

**Appendix 4 (as supplied by the authors):** Detailed information about included studies

Part 1: Characteristics of the studies in general population in this meta-analysis

Author Country	Age (years)	Subjects	Follow -up (years)	Outcome (cases)	RHR assessment	Covariates adjusted for
Gillum et al. 1991, NHANES I, USA <sup>1</sup>	Men (61.6) Women (62.5)	Men (2,774) Women (3,221)	10.1	Men CHD (571) Non-CVD death (403) Women CHD (454) Non-CVD death (279)	Seated Palpation	Age, smoking, SBP, serum total cholesterol and history of diabetes
Shaper et al. 1993, British Regional Heart Study, UK <sup>2</sup>	40-59, Men	7,735	8	CHD (89) Sudden death (44)	Recumbent ECG >30 minutes rest	Age, social class, smoking, heavy drinking, physical activity, SBP, blood cholesterol and blood glucose
Wannamethee et al. 1993, British Regional Heart Study, UK <sup>3</sup>	40-59, Men	7,735	9.5	Cancer (225) Other death (109) Non-CVD (323)	ECG Supine >30 minutes rest	Age, social class, smoking, BMI, heavy alcohol drinking, SBP, blood cholesterol, preexisting ischemic heart disease, physical activity, forced expiratory volume in 1 second
Mensink et al. 1997, Spandau Health Test, Germany <sup>4</sup>	40-80	Men (1,827) Women (2,929)	12	Men Cancer (60) Other death (60) Women Cancer (66) Other death (73)	5 minutes rest ECG	Initial age, serum cholesterol, BMI, SBP, smoking and diabetes
Benetos et al. 1999, Centre d'Investigations	Men (51.1) Women	Men (12,123) Women	18.2	Men Non-CVD (1,372) CHD (370)	5-7 minutes rest ECG	Age, SBP and DBP, BMI, history of myocardial infarction, antihypertensive treatment, total cholesterol, physical activity, and tobacco

Appendix to: Zhang D, Wang W, Li F. Association between resting heart rate and coronary artery disease, stroke, sudden death and noncardiovascular diseases: a meta-analysis.

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Preventives et Cliniques, France <sup>5</sup>	(52.1)	(7,263)		Stroke (125) Women Non-CVD (430) CHD (66) Stroke (63)	supine	consumption
Greenland et al. 1999, Chicago Heart Association Detection Project in Industry, USA <sup>6</sup>	Men (39.8) Women (40.1)	Men (18,787) Women (14,994)	22	Men CHD (1,156) Cancer (1,086) Women CHD (410) Cancer (724)	Supine ECG >5 minutes rest	Age, education, serum cholesterol, smoking, BMI, BMI <sup>2</sup> , major and minor electrocardiographic abnormalities, race, diabetes and SBP
Palatini et al. 1999, Cardiovascular Study in the Elderly, USA <sup>7</sup>	Men (72.7)	763	12	Sudden death (23)	Supine >15 minutes rest Palpation	Age, BMI, total and high-density lipoprotein-cholesterol, serum triglyceride, glucose, uric acid, and creatinine levels, forced expiratory volume in 1 second, coronary heart disease, congestive heart failure, diabetes mellitus, hypertension, intermittent claudication, history of stroke, sedentariness, alcohol intake, smoking, and regular medication
Kristal-Boneh et al. 2000, CORDIS Study, Israel <sup>8</sup>	Men (45.6)	3,537	8	Cancer death (45)	ECG >5 minutes rest supine	Age, education, BMI, cholesterol, and smoking and sport
Reunanen et al. 2000, None, Finland <sup>9</sup>	30-59	10,717	23	Men CHD (553) Stroke (125) Cancer (332) Other death (172) Women	ECG Seated 3-5 minutes rest	Age, smoking, blood pressure, and serum cholesterol, diabetes, BMI, perceived health and job and leisure time physical activity

				CHD (184) Stroke (121) Cancer (201) Other death (104)		
Nilsson et al. 2001, Malmo Preventive Project, Sweden <sup>10</sup>	Men (49.6) Women (43.7)	Men (22444) Women (10,902)	17 12	Men Cancer (626) Other death (215) Women Cancer (545) Other death (97)	10 minutes rest Supine A device while measuring blood pressure ECG Seated 4 minutes rest	Age, serum cholesterol, BMI, SBP, smoking and alcohol problematic drinking habits
Seccareccia et al. 2001, MATISS Project, Italy <sup>11</sup>	40-69 (men)	2,533	8.5	Non-CVD (217)	ECG Seated 4 minutes rest	Age, SBP, serum cholesterol, cigarettes smoked per day, BMI, arm circumference, adjusted forced expiratory volume, diabetes, and preexisting cardiovascular disease
Thomas et al. 2001, none, France <sup>12</sup>	Men (41.9)	125,513	8	Cancer death (1165)	10 minutes rest ECG	Age, BMI, gamma-Gt, tobacco, cholesterol, PP, triglycerides and physical activity
Kado et al. 2002, Study of Osteoporotic Fractures, USA <sup>13</sup>	Women (71.7)	9,702	8.9	CHD death (317) Stroke death (203) Cancer death (580) Other death (629)	Supine >5 minutes rest	Age, weight, self-reported health, physical activity, hyperthyroidism, hypertension, diabetes, and current smoking
Okamura et al. 2004, NIPPONDATA80 study, Japan <sup>14</sup>	Men (49.6) Women (50.0)	Men (4,640) Women (5,906)	16.5	Men CHD death (114) Other death (281) Women CHD death (120) Other death (255)	ECG Sufficient rest Supine	Age, serum albumin, BMI, hypertension, hypercholesterolemia, diabetes, cigarette smoking and drinking

Jouven et al. 2005, Paris Prospective Study I, France <sup>15</sup>	Men (47.6)	5,713	23	Sudden death (81) CHD death (129)	ECG Supine 5 minutes rest	Age, tobacco, level of physical activity, diabetes, BMI, SBP, cholesterol level, parental history of myocardial infarction and parental history of sudden death, and exercise duration
Savonen et al. 2006, Kuopio Ischaemic Heart Disease Risk Factor Study, Finland <sup>16</sup>	Men (54)	1,378	11.4	CHD death	ECG Supine	Age, examination year, alcohol consumption, BMI, cigarette smoking, CVD history, diabetes, serum LDL-cholesterol, SBP at rest, and myocardial ischaemia during exercise
Adabag et al. 2008, Multiple Risk Factor Intervention Trial, USA <sup>17</sup>	Men (36)	12,555	7  25	Sudden death (153)  CHD death (1586)	Supine ECG	Age, cigarettes smoked per day, SBP, low density lipoprotein, high density lipoprotein, triglycerides, BMI, fasting glucose, race, and parental history of CHD
Hansen et al. 2008, IDACO (Denmark, Belgium, Japan, Sweden, Uruguay, and China) <sup>18</sup>	56.2	6,928	9.6	Stroke (269) CHD (313) Non-CVD (389)	Sitting or supine, BP	Age, SBP, BMI, smoking and drinking, serum total cholesterol, history of cardiovascular disease, diabetes mellitus, and treatment with antihypertensive drugs
Hozawa et al. 2008, Ohasama study, Japan <sup>19</sup>	61.2	1,444	12	Non-CVD death (195)	Automatic device	Age, sex, antihypertensive medication, smoking, history of DM, hyperlipidemia, and SBP
Tverdal et al. 2008, National health survey,	Men (41.4) Women	Men (180,353 )	12	Men CHD death (869) Stroke death (164)	2 minutes rest A device while	Calendar year, total cholesterol, triglycerides, diastolic blood pressure, smoking, physical activity, and family history

Norway <sup>20</sup>	(41.4)	Women (199,490)		Sudden death (104) Non-CVD death (3,669) Women CHD death (188) Stroke death (178) Sudden death (33) Non-CVD death (3,402)	measuring blood pressure	
Hsia et al. 2009, Women's Health Initiative, USA <sup>21</sup>	Women (62.7)	129,135	7.8	CHD death (2,281) Stroke (1,877)	Palpation, >5 minutes rest Seated	Age, ethnic origin, hypertension, diabetes, smoking, high cholesterol requiring drugs, depression construct, nervousness, BMI, physical activity, alcohol use, dietary caffeine and saturated fat, hormone use, and statin use
Mai et al. 2009, None, China <sup>22</sup>	47	9,856	16.2	CHD (200)	ECG	Location, sex, smoking, alcohol, age, BMI, TC, TG, fasting glucose, SBP, DBP
Batty et al. 2010, Whitehall study, UK <sup>23</sup>	Men (40-69)	1,183	40	CHD death (307) Stroke death (90) Cancer death (244)	---	Age, employment grade, SBP, plasma cholesterol, smoking, BMI, glucose intolerance, diabetes and forced expiratory volume in 1 second
Cooney et al. 2010, National FINRISK Study, Finland <sup>24</sup>	Men (43.3) Women (43.0)	Men (10,519) Women (11,334)	12	Men CHD (187) Women CHD (58)	Palpation Seated 5 minutes rest	Age, smoking status, SBP, total cholesterol, self-reported diabetes, BMI, HDL cholesterol, and physical activity
Mao et al. 2010, China National Hypertension Survey Epidemiology	54.5	169,871	8.3	Men CHD (1,338) Stroke (2,271) Women CHD (988)	Seated Palpation 5 minutes rest	Age, SBP, cigarette smoking, alcohol consumption, BMI, physical activity, education, geographic region and urbanization, time-dependent history of diabetes

Follow-up Study <sup>25</sup>				Stroke (1,605)		
Nauman et al. 2010, The HUNT study, Norway <sup>26</sup>	46	Men (24,999) Women (25,089)	18.2	Men CHD (669) Women CHD (1,200)	Seated >4 minutes rest Palpation	Age, BMI, physical activity index, marital status, education, alcohol consumption, and smoking status
Jouven et al. 2011, Paris Prospective Study 1, France <sup>27</sup>	Men (48.0)	6,101	25	Non-CVD death (1,200) Cancer death (758)	ECG 5 minutes rest supine	Age and smoking
Legeai et al. 2011, Three-City Study, France <sup>28</sup>	73.9	7,147	6	Non-CVD death (505) CHD (228)	Seated >5 min A device while measuring blood pressure	Age, gender, study centre, SBP, smoking status, wine consumption, regular fish consumption, BMI, total cholesterol, HDL cholesterol, diabetes status, previous cardiovascular disease, living alone, disability status, beta-blocker use and calcium antagonist use
Nauman et al. 2011, Nord-Trøndelag County Health Study, Norway <sup>29</sup>	51.9	29,325	12	CHD death (388)	Palpation >4 minutes rest seated	Age, sex, BMI, physical activity level, smoking status, SBP, family history of acute myocardial infarction, alcoholic drink consumption over a 2-week period, occupational status, education, total serum cholesterol level, and high-density lipoprotein cholesterol level
Inoue et al. 2012, The Ohasama Study, Japan <sup>30</sup>	59	2,583	12	Stroke death (68) Non-CVD (301)	>2 minutes rest Seated A device while measuring	Age, sex, smoking status, use of antihypertensive medication, and history of diabetes mellitus or hypercholesterolemia

Xu et al. 2013, None, China <sup>31</sup>	>20	2,530	9.2	Stroke (76)	blood pressure Seated Stethoscope	Age, sex, BMI, drinking status, family history of cardiovascular disease, blood glucose, SBP, DBP, and lipids
Aladin et al. 2014, Henry Ford Exercise Testing Project, USA <sup>32</sup>	53.0	56,634	11.1	Men CHD (166) Women CHD (77)	Seated ECG ---	Age, race, sex, SBP, DBP, hypertensive medication use, history of dyslipidemia, lipid lowering medication use, smoking, pulmonary disease medication, diabetes, family history coronary artery disease, obesity, reason for stress test, atrioventricular-nodal blocking medication
Floyd et al. 2014, Cardiovascular Health Study, USA <sup>33</sup>	76	1,991	12	CHD death (73)	ECG and palpation	Age, sex, race, current smoking, treated diabetes mellitus, SBP, high-density lipoprotein cholesterol level and the presence of subclinical cardiovascular disease
Hisamatsu et al. 2014, NIPPON DATA, Japan <sup>34</sup>	48.7	8,807	24	Stroke death (285)	ECG Supine 5 minutes rest	Age, sex, BMI, smoking status, drinking habits, SBP, total cholesterol, blood glucose, labor intensity, electrocardiographic findings, and nutritional parameters
Ho et al. 2014, Framingham Heart Study, USA <sup>35</sup>	55	4,058	19	CHD (343) Stroke (216)	Supine ECG 5 minutes rest	Age, sex, SBP, use of antihypertensive treatment, BMI, diabetes, smoking status, physical activity index, valvular heart disease, electrocardiographic left ventricular hypertrophy, total/HDL cholesterol ratio, minor cardiovascular disease, and PR and QRS duration
Wang et al. 2014, Kailuan Study,	51.1	92,562	4	CHD (399) Stroke (1,519)	Supine ECG	Age, sex, average monthly income of each family member, education level, marital status,

China <sup>36</sup>					5 minutes rest	BMI, waist circumference, smoking status, drinking status, physical activity, high-sensitive C-reactive protein, hypertension, diabetes mellitus, and dyslipidemia
Woodward et al. 2014, Asia Pacific Cohort Studies Collaboration <sup>37</sup>	51	112,680	7.4	CHD (1,049) Stroke (1,114)	---	Age, SBP, anti-hypertensive medication use, total cholesterol, smoking status, BMI and diabetes
O'Neal et al. 2015, REGARDS, USA <sup>38</sup>	64	24,730	7.6	Stroke (646)	ECG	Age, sex, race, education, income, region of residence, SBP, smoking, diabetes, left ventricular hypertrophy, antihypertensive medications, antiarrhythmic agents, statins, aspirin, warfarin, and coronary heart disease

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BMI: body mass index, CHD: coronary heart disease, CVD: cardiovascular disease, ECG: Electrocardiogram, HDL: high density lipoprotein, IDACO: International Database on Ambulatory Blood Pressure Monitoring in Relation to Cardiovascular Outcomes, MATISS: Malattie Cardiovascolari Aterosclerotiche, Istituto Superiore di Sanita, NHANES I: National Health and Nutrition Examination Survey, NIPPON DATA: National Integrated Project for Prospective Observation of Noncommunicable Disease And its Trends in the Aged, SBP: systolic blood pressure, TC: total cholesterol, TG: triglycerides.



Part 2: Characteristics of the studies in subjects with hypertension

Author Country	Age (years)	Subjects	Follow -up (years)	Outcome (cases)	RHR assessment	Covariates adjusted for
Gillman et al. 1993, The Framingham Study, USA <sup>39a</sup>	M: 54.9 F: 57.3	2037 2493	36	Men All-cause death (486) CVD death (267) CHD death (187) Sudden death (99) Cancer death (113) Other death (106) Women All-cause death (333) CVD death (151) CHD death (78) Sudden death (26) Cancer death (109) Other death (73)	ECG supine	Age, SBP, serum cholesterol, cigarette smoking, glucose intolerance, and left ventricular hypertrophy.
Verdecchia et al. 1998, PIUMA, Italy <sup>40</sup>	51.7	1942	3.6	All-cause death (74) CVD (182)	Radial pulse for 1min sitting for at least 10min	Untreated and uncomplicated subjects with essential hypertension No association found with all-cause mortality
Benetos et al. 1999, Centre d'Investigations Pre'ventives et Cliniques, France <sup>5</sup>	51 52	Men (12123) Women (7263)	18.2	All-cause death CVD death CHD death	5-7 minutes rest ECG supine	SBP > 140 mm Hg, DBP > 90 mm Hg, or antihypertensive treatment

Thomas et al. 2001, subjects in IPC Center, France <sup>41</sup>	Younger 40.5 Older 60.0	42765 12785	14	CVD death (479) CVD death (737)	Supine ECG 10-minute rest	Age, hypercholesterolemia, diabetes, obesity, and current smoker
Palatini et al. 2002, Sys-Eur Trial, Europe <sup>42a</sup>	70.2 (both)	2293	2	All-cause death (145) CVD death (80) Non-CVD death (64)	Sitting ECG	Sex, age, cardiovascular complications at entry, diabetes at entry, smoking and drinking habits, SBP and hemoglobin levels.
Poulter et al. 2009, ASCOT-BPLA, United Kingdom, Ireland, and the Nordic Countries <sup>43a</sup>	62.9 (both)	12759	5.5	CHD (607) Stroke (490)	semi-automated device after 5 min rest sitting	Age, current smoker, previous stroke/TIA, SBP, glucose, other cardiovascular disease, previous antihypertensive treatment, creatinine, and alcohol
Okin et al. 2010, LIFE Study, France <sup>44</sup>	66.9 (both)	9190	4.8	All-cause death (814) CVD death (438)	ECG	Possible effects of treatment with losartan vs. atenolol, age, gender, race, prevalent diabetes, history of ischaemic heart disease, myocardial infarction, atrial fibrillation, congestive heart failure, stroke, peripheral vascular disease or smoking, baseline heart rate, albumin/creatinine ratio, total and HDL cholesterol, serum creatinine, body mass index, incident myocardial infarction, baseline and in-treatment systolic and diastolic blood pressure, QRS duration, Sokolow-Lyon voltage and Cornell voltage-duration product

Paul et al. 2010, UK <sup>45a</sup>	51.8 (both)	4065	2.5	All-cause death CVD death CHD death	rest for 5 minutes in the supine pulse rate	Age, sex, BMI, smoking, rate-limiting therapy, SBP (at the time of HR measurement), and cholesterol
Julius et al. 2012, VALUE, Europe <sup>46a</sup>	67.2 (both)	15193	5	Sudden death: CHD Stroke All-cause death (1612)	Recumbent ECG	Age, gender, race, body mass index, total cholesterol, smoking, diabetes mellitus, history of coronary heart disease, cerebrovascular disease, or peripheral arterial disease, left ventricular hypertrophy, and use of <sup>L</sup> blockers, calcium antagonists, or other antihypertensive drugs
Courand et al. 2013, France <sup>47a</sup>	45.0 (both)	1204	35	All-cause death CVD death Non-CVD death	Supine radial pulse palpation	Age, sex, SBP, diabetes, total cholesterol, smoking status, heart disease (history of heart failure or coronary artery disease), estimated glomerular filtration rate and BMI
Palatini et al. 2013, ABP-Internationa l, Italy, U.S.A., Japan, and Australia <sup>48</sup>	52 (both)	7600	5	CVD (639)	pulse palpation	Age, sex, SBP, total cholesterol, smoking, diabetes, and serum creatinine
Salles et al. 2013, Brazil <sup>49</sup>	65.5 (both)	528	4.8	All-cause death (62) CVD death (44)	ECG	Age, sex, smoking, diabetes and serum creatinine (for all-cause death), number of antihypertensive drugs in use, dipping pattern, and any rate-limiting therapy

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a: studies included in the quantitative analysis in this meta-analysis

Part 3: Characteristics of the studies in subjects with diabetes

Author Country	Age (years)	Subjects	Follow -up (years)	Outcome (cases)	RHR assessment	Covariates adjusted for
Christensen et al. 2000, a cohort in Hvidovre Hospital, Denmark <sup>50</sup>	54	324	9.4	All-cause death (100)	ECG	T2DM Age, sex, QTc-max, CHD, duration of diabetes, HbA1c, s-cholesterol, treated with insulin, diabetic retinopathy, Log <sub>10</sub> UAE, Log <sub>10</sub> creatinine
Linnemann et al. 2003, the Bremen Diabetes Study <sup>51</sup>	64.7 (both)	423	5	CVD death (57)	ECG	Age, QTc duration, left bundle branch block, atrial fibrillation, serum creatinine, HDL cholesterol and uric acid, smoking status and the presence of peripheral arterial disease T2DM
Stettler et al. 2007, WHO Multinational Study of Vascular Disease in Diabetes, Switzerland <sup>52a</sup>	46 (both)	302	22.6	All-cause death (158) CVD death (76) CHD death (52)	supine resting for at least 30 min ECG	T2DM Age, sex, BMI, duration of diabetes, total cholesterol, triacylglycerol, fasting plasma glucose, presence of hypertension, history of coronary heart disease, history of microvascular disease, smoking, alcohol consumption, treatment with insulin and treatment with diuretics.
Hillis et al. 2012, ADVANCE, 20 countries <sup>53</sup>	65.8 (both)	11140	4.4	All-cause death (879) CVD death (468)	Resting > 5 minutes Seated Digital monitor	T2DM Age, sex, ADVANCE study blood pressure treatment arm, ADVANCE study glycaemic control arm, BMI, duration of diabetes, HbA1c, urinary albumin creatinine ratio, estimated glomerular filtration rate, SBP, DBP, history of

Miot et al. 2012, SURDIAGENE study, France <sup>54</sup>	65.14 (both)	1088	4.2	Non-CVD (45) All-cause death (103)	ECG	hospitalisation for heart failure, participation in moderate and/or vigorous exercise for >15 minutes at least once weekly, total cholesterol T2DM Sex, age, diabetes duration, history of renal disease, active smoking, SBP, DBP, total cholesterol, $\beta$ -Blocker use
Zafirir et al. 2015, Israel <sup>55</sup>	63 (both)	594	6.6	All-cause mortality, CHD or stroke (72)	ECG	T2DM Age, sex, hypertension, BMI, smoking, total cholesterol, high-density lipoprotein and low-density lipoprotein cholesterol, HbA1c, hypertension-lowering drugs, statins, haemoglobin and creatinine levels, insulin and metformin treatment, duration of diabetes and the presence of microvascular dysfunction
Bartáková et al. 2016, Czech Republic <sup>56</sup>	67 (both)	421	3.6	Major adverse CVD	Radial artery palpation or from ECG records	T2DM None

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a: studies included in the quantitative analysis in this meta-analysis

Part 4: Health status of participants at baseline for studies included in the quantitative analysis

Author Country	Outcomes	Health status of participants at baseline
Gillum et al. 1991 <sup>1</sup>	CHD Non-CVD death	Persons were eliminated who had ever been told by a doctor that they had a heart attack or heart failure or who had used any medicine, drugs, or pills for a weak heart during the 6 months prior to interview
Gillman et al. 1993 <sup>39</sup>	Cancer Other death CHD death Sudden death	Relevant information not provided
Shaper et al. 1993 <sup>2</sup>	CHD Sudden death	Persons had no evidence of ischaemic heart disease based on the World Health Organisation chest pain questionnaire or electrocardiogram and no recall of a doctor's diagnosis of ischaemic heart disease.
Wannamethee et al. 1993 <sup>3</sup>	Cancer Other death Non-CVD	All of the men, regardless of whether they showed evidence of ischemic heart disease at initial examination, were followed
Mensink et al. 1997 <sup>4</sup>	Cancer Other death	All participants were followed-up for mortality and there is no exclusion criteria
Benetos et al. 1999 <sup>5</sup>	Non-CVD CHD Stroke	All subjects meeting this age criterion (40 to 69 years) were included and there is no exclusion criteria
Greenland et al. 1999 <sup>6</sup>	CHD Cancer	Persons with electrocardiographic evidence of prior myocardial infarction at baseline were excluded
Palatini et al. 1999 <sup>7</sup>	Sudden death	There is no exclusion criteria
Kristal-Boneh	Cancer death	Persons diagnosed cardiovascular disease or were receiving chronic medication

et al. 2000 <sup>8</sup>		capable of affecting heart rate
Reunanen et al. 2000 <sup>9</sup>	CHD Stroke Cancer Other death	Persons with known heart diseases were excluded
Nilsson et al. 2001 <sup>10</sup>	Cancer Other death	Self-reported healthy men were defined as those denying a medical history of myocardial infarction, stroke, cancer or intake of cardiovascular drugs in a questionnaire.
Seccareccia et al. 2001 <sup>11</sup>	Non-CVD	Subjects with a history of cardiovascular disease were not excluded from analyses
Thomas et al. 2001 <sup>12</sup>	Cancer death	There is no exclusion criteria
Kado et al. 2002 <sup>13</sup>	CHD death Stroke death Cancer death Other death	There is no exclusion criteria
Palatini et al. 2002 <sup>42</sup>	Non-CVD death	Cardiovascular complications were present in 1395 subjects
Okamura et al. 2004 <sup>14</sup>	CHD death Other death	Persons with past history of coronary heart disease or stroke were excluded. Furthermore, participants with arrhythmia affecting HR; frequent supraventricular and/or ventricular premature beats or persistent atrial fibrillation or flutter were excluded
Jouven et al. 2005 <sup>15</sup>	Sudden death CHD death	Subjects with known or suspected cardiovascular disease of any grade or cause were excluded
Savonen et al. 2006 <sup>16</sup>	CHD death	Persons free of CHD and not using $\beta$ -blockers were included
Stettler et al. 2007 <sup>52</sup>	CHD death	Coronary heart disease were present in 1395 subjects
Adabag et al.	Sudden death	Persons with evidence of CHD on medical history, physical examination and

2008 <sup>17</sup>	CHD death	resting electrocardiogram were excluded. Also, those taking digitalis, hydralazine, lipidlowering agents or any medications for CHD were excluded
Hansen et al. 2008 <sup>18</sup>	Stroke CHD Non-CVD	Persons on treatment with $\beta$ -blockers were excluded
Hozawa et al. 2008 <sup>19</sup>	Non-CVD death	Persons with a history of CVD including those with arrhythmia were excluded
Tverdal et al. 2008 <sup>20</sup>	CHD death Stroke death Sudden death Non-CVD death	Persons with a history of heart infarction, angina pectoris, stroke, diabetes, or being treated for hypertension were excluded
Hsia et al. 2009 <sup>21</sup>	CHD death Stroke	Persons with previous myocardial infarction, stroke, or coronary revascularisation at baseline, and those reporting current use of $\beta$ blockers, digoxin, or non-dihydropyridine calcium channel blockers at baseline were excluded
Mai et al. 2009 <sup>22</sup>	CHD	Persons with cardiovascular diseases were excluded
Poulter et al. 2009 <sup>43</sup>	CHD Stroke	Patients who had a previous history of MI, currently treated angina, a cerebrovascular event in the last 3 months, heart failure, uncontrolled arrhythmias, or any clinically important hematological or biochemical abnormality in routine screening were excluded
Batty et al. 2010 <sup>23</sup>	CHD death Stroke death Cancer death	There is no exclusion criteria
Cooney et al. 2010 <sup>24</sup>	CHD	Persons with preexisting coronary heart disease, angina, heart failure, or on antihypertensive therapy were excluded
Mao et al. 2010 <sup>25</sup>	CHD Stroke	Persons with prevalent CVD at baseline and antihypertension treatment were excluded.
Nauman et al. 2010 <sup>26</sup>	CHD	Persons who had a history of myocardial infarction or known angina pectoris, as well as those with a history of stroke or prevalent diabetes mellitus were



excluded. Also, participants were excluded who were either current or past users of blood pressure medication.

Paul et al. 2010 <sup>45</sup>	CHD death	---
Jouven et al. 2011 <sup>27</sup>	Non-CVD death Cancer death	Persons free of clinically detectable cardiovascular disease and cancer were included
Legeai et al. 2011 <sup>28</sup>	Non-CVD death CHD	Persons with a past history of CHD were excluded (for CHD)
Nauman et al. 2011 <sup>29</sup>	CHD death	Persons without known cardiovascular disease were included
Inoue et al. 2012 <sup>30</sup>	Stroke death Non-CVD	Persons without history of cardiovascular disease were included
Julius et al. 2012 <sup>46</sup>	Sudden death CHD Stroke	The VALUE trial included patients who at baseline had additional cardiovascular risk factors or a history of cardiovascular diseases.
Courand et al. 2013 <sup>47</sup>	Non-CVD death	Cardiovascular diseases were present in part of participants
Xu et al. 2013 <sup>31</sup>	Stroke	Persons who had cardiovascular diseases or endocrine diseases, including hyper/hypothyroidism, or were taking antihypertensive medication were excluded
Aladin et al. 2014 <sup>32</sup>	CHD	Patients with known coronary artery disease, previous congestive heart failure, previous atrial fibrillation or flutter, or those referred for arrhythmia were excluded from this study
Floyd et al. 2014 <sup>33</sup>	CHD death	Persons without cardiovascular disease were included
Hisamatsu et al. 2014 <sup>34</sup>	Stroke death	Persons without cardiovascular diseases and anti-hypertensive drugs at baseline were included
Ho et al. 2014 <sup>35</sup>	CHD Stroke	Persons with prevalent myocardial infarction, prevalent heart failure, use of medications affecting heart rate, prevalent atrial fibrillation, previous permanent pacemaker insertion, atrioventricular dissociation on ECG were excluded

Wang et al. 2014 <sup>36</sup>	CHD Stroke	Persons with a prior history of myocardial infarction or stroke were excluded
Woodward et al. 2014 <sup>37</sup>	CHD Stroke	Cohorts selected on the basis of a positive disease history, or diagnosis, are excluded.
O'Neal et al. 2015 <sup>38</sup>	Stroke	Persons were free of stroke at the time of enrollment

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Part 5: Reference numbers in each subgroup analysis on resting heart rate and coronary heart disease

	60-70 bpm		70-80 bpm		>80 bpm		10 bpm increment	
	N	Ref.	N	Ref.	N	Ref.	N	Ref.
Overall	16	2,14,17,21,23,25-2 6,28,32,36-37	23	1-2,5,9,17,20-21,23-24,2 6,28-29,32,36-37,45	29	1-2,5,9,13-15,17,20-22,24- 26,28-29,32,36-37,45	39	2,5-6,9,13-18,20-26,28-29,32-33,3 5-37,39,43,45-46,52
Outcome								
Fatal	9	The others	16	The others	19	The others	26	The others
Non-fatal	7	25,28,32,36-37	7	1,28,32,36-37	10	1,22,26,28,32,36-37	13	18,22,25,28,32,33,35,36,37,43,46
Follow-up duration								
>10 years	8	The others	17	The others	20	The others	28	The others
≤10 years	8	2,21,25,28,36-37,4 5	6	2,21,28,36-37,45	9	2,13,21,25,28,36-37,45	11	2,13,18,21,25,28,37,43,45,46
Mean age								
>50 years	10	The others	13	The others	15	The others	23	The others
≤50 years	6	2,14,17,26	10	2,9,17,20,24,26	14	2,9,14-15,17,20,22,24,26	16	6,9,14,15,17,20,22,24,26,52
Country								
Europe	6	The others	15	The others	15	The others	20	The others
USA	4	17,21,32	6	1,17,21,32	7	1,13,17,21,32	11	6,13,17,21,32,33,35,39
Asia	6	14,25,36,37	2	36,37	7	14,22,25,36-37	7	14,22,25,36,37
Mixed	--		--		--		1	18
Excluding CVD at baseline								
Yes	13	The others	16	The others	22	The others	26	The others
No	3	23,28,45	7	1,5,23,28,45	7	1,5,13,28,45	13	5,13,18,23,28,35,39,43,45,46,52
Sex								
Men	7	2,14,17,23,25-26,3 2	10	1,2,5,17,20,23-24,26,32	12	1-2,5,14,15,17,20,24-26,32	15	2,6,9,14,15,16,17,20,23-26,32,39
Women	5	The others	7	The others	10	The others	12	5-6,9,13-14,20-21,24-26,32,39

Both sex	4	28,36-37,45	6	9,28-29,36-37	7	9,22,28,29,36-37,45	12	The others
RHR assessment								
ECG	6	The others	8	The others	12	The others	22	The others
Others	10	21,23,25-26,28,32,37	15	1,20-21,23-24,26,28-29,32,37	17	1,13,20-21,24-26,28-29,32,37	17	13,18,20-21,23-26,28-29,37,43,45
Minimum of resting period								
≥ 5 minutes	8	The others	8	The others	14	The others	20	The others
<5 minutes or unclear	8	17,23,26,32,37,45	15	1,9,17,20,23,26,29,32,37,45	15	1,9,17,20,22,26,29,32,37,45	19	9,16-18,20,22-23,26,29,32-33,37,39,46
Posture								
Supine	4	The others	4	The others	8	The others	18	5-6,13-17,22,33,35-36,39,45,52
Sitting/recumbent/ unclear	12	2,21,23,25-26,28,32,37,45	19	1,2,9,20-21,23-24,26,28-29,32,37,45	21	1-2,9,20-22,24-26,28-29,32,37,45	21	The others
Study quality (stars)								
7-9	13	The others	20	The others	26	The others	33	The others
5-6	3	2,23,28	3	2,23,28	3	2,13,28	6	2,13,18,23,28,37
Adjust for blood pressure								
Yes	14	The others	21	The others	27	The others	37	The others
No	2	26	2	26	2	26	2	26
Adjust for smoking								
Yes	16	2,14,17,21,23,25-26,28,32,36-37	22		28		39	2,5-6,9,13-18,20-26,28-29,32-33,35-37,39,43,45-46,52
No	--		--		--		--	
Adjust for body mass index								
Yes	13	The others	16	The others	21	The others	29	The others
No	3	2,32	7	1-2,20,32	8	1-2,13,20,32	9	2,13,20,32,33,39,43
Adjust for physical activity								
Yes	7	2,21,25-26,36	14	2,5,9,20-21,24,26,29,36	18	2,5,9,13,15,20-21,24-26,29,36	19	2,5,9,13,15,20-21,24-26,29,35-36

No	9	The others	9	The others	11	The others	20	The others
Adjust for serum cholesterol/triglycerides								
Yes	11	The others	20	The others	23	The others	32	The others
No	5	2,25-26	3	2,26	6	2,13,25-26	7	2,13,25-26,43
Adjust for diabetes/blood glucose								
Yes	14	The others	16	The others	22	The others	31	The others
No	2	26	7	5,20,26,29	7	5,20,26,29	8	5,20,26,29,45
Adjust for alcohol								
Yes	10	2,14,21,25-26,28,36	7	2,21,26,28-29,36	12	2,14,21-22,25-26,28-29,36	16	2,14,16,18,21-22,25-26,28-29,36,43,52
No	6	The others	16	The others	17	The others	23	The others
Adjust for education/social class								
Yes	7	2,23,25-26,36	8	2,9,23,26,29,36	9	2,9,25-26,29,36	12	2,6,9,23,25-26,29,36
No	9	The others	15	The others	20	The others	27	Others
Number of covariates adjusted								
≥6	9	2,14,21,23,25,28,36	10	2,9,21,23-24,28-29,36	15	2,9,14-15,21-22,24-25,28-29,36	22	The others
<6	7	The others	13	The others	14	The others	17	5,13,17,20,26,32-33,37,39,43,45-46

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N: number of gender-specific results

Part 6: Reference numbers in each subgroup analysis on resting heart rate and stroke, all other diseases, all cancer and total other diseases

	Stroke		All cancer		All other diseases		Total other diseases	
	N	Ref.	N	Ref.	N	Ref.	N	Ref.
Overall	20	5,9,13,18,20-21,23,25,30,34,35-38,43,46	15	3,4,6,8-10,13,23,27,39	13	3,5,11,18-20,27-28,30,42,47	12	3,4,9-10,13-14,39
Outcome								
Fatal	11	The others	15	3,4,6,8-10,13,23,27,39	12	The others	12	3,4,9-10,13-14,39
Non-fatal	9	18,25,35-38,43,46	--		1	18	--	
Follow-up duration								
>10 years	11	The others	12	The others	8	The others	10	The others
≤10 years	9	13,18,21,25,37-38,43,46	3	3,8,13	5	3,11,18,28,42	2	3,13
Mean age								
>50 years	15	The others	7	The others	9	The others	6	The others
≤50 years	5	9,20,34	8	6,8-10,27	4	20,27,47	6	9-10,14
Country								
Europe	9	The others	9	The others	10	The others	7	The others
USA	4	13,21,35,38	5	6,13,39	--		3	13,39
Asia	6	25,30,34,36	1	8	2	19,30	2	14
Mixed	1	18	--		1	18	--	
Excluding CVD at baseline								
Yes	12	The others	7	The others	4	19,20,30	6	9-10,14
No	8	5,13,18,23,35,43,46	8	3,4,13,23,27,39	9	The others	6	The others
Sex								
Men	5	5,9,20,23,25	9	3,4,6,8-10,23,27,39	5	3,5,11,20,27	6	3-4,9-10,14,39
Women	6	5,9,13,20-21,25	6	The others	2	5,20	6	The others
Both sex	9	The others	--		6	The others	--	

RHR assessment									
ECG	9	5,9,34-36,38,46	11	The others	6	3,5,11,27,42	9	The others	
Others	11	The others	4	10,13,23	7	The others	3	10,13	
Minimum of resting period									
≥ 5 minutes	10	5,13,21,25,34-36,43	10	The others	5	3,5,27,28	8	The others	
<5 minutes or unclear	10	The others	5	9,23,39	8	The others	4	9,39	
Posture									
Supine	7	5,13,34-36,38	12	The others	5	3,5,27,47	8	The others	
Sitting/recumbent/unclear	13	The others	3	9,23	8	The others	2	9	
Study quality (stars)									
7-9	16		10	The others	6	3,11,18,27,28,47	10	The others	
5-6	4	13,18,23,37	5	3,8,13,23,27	7	The others	2	3,13	
Adjust for blood pressure									
Yes	20	5,9,13,18,20-21,23,25,30,34,35-38,43,46	13	The others	12	The others	12	3,4,9-10,13-14,39	
No	--		2	8,27	1	27	--		
Adjust for smoking									
Yes	20	5,9,13,18,20-21,23,25,30,34,35-38,43,46	15	3,4,6,8-10,13,23,27,39	13		12	3,4,9-10,13-14,39	
No	--		--		--		--		
Adjust for body mass index									
Yes	14	The others	11	The others	7	The others	9	The others	
No	6	13,20,30,38,43	4	13,27,39	6	19,20,27,30,42	3	13,39	
Adjust for physical activity									
Yes	12	The others	5	3,8-9,13	5	3,5,20	4	3,9,13	
No	8	18,23,30,34,37-38,43,46	10	The others	8	The others	8	The others	
Adjust for serum cholesterol/triglycerides									

Yes	15	The others	13	The others	11	The others	11	The others
No	5	13,25,38,43	2	13,27	2	27,42	1	13
Adjust for diabetes/blood glucose								
Yes	16	The others	10	The others	7	The others	9	The others
No	4	5,20	5	3,8,10,27	6	3,5,20,27	3	3,10
Adjust for alcohol								
Yes	7	18,21,25,34,36,43	3	3,10	4	3,18,28,42	5	3,10,14
No	13	The others	12	The others	9	The others	7	The others
Adjust for education/social class								
Yes	8	9,23,25,34,36,38	7	3,6,8-9,23	1	3	3	3,9
No	12	The others	8	The others	12	The others	9	The others
Number of covariates adjusted								
≥6	10	9,18,21,23,25,34-36	6	3,6,9,23	3	3,18,28	5	3,9,14
<6	10	The others	9	The others	10	The others	7	The others

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N: number of gender-specific results



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