**Online supplementary material**

**Bereavement, multimorbidity and mortality: a population-based study using bereavement as an indicator of mental stress**

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| Supplementary Table e1. List of conditions in the multimorbidity indexa |
| Category | **Disease group** |
| Circulatory system      | Hypertension |
| Dyslipidemia |
| Ischemic heart disease |
| Atrial fibrillation |
| Heart failure |
| Peripheral artery occlusive disease |
| Stroke |
| Endocrine system  | Diabetes mellitus |
| Thyroid disorder |
| Gout |
| Pulmonary system and allergy | Chronic pulmonary disease |
| Allergy |
| Gastrointestinal system  | Ulcer/chronic gastritis |
| Chronic liver disease |
| Inflammatory bowel disease |
| Diverticular disease of intestine |
| Urogenital system | Chronic kidney disease |
| Prostate disorders |
| Musculoskeletal system | Connective tissue disorders |
| Osteoporosis |
| Painful condition |
| Hematological system  | Anemias  |
| HIV/AIDS |
| Cancers | Cancer |
| Neurological system  | Vision problem |
| Hearing problem |
| Migraine |
| Epilepsy |
| Parkinson's disease |
| Multiple sclerosis |
| Neuropathies |
| Mental health conditions        | Mood, stress-related, or anxiety disorders |
| Psychological distress |
| Alcohol problems |
| Substance abuse |
| Anorexia/bulimia |
| Bipolar affective disorder |
| Schizophrenia or schizoaffective disorder |
| Dementia |
| Abbreviations: HIV, human immunodeficiency virus; AIDS, acquired immunodeficiency syndrome.aFor details and coding definitions, please see Prior A, Fenger-Grøn M, Larsen KK, et al. The Association Between Perceived Stress and Mortality Among People With Multimorbidity: A Prospective Population-Based Cohort Study. Am J Epidemiol 2016;184:199-210 |

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| **Supplementary Table e2. Adjusted mortality hazard ratios for death by accident or suicide for bereaved individuals versus couples stratified by time since bereavement** |
|  | Death by accident, adjusteda |  | Death by suicide, adjusteda |
| Time since bereavement | HR | 95% CI | HR | 95% CI |
| 0-1 month | 22.28 | (17.20,28.85) | 33.97 | (21.71,53.14) |
| 1-2 months | 2.32 | (1.59,3.38) | 9.18 | (5.42,15.55) |
| 2-3 months | 2.31 | (1.52,3.51) | 11.64 | (7.06,19.18) |
| 3-6 months | 1.88 | (1.48,2.39) | 4.59 | (3.33,6.33) |
| 6-12 months | 1.75 | (1.44,2.13) | 3.18 | (2.38,4.25) |
| 1-2 years | 1.65 | (1.42,1.91) | 3.07 | (2.47,3.82) |
| 2-5 years | 1.60 | (1.45,1.77) | 2.26 | (1.92,2.67) |
| 5-10 years | 1.67 | (1.51,1.84) | 1.98 | (1.65,2.37) |
| a Matched on sex and date of birth, and adjusted for single status, 39 mental and physical conditions, and educational level. |

**Supplementary Figure e1. Hazard ratios for mortality by natural causes for bereaved versus couples by time since bereavement and mental-physical multimorbidity**

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Hazard ratios scaled by risk time weighted mean hazard ratio in each multimorbidity group

**Supplementary Figure e2. Adjusted all-cause mortality hazard ratios for bereaved individuals versus couples by time since bereavement and expectedness of spousal death**

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Abbreviations:
CCI: Charlson Comorbidity Index score

**Supplementary Figure e3. Adjusted all-cause mortality hazard ratios for bereaved individuals versus couples by time since bereavement and sex.**

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**Supplementary Figure e4. Adjusted all-cause mortality hazard ratios for bereaved individuals versus couples by time since bereavement and age at bereavement.**

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**Supplementary Figure e5. Adjusted all-cause mortality hazard ratios for bereaved individuals versus couples by time since bereavement and mental comorbidity status**

****Group 1: Mood, stress-related, or anxiety disorders, alcohol or substance abuse, or anorexia/bulimia
Group 2: Bipolar affective disorders, schizophrenia, or dementia

**Supplementary Figure e6. Adjusted all-cause mortality hazard ratios for bereaved individuals versus couples by time since bereavement and mental-physical multimorbidity (references never bereaved)**


Hazard ratios scaled by risk time weighted mean hazard ratio in each multimorbidity group

**Supplementary Figure e7. Adjusted all-cause mortality hazard ratios for bereaved individuals versus couples by time since bereavement and mental-physical multimorbidity (missing values imputed)**

****Hazard ratios scaled by risk-time weighted mean hazard ratio in each multimorbidity group