

Supplementary material

Supplementary Table 1. ICD-10 codes, procedure and ATC codes used throughout the study

Disease	ICD-10 codes	Procedure codes	ATC codes
Long-term stress	F43.1 Post-traumatic stress disorder F43.2 Adjustment disorders		
Anxiety	F40, F41		
Heart failure	I50, I110, I130, I132, I420, I426- I429, I421, I422, I425		
Ischemic heart disease†	I20-I25	KFNA, KFNB, KFNC, KFND, KFNE, KFNG, KFNF, KFNH20	
Cerebrovascular disease	I60-I69, G45-G46		
Atrial fibrillation	I48		
Peripheral artery disease	I70-I74, I77		
Diabetes mellitus			A10
Depression	F32, F33		
Concomitant pharmacotherapy			
Renin-angiotensin system inhibitors			C09A, C09B, C09C, C09D
Beta blockers			C07
Diuretics			C03AA, C03AB, C03B, C03C, C03D, C03E, C07B, C07CA, C07CB, C07D, C08G, C09BA, C09DA
Calcium channel blockers			C08
Nitrates			C01DA
Antiarrhythmic drugs class 1 or 3			C01B
Antithrombotics			B01AA, B01AC, B01AE07, B01AF01, B01AF02, B01AF03
Anxiolytics	N05B		
Antidepressants	N06A		
QT-prolonging drugs††			J01FA06, J01FA10, J01MA02, J01FA09, J01FA01, J01MA14, J02AC01, N05AA02, N05AL01, C07AA07, C01BA01, N05AG02, A04AA01, N05AD01, C01BC04, N06AB10, C01BD07, N06DA02, A03FA03, N06AB04, N05AD08, N05AA01, N05AF03, C01BD01

† Including acute myocardial infarction

†† QT-prolonging drugs with known risk of Torsade de Pointes according to CredibleMeds website (www.CredibleMeds.org).

Table 2. Hazard ratio of out-of-hospital cardiac arrest (OHCA) associated with long-term stress conditions and/or anxiety				
	Cases (n=35.195)	Controls (n=351.950)	Crude HR (95% CI)	Adjusted HR (95% CI)
Neither of the two diagnoses	34.531 (98.11%)	348.937 (99.14%)	reference	reference
Long-term stress	324 (0.92%)	1.577 (0.45%)	2.08 (1.85-2.35)	1.44 (1.27-1.64)
Post-traumatic stress disorder	24 (0.07%)	107 (0.03%)	2.28 (1.46-3.56)	1.80 (1.13-2.86)
Adjustment disorders	295 (0.84%)	1.447 (0.41%)	2.07 (1.82-2.35)	1.42 (1.24-1.63)
Post-traumatic stress disorder and adjustment disorders	≤ 5 (0.01%)	23 (0.01%)	NA	NA
Anxiety	299 (0.85 %)	1.298 (0.37%)	2.34 (2.06 -2.65)	1.56 (1.37-1.79)
Both diagnoses	41 (0.12%)	138 (0.04%)	3.03 (2.14-4.30)	2.00 (1.38-2.89)
Abbreviations: CI, confidence interval; HR, hazard ratio. Numbers in table are number (%) unless indicated otherwise. HR adjusted for presence of cardiovascular disease, depression and the use of QT-prolonging drugs.				

	Neither of the two diagnoses (n=34.531)	Long-term stress (n=324)	Anxiety (n=299)
Age (years), median [IQR]	72 [62.81]	59 [49,71]	68 [56.5,76.5]
Male sex, n (%)	23.188 (67.15)	183 (56.48)	131 (43.81)
Comorbidity, n (%)			
Heart failure	6.993 (20.25)	72 (22.22)	63 (21.07)
Ischemic heart disease [§]	9.145 (26.48)	79 (24.38)	83 (27.76)
Cerebrovascular disease	4.803 (13.91)	44 (13.58)	59 (19.73)
Atrial fibrillation	6.010 (17.40)	38 (11.73)	50 (16.72)
Peripheral artery disease	3.828 (11.09)	37 (11.42)	46 (15.38)
Diabetes mellitus	5.228 (15.14)	54 (16.67)	41 (13.71)
Depression	1.578 (4.57)	133 (41.05)	111 (37.12)
Concomitant pharmacotherapy, n (%)			
Renin-angiotensin system inhibitors	12.904 (37.37)	104 (32.10)	86 (28.76)
Beta blockers	8.430 (24.41)	54 (16.67)	79 (26.42)
Diuretics	17.217 (49.86)	134 (41.36)	150 (50.17)
Calcium channel blockers	6.849 (19.83)	64 (19.75)	60 (20.07)
Nitrates	3.900 (11.29)	32 (9.88)	27 (9.03)
Antiarrhythmic drugs class 1 or 3	662 (1.92)	4 (1.12)	8 (2.68)
Antithrombotics	15.813 (45.79)	126 (38.89)	125 (41.81)
Anxiolytics	3.933 (11.39)	109 (33.64)	139 (46.49)
Antidepressants	6.034 (17.47)	178 (54.94)	191 (63.88)
QT-prolonging drugs	5.598 (16.21)	115 (35.49)	123 (41.14)
Abbreviation: OHCA, out-of-hospital cardiac arrest. Numbers are number (%) unless indicated otherwise.			
§including acute myocardial infarction			

Table 4. Hazard ratio of out-of-hospital cardiac arrest (OHCA) in patients with long-term stress conditions or anxiety: stratification according to ischemic heart disease

	Cases (n=35.195)	Controls (n=351.950)	Crude HR (95% CI)	Adjusted HR (95% CI)
Present	9.316	41.992		
Neither of the two diagnoses	9.145 (98.16%)	41.479 (98.78)	reference	reference
Long-term stress	79 (0.85 %)	232 (0.55%)	1.55 (1.20-2.00)	1.02 (0.77-1.34)
Anxiety	83 (0.89 %)	262 (0.62%)	1.44 (1.12-1.84)	1.11 (0.85-1.44)
Both diagnoses	9 (0.10%)	19 (0.05%)	2.16 (0.98-4.77)	1.60 (0.70-3.70)
Absent	25.879	309.958		
Neither of the two diagnoses	25.386 (98.09%)	307.458 (99.19%)	reference	reference
Long-term stress	245 (0.95 %)	1.345 (0.43%)	2.21 (1.93-2.53)	1.56 (1.35-1.80)
Anxiety	216 (0.83 %)	1.036 (0.33%)	2.53 (2.18-2.93)	1.77 (1.52-2.06)
Both diagnoses	32 (0.12%)	119 (0.04%)	3.27 (2.21-4.82)	1.97 (1.31-2.97)
Abbreviations: CI, confidence interval; HR, hazard ratio. Numbers in table are number (%) unless indicated otherwise. HR adjusted for presence of cardiovascular disease, depression and the use of QT-prolonging drugs. Furthermore, by conducting stratified analyses according ischemic heart disease, the original matching on age and sex was lost. Therefore, HRs were additionally adjusted for age and sex.				
P-value interaction: long-term stress=0.4243, anxiety=0.1581, both diagnoses=0.7474				

Table 5. Hazard ratio of out-of-hospital cardiac arrest (OHCA) in patients with long-term stress conditions or anxiety: stratification according to heart failure

	Cases (n=35.195)	Controls (n=351.950)	Crude HR (95% CI)	Adjusted HR (95% CI)
Present	7.136	17.285		
Neither of the two diagnoses	6.993 (98.00%)	17.087 (98.85)	reference	reference
Long-term stress	72 (1.01%)	90 (0.52%)	1.96 (1.43-2.67)	1.24 (0.89 -1.73)
Anxiety	63 (0.88 %)	103 (0.60%)	1.50 (1.09 -2.05)	1.13 (0.81 -1.57)
Both diagnoses	8 (0.11%)	5 (0.03%)	3.88 (1.27 -11.87)	2.20 (0.70 -6.98)
Absent	28.059	334.665		
Neither of the two diagnoses	27.538 (98.14%)	331.850 (99.16)	reference	reference
Long-term stress	252 (0.90 %)	1.487 (0.44%)	2.04 (1.79-2.34)	1.45 (1.26 -1.66)
Anxiety	236 (0.84 %)	1.195 (0.36%)	2.38 (2.07 -2.74)	1.65 (1.43 -1.91)
Both diagnoses	33 (0.12%)	133 (0.04%)	3.00 (2.05 -4.39)	1.86 (1.26 -2.74)
Abbreviations: CI, confidence interval; HR, hazard ratio. Numbers in table are number (%) unless indicated otherwise. HR adjusted for presence of cardiovascular disease, depression and the use of QT-prolonging drugs. Furthermore, by conducting stratified analyses according heart failure, the original matching on age and sex was lost. Therefore, HRs were additionally adjusted for age and sex.				
P-value interaction: long-term stress=0.9962, anxiety=0.0916, both diagnoses=0.5394				

Supplementary Table 6: Hazard ratio of out-of-hospital cardiac arrest (OHCA) in patients with long-term stress conditions or anxiety as compared with patients with neither of the two diagnoses in individuals with the absence of cardiovascular disease, depression, use of cardiovascular drugs, QT-prolonging drugs and antidepressants

	Cases (n=7.491)	Controls (n=145.893)	Crude HR (95% CI)	Adjusted HR (95% CI)
Neither of the two diagnoses	7.418 (99.03%)	145.359 (99.63%)	reference	reference
Long-term stress	44 (0.59%)	353 (0.24%)	2.44 (1.78-3.34)	2.25 (1.64-3.08)
Anxiety	24 (0.32%)	162 (0.11%)	2.90 (1.98-4.46)	2.77 (1.80-4.23)
Both diagnoses	≤ 5 (0.07%)	19 (0.01%)	NA	NA

Abbreviations: CI, confidence interval; HR, hazard ratio. Numbers in table are number (%) unless indicated otherwise. HR adjusted for age and sex.