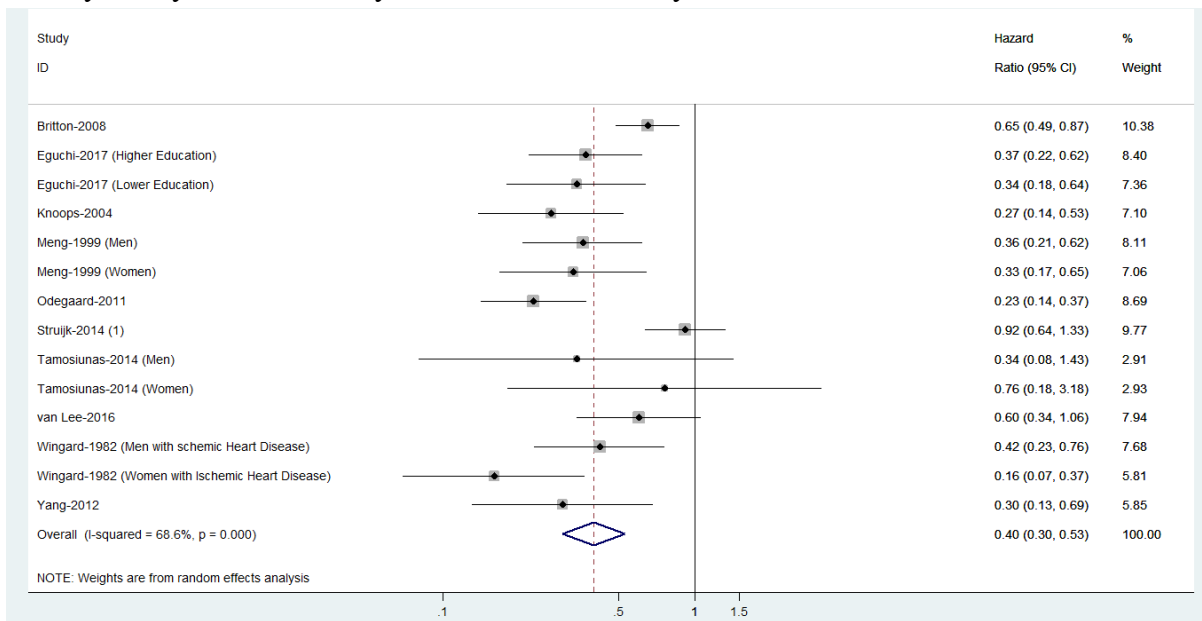


Figure A4. Hazard ratios (95% CI) comparing individuals with the healthiest versus the least healthy lifestyles for stroke mortality.

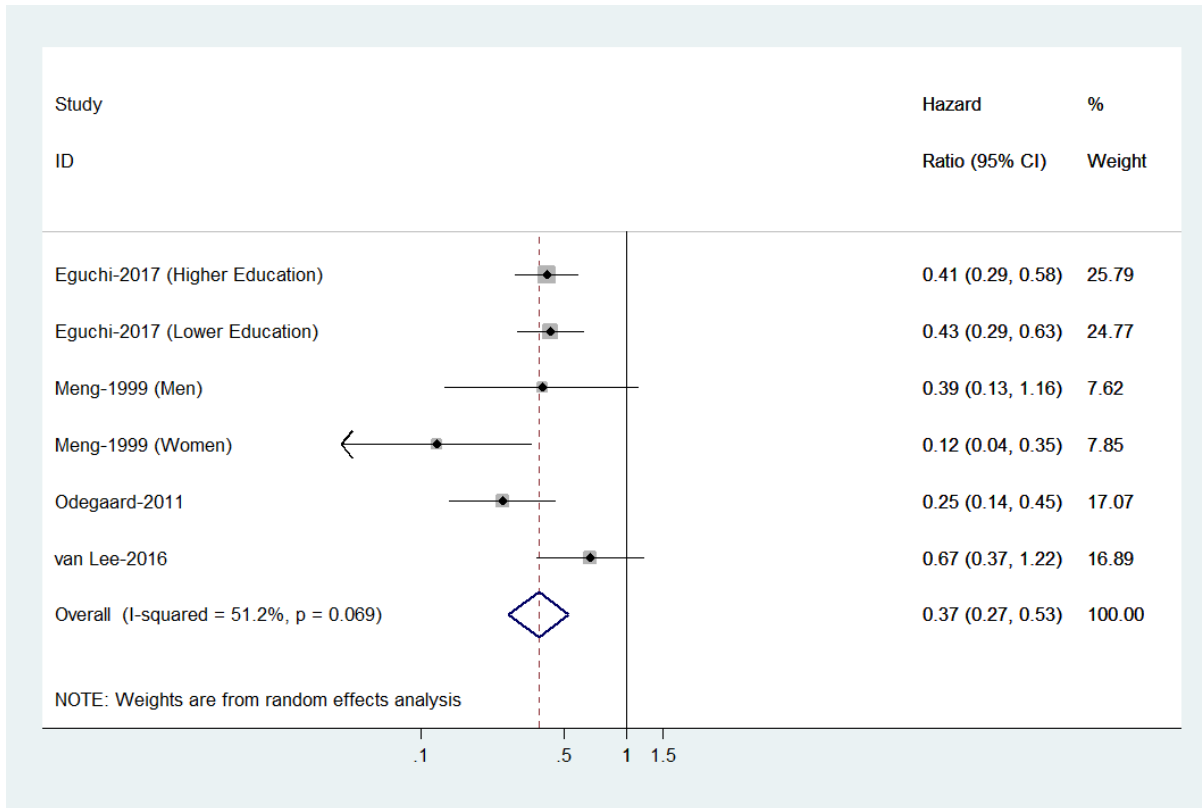


Figure A5. Hazard ratios (95% CI) comparing individuals with the healthiest versus the least healthy lifestyles for the risk of total cardiovascular disease.

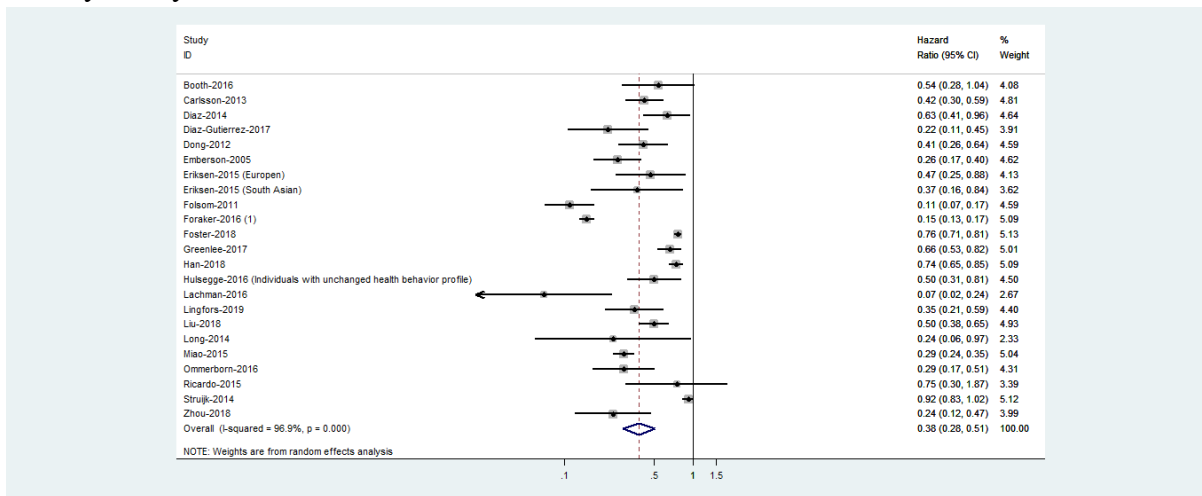


Figure A6. Hazard ratios (95% CI) comparing individuals with the healthiest versus the least healthy lifestyles for the risk of coronary heart disease.

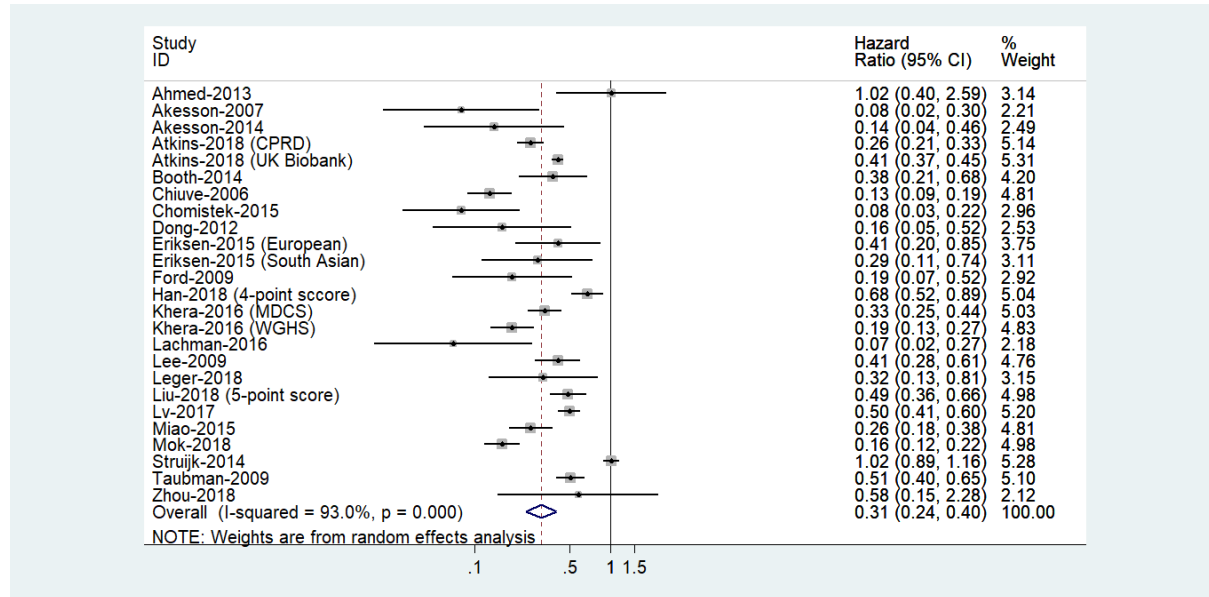


Figure A7. Hazard ratios (95% CI) comparing individuals with the healthiest versus the least healthy lifestyles for the risk of stroke.

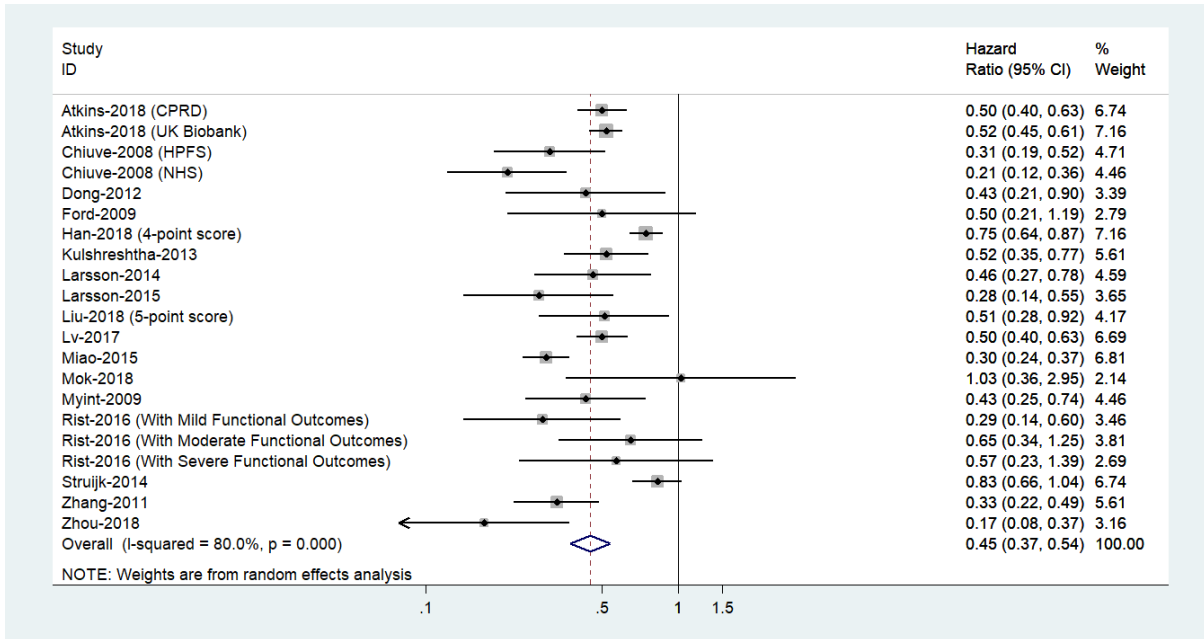


Figure A8. Hazard ratios (95% CI) comparing individuals with the healthiest versus the least healthy lifestyles for the risk of heart failure.

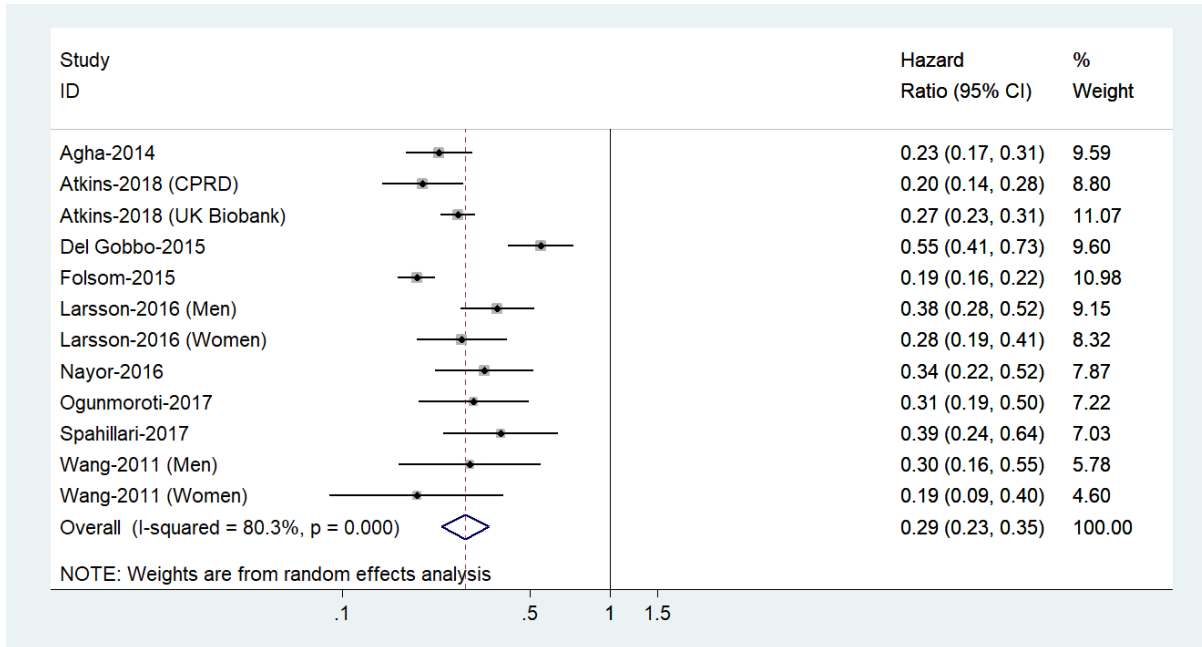


Figure A9. Hazard ratios (95% CI) comparing individuals with the healthiest versus the least healthy lifestyles for the risk of hypertension.

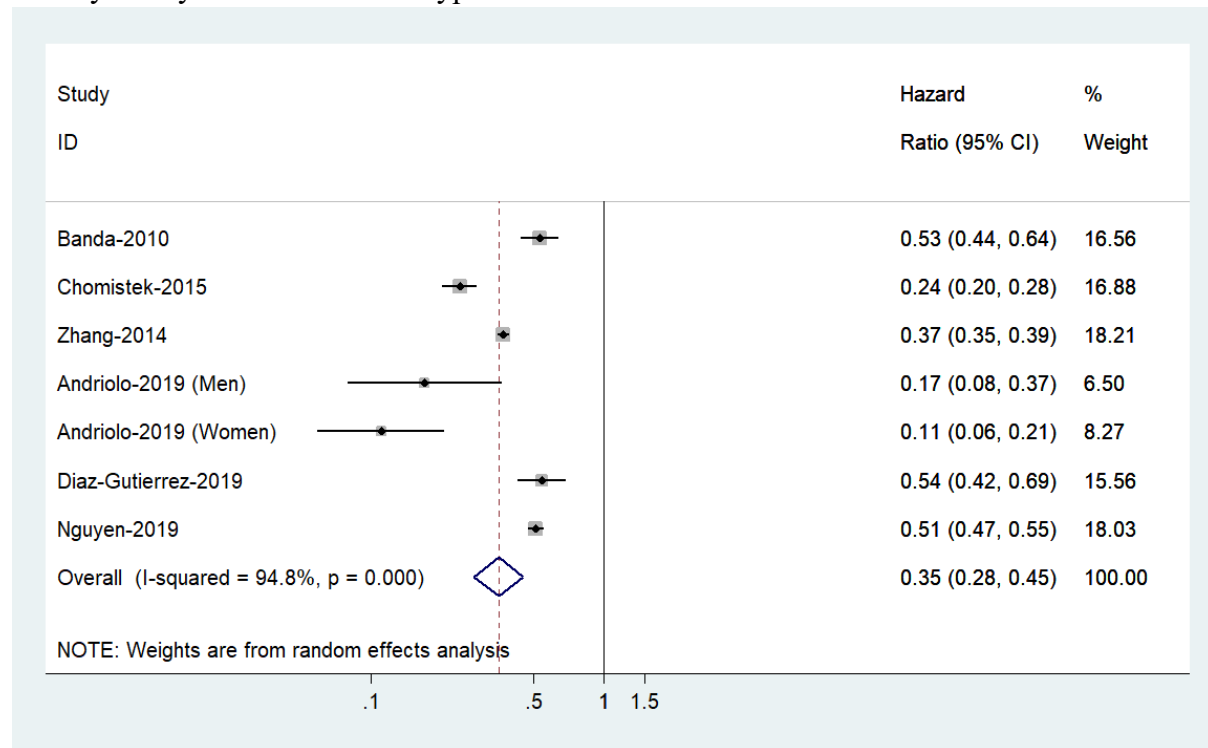


Figure A10. Hazard ratios (95% CI) comparing individuals with the healthiest versus the least healthy lifestyles for the risk of atrial fibrillation.

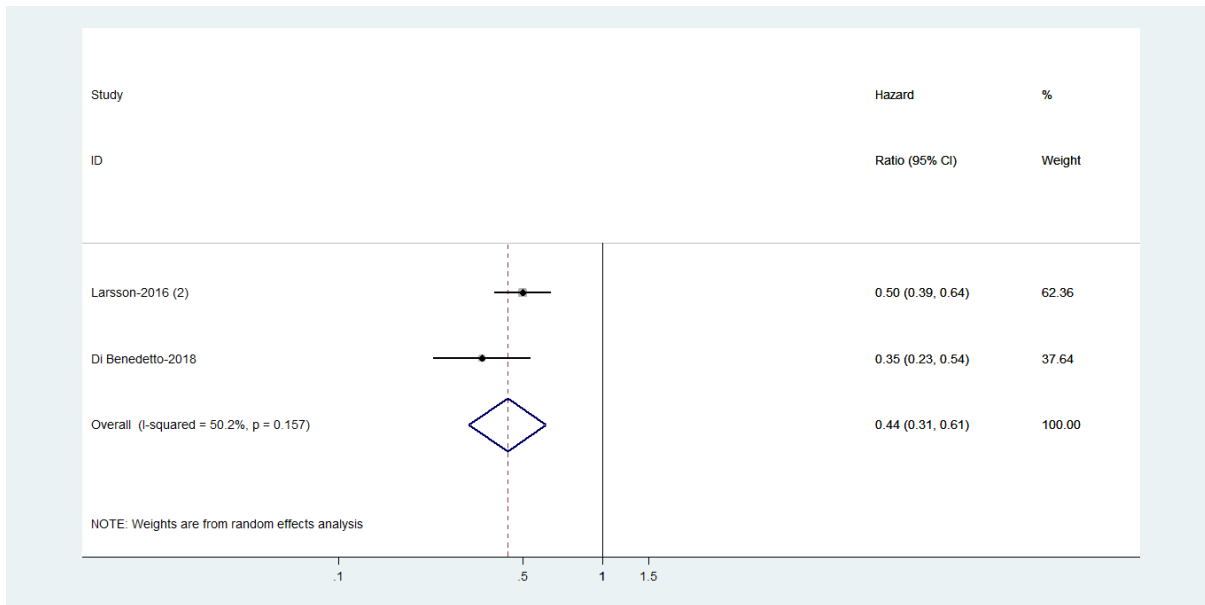
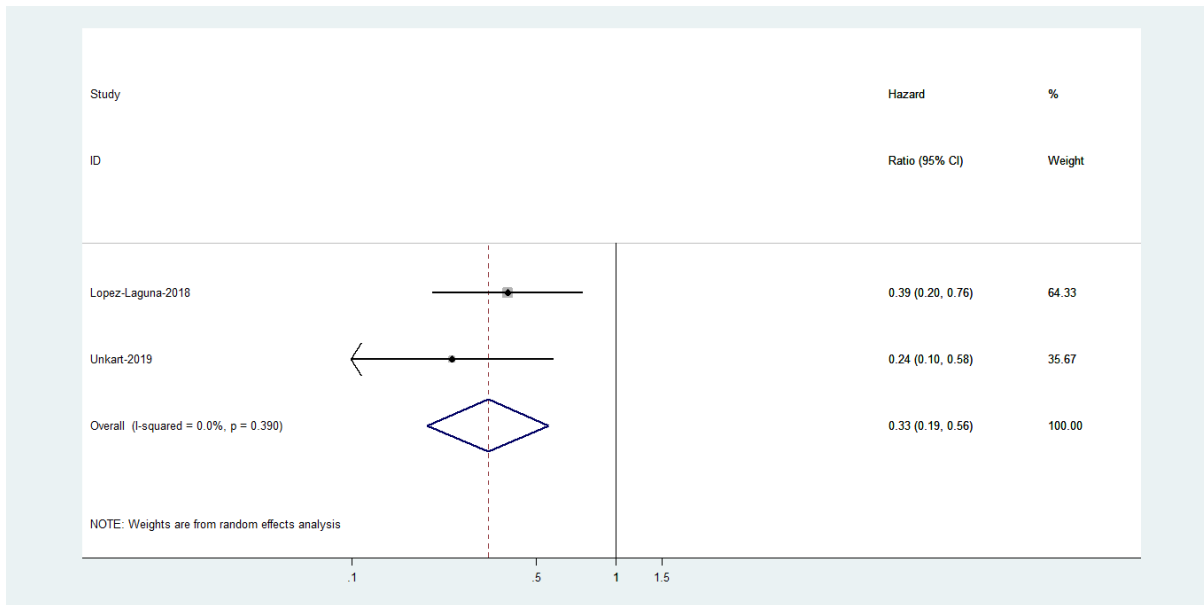


Figure A11. Hazard ratios (95% CI) comparing individuals with the healthiest versus the least healthy lifestyles for the risk of peripheral artery disease.



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