Supplemental Table S1. Cox regression analysis for all-cause dementia stratified by survival time

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| --- | --- | --- | --- |
|  | <5 years | 5-10 years | ≥10 years |
| Model 1, # cases | 735/8,281 | 3,294/14,177 | 3,446/462,389 |
| Model 1, HR (95% CI) | 1.34 (1.14-1.58) | 1.14 (1.05-1.24) | 1.49 (1.37-1.62) |

Supplemental Table S2. Cox regression analysis predicting risk of all-cause, Alzheimer’s disease, vascular dementia, frontotemporal dementia from alternative item of loneliness.

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| --- | --- |
|  | All-cause dementia |
| Model 1, # cases | 7,112/468828 |
| Model 1, HR (95% CI) | 1.29 (1.22-1.36) |
| Sensitivity analyses / Robustness check |
| Model 1.1, # cases | - |
| Model 1.1, HR (95% CI) | - |
| Model 1.2, # cases | 6,418/460,846 |
| Model 1.2, HR (95% CI) | 1.27 (1.20-1.34) |
| Model 1.3, # cases | 6,717/468,828 |
| Model 1.3, HR (95% CI) | 1.31 (1.24-1.38) |
| Model 1.4, # cases | 6,982/357,427 |
| Model 1.4, HR (95% CI) | 1.28 (1.21-1.35) |
| Socioeconomic covariates |  |
| Model 2, # cases | 7,112/468,828 |
| Model 2, HR (95% CI) | 1.27 (1.20-1.34) |
| Model 2.1, # cases | 5,357/401,731 |
| Model 2.1, HR (95% CI) | 1.19 (1.12-1.27) |
| Depression and Social Isolation |
| Model 3, # cases | 6,510/442,828 |
| Model 3, HR (95% CI) | 1.23 (1.16-1.30) |
| Model 3.1, # cases | 6,510/442,801 |
| Model 3.1, HR (95% CI) | 1.19 (1.12-1.26) |
| Vascular and Behavioral covariates |
| Model 4, # cases | 7,112/468,828 |
| Model 4, HR (95% CI) | 1.24 (1.18-1.31) |
| Model 4.1, # cases | 4,696/340,344 |
| Model 4.1, HR (95% CI) | 1.24 (1.17-1.33) |
| *APOE* ε4 risk allele covariate |  |
| Model 5, # cases | 5,726/385,481 |
| Model 5, HR (95% CI) | 1.26 (1.19-1.33) |

Notes. Item= How often are you able to confide in someone close to you? Coded 0= at least once per month, 1=less than once per month. Model 1 to Model 1.4 include the covariates age and sex; Model 1.1 excludes cases with more than one type of dementia code (e.g., AD and VD); Model 1.2 excludes incident cases of dementia within 5 years of baseline assessment; Model 1.3 excludes dementia ascertained from death records; Model 1.4 excludes participants younger than age 50 at baseline; Model 2 includes the covariates of Model 1 plus education; Model 2.1 further adds the Townsend deprivation index and household income; Model 3 includes the covariates of Model 2 plus depression; Model 3.1 further adds social isolation; Model 4 includes the covariates of Model 2 plus vascular risk factors (self-reported diabetes, hypertension, stroke, heart attack, ever smoker, BMI > 30); Model 4.1 further add HbA1c, CRP, LDL, and the sum of minutes performing walking, moderate and vigorous activity. Model 5 is Model 2 with *APOE* ε4 risk allele status. HR = Hazard Ratio; CI = Confidence Interval.

Supplemental Figure S1

Figure caption. Kaplan-Meier curve for loneliness and all-cause dementia.

