

# **From the Cardiovascular-Kidney-Metabolic Disorders to the Atherosclerotic Cardiovascular Diseases: Their Prevalence Rates and Independent Associations in the SIMETAP Study**

## **SUPPLEMENTARY MATERIALS**

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**Table S1.** Definitions of diseases and clinical conditions criteria

| Morbidities, diseases or clinical conditions     | Definitions and criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Current smoking                                  | Any amount of tobacco use in the previous year.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Alcoholism (excessive alcohol consumption)       | > 21 standard drink units (SDU) of alcohol consumption per week (male),<br>> 14 SDU per week (female).<br>1 SDU is equivalent to 8 g or 10 mL of ethanol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical inactivity [46]                         | Lack of moderate-intensity physical activity (e.g., brisk walking) < 150 minutes a week, or vigorous-intensity physical activity (e.g., jogging) < 75 minutes a week (or less of equivalent combination of both), or muscle strengthening exercises < 2 days a week.                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Body mass index (BMI) [19]                       | BMI was calculated as weight in kilograms divided by the square of height in meters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Overweight [19]                                  | BMI 25.0–29.9 kg/m <sup>2</sup> (International Classification of Diseases, 10 <sup>th</sup> Revision, Clinical Modification [ICD-10-CM]: E66.3; International Classification of Primary Care, 2nd edition [ICPC-2]: T83)*                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Obesity [19]                                     | BMI ≥ 30 kg/m <sup>2</sup> (ICD-10-CM: E66.9; ICPC-2: T82)*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Waist circumference (WC)                         | WC determined with the subject standing using a flexible tape measure adjusted without compressing the skin, after the participant exhaled a normal breath, locating the upper edge of the iliac crests and above that point surrounding the waist parallel to the floor.                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Abdominal (or central) obesity (AO) [11]         | WC ≥ 102 cm in men or ≥ 88 cm in women                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Waist-to-height ratio (WtHR)                     | WtHR is calculated as WC measurement divided by height measurement, both in centimetres.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| High-WtHR [20].                                  | WtHR ≥ 0.60 for both men and women                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CUN-BAE adiposity or CUN-BAE body fat index [21] | CUN-BAE (according to its acronym in Spanish, <i>Clínica Universitaria de Navarra</i> - Body Adiposity Estimator) body fat index:<br><ul style="list-style-type: none"> <li>Men: <math>-44.988 + (0.503 \times \text{age}) + (3.172 \times \text{BMI}) - (0.026 \times \text{BMI}^2) - (0.02 \times \text{BMI} \times \text{age}) + (0.00021 \times \text{BMI}^2 \times \text{age})</math></li> <li>Women: <math>-44.988 + (0.503 \times \text{age}) + 10.689 + (3.172 \times \text{BMI}) - (0.026 \times \text{BMI}^2) + (0.181 \times \text{BMI}) - (0.02 \times \text{BMI} \times \text{age}) - (0.005 \times \text{BMI}^2) + (0.00021 \times \text{BMI}^2 \times \text{age})</math></li> </ul> |
| CUN-BAE excess adiposity (EA) [21]               | CUN-BAE values ≥ 30 in men and ≥ 35 in women were considered to define excessive increase in body fat or excess adiposity (EA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Visceral adiposity index (VAI) [23]              | VAI = $\{\text{WC}/[39.68 + (1.88 \times \text{BMI})]\} \times (\text{TG}/1.03) \times (1.31/\text{HDL-c})$ for men<br>VAI = $\{\text{WC}/[36.58 + (1.89 \times \text{BMI})]\} \times (\text{TG}/0.81) \times (1.52/\text{HDL-c})$ for women<br>WC is expressed in centimetres, BMI in kg/m <sup>2</sup> , TG and HDL-c in mmol/L.                                                                                                                                                                                                                                                                                                                                                                 |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| High-VAI [22]                         | High-VAI cut-off points for detecting MetS: $\geq 2.36$ for men; $\geq 2.92$ for women                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Body shape index (BSI) [25]           | $BSI = WC / (BMI^{2/3} \times \text{height}^{1/2})$<br>Units are meters for WC and height, kg/m <sup>2</sup> for BMI, and m <sup>11/6</sup> kg <sup>-2/3</sup> for BSI                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| High-BSI [22]                         | High-BSI cut-off points for risk increase of adiposity: $\geq 0.084$ for men and $\geq 0.082$ for women                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Body roundness index (BRI) [26]       | $BRI = 364.2 - 365.5 \times \{1 - [(WC/2\pi)/(0.5 \times \text{height})]^2\}^{0.5}$<br>WC and height are expressed in centimetres.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| High-BRI [22]                         | High-BRI cut-off points for risk increase of adiposity: $\geq 5.69$ for men and $\geq 5.77$ for women                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Lipid accumulation product (LAP) [27] | LAP index is a calculation used to assess the risk of excessive lipid accumulation in the abdominal region.<br>$LAP = (WC - 65) \times TG$ for men<br>$LAP = (WC - 58) \times TG$ for women<br>WC is expressed in centimetres, and TG in mmol/L                                                                                                                                                                                                                                                                                                                                                                          |
| High-LAP [24]                         | High-LAP cut-off points: $\geq 59.85$ for men; $\geq 53.06$ for women                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Arterial hypertension (HTN) [29]      | Systolic blood pressure (SBP) $\geq 140$ mmHg and/or diastolic blood pressure (DBP) $\geq 90$ mmHg, using the average of two or more readings obtained on two or more occasions, or being on blood pressure-lowering drug therapy (BPLT) (ICD-10-CM: I10, I15; ICPC-2: K86, K87)*                                                                                                                                                                                                                                                                                                                                        |
| Pulse pressure                        | SBP – DBP (mmHg)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Diabetes mellitus (DM) [28]           | It was defined according to the American Diabetes Association (ADA) criteria: fasting plasma glucose (FPG) $\geq 126$ mg/dL (7.0 mmol/L) or glycated haemoglobin A <sub>1c</sub> (HbA <sub>1c</sub> ) $\geq 6.5$ % (in International Federation of Clinical Chemistry and Laboratory Medicine [IFCC] units) ( $\geq 48$ mmol/mol) or plasma glucose $\geq 200$ mg/dL (11.1 mmol/L) at any time or with oral glucose tolerance test (ICD-10-CM: E10, E11; ICPC-2: T89, T90)*<br>To convert from mg/dL to mmol/L, multiply by 0.05556<br>To convert from % (DCCT) to mmol/mol (IFCC), subtract 2.15 and multiply by 10.929 |
| Prediabetes [28]                      | It was defined according to the ADA criteria: FPG between 100 and 125 mg/dL or HbA <sub>1c</sub> between 5.7% and 6.4% (ICD-10-CM: R73.09; ICPC-2: A91)*<br>To convert from mg/dL to mmol/L, multiply by 0.05556<br>To convert from % (DCCT) to mmol/mol (IFCC), subtract 2.15 and multiply by 10.929                                                                                                                                                                                                                                                                                                                    |
| Estimated average glucose (eAG)       | $28.7 \times HbA_{1c} - 46.7$ (mg/dL)<br>To convert from mg/dL to mmol/L, multiply by 0.05556                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| Hypercholesterolaemia [30]                            | Fasting plasma total cholesterol (TC) levels $\geq 200$ mg/dL ( $\geq 5.17$ mmol/L) (ICD-10-CM: E78; ICPC-2: T93)* or being on lipid-lowering drug therapy (LLT) to achieve cholesterol targets.<br>To convert from mg/dL to mmol/L, multiply by 0.02586                                        |
| Hypertriglyceridaemia (HTG) [30]                      | Fasting plasma triglycerides (TG) levels $\geq 150$ mg/dL ( $\geq 1.69$ mmol/L) (ICD-10-CM: E78; ICPC-2: T93)* or being on triglycerides lowering specific drug therapy.<br>To convert from mg/dL to mmol/L, multiply by 0.01129                                                                |
| Low high-density lipoprotein cholesterol (HDL-c) [30] | HDL-c $< 40$ mg/dL ( $< 1.03$ mmol/L) (for men)<br>HDL-c $< 50$ mg/dL ( $< 1.29$ mmol/L) (for women)<br>To convert from mg/dL to mmol/L, multiply by 0.02586                                                                                                                                    |
| Atherogenic dyslipidaemia                             | HTG and low HDL-c                                                                                                                                                                                                                                                                               |
| Non-high-density lipoprotein cholesterol (Non-HDL-c)  | TC – HDL-c<br>To convert from mg/dL to mmol/L, multiply by 0.02586                                                                                                                                                                                                                              |
| Low-density lipoprotein cholesterol (LDL-c)           | TC – HDL-c – (TG/5) mg/dL (not valid for patients with TG $> 400$ mg/dL)<br>TC – HDL-c – (TG/2.2) mmol/L (not valid for patients with TG $> 4.51$ mmol/L)<br>LDL-c, TC, HDL-c: To convert from mg/dL to mmol/L, multiply by 0.02586<br>TG: To convert from mg/dL to mmol/L, multiply by 0.01129 |
| Residual cholesterol (RC)                             | Very low-density lipoproteins cholesterol (VLDL-c) and remnants.<br>RC= TC – HDL-c – LDL-c<br>LDL-c, TC, HDL-c: To convert from mg/dL to mmol/L, multiply by 0.02586                                                                                                                            |
| Atherogenic index of plasma (AIP) [34]                | $AIP = \log (TG / HDL-c)$<br>TG and HDL-c are expressed in mmol/L<br>AIP values between $-0.3$ to $0.1$ are associated with a low CVD risk<br>AIP values between $> 0.1$ and $0.24$ are associated with a medium CVD risk<br>AIP values $> 0.24$ are considered high risk for CVD               |
| Triglyceride-glucose (TyG) index [31]                 | TyG index = $\ln (TG \times FPG/2)$<br>TG and FPG are expressed in mg/dL                                                                                                                                                                                                                        |
| High-TyG [24]                                         | High TyG cut-off points for detecting MetS: $\geq 8.77$ for men and $\geq 8.70$ for women                                                                                                                                                                                                       |

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| Metabolic syndrome (MetS) [11]                 | <p>MetS according to 2009 Joint Statement of International Diabetes Federation Task Force on Epidemiology and Prevention, National Heart, Lung, and Blood Institute, American Heart Association, World Heart Federation, International Atherosclerosis Society, and International Association for the Study of Obesity.</p> <p>MetS diagnosis is identify by the presence of three or more of the following criteria for the European population:</p> <ul style="list-style-type: none"> <li>• Increased WC (<math>\geq 102</math> cm for men; <math>\geq 88</math> cm for women)</li> <li>• TG <math>\geq 150</math> mg/dL (<math>\geq 1.7</math> mmol/L)</li> <li>• HDL-c <math>&lt; 40</math> mg/dL (<math>&lt; 1.03</math> mmol/L) (males); <math>&lt; 50</math> mg/dL (<math>&lt; 1.29</math> mmol/L) (females)</li> <li>• SBP <math>\geq 130</math> mmHg or DBP <math>\geq 85</math> mmHg (antihypertensive drug treatment in a patient with a history of HTN is an alternate indicator)</li> <li>• FPG <math>\geq 100</math> mg/dL (<math>\geq 5.6</math> mmol/L) (drug treatment for elevated glucose is an alternate indicator)</li> </ul> |
| Fatty liver index (FLI) [32]                   | $FLI = (e^{0.953 \times \log_e(TG) + 0.139 \times BMI + 0.718 \times \log_e(GGT) + 0.053 \times \text{waist circumference} - 15.745}) / (1 + e^{0.953 \times \log_e(TG) + 0.139 \times BMI + 0.718 \times \log_e(GGT) + 0.053 \times \text{waist circumference} - 15.745}) \times 100$ <p><math>\log_e</math> = natural logarithm; GGT = gamma-glutamyl-transferase</p> <p>A value FLI between 0 and 30 can be used to rule out steatotic liver disease (SLD) (sensitivity: 87%; negative likelihood ratio: 0.2)</p> <p>A value FLI between 60 and 100 can be used to rule-in SLD (specificity 86%; positive likelihood ratio: 4.3).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Hyperuricaemia (HU) [33]                       | <p>Serum uric acid (SUA) levels <math>\geq 7.0</math> mg/dL (416 <math>\mu\text{mol/L}</math>) for both adult male and female populations, or being on urate-lowering therapy (ULT) (ICD-10-CM: E79; ICPC-2: T92)*</p> <p>To convert from mg/dL to mmol/L, multiply by 0.05948</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Coronary heart disease (CHD) [5,6]             | <p>Ischaemic heart disease (disease of the coronary arteries, usually from atherosclerosis, leading to myocardial ischaemia often associated with angina or myocardial infarction), myocardial infarction, coronary artery disease, acute coronary syndrome, acute and non-acute myocardial ischaemic syndromes, coronary revascularization (ICD-10-CM: I20-I25; ICPC-2: K74, K75, K76)*</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Cerebrovascular disease (stroke) [7]           | <p>Cerebral ischaemia, ischaemic stroke, transient ischaemic attack, subarachnoid haemorrhage, intracerebral haemorrhage, intracranial haemorrhage (ICD-10-CM: I60-I66, I66, I67; ICPC-2: K89, K90K K91)*</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Peripheral arterial disease (PAD) [8]          | <p>Lower-extremity peripheral arterial disease, intermittent claudication (fatigue, cramping, aching, pain, or other discomfort of vascular origin in the muscles of the lower extremities that is consistently induced by walking and consistently relieved by rest, usually within approximately 10 min), ankle-brachial index <math>\leq 0.9</math> (ICD-10-CM: I70.2, I73.9; ICPC-2: K92)*</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Atherosclerotic cardiovascular disease (ASCVD) | <p>ASCVD include CHD, stroke, or PAD (ICD-10-CM: I70)*</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| Heart failure (HF) [37]                          | Record of HF diagnosis (ICD-10-CM: I50; ICPC-2: K77)* in the primary care electronic health records, without differentiating by phenotype based on measurement of left ventricular ejection fraction or based on severity of symptoms and physical activity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Atrial fibrillation (AF) [38,39]                 | Record of AF diagnosis (ICD-10-CM: I48; ICPC-2: K78)* in the primary care electronic health records, without differentiating by phenotypes based on paroxysmal, persistent, long-standing persistent, or permanent AF or atrial flutter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Estimated glomerular filtration rate (eGFR) [18] | <p>According to Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equations:</p> <p>Women with creatinine <math>\leq 0.7</math> mg/dL= <math>144 \times (\text{creatinine})^{-0.329} \times (0.993)^{\text{age}}</math> mL/min/1.73 m<sup>2</sup> of the body surface</p> <p>Women with creatinine <math>&gt; 0.7</math> mg/dL= <math>144 \times (\text{creatinine})^{-1.209} \times (0.993)^{\text{age}}</math> mL/min/1.73 m<sup>2</sup> of the body surface</p> <p>Men with creatinine <math>\leq 0.9</math> mg/dL= <math>141 \times (\text{creatinine})^{-0.411} \times (0.993)^{\text{age}}</math> mL/min/1.73 m<sup>2</sup> of the body surface</p> <p>Men with creatinine <math>&gt; 0.9</math> mg/dL= <math>141 \times (\text{creatinine})^{-1.209} \times (0.993)^{\text{age}}</math> mL/min/1.73 m<sup>2</sup> of the body surface</p> |
| Low eGFR [35]                                    | <p>eGFR <math>&lt; 60</math> mL/min/1.73 m<sup>2</sup> according to CKD-EPI [18]</p> <p>Low eGFR does not include the following categories:</p> <ul style="list-style-type: none"> <li>• G1: <math>\geq 90</math> mL/min/1.73 m<sup>2</sup></li> <li>• G2: 60 to 89 mL/min/1.73 m<sup>2</sup></li> </ul> <p>Low eGFR includes the following categories:</p> <ul style="list-style-type: none"> <li>• G3a: 45 to 59 mL/min/1.73 m<sup>2</sup></li> <li>• G3b: 30 to 44 mL/min/1.73 m<sup>2</sup></li> <li>• G4: 15 to 29 mL/min/1.73 m<sup>2</sup></li> <li>• G5: <math>&lt; 15</math> mL/min/1.73 m<sup>2</sup></li> </ul>                                                                                                                                                                                                                                 |
| Albuminuria [35]                                 | <p>Urine albumin-creatinine ratio (uACR) <math>\geq 30</math> mg/g (including proteinuria [uACR <math>&gt; 300</math> mg/g] (ICD-10-CM: R80; ICPC-2: U98)*</p> <p>Albuminuria does not include the following category:</p> <ul style="list-style-type: none"> <li>• A1: <math>&lt; 30</math> mg/g</li> </ul> <p>Albuminuria includes the following categories:</p> <ul style="list-style-type: none"> <li>• A2: 30 mg/g to 300 mg/g</li> <li>• A3: <math>&gt; 300</math> mg/g</li> </ul> <p>To convert from mg/g to mg/mmol, multiply by 0.01131</p>                                                                                                                                                                                                                                                                                                       |
| Chronic kidney disease (CKD) [35]                | Low eGFR and/or albuminuria (ICD-10-CM: N18; ICPC-2: U99)*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CKD risk categories [35]                         | <p>Risk of CKD progression, acute kidney injury, kidney failure replacement therapy, all-cause mortality and cardiovascular events.</p> <ul style="list-style-type: none"> <li>• Low risk: G1A1; G2A1</li> <li>• Moderate risk: G1A2; G2A2; G3aA1</li> <li>• High risk: G1A3; G2A3; G3aA2; G3bA1</li> <li>• Very high risk: G3aA3; G3bA2; G3bA3; G4A1; G4A2; G4A3; G5A1; G5A2; G5A3</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

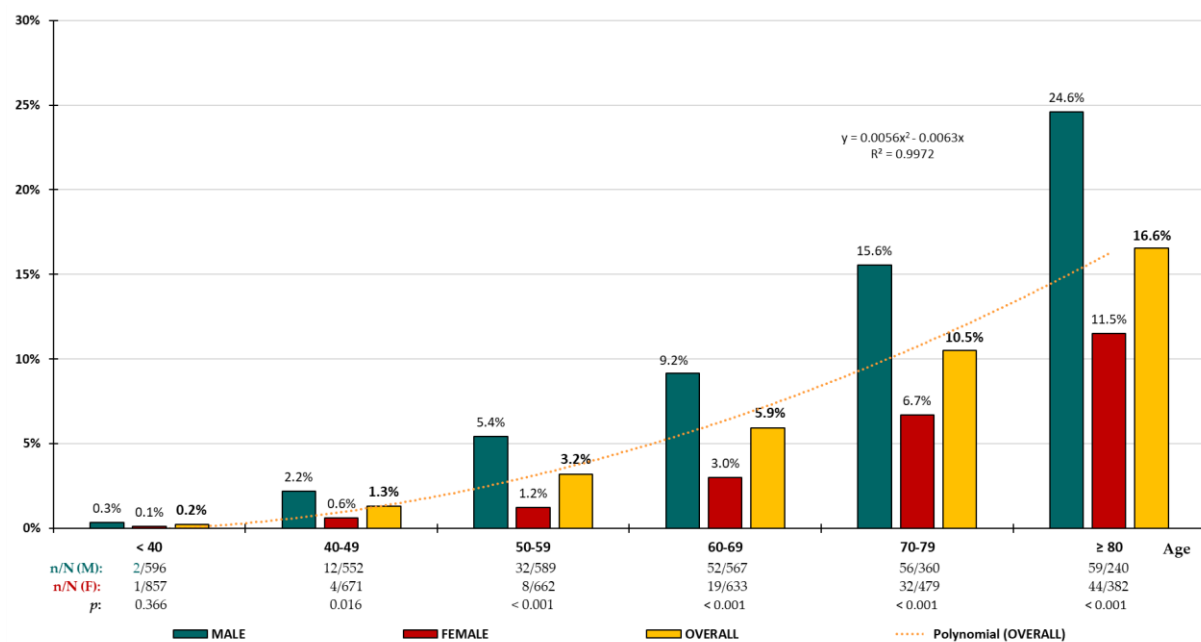
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|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cardiovascular risk (CVR) categories [48]             | <p>Ten-year fatal and non-fatal cardiovascular disease (CVD) risk for patients from low-risk European countries.</p> <p>Low, moderate, high and very high CVR categories were estimated according to 2021 ESC Guidelines on cardiovascular disease prevention in clinical practice.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Cardiovascular-kidney-metabolic (CKM) syndrome [9,10] | <p>Systemic disorder attributable to pathophysiological interactions among metabolic risk factors, CKD, and CVD, that includes both individuals at risk for CVD, CKD, and those with existing clinical CVD.</p> <ul style="list-style-type: none"> <li>• Stage 0: BMI &lt; 25 kg/m<sup>2</sup>, normal abdominal circumference (&lt; 88 in women and &lt; 102 cm in men) without criteria for the other stages.</li> <li>• Stage 1: adiposity excess (CUN-BAE obesity), overweight, obesity, abdominal obesity, or prediabetes.</li> <li>• Stage 2: HTN, metabolic risk factors (HTG, DM, MetS), CKD moderate or high risk.</li> <li>• Stage 3: subclinical target organ damage, risk equivalents (high CVR or CKD very high-risk) among individuals with stages 1 or 2.</li> <li>• Stage 4: clinical CVD including CHD, stroke, PAD, HF, and AF among individuals with stages 1 or 2 (stage 4a: without CKD; stage 4b: with CKD).</li> </ul> <p>Stages 3 or 4 are defined as advanced stages of CKM syndrome because they identify individuals at high risk for CVD.</p> |

\* ICD-10CM and ICPC-2 codes:

14. National Center for Health Statistics (NCHS). International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM). Available online: <https://www.cdc.gov/nchs/icd/icd-10-cm/index.html>. (accessed 5 May 2025).

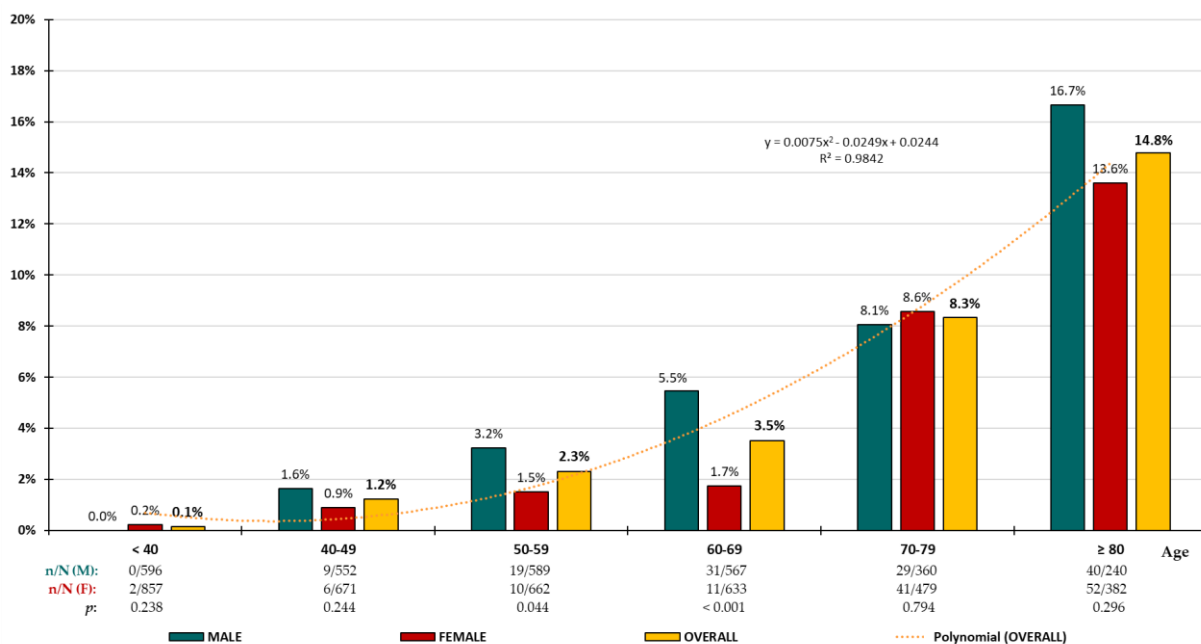
15. World Health Organization. (2009). International Classification of Primary Care, 2nd edition -ICPC-2. Available online: <https://www.who.int/standards/classifications/other-classifications/international-classification-of-primary-care>. (accessed 5 May 2025).

All citations in this table are included in the references section of the main manuscript.



**Figure S1.** Age-Specific Prevalence Rates of Coronary Heart Disease

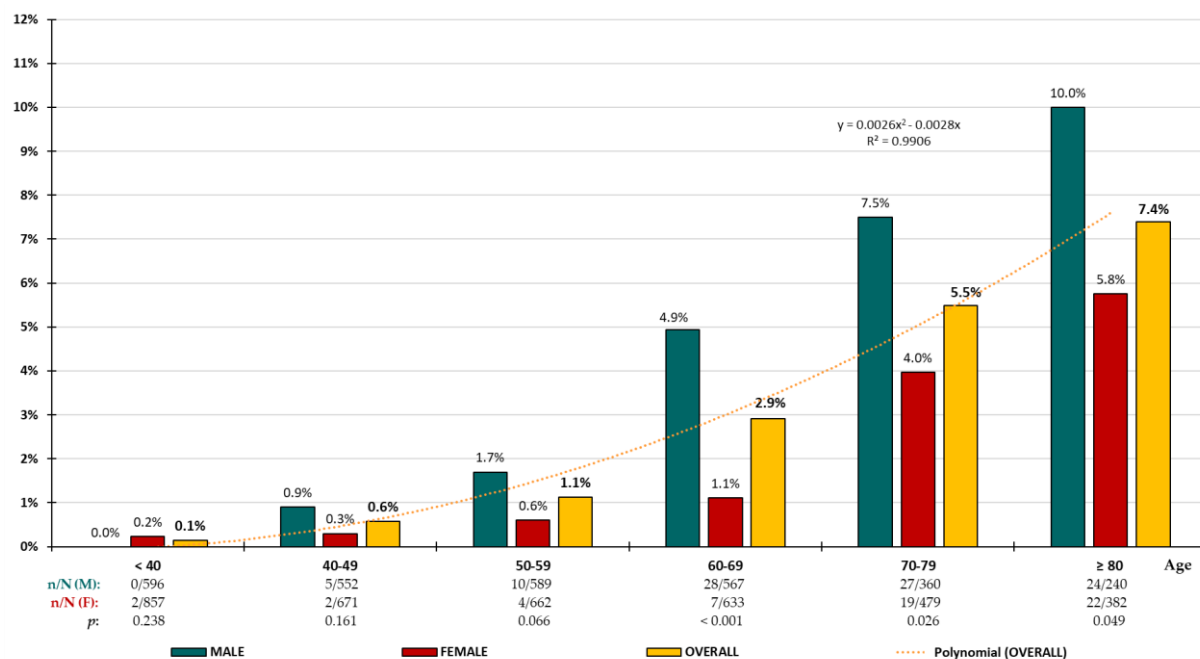
n: number of cases; N: sample size; M: male; F: female; p: p-value of the difference in percentages (M vs. F).



(b)

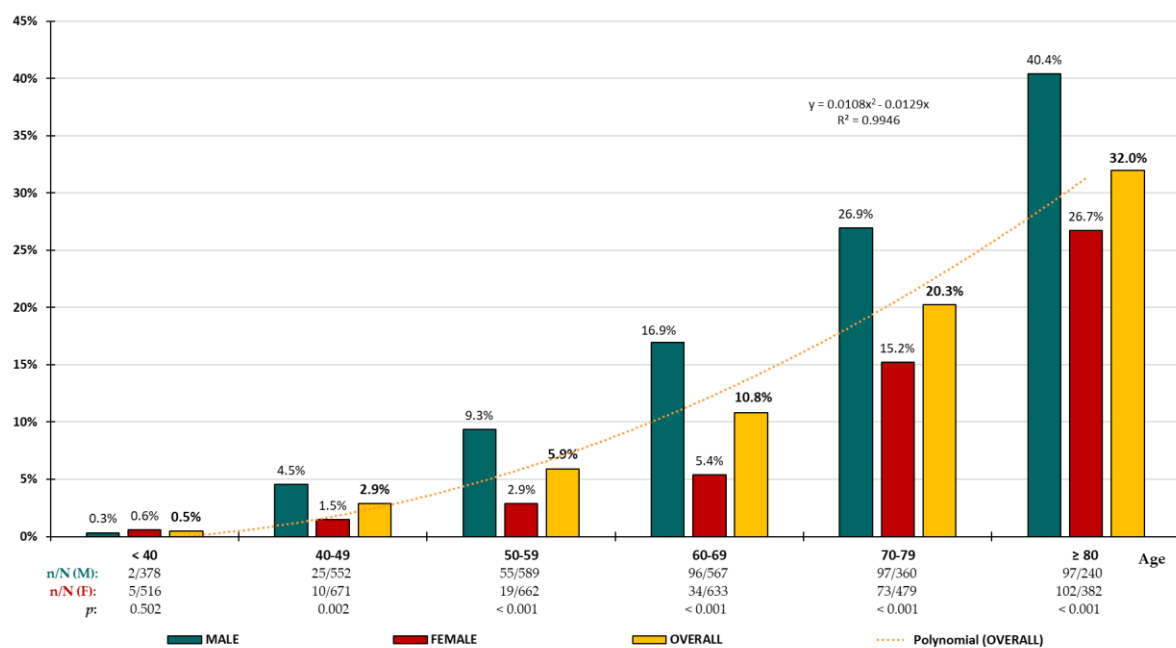
**Figure S2.** Age-Specific Prevalence Rates of Stroke

n: number of cases; N: sample size; M: male; F: female; p: p-value of the difference in percentages (M vs. F).



**Figure S3.** Age-Specific Prevalence Rates of Peripheral Arterial Disease

n: number of cases; N: sample size; M: male; F: female; p: *p*-value of the difference in percentages (M vs. F).



**Figure S4.** Age-Specific Prevalence Rates of Atherosclerotic Cardiovascular Disease

n: number of cases; N: sample size; M: male; F: female; p: *p*-value of the difference in percentages (M vs. F).

**Table S2.** Clinical characteristics for populations with ASCVDs

|                                 | <b>CHD*</b>  | <b>Stroke*</b> | <b>PAD*</b>  | <b>ASCVD*</b> |
|---------------------------------|--------------|----------------|--------------|---------------|
|                                 | Mean (SD)    | Mean (SD)      | Mean (SD)    | Mean (SD)     |
| Age yr                          | 72.1 (12.8)  | 73.3 (13.4)    | 72.6 (12.1)  | 72.1 (13.1)   |
| BMI kg/m <sup>2</sup>           | 29.6 (5.4)   | 29.0 (5.1)     | 28.7 (4.7)   | 29.2 (5.2)    |
| WC cm                           | 100.5 (13.4) | 97.8 (12.9)    | 98.2 (12.4)  | 99.0 (13.2)   |
| WtHR                            | 0.62 (0.08)  | 0.61 (0.08)    | 0.61 (0.08)  | 0.61 (0.08)   |
| CUN-BAE adiposity               | 36.6 (8.0)   | 37.8 (8.1)     | 36.1 (7.7)   | 36.8 (8.0)    |
| VAI                             | 1.99 (1.47)  | 1.93 (1.40)    | 1.94 (1.27)  | 1.97 (1.45)   |
| BSI                             | 0.083 (0.01) | 0.082 (0.01)   | 0.082 (0.01) | 0.082 (0.01)  |
| BRI                             | 5.95 (1.97)  | 5.79 (1.90)    | 5.66 (1.78)  | 5.82 (1.94)   |
| LAP index                       | 57.1 (43.2)  | 53.2 (39.4)    | 53.7 (34.4)  | 55.4 (41.7)   |
| SBP mmHg                        | 127.0 (15.5) | 128.1 (15.3)   | 128.3 (15.2) | 127.5 (15.3)  |
| DBP mmHg                        | 73.3 (9.8)   | 74.1 (9.7)     | 73.0 (9.0)   | 73.7 (9.6)    |
| FPG mg/dL                       | 110.3 (32.6) | 104.7 (27.6)   | 107.6 (33.3) | 108.0 (32.0)  |
| HbA1c %                         | 6.20 (1.04)  | 5.98 (0.96)    | 6.18 (0.98)  | 6.11 (1.02)   |
| TC mg/dL                        | 163.8 (37.6) | 180.6 (41.1)   | 170.1 (39.3) | 173.0 (40.1)  |
| HDL-c mg/dL                     | 50.0 (14.9)  | 52.1 (13.7)    | 50.5 (13.5)  | 51.0 (14.1)   |
| LDL-c mg/dL                     | 88.2 (31.0)  | 103.8 (35.4)   | 93.2 (31.9)  | 96.5 (34.0)   |
| TG mg/dL                        | 128.8 (70.4) | 125.5 (71.5)   | 131.3 (69.2) | 128.6 (72.7)  |
| TG/HDL-c                        | 2.96 (2.24)  | 2.70 (2.02)    | 2.86 (1.92)  | 2.87 (2.19)   |
| AIP                             | 0.02 (0.28)  | -0.02 (0.27)   | 0.02 (0.25)  | 0.00 (0.28)   |
| TyG index                       | 8.72 (0.60)  | 8.64 (0.59)    | 8.71 (0.60)  | 8.69 (0.60)   |
| SUA mg/dL                       | 5.53 (1.51)  | 5.44 (1.59)    | 5.51 (1.49)  | 5.48 (1.56)   |
| AST U/L                         | 25.5 (40.4)  | 21.5 (12.4)    | 22.2 (17.9)  | 24.2 (31.4)   |
| ALT U/L                         | 26.6 (17.1)  | 24.0 (24.4)    | 26.3 (17.9)  | 26.2 (21.3)   |
| GGT U/L                         | 44.2 (53.5)  | 39.8 (48.0)    | 43.7 (43.6)  | 41.6 (48.5)   |
| FLI 0–100                       | 60.5 (27.1)  | 55.3 (27.0)    | 57.8 (26.5)  | 57.7 (27.3)   |
| Creatinine mg/dL                | 1.02 (0.48)  | 0.93 (0.30)    | 1.07 (0.65)  | 0.98 (0.44)   |
| eGFR mL/min/1.73 m <sup>2</sup> | 72.5 (20.6)  | 74.4 (21.0)    | 70.0 (21.5)  | 73.7 (20.7)   |
| uACR mg/g                       | 39.4 (139.7) | 37.2 (119.6)   | 53.0 (124.0) | 40.1 (129.5)  |

AIP: atherogenic index of plasma; ALT: alanine aminotransferase; ASCVD: atherosclerotic cardiovascular disease; AST: aspartate aminotransferase; BMI: body mass index; BRI: body roundness index; BSI: body shape index; CHD: coronary heart disease; CI: confidence interval; CUN-BAE: according to its acronym in Spanish, *Clínica Universitaria de Navarra* - Body Adiposity Estimator; DBP: diastolic blood pressure; eGFR: estimated glomerular filtration rate; FPG: fasting plasma glucose; FLI: fatty liver index; GGT: gamma-glutamyl transferase; HbA1c: glycated haemoglobin A1c; HDL-c: high-density lipoprotein cholesterol; LAP: lipid accumulation product index; LDL-c: low-density lipoprotein cholesterol; PAD: peripheral arterial disease; SBP: systolic blood pressure; SD: standard deviation; SUA: serum uric acid; TC: total cholesterol; TG: triglyceride; TyG: triglyceride-glucose index; uACR: urine albumin-creatinine ratio; VAI: visceral adiposity index; WC: waist circumference; WtHR: waist-to-height ratio. \* No. CHD: 321; No. stroke: 250; No. PAD: 150; No. ASCVD: 615

**Table S3.** Quantitative clinical variables in populations with and without CHD

|                                 | With CHD<br>No. 321 | Without CHD<br>No. 6267 | With CHD <i>vs.</i> without CHD |                           |
|---------------------------------|---------------------|-------------------------|---------------------------------|---------------------------|
|                                 | Mean (SD)           | Mean (SD)               | <i>p</i>                        | Cohen's <i>d</i> (95% CI) |
| Age yr                          | 72.1 (12.8)         | 54.3 (17.3)             | < 0.001                         | 1.0 (0.9; 1.2)            |
| Male age yr                     | 70.6 (12.4)         | 54.0 (16.6)             | < 0.001                         | 1.0 (0.9; 1.2)            |
| Female age yr                   | 75.1 (13.2)         | 54.4 (17.8)             | < 0.001                         | 1.2 (1.0; 1.4)            |
| BMI kg/m <sup>2</sup>           | 29.6 (5.4)          | 27.4 (5.1)              | < 0.001                         | 0.4 (0.3; 0.5)            |
| WC cm                           | 100.5 (13.4)        | 93.0 (14.0)             | < 0.001                         | 0.5 (0.4; 0.7)            |
| WtHR                            | 0.62 (0.08)         | 0.57 (0.09)             | < 0.001                         | 0.6 (0.5; 0.7)            |
| CUN-BAE adiposity               | 36.6 (8.0)          | 34.6 (8.7)              | < 0.001                         | 0.2 (0.1; 0.3)            |
| VAI                             | 1.99 (1.47)         | 1.78 (1.70)             | 0.027                           | 0.2 (0.0; 0.2)            |
| BSI                             | 0.083 (0.01)        | 0.080 (0.01)            | < 0.001                         | 0.2 (0.1; 0.3)            |
| BRI                             | 5.95 (1.97)         | 4.87 (1.96)             | < 0.001                         | 0.6 (0.4; 0.7)            |
| LAP index                       | 57.1 (43.2)         | 45.9 (40.5)             | < 0.001                         | 0.3 (0.2; 0.4)            |
| SBP mmHg                        | 127.0 (15.5)        | 121.7 (15.4)            | < 0.001                         | 0.3 (0.2; 0.5)            |
| DBP mmHg                        | 73.3 (9.8)          | 73.3 (9.8)              | 0.988                           | 0.0 (−0.1; 0.1)           |
| FPG mg/dL <sup>a</sup>          | 110.3 (32.6)        | 95.3 (25.3)             | < 0.001                         | 0.6 (0.5; 0.7)            |
| HbA1c % <sup>b</sup> #          | 6.20 (1.04)         | 5.60 (0.88)             | < 0.001                         | 0.7 (0.5; 0.7)            |
| TC mg/dL <sup>c</sup>           | 163.8 (37.6)        | 194.3 (38.9)            | < 0.001                         | −0.8 (−0.9; −0.7)         |
| HDL-c mg/dL <sup>c</sup>        | 50.0 (14.9)         | 55.1 (14.6)             | < 0.001                         | −0.4 (−0.5; −0.2)         |
| LDL-c mg/dL # <sup>c</sup>      | 88.2 (31.0)         | 115.5 (34.2)            | < 0.001                         | −0.8 (−0.9; −0.7)         |
| TG mg/dL <sup>d</sup>           | 128.8 (70.4)        | 120.1 (83.8)            | 0.068                           | 0.1 (0.0; 0.2)            |
| TG/HDL-c                        | 2.96 (2.24)         | 2.51 (2.57)             | 0.002                           | 0.2 (0.1; 0.3)            |
| AIP                             | 0.02 (0.28)         | −0.07 (0.29)            | < 0.001                         | 0.3 (0.2; 0.4)            |
| TyG index                       | 8.72 (0.60)         | 8.48 (0.60)             | < 0.001                         | 0.4 (0.3; 0.5)            |
| SUA mg/dL # <sup>e</sup>        | 5.53 (1.51)         | 4.94 (1.47)             | < 0.001                         | 0.4 (0.3; 0.5)            |
| AST U/L #                       | 25.5 (40.4)         | 22.9 (43.3)             | 0.361                           | 0.1 (−0.1; 0.2)           |
| ALT U/L #                       | 26.6 (17.1)         | 24.8 (16.9)             | 0.060                           | 0.1 (0.0; 0.2)            |
| GGT U/L #                       | 44.2 (53.5)         | 32.9 (50.6)             | < 0.001                         | 0.2 (0.1; 0.3)            |
| FLI 0–100 #                     | 60.5 (27.1)         | 44.3 (30.5)             | < 0.001                         | 0.5 (0.4; 0.7)            |
| Creatinine mg/dL <sup>f</sup>   | 1.02 (0.48)         | 0.83 (0.28)             | < 0.001                         | 0.7 (0.5; 0.8)            |
| eGFR mL/min/1.73 m <sup>2</sup> | 72.5 (20.6)         | 91.5 (20.1)             | < 0.001                         | −0.9 (−1.1; −0.8)         |
| uACR mg/g <sup>g</sup>          | 39.4 (139.7)        | 15.2 (53.1)             | < 0.001                         | 0.4 (0.3; 0.5)            |

CHD: coronary heart disease; CI: confidence interval; Cohen's *d*: effect size of standardised mean difference according to the proximity to the following absolute *d*-values: 0.2 small; 0.5 medium; 0.8 large; *p*: *p*-value of the difference in means; SD: standard deviation.

AIP: atherogenic index of plasma; ALT: alanine aminotransferase (# No. with CHD: 317, without CHD: 6105); AST: aspartate aminotransferase (# No. with CHD: 243, without CHD: 4578); BMI: body mass index; BRI: body roundness index; BSI: body shape index; CUN-BAE: according to its acronym in Spanish, *Clínica Universitaria de Navarra* - Body Adiposity Estimator; DBP: diastolic blood pressure; eGFR: estimated glomerular filtration rate; FPG: fasting plasma glucose; FLI: fatty liver index (# No. with CHD: 299, without CHD: 5809); GGT: gamma-glutamyl transferase (# No. with CHD: 299, without CHD: 5809); HbA1c: glycated haemoglobin A1c (# No. with CHD: 290, without CHD: 4943); HDL-c: high-density lipoprotein cholesterol; LAP: lipid accumulation product index; LDL-c: low-density lipoprotein cholesterol (# No. with CHD: 318, without CHD: 6208); SBP: systolic blood pressure; SUA: serum uric acid (# No. with CHD: 315, without CHD: 6174); TC: total cholesterol; TG: triglyceride; TyG: triglyceride-glucose index; uACR: urine albumin-creatinine ratio; VAI: visceral adiposity index; WC: waist circumference; WtHR: waist-to-height ratio.

<sup>a</sup> To convert from mg/dL to mmol/L, multiply by 0.05556

<sup>b</sup> To convert from % (DCCT) to mmol/mol (IFCC), subtract 2.15 and multiply by 10.929

<sup>c</sup> To convert from mg/dL to mmol/L, multiply by 0.02586

<sup>d</sup> To convert from mg/dL to mmol/L, multiply by 0.01129

<sup>e</sup> To convert from mg/dL to mmol/L, multiply by 0.05948

<sup>f</sup> To convert from mg/dL to mmol/L, multiply by 0.08842

<sup>g</sup> To convert from mg/g to mg/mmol, multiply by 0.01131

**Table S4.** Quantitative clinical variables in populations with and without Stroke

|                                 | With stroke  | Without stroke | With stroke vs. |                           |
|---------------------------------|--------------|----------------|-----------------|---------------------------|
|                                 | No. 250      | No. 6338       | without stroke  |                           |
|                                 | Mean (SD)    | Mean (SD)      | <i>p</i>        | Cohen's <i>d</i> (95% CI) |
| Age yr                          | 73.3 (13.4)  | 54.4 (17.3)    | < 0.001         | 1.1 (1.0; 1.2)            |
| Male age yr                     | 71.2 (13.2)  | 54.5 (16.6)    | < 0.001         | 1.0 (0.8; 1.2)            |
| Female age yr                   | 75.5 (13.3)  | 54.4 (17.8)    | < 0.001         | 1.2 (1.0; 1.4)            |
| BMI kg/m <sup>2</sup>           | 29.0 (5.1)   | 27.5 (5.1)     | < 0.001         | 0.3 (0.2; 0.4)            |
| WC cm                           | 97.8 (12.9)  | 93.2 (14.1)    | < 0.001         | 0.3 (0.2; 0.5)            |
| WtHR                            | 0.61 (0.08)  | 0.57 (0.09)    | < 0.001         | 0.5 (0.3; 0.6)            |
| CUN-BAE adiposity               | 37.8 (8.1)   | 34.6 (8.7)     | < 0.001         | 0.4 (0.2; 0.5)            |
| VAI                             | 1.93 (1.40)  | 1.78 (1.70)    | 0.163           | 0.1 (0.0; 0.2)            |
| BSI                             | 0.082 (0.01) | 0.080 (0.01)   | < 0.001         | 0.2 (0.1; 0.3)            |
| BRI                             | 5.79 (1.90)  | 4.89 (1.97)    | < 0.001         | 0.5 (0.3; 0.6)            |
| LAP index                       | 53.2 (39.4)  | 46.2 (40.7)    | 0.008           | 0.2 (0.0; 0.3)            |
| SBP mmHg                        | 128.1 (15.3) | 121.7 (15.4)   | < 0.001         | 0.4 (0.3; 0.5)            |
| DBP mmHg                        | 74.1 (9.7)   | 73.3 (9.8)     | 0.208           | 0.1 (0.0; 0.2)            |
| FPG mg/dL <sup>a</sup>          | 104.7 (27.6) | 95.7 (25.8)    | < 0.001         | 0.4 (0.2; 0.5)            |
| HbA1c % <sup>b</sup> #          | 5.98 (0.96)  | 5.62 (0.89)    | < 0.001         | 0.4 (0.3; 0.5)            |
| TC mg/dL <sup>c</sup>           | 180.6 (41.1) | 193.3 (39.2)   | < 0.001         | -0.3 (-0.5; -0.2)         |
| HDL-c mg/dL <sup>c</sup>        | 52.1 (13.7)  | 54.9 (14.7)    | 0.002           | -0.2 (-0.3; -0.1)         |
| LDL-c mg/dL # <sup>c</sup>      | 103.8 (35.4) | 114.6 (34.4)   | < 0.001         | -0.3 (-0.4; -0.2)         |
| TG mg/dL <sup>d</sup>           | 125.5 (71.5) | 120.3 (83.6)   | 0.336           | 0.1 (-0.1; 0.2)           |
| TG/HDL-c                        | 2.70 (2.02)  | 2.52 (2.57)    | 0.276           | 0.1 (-0.1; 0.2)           |
| AIP                             | -0.02 (0.27) | -0.07 (0.29)   | 0.006           | 0.2 (0.1; 0.3)            |
| TyG index                       | 8.64 (0.59)  | 8.49 (0.61)    | < 0.001         | 0.3 (0.1; 0.4)            |
| SUA mg/dL # <sup>e</sup>        | 5.44 (1.59)  | 4.95 (1.47)    | < 0.001         | 0.3 (0.2; 0.5)            |
| AST U/L #                       | 21.5 (12.4)  | 23.1 (43.9)    | 0.609           | 0.0 (-0.2; 0.1)           |
| ALT U/L #                       | 24.0 (24.4)  | 24.9 (16.6)    | 0.427           | -0.1 (-0.2; 0.1)          |
| GGT U/L #                       | 39.8 (48.0)  | 33.2 (50.9)    | 0.048           | 0.1 (0.0; 0.3)            |
| FLI 0-100 #                     | 55.3 (27.0)  | 44.7 (30.6)    | < 0.001         | 0.4 (0.2; 0.5)            |
| Creatinine mg/dL <sup>f</sup>   | 0.93 (0.30)  | 0.84 (0.29)    | < 0.001         | 0.3 (0.2; 0.4)            |
| eGFR mL/min/1.73 m <sup>2</sup> | 74.4 (21.0)  | 91.2 (20.3)    | < 0.001         | -0.8 (-1.0; -0.7)         |
| uACR mg/g <sup>g</sup>          | 37.2 (119.6) | 15.6 (56.7)    | < 0.001         | 0.4 (0.2; 0.5)            |

CI: confidence interval; Cohen's *d*; effect size of standardised mean difference according to the proximity to the following absolute *d*-values: 0.2 small; 0.5 medium; 0.8 large; *p*: *p*-value of the difference in means; SD: standard deviation.

AIP: atherogenic index of plasma; ALT: alanine aminotransferase (# No. with stroke: 246, without stroke: 6176); AST: aspartate aminotransferase (# No. with stroke: 187, without stroke: 4634); BMI: body mass index; BRI: body roundness index; BSI: body shape index; CHD: coronary heart disease; CUN-BAE: according to its acronym in Spanish, *Clínica Universitaria de Navarra* - Body Adiposity Estimator; DBP: diastolic blood pressure; eGFR: estimated glomerular filtration rate; FPG: fasting plasma glucose; FLI: fatty liver index (# No. with stroke: 237, without stroke: 5871); GGT: gamma-glutamyl transferase (# No. with stroke: 237, without stroke: 5871); HbA1c: glycated haemoglobin A1c (# No. with stroke: 229, without stroke: 5004); HDL-c: high-density lipoprotein cholesterol; LAP: lipid accumulation product index; LDL-c: low-density lipoprotein cholesterol (# No. with stroke: 248, without stroke: 6278); SBP: systolic blood pressure; SUA: serum uric acid (# No. with stroke: 247, without stroke: 6242); TC: total cholesterol; TG: triglyceride; TyG: triglyceride-glucose index; uACR: urine albumin-creatinine ratio; VAI: visceral adiposity index; WC: waist circumference; WtHR: waist-to-height ratio.

<sup>a</sup> To convert from mg/dL to mmol/L, multiply by 0.05556

<sup>b</sup> To convert from % (DCCT) to mmol/mol (IFCC), subtract 2.15 and multiply by 10.929

<sup>c</sup> To convert from mg/dL to mmol/L, multiply by 0.02586

<sup>d</sup> To convert from mg/dL to mmol/L, multiply by 0.01129

<sup>e</sup> To convert from mg/dL to mmol/L, multiply by 0.05948

<sup>f</sup> To convert from mg/dL to mmol/L, multiply by 0.08842

<sup>g</sup> To convert from mg/g to mg/mmol, multiply by 0.01131

**Table S5.** Quantitative clinical variables in populations with and without PAD

|                                 | With PAD     | Without PAD  | With PAD <i>vs.</i><br>without PAD |                           |
|---------------------------------|--------------|--------------|------------------------------------|---------------------------|
|                                 | No. 150      | No. 6438     |                                    |                           |
|                                 | Mean (SD)    | Mean (SD)    | <i>p</i>                           | Cohen's <i>d</i> (95% CI) |
| Age yr                          | 72.6 (12.1)  | 54.7 (17.4)  | < 0.001                            | 1.0 (0.9; 1.2)            |
| Male age yr                     | 71.6 (11.1)  | 54.7 (16.4)  | < 0.001                            | 1.0 (0.9; 1.2)            |
| Female age yr                   | 74.4 (13.6)  | 54.8 (17.9)  | < 0.001                            | 1.1 (0.8; 1.4)            |
| BMI kg/m <sup>2</sup>           | 28.7 (4.7)   | 27.5 (5.2)   | 0.004                              | 0.2 (0.1; 0.4)            |
| WC cm                           | 98.2 (12.4)  | 93.2 (14.1)  | < 0.001                            | 0.4 (0.2; 0.5)            |
| WtHR                            | 0.61 (0.08)  | 0.57 (0.09)  | < 0.001                            | 0.5 (0.3; 0.6)            |
| CUN-BAE adiposity               | 36.1 (7.7)   | 34.7 (8.7)   | 0.048                              | 0.2 (0.0; 0.3)            |
| VAI                             | 1.94 (1.27)  | 1.78 (1.70)  | 0.253                              | 0.1 (−0.1; 0.3)           |
| BSI                             | 0.082 (0.01) | 0.080 (0.01) | < 0.001                            | 0.2 (0.1; 0.3)            |
| BRI                             | 5.66 (1.78)  | 4.90 (1.97)  | < 0.001                            | 0.4 (0.2; 0.6)            |
| LAP index                       | 53.7 (34.4)  | 46.3 (40.8)  | 0.026                              | 0.2 (0.0; 0.3)            |
| SBP mmHg                        | 128.3 (15.2) | 121.8 (15.4) | < 0.001                            | 0.4 (0.3; 0.6)            |
| DBP mmHg                        | 73.0 (9.0)   | 73.3 (9.8)   | 0.680                              | 0.0 (−0.2; 0.1)           |
| FPG mg/dL <sup>a</sup>          | 107.6 (33.3) | 95.8 (25.7)  | < 0.001                            | 0.5 (0.3; 0.6)            |
| HbA1c % <sup>b</sup> #          | 6.18 (0.98)  | 5.62 (0.89)  | < 0.001                            | 0.6 (0.5; 0.8)            |
| TC mg/dL <sup>c</sup>           | 170.1 (39.3) | 193.3 (39.2) | < 0.001                            | −0.6 (−0.8; −0.4)         |
| HDL-c mg/dL <sup>c</sup>        | 50.5 (13.5)  | 54.9 (14.7)  | < 0.001                            | −0.3 (−0.5; −0.1)         |
| LDL-c mg/dL # <sup>c</sup>      | 93.2 (31.9)  | 114.6 (34.4) | < 0.001                            | −0.6 (−0.8; −0.5)         |
| TG mg/dL <sup>d</sup>           | 131.3 (69.2) | 120.3 (83.5) | 0.107                              | 0.1 (0.0; 0.3)            |
| TG/HDL-c                        | 2.86 (1.92)  | 2.52 (2.57)  | 0.112                              | 0.1 (0.0; 0.3)            |
| AIP                             | 0.02 (0.25)  | −0.07 (0.29) | < 0.001                            | 0.3 (0.2; 0.5)            |
| TyG index                       | 8.71 (0.60)  | 8.49 (0.60)  | < 0.001                            | 0.3 (0.3; 0.4)            |
| SUA mg/dL # <sup>e</sup>        | 5.51 (1.49)  | 4.95 (1.48)  | < 0.001                            | 0.4 (0.2; 0.5)            |
| AST U/L #                       | 22.2 (17.9)  | 23.1 (43.6)  | 0.837                              | 0.0 (−0.2; 0.2)           |
| ALT U/L #                       | 26.3 (17.9)  | 24.8 (16.9)  | 0.313                              | 0.1 (−0.1; 0.3)           |
| GGT U/L #                       | 43.7 (43.6)  | 33.2 (50.9)  | 0.014                              | 0.2 (0.0; 0.4)            |
| FLI 0–100 #                     | 57.8 (26.5)  | 44.8 (30.6)  | < 0.001                            | 0.4 (0.3; 0.6)            |
| Creatinine mg/dL <sup>f</sup>   | 1.07 (0.65)  | 0.84 (0.28)  | < 0.001                            | 0.8 (0.6; 1.0)            |
| eGFR mL/min/1.73 m <sup>2</sup> | 70.0 (21.5)  | 91.0 (20.3)  | < 0.001                            | −1.0 (−1.2; −0.9)         |
| uACR mg/g <sup>g</sup>          | 53.0 (124.0) | 15.6 (57.9)  | < 0.001                            | 0.6 (0.5; 0.8)            |

PAD: peripheral arterial disease; CI: confidence interval; Cohen's *d*: effect size of standardised mean difference according to the proximity to the following absolute *d*-values: 0.2 small; 0.5 medium; 0.8 large; *p*: *p*-value of the difference in means; SD: standard deviation.

AIP: atherogenic index of plasma; ALT: alanine aminotransferase (# No. with PAD: 148, without PAD: 6274); AST: aspartate aminotransferase (# No. with PAD: 109, without PAD: 4712); BMI: body mass index; BRI: body roundness index; BSI: body shape index; CHD: coronary heart disease; CUN-BAE: according to its acronym in Spanish, *Clínica Universitaria de Navarra* - Body Adiposity Estimator; DBP: diastolic blood pressure; eGFR: estimated glomerular filtration rate; FPG: fasting plasma glucose; FLI: fatty liver index (# No. with PAD: 144, without PAD: 5964); GGT: gamma-glutamyl transferase (# No. with PAD: 144, without PAD: 5964); HbA1c: glycated haemoglobin A1c (# No. with PAD: 139, without PAD: 5094); HDL-c: high-density lipoprotein cholesterol; LAP: lipid accumulation product index; LDL-c: low-density lipoprotein cholesterol (# No. with PAD: 149, without PAD: 6377); SBP: systolic blood pressure; SUA: serum uric acid (# No. with PAD: 148, without PAD: 6341); TC: total cholesterol; TG: triglyceride; TyG: triglyceride-glucose index; uACR: urine albumin-creatinine ratio; VAI: visceral adiposity index; WC: waist circumference; WtHR: waist-to-height ratio.

<sup>a</sup> To convert from mg/dL to mmol/L, multiply by 0.05556

<sup>b</sup> To convert from % (DCCT) to mmol/mol (IFCC), subtract 2.15 and multiply by 10.929

<sup>c</sup> To convert from mg/dL to mmol/L, multiply by 0.02586

<sup>d</sup> To convert from mg/dL to mmol/L, multiply by 0.01129

<sup>e</sup> To convert from mg/dL to mmol/L, multiply by 0.05948

<sup>f</sup> To convert from mg/dL to mmol/L, multiply by 0.08842

<sup>g</sup> To convert from mg/g to mg/mmol, multiply by 0.01131

**Table S6.** Quantitative clinical variables in populations with and without ASCVD

|                                 | With ASCVD   | Without ASCVD | With ASCVD vs.<br>without ASCVD |                           |
|---------------------------------|--------------|---------------|---------------------------------|---------------------------|
|                                 | No. 615      | No. 5973      |                                 |                           |
|                                 | Mean (SD)    | Mean (SD)     | <i>p</i>                        | Cohen's <i>d</i> (95% CI) |
| Age yr                          | 72.1 (13.1)  | 53.4 (17.0)   | < 0.001                         | 1.1 (1.0; 1.2)            |
| Male age yr                     | 70.2 (12.4)  | 53.1 (16.3)   | < 0.001                         | 1.1 (1.0; 1.2)            |
| Female age yr                   | 74.9 (13.5)  | 53.7 (17.5)   | < 0.001                         | 1.2 (1.1; 1.4)            |
| BMI kg/m <sup>2</sup>           | 29.2 (5.2)   | 27.3 (5.1)    | < 0.001                         | 0.4 (0.3; 0.5)            |
| WC cm                           | 99.0 (13.2)  | 92.8 (14.0)   | < 0.001                         | 0.5 (0.4; 0.5)            |
| WtHR                            | 0.61 (0.08)  | 0.57 (0.09)   | < 0.001                         | 0.5 (0.4; 0.6)            |
| CUN-BAE adiposity               | 36.8 (8.0)   | 34.5 (8.7)    | < 0.001                         | 0.3 (0.2; 0.4)            |
| VAI                             | 1.97 (1.45)  | 1.77 (1.71)   | 0.006                           | 0.1 (0.0; 0.2)            |
| BSI                             | 0.082 (0.01) | 0.080 (0.01)  | < 0.001                         | 0.2 (0.1; 0.3)            |
| BRI                             | 5.82 (1.94)  | 4.83 (1.95)   | < 0.001                         | 0.5 (0.4; 0.6)            |
| LAP index                       | 55.4 (41.7)  | 45.5 (40.5)   | < 0.001                         | 0.2 (0.2; 0.3)            |
| SBP mmHg                        | 127.5 (15.3) | 121.3 (15.3)  | < 0.001                         | 0.4 (0.3; 0.5)            |
| DBP mmHg                        | 73.7 (9.6)   | 73.3 (9.8)    | 0.319                           | 0.0 (0.0; 0.1)            |
| FPG mg/dL <sup>a</sup>          | 108.0 (32.0) | 94.8 (24.9)   | < 0.001                         | 0.5 (0.4; 0.6)            |
| HbA1c % <sup>b</sup> #          | 6.11 (1.02)  | 5.58 (0.87)   | < 0.001                         | 0.6 (0.5; 0.7)            |
| TC mg/dL <sup>c</sup>           | 173.0 (40.1) | 194.8 (38.7)  | < 0.001                         | -0.6 (-0.6; -0.5)         |
| HDL-c mg/dL <sup>c</sup>        | 51.0 (14.1)  | 55.2 (14.7)   | < 0.001                         | -0.3 (-0.4; -0.2)         |
| LDL-c mg/dL # <sup>c</sup>      | 96.5 (34.0)  | 116.0 (34.0)  | < 0.001                         | -0.6 (-0.7; -0.5)         |
| TG mg/dL <sup>d</sup>           | 128.6 (72.7) | 119.7 (84.2)  | 0.012                           | 0.1 (0.0; 0.2)            |
| TG/HDL-c                        | 2.87 (2.19)  | 2.49 (2.59)   | 0.001                           | 0.2 (0.1; 0.2)            |
| AIP                             | 0.00 (0.28)  | -0.07 (0.29)  | < 0.001                         | 0.2 (0.2; 0.3)            |
| TyG index                       | 8.69 (0.60)  | 8.47 (0.60)   | < 0.001                         | 0.4 (0.3; 0.5)            |
| SUA mg/dL # <sup>e</sup>        | 5.48 (1.56)  | 4.91 (1.46)   | < 0.001                         | 0.4 (0.3; 0.5)            |
| AST U/L #                       | 24.2 (31.4)  | 23.0 (44.2)   | 0.566                           | 0.0 (0.0; 0.1)            |
| ALT U/L #                       | 26.2 (21.3)  | 24.7 (16.4)   | 0.045                           | 0.1 (0.0; 0.2)            |
| GGT U/L #                       | 41.6 (48.5)  | 32.6 (50.9)   | < 0.001                         | 0.2 (0.1; 0.3)            |
| FLI 0-100 #                     | 57.7 (27.3)  | 43.8 (30.5)   | < 0.001                         | 0.5 (0.4; 0.6)            |
| Creatinine mg/dL <sup>f</sup>   | 0.98 (0.44)  | 0.83 (0.27)   | < 0.001                         | 0.5 (0.4; 0.6)            |
| eGFR mL/min/1.73 m <sup>2</sup> | 73.7 (20.7)  | 92.3 (19.7)   | < 0.001                         | -0.9 (-1.0; -0.9)         |
| uACR mg/g <sup>g</sup>          | 40.1 (129.5) | 14.0 (47.3)   | < 0.001                         | 0.4 (0.4; 0.5)            |

ASCVD: atherosclerotic cardiovascular disease; CI: confidence interval; Cohen's *d*: effect size of standardised mean difference according to the proximity to the following absolute *d*-values: 0.2 small; 0.5 medium; 0.8 large; *p*: *p*-value of the difference in means; SD: standard deviation.

AIP: atherogenic index of plasma; ALT: alanine aminotransferase (# No. with ASCVD: 605, without ASCVD: 5817); AST: aspartate aminotransferase (# No. with ASCVD: 462, without ASCVD: 4359); BMI: body mass index; BRI: body roundness index; BSI: body shape index; CUN-BAE: according to its acronym in Spanish, *Clínica Universitaria de Navarra* - Body Adiposity Estimator; DBP: diastolic blood pressure; eGFR: estimated glomerular filtration rate; FPG: fasting plasma glucose; FLI: fatty liver index (# No. with ASCVD: 580, without ASCVD: 5528); GGT: gamma-glutamyl transferase (# No. with ASCVD: 580, without ASCVD: 5528); HbA1c: glycated haemoglobin A1c (# No. with ASCVD: 558, without ASCVD: 4675); HDL-c: high-density lipoprotein cholesterol; LAP: lipid accumulation product index; LDL-c: low-density lipoprotein cholesterol (# No. with ASCVD: 609, without ASCVD: 5917); SBP: systolic blood pressure; SUA: serum uric acid (# No. with ASCVD: 605, without ASCVD: 5884); TC: total cholesterol; TG: triglyceride; TyG: triglyceride-glucose index; uACR: urine albumin-creatinine ratio; VAI: visceral adiposity index; WC: waist circumference; WtHR: waist-to-height ratio.

<sup>a</sup> To convert from mg/dL to mmol/L, multiply by 0.05556

<sup>b</sup> To convert from % (DCCT) to mmol/mol (IFCC), subtract 2.15 and multiply by 10.929

<sup>c</sup> To convert from mg/dL to mmol/L, multiply by 0.02586

<sup>d</sup> To convert from mg/dL to mmol/L, multiply by 0.01129

<sup>e</sup> To convert from mg/dL to mmol/L, multiply by 0.05948

<sup>f</sup> To convert from mg/dL to mmol/L, multiply by 0.08842

<sup>g</sup> To convert from mg/g to mg/mmol, multiply by 0.01131

**Table S7.** Diseases and medical conditions in populations with and without CHD

|                                          | With CHD          | Without CHD        | With CHD <i>vs.</i><br>without CHD |                  |
|------------------------------------------|-------------------|--------------------|------------------------------------|------------------|
|                                          | N= 321<br>No. (%) | N= 6267<br>No. (%) | <i>p</i>                           | OR (95% CI)      |
| Male                                     | 213 (66.4)        | 2691 (42.9)        | < 0.001                            | 2.6 (2.1–3.3)    |
| Current smoking                          | 43 (13.4)         | 1383 (22.1)        | < 0.001                            | 0.6 (0.4–0.8)    |
| Alcoholism                               | 30 (9.3)          | 580 (9.3)          | 0.956                              | 1.0 (0.7–1.5)    |
| Physical inactivity                      | 159 (49.5)        | 2920 (46.6)        | 0.303                              | 1.1 (0.9–1.4)    |
| Overweight                               | 124 (38.6)        | 2392 (38.2)        | 0.868                              | 1.0 (0.8–1.3)    |
| Obesity                                  | 136 (42.4)        | 1697 (27.1)        | < 0.001                            | 2.0 (1.6–2.5)    |
| Abdominal obesity                        | 187 (58.3)        | 2735 (43.6)        | < 0.001                            | 1.8 (1.4–2.3)    |
| High-WtHR                                | 187 (58.3)        | 2174 (34.7)        | < 0.001                            | 2.6 (2.1–3.3)    |
| CUN-BAE excess adiposity                 | 302 (94.1)        | 4530 (72.3)        | < 0.001                            | 6.1 (3.8–9.7)    |
| High-VAI                                 | 71 (22.1)         | 1045 (16.7)        | 0.011                              | 1.4 (1.1–1.9)    |
| High-BSI                                 | 151 (47.0)        | 2018 (32.2)        | < 0.001                            | 1.9 (1.5–2.3)    |
| High-BRI                                 | 163 (50.8)        | 1791 (28.6)        | < 0.001                            | 2.6 (2.1–3.2)    |
| High-LAP index                           | 124 (38.6)        | 1687 (26.9)        | < 0.001                            | 1.7 (1.4–2.2)    |
| Prediabetes                              | 93 (29.0)         | 1356 (21.6)        | 0.002                              | 1.5 (1.2–1.9)    |
| Diabetes                                 | 137 (42.7)        | 899 (14.3)         | < 0.001                            | 4.4 (3.5–5.6)    |
| Hypertension                             | 299 (93.1)        | 2387 (38.1)        | < 0.001                            | 22.1 (14.3–34.2) |
| Hypercholesterolaemia                    | 296 (92.2)        | 3836 (61.2)        | < 0.001                            | 7.5 (5.0–11.3)   |
| Low HDL-c                                | 136 (42.4)        | 1683 (26.9)        | < 0.001                            | 2.0 (1.6–2.5)    |
| Hypertriglyceridaemia                    | 136 (42.4)        | 1811 (28.9)        | < 0.001                            | 1.8 (1.4–2.3)    |
| Atherogenic dyslipidaemia                | 80 (24.9)         | 861 (13.7)         | < 0.001                            | 2.1 (1.6–2.7)    |
| High-AIP                                 | 59 (18.4)         | 917 (14.6)         | 0.065                              | 1.3 (1.0–1.8)    |
| High-TyG index                           | 146 (45.5)        | 1926 (30.7)        | < 0.001                            | 1.9 (1.5–2.4)    |
| Metabolic syndrome                       | 296 (92.2)        | 2555 (40.8)        | < 0.001                            | 17.2 (11.4–26.0) |
| Fatty liver index $\geq 60$ <sup>a</sup> | 160 (53.5)        | 1990 (34.3)        | < 0.001                            | 2.2 (1.7–2.8)    |
| Hyperuricaemia <sup>b</sup>              | 60 (19.0)         | 680 (11.0)         | < 0.001                            | 1.9 (1.4–2.5)    |
| Stroke                                   | 48 (15.0)         | 202 (3.2)          | < 0.001                            | 5.3 (3.8–7.4)    |
| Peripheral arterial disease              | 37 (11.5)         | 115 (1.8)          | < 0.001                            | 7.0 (4.7–10.3)   |
| Erectile dysfunction <sup>c</sup>        | 124 (58.2)        | 380 (14.1)         | < 0.001                            | 8.5 (6.3–11.4)   |
| Heart failure                            | 55 (17.1)         | 129 (2.1)          | < 0.001                            | 9.8 (7.0–13.8)   |
| Atrial fibrillation                      | 43 (13.4)         | 207 (3.3)          | < 0.001                            | 4.5 (3.2–6.4)    |
| Albuminuria                              | 56 (17.4)         | 338 (5.4)          | < 0.001                            | 3.7 (2.7–5.0)    |
| Low eGFR                                 | 88 (27.4)         | 436 (7.0)          | < 0.001                            | 5.1 (3.9–6.6)    |
| CKD                                      | 107 (33.3)        | 649 (10.4)         | < 0.001                            | 4.3 (3.4–5.5)    |
| CKD low risk                             | 214 (66.7)        | 5618 (89.6)        | < 0.001                            | 0.2 (0.2–0.3)    |
| CKD moderate risk                        | 54 (16.8)         | 436 (7.0)          | < 0.001                            | 2.7 (2.0–3.7)    |
| CKD high risk                            | 32 (10.0)         | 132 (2.1)          | < 0.001                            | 5.1 (3.4–7.7)    |
| CKD very high risk                       | 21 (6.5)          | 81 (1.3)           | < 0.001                            | 5.3 (3.3–8.8)    |
| LLT                                      | 271 (84.4)        | 1581 (25.2)        | < 0.001                            | 16.1 (11.8–21.8) |
| BPLT                                     | 289 (90.0)        | 2050 (32.7)        | < 0.001                            | 18.6 (12.8–26.9) |
| GLT                                      | 111 (34.6)        | 736 (11.7)         | < 0.001                            | 4.0 (3.1–5.1)    |

CHD: coronary heart disease; No. (%): cases number (percentage); CI: confidence interval; OR: odds ratio; *p*: *p*-value of the difference in percentage. <sup>a</sup> N= 299 with CHD, 5809 without CHD; <sup>b</sup> N= 315 with CHD, 6174 without CHD; <sup>c</sup> N= 213 with CHD, 2691 without CHD.

AIP: atherogenic index of plasma; BPLT: blood pressure-lowering drug therapy; BRI: body roundness index; BSI: body shape index; CKD: chronic kidney disease; CUN-BAE: according to its acronym in Spanish, *Clínica Universitaria de Navarra* - Body Adiposity Estimator; eGFR: estimated glomerular filtration rate; GLT: glycaemic-lowering drug therapy; HDL-c: high-density lipoprotein cholesterol; LAP: lipid accumulation product index; LLT: lipid-lowering drug therapy; TyG: triglyceride-glucose index; VAI: visceral adiposity index. The definitions of diseases or medical conditions are shown in Table S1 (Supplementary Materials).

**Table S8.** Diseases and medical conditions in populations with and without Stroke

|                                          | With stroke       | Without stroke     | With stroke <i>vs.</i><br>without stroke |                |
|------------------------------------------|-------------------|--------------------|------------------------------------------|----------------|
|                                          | N= 250<br>No. (%) | N= 6338<br>No. (%) | <i>p</i>                                 | OR (95% CI)    |
| Male                                     | 128 (51.2)        | 2776 (43.8)        | 0.021                                    | 1.3 (1.0–1.7)  |
| Current smoking                          | 38 (15.2)         | 1388 (21.9)        | 0.012                                    | 0.6 (0.5–0.9)  |
| Alcoholism                               | 18 (7.2)          | 592 (9.3)          | 0.252                                    | 0.8 (0.5–1.2)  |
| Physical inactivity                      | 137 (54.8)        | 2942 (46.4)        | 0.009                                    | 1.4 (1.1–1.8)  |
| Overweight                               | 95 (38.0)         | 2421 (38.2)        | 0.950                                    | 1.0 (0.8–1.3)  |
| Obesity                                  | 101 (40.4)        | 1732 (27.3)        | < 0.001                                  | 1.8 (1.4–2.3)  |
| Abdominal obesity                        | 149 (59.6)        | 2773 (43.8)        | < 0.001                                  | 1.9 (1.5–2.5)  |
| High-WtHR                                | 141 (56.4)        | 2220 (35.0)        | < 0.001                                  | 2.4 (1.9–3.1)  |
| CUN-BAE excess adiposity                 | 234 (93.6)        | 4598 (72.5)        | < 0.001                                  | 5.5 (3.3–9.2)  |
| High-VAI                                 | 55 (22.0)         | 1061 (16.7)        | 0.030                                    | 1.4 (1.0–1.9)  |
| High-BSI                                 | 114 (45.6)        | 2055 (32.4)        | < 0.001                                  | 1.7 (1.4–2.3)  |
| High-BRI                                 | 130 (52.0)        | 1824 (28.8)        | < 0.001                                  | 2.7 (2.1–3.5)  |
| High-LAP index                           | 89 (35.6)         | 1722 (27.2)        | 0.003                                    | 1.5 (1.1–1.9)  |
| Prediabetes                              | 77 (30.8)         | 1372 (21.6)        | 0.001                                    | 1.6 (1.2–2.1)  |
| Diabetes                                 | 89 (35.6)         | 947 (14.9)         | < 0.001                                  | 3.1 (2.4–4.1)  |
| Hypertension                             | 208 (83.2)        | 2478 (39.1)        | < 0.001                                  | 7.7 (5.5–10.8) |
| Hypercholesterolaemia                    | 218 (87.2)        | 3914 (61.8)        | < 0.001                                  | 4.2 (2.9–6.1)  |
| Low HDL-c                                | 93 (37.2)         | 1726 (27.2)        | 0.001                                    | 1.6 (1.2–2.1)  |
| Hypertriglyceridaemia                    | 99 (39.6)         | 1848 (29.2)        | < 0.001                                  | 1.6 (1.2–2.1)  |
| Atherogenic dyslipidaemia                | 53 (21.2)         | 888 (14.0)         | 0.001                                    | 1.7 (1.2–2.3)  |
| High-AIP                                 | 44 (17.6)         | 932 (14.7)         | 0.206                                    | 1.2 (0.9–1.7)  |
| High-TyG index                           | 98 (39.2)         | 1974 (31.1)        | 0.007                                    | 1.4 (1.1–1.8)  |
| Metabolic syndrome                       | 202 (80.8)        | 2649 (41.8)        | < 0.001                                  | 5.9 (4.3–8.1)  |
| Fatty liver index $\geq 60$ <sup>a</sup> | 113 (47.7)        | 2037 (34.7)        | < 0.001                                  | 1.7 (1.3–2.2)  |
| Hyperuricaemia <sup>b</sup>              | 46 (18.6)         | 694 (11.1)         | < 0.001                                  | 1.8 (1.3–2.5)  |
| Coronary heart disease                   | 48 (19.2)         | 273 (4.3)          | < 0.001                                  | 5.3 (3.8–7.4)  |
| Peripheral arterial disease              | 34 (13.6)         | 116 (1.8)          | < 0.001                                  | 8.4 (5.6–12.7) |
| Erectile dysfunction <sup>c</sup>        | 71 (55.5)         | 433 (15.6)         | < 0.001                                  | 6.7 (4.7–9.7)  |
| Heart failure                            | 40 (16.0)         | 144 (2.3)          | < 0.001                                  | 8.2 (5.6–11.9) |
| Atrial fibrillation                      | 47 (18.8)         | 203 (3.2)          | < 0.001                                  | 7.0 (4.9–9.9)  |
| Albuminuria                              | 44 (17.6)         | 350 (5.5)          | < 0.001                                  | 3.7 (2.6–5.1)  |
| Low eGFR                                 | 65 (26.0)         | 459 (7.2)          | < 0.001                                  | 4.5 (3.3–6.1)  |
| CKD                                      | 82 (32.8)         | 674 (10.6)         | < 0.001                                  | 4.1 (3.1–5.4)  |
| CKD low risk                             | 168 (67.2)        | 5664 (89.4)        | < 0.001                                  | 0.2 (0.2–0.3)  |
| CKD moderate risk                        | 43 (17.2)         | 447 (7.1)          | < 0.001                                  | 2.7 (1.9–3.9)  |
| CKD high risk                            | 21 (8.4)          | 143 (2.3)          | < 0.001                                  | 4.0 (2.5–6.4)  |
| CKD very high risk                       | 18 (7.2)          | 84 (1.3)           | < 0.001                                  | 5.8 (3.4–9.8)  |
| LLT                                      | 176 (70.4)        | 1676 (26.4)        | < 0.001                                  | 6.6 (5.0–8.7)  |
| BPLT                                     | 188 (75.2)        | 2151 (33.9)        | < 0.001                                  | 5.9 (4.4–7.9)  |
| GLT                                      | 75 (30.0)         | 772 (12.2)         | < 0.001                                  | 3.1 (2.3–4.1)  |

No. (%): cases number (percentage); CI: confidence interval; OR: odds ratio; *p*: *p*-value of the difference in percentage. <sup>a</sup> N= 237 with stroke, 5871 without stroke; <sup>b</sup> N= 247 with stroke, 6242 without stroke; <sup>c</sup> N= 128 with stroke, 2776 without stroke.

AIP: atherogenic index of plasma; BPLT: blood pressure-lowering drug therapy; BRI: body roundness index; BSI: body shape index; CKD: chronic kidney disease; CUN-BAE: according to its acronym in Spanish, *Clínica Universitaria de Navarra* - Body Adiposity Estimator; eGFR: estimated glomerular filtration rate; GLT: glycaemic-lowering drug therapy; HDL-c: high-density lipoprotein cholesterol; LAP: lipid accumulation product index; LLT: lipid-lowering drug therapy; TyG: triglyceride-glucose index; VAI: visceral adiposity index; WtHR: waist-to-height ratio. The definitions of diseases or medical conditions are shown in Table S1 (Supplementary Materials).

**Table S9.** Diseases and medical conditions in populations with and without PAD

|                                          | With PAD          | Without PAD        | With PAD <i>vs.</i><br>without PAD |                 |
|------------------------------------------|-------------------|--------------------|------------------------------------|-----------------|
|                                          | N= 150<br>No. (%) | N= 6438<br>No. (%) | <i>p</i>                           | OR (95% CI)     |
| Male                                     | 94 (62.7)         | 2810 (43.6)        | < 0.001                            | 2.2 (1.6–3.0)   |
| Current smoking                          | 29 (19.3)         | 1397 (21.7)        | 0.487                              | 0.9 (0.6–1.3)   |
| Alcoholism                               | 20 (13.3)         | 590 (9.2)          | 0.082                              | 1.5 (1.0–2.5)   |
| Physical inactivity                      | 76 (50.7)         | 3003 (46.6)        | 0.329                              | 1.2 (0.8–1.6)   |
| Overweight                               | 62 (41.3)         | 2454 (38.1)        | 0.423                              | 1.1 (0.8–1.6)   |
| Obesity                                  | 58 (38.7)         | 1775 (27.6)        | 0.003                              | 1.7 (1.2–2.3)   |
| Abdominal obesity                        | 84 (56.0)         | 2838 (44.1)        | 0.004                              | 1.6 (1.2–2.2)   |
| High-WtHR                                | 82 (54.7)         | 2279 (35.4)        | < 0.001                            | 2.2 (1.6–3.0)   |
| CUN-BAE excess adiposity                 | 138 (92.0)        | 4694 (72.9)        | < 0.001                            | 4.3 (2.4–7.7)   |
| High-VAI                                 | 30 (20.0)         | 1086 (16.9)        | 0.312                              | 1.2 (0.8–1.8)   |
| High-BSI                                 | 68 (45.3)         | 2101 (32.6)        | 0.001                              | 1.7 (1.2–2.4)   |
| High-BRI                                 | 68 (45.3)         | 1886 (29.3)        | < 0.001                            | 2.0 (1.4–2.8)   |
| High-LAP index                           | 56 (37.3)         | 1755 (27.3)        | 0.006                              | 1.6 (1.1–2.2)   |
| Prediabetes                              | 35 (23.3)         | 1414 (22.0)        | 0.689                              | 1.1 (0.7–1.6)   |
| Diabetes                                 | 72 (48.0)         | 964 (15.0)         | < 0.001                            | 5.2 (3.8–7.3)   |
| Hypertension                             | 131 (87.3)        | 2555 (39.7)        | < 0.001                            | 10.5 (6.5–17.0) |
| Hypercholesterolaemia                    | 123 (82.0)        | 4009 (62.3)        | < 0.001                            | 2.8 (1.8–4.2)   |
| Low HDL-c                                | 61 (40.7)         | 1758 (27.3)        | < 0.001                            | 1.8 (1.3–2.5)   |
| Hypertriglyceridaemia                    | 68 (45.3)         | 1879 (29.2)        | < 0.001                            | 2.0 (1.5–2.8)   |
| Atherogenic dyslipidaemia                | 38 (25.3)         | 903 (14.0)         | < 0.001                            | 2.1 (1.4–3.0)   |
| High-AIP                                 | 27 (18.0)         | 949 (14.7)         | 0.267                              | 1.3 (0.8–1.9)   |
| High-TyG index                           | 65 (43.3)         | 2007 (31.2)        | 0.002                              | 1.7 (1.2–2.3)   |
| Metabolic syndrome                       | 127 (84.7)        | 2724 (42.3)        | < 0.001                            | 7.5 (4.8–11.8)  |
| Fatty liver index $\geq 60$ <sup>a</sup> | 75 (52.1)         | 2075 (34.8)        | < 0.001                            | 2.0 (1.5–2.8)   |
| Hyperuricaemia <sup>b</sup>              | 33 (22.3)         | 707 (11.1)         | < 0.001                            | 2.3 (1.5–3.4)   |
| Coronary heart disease                   | 37 (24.7)         | 284 (4.4)          | < 0.001                            | 7.1 (4.8–10.5)  |
| Stroke                                   | 34 (22.7)         | 216 (3.4)          | < 0.001                            | 8.4 (5.6–12.7)  |
| Erectile dysfunction <sup>c</sup>        | 69 (73.4)         | 435 (15.5)         | < 0.001                            | 15.1 (9.4–24.1) |
| Heart failure                            | 25 (16.7)         | 159 (2.5)          | < 0.001                            | 7.9 (5.0–12.5)  |
| Atrial fibrillation                      | 22 (14.7)         | 228 (3.5)          | < 0.001                            | 4.7 (2.9–7.5)   |
| Albuminuria                              | 35 (23.3)         | 359 (5.6)          | < 0.001                            | 5.2 (3.5–7.6)   |
| Low eGFR                                 | 48 (32.0)         | 476 (7.4)          | < 0.001                            | 5.9 (4.1–8.4)   |
| CKD                                      | 61 (40.7)         | 695 (10.8)         | < 0.001                            | 5.7 (4.1–7.9)   |
| CKD low risk                             | 89 (59.3)         | 5743 (89.2)        | < 0.001                            | 0.2 (0.1–0.2)   |
| CKD moderate risk                        | 26 (17.3)         | 464 (7.2)          | < 0.001                            | 2.7 (1.8–4.2)   |
| CKD high risk                            | 21 (14.0)         | 143 (2.2)          | < 0.001                            | 7.2 (4.4–11.7)  |
| CKD very high risk                       | 14 (9.3)          | 88 (1.4)           | < 0.001                            | 7.4 (4.1–13.4)  |
| LLT                                      | 107 (71.3)        | 1745 (27.1)        | < 0.001                            | 6.7 (4.7–9.6)   |
| BPLT                                     | 119 (79.3)        | 2220 (34.5)        | < 0.001                            | 7.3 (4.9–10.9)  |
| GLT                                      | 55 (36.7)         | 792 (12.3)         | < 0.001                            | 4.1 (2.9–5.8)   |

PAD: peripheral arterial disease; No. (%): cases number (percentage); CI: confidence interval; OR: odds ratio; *p*: *p*-value of the difference in percentage. <sup>a</sup> N= 144 with PAD, 5964 without PAD; <sup>b</sup> N= 148 with PAD, 6341 without PAD; <sup>c</sup> N= 94 with PAD, 2810 without PAD.

AIP: atherogenic index of plasma; BPLT: blood pressure-lowering drug therapy; BRI: body roundness index; BSI: body shape index;; CKD: chronic kidney disease; CUN-BAE: according to its acronym in Spanish, *Clínica Universitaria de Navarra* - Body Adiposity Estimator; eGFR: estimated glomerular filtration rate; GLT: glycaemic-lowering drug therapy; HDL-c: high-density lipoprotein cholesterol; LAP: lipid accumulation product index; LLT: lipid-lowering drug therapy; TyG: triglyceride-glucose index; VAI: visceral adiposity index; WtHR: waist-to-height ratio. The definitions of diseases or medical conditions are shown in Table S1 (Supplementary Materials).

**Table S10.** Diseases and medical conditions in populations with and without ASCVD

|                                          | With ASCVD        | Without ASCVD      | With vs.<br>without ASCVD |                 |
|------------------------------------------|-------------------|--------------------|---------------------------|-----------------|
|                                          | N= 615<br>No. (%) | N= 5973<br>No. (%) | <i>p</i>                  | OR (95% CI)     |
| Male                                     | 372 (60.5)        | 2532 (42.4)        | < 0.001                   | 2.1 (1.8–2.5)   |
| Current smoking                          | 97 (15.8)         | 1329 (22.3)        | 0.061                     | 0.7 (0.5–0.8)   |
| Alcoholism                               | 58 (9.4)          | 552 (9.2)          | 0.877                     | 1.0 (0.8–1.4)   |
| Physical inactivity                      | 308 (50.1)        | 2771 (46.4)        | 0.081                     | 1.2 (1.0–1.4)   |
| Overweight                               | 244 (39.7)        | 2272 (38.0)        | 0.426                     | 1.1 (0.9–1.3)   |
| Obesity                                  | 245 (39.8)        | 1588 (26.6)        | < 0.001                   | 1.8 (1.5–2.2)   |
| Abdominal obesity                        | 355 (57.7)        | 2567 (43.0)        | < 0.001                   | 1.8 (1.5–2.1)   |
| High-WtHR                                | 348 (56.6)        | 2013 (33.7)        | < 0.001                   | 2.6 (2.2–3.0)   |
| CUN-BAE excess adiposity                 | 573 (93.2)        | 4259 (71.3)        | < 0.001                   | 5.5 (4.0–7.5)   |
| High-VAI                                 | 131 (21.3)        | 985 (16.5)         | 0.002                     | 1.4 (1.1–1.7)   |
| High-BSI                                 | 284 (46.2)        | 1885 (31.6)        | < 0.001                   | 1.9 (1.6–2.2)   |
| High-BRI                                 | 305 (49.6)        | 1649 (27.6)        | < 0.001                   | 2.6 (2.2–3.1)   |
| High-LAP index                           | 228 (37.1)        | 1583 (26.5)        | < 0.001                   | 1.6 (1.4–1.9)   |
| Prediabetes                              | 182 (29.6)        | 1267 (21.2)        | < 0.001                   | 1.6 (1.3–1.9)   |
| Diabetes                                 | 239 (38.9)        | 797 (13.3)         | < 0.001                   | 4.1 (3.5–4.9)   |
| Hypertension                             | 535 (87.0)        | 2151 (36.0)        | < 0.001                   | 11.9 (9.3–15.1) |
| Hypercholesterolaemia                    | 537 (87.3)        | 3595 (60.2)        | < 0.001                   | 4.6 (3.6–5.8)   |
| Low HDL-c                                | 239 (38.9)        | 1580 (26.5)        | < 0.001                   | 1.8 (1.5–2.1)   |
| Hypertriglyceridaemia                    | 250 (40.7)        | 1697 (28.4)        | < 0.001                   | 1.7 (1.5–2.0)   |
| Atherogenic dyslipidaemia                | 136 (22.1)        | 805 (13.5)         | < 0.001                   | 1.8 (1.5–2.2)   |
| High-AIP                                 | 110 (17.9)        | 866 (14.5)         | 0.024                     | 1.3 (1.0–1.6)   |
| High-TyG index                           | 263 (42.8)        | 1809 (30.3)        | < 0.001                   | 1.7 (1.5–2.0)   |
| Metabolic syndrome                       | 526 (85.5)        | 2325 (38.9)        | < 0.001                   | 9.3 (7.4–11.7)  |
| Fatty liver index $\geq 60$ <sup>a</sup> | 290 (50.0)        | 1860 (33.6)        | < 0.001                   | 2.0 (1.9–2.3)   |
| Hyperuricaemia <sup>b</sup>              | 117 (19.3)        | 623 (10.6)         | < 0.001                   | 2.0 (1.6–2.5)   |
| Erectile dysfunction <sup>c</sup>        | 215 (57.8)        | 289 (11.4)         | < 0.001                   | 10.6 (8.4–13.5) |
| Heart failure                            | 87 (14.1)         | 97 (1.6)           | < 0.001                   | 10.0 (7.4–13.5) |
| Atrial fibrillation                      | 84 (13.7)         | 166 (2.8)          | < 0.001                   | 5.5 (4.2–7.3)   |
| Albuminuria                              | 102 (16.6)        | 292 (4.9)          | < 0.001                   | 3.9 (3.0–4.9)   |
| Low eGFR                                 | 155 (25.2)        | 369 (6.2)          | < 0.001                   | 5.1 (4.1–6.3)   |
| CKD                                      | 196 (31.9)        | 560 (9.4)          | < 0.001                   | 4.5 (3.7–5.5)   |
| CKD low risk                             | 419 (68.1)        | 5413 (90.6)        | < 0.001                   | 0.2 (0.2–0.3)   |
| CKD moderate risk                        | 102 (16.6)        | 388 (6.5)          | < 0.001                   | 2.9 (2.3–3.6)   |
| CKD high risk                            | 54 (8.8)          | 110 (1.8)          | < 0.001                   | 5.1 (3.7–7.2)   |
| CKD very high risk                       | 40 (6.5)          | 62 (1.0)           | < 0.001                   | 6.6 (4.4–10.0)  |
| LLT                                      | 461 (75.0)        | 1391 (23.3)        | < 0.001                   | 9.9 (8.1–11.9)  |
| BPLT                                     | 501 (81.5)        | 1838 (30.8)        | < 0.001                   | 9.9 (8.0–12.2)  |
| GLT                                      | 195 (31.7)        | 652 (10.9)         | < 0.001                   | 3.8 (3.1–4.6)   |

ASCVD: atherosclerotic cardiovascular disease; No. (%): cases number (percentage); CI: confidence interval; OR: odds ratio; *p*: *p*-value of the difference in percentage. <sup>a</sup> N= 580 with ASCVD, 5528 without ASCVD; <sup>b</sup> N= 605 with ASCVD, 5884 without ASCVD; <sup>c</sup> N= 372 with ASCVD, 2532 without ASCVD.

AIP: atherogenic index of plasma; BPLT: blood pressure-lowering drug therapy; BRI: body roundness index; BSI: body shape index; CKD: chronic kidney disease; CUN-BAE: according to its acronym in Spanish, *Clínica Universitaria de Navarra* - Body Adiposity Estimator; eGFR: estimated glomerular filtration rate; GLT: glycaemic-lowering drug therapy; HDL-c: high-density lipoprotein cholesterol; LAP: lipid accumulation product index; LLT: lipid-lowering drug therapy; TyG: triglyceride-glucose index; VAI: visceral adiposity index; WtHR: waist-to-height ratio. The definitions of diseases or medical conditions are shown in Table S1 (Supplementary Materials).

**Table S11.** Multivariate analysis of diseases and medical conditions for CHD **(a)**, for Stroke **(b)**, for PAD **(c)**, and for ASCVD **(d)**

|                       | Wald  | $\beta^a$   | OR Exp( $\beta$ ) <sup>b</sup> | $p^c$   |
|-----------------------|-------|-------------|--------------------------------|---------|
| Hypertension          | 105.5 | 2.38 (0.23) | 10.77 (6.84–16.95)             | < 0.001 |
| Hypercholesterolaemia | 37.5  | 1.33 (0.22) | 3.78 (2.47–5.77)               | < 0.001 |
| Heart failure         | 38.9  | 1.18 (0.19) | 3.26 (2.25–4.73)               | < 0.001 |
| Diabetes              | 20.4  | 0.69 (0.15) | 1.99 (1.48–2.69)               | < 0.001 |
| Low eGFR              | 11.5  | 0.51 (0.15) | 1.66 (1.24–2.23)               | 0.001   |
| Low HDL-c             | 8.1   | 0.36 (0.13) | 1.43 (1.12–1.84)               | 0.004   |
| Prediabetes           | 5.8   | 0.38 (0.16) | 1.47 (1.07–2.00)               | 0.016   |

**(a)**

|                       | Wald | $\beta^a$   | OR Exp( $\beta$ ) <sup>b</sup> | $p^c$   |
|-----------------------|------|-------------|--------------------------------|---------|
| Hypertension          | 59.6 | 1.43 (0.19) | 4.20 (2.20–6.04)               | < 0.001 |
| Atrial fibrillation   | 21.3 | 0.94 (0.21) | 2.57 (1.72–3.84)               | < 0.001 |
| Heart failure         | 17.9 | 0.94 (0.21) | 2.55 (1.65–3.94)               | < 0.001 |
| Hypercholesterolaemia | 20.3 | 0.90 (0.20) | 2.45 (1.66–3.61)               | < 0.001 |
| Diabetes              | 12.2 | 0.59 (0.17) | 1.80 (1.29–2.51)               | < 0.001 |
| Prediabetes           | 6.6  | 0.43 (0.17) | 1.54 (1.11–2.14)               | 0.010   |

**(b)**

|               | Wald | $\beta^a$   | OR Exp( $\beta$ ) <sup>b</sup> | $p^c$   |
|---------------|------|-------------|--------------------------------|---------|
| Hypertension  | 55.3 | 1.92 (0.24) | 6.82 (4.11–11.31)              | < 0.001 |
| Heart failure | 24.1 | 1.18 (0.24) | 3.26 (2.03–5.22)               | < 0.001 |
| Diabetes      | 30.3 | 0.97 (0.18) | 2.63 (1.86–3.71)               | < 0.001 |

**(c)**

|                       | Wald  | $\beta^a$   | OR Exp( $\beta$ ) <sup>b</sup> | $p^c$   |
|-----------------------|-------|-------------|--------------------------------|---------|
| Hypertension          | 186.0 | 1.80 (0.13) | 6.05 (4.67–7.84)               | < 0.001 |
| Heart failure         | 34.9  | 1.06 (0.18) | 2.90 (2.04–4.12)               | < 0.001 |
| Hypercholesterolaemia | 47.7  | 0.92 (0.13) | 2.50 (1.93–3.24)               | < 0.001 |
| Diabetes              | 41.0  | 0.75 (0.12) | 2.11 (1.68–2.65)               | < 0.001 |
| Low eGFR              | 24.1  | 0.59 (0.12) | 1.81 (1.43–2.29)               | < 0.001 |
| Atrial fibrillation   | 6.7   | 0.44 (0.17) | 1.55 (1.11–2.15)               | 0.010   |
| Prediabetes           | 13.6  | 0.43 (0.12) | 1.54 (1.22–1.93)               | < 0.001 |
| Low HDL-c             | 5.8   | 0.24 (0.10) | 1.27 (1.05–1.54)               | 0.016   |

**(d)**

<sup>a</sup>  $\beta$  coefficient ( $\pm$  deviation); <sup>b</sup> OR Exp ( $\beta$ ): odds-ratio (95% confidence interval); <sup>c</sup>  $p$ :  $p$ -value of Wald test with one degree of freedom. ASCVD: atherosclerotic cardiovascular disease; CHD: coronary heart disease; eGFR: estimated glomerular filtration rate; HDL-c: high-density lipoprotein cholesterol; PAD: peripheral arterial disease. Definitions of the diseases and clinical conditions are shown in Table S1 (Supplementary Materials).