**Other supplementary material**

**Table S1.** *ICD codes used to define medical conditions and unexpected deaths*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Cause of death or medical condition | ICD codes | | | | |
| Denmarka | | Swedenb | | |
| ICD-8 | ICD-10 | ICD-8 | ICD-9 | ICD-10 |
| Unexpected death | 795, E800-E999 | R95-97, V00-Y99 | 7959, 79621, E807-E999 | 798, E807-E999 | R95, R96, R98, V01-Y98 |
| Chronic hypertension | 40199, 40299, 40399, 40499 | I10-I15, O10, O11 | 40199, 40299, 40399, 40499 | 401-405, 642A, 642B, 642C, 642H | I10-I15, O10, O11 |
| Diabetes mellitus (pre- and gestational diabetes) | 249, 250 | E10-E14, O24 | 250 | 250, 648A, 648W | E10-E14, O24 |
| Preeclampsia | 63703, 63704, 63709, 6371 | O14, O15 | 63703, 63704, 63709, 6371 | 642E, 642F, 642G | O14, O15 |
| Placental abruption | 63219, 6515 | O45 | 63210, 6514 | 641C | O45 |
| Preterm premature rupture of membranes | - | - | - | 658B | O42 |
| Psychiatric disease | 290-315 | F00-F99 | 290-315 | 290-319 | F00-F99 |

ICD, International Classification of Diseases.

a In Denmark ICD-8 was used during 1967-1993 and ICD-10 since 1994.

b In Sweden ICD-8 was used during 1968-1986, ICD-9 during 1987-1996 and ICD-10 since 1997.

**Table S2.** *Adjusted hazard ratios for any preterm birth according to death of any relative the year before or during the first 36 weeks of pregnancy in stratified analysisa*

|  |  |
| --- | --- |
| Stratification variable | HR (95% CI)b |
| Year of offspring’s birth |  |
| 1973-1977 | 1.07 (0.99-1.16) |
| 1978-1982 | 0.98 (0.91-1.07) |
| 1983-1987 | 1.08 (1.01-1.16) |
| 1988-1992 | 1.10 (1.04-1.18) |
| 1993-1997 | 1.12 (1.04-1.20) |
| 1998-2002 | 1.02 (0.94-1.11) |
| 2003-2008 (ref.) | 1.04 (0.96-1.13) |
| Age at offspring’s birth (in years) |  |
| -19 | 1.00 (0.84-1.18) |
| 20-24 | 1.09 (1.02-1.16) |
| 25-29 (ref.) | 1.09 (1.04-1.15) |
| 30-34 | 1.04 (0.99-1.09) |
| 35- | 1.06 (0.99-1.12) |
| Country of origin |  |
| Denmark or Sweden (ref.) | 1.07 (1.04-1.10) |
| Other country | 1.16 (0.97-1.38) |
| Highest educationb |  |
| Basic education | 1.11 (1.05-1.17) |
| Secondary education | 1.08 (1.03-1.12) |
| College or university (ref.) | 1.03 (0.98-1.09) |
| Chronic hypertension |  |
| No (ref.) | 1.07 (1.05-1.11) |
| Yes | 0.99 (0.85-1.16) |
| Psychiatric diagnosis prior to the year preceding pregnancy |  |
| No (ref.) | 1.08 (1.05-1.11) |
| Yes | 0.99 (0.85-1.16) |

HR, odds ratio; CI, confidence interval; Ref. = reference.

a Adjusted for year of delivery, maternal age, education, country of origin, parity, psychiatric disorder before the exposure window and chronic hypertension.

b The p-values corresponding to the interaction terms were 0.0021 when comparing women with low and high education and 0.0455 when comparing women with high and secondary education; 0.04 when comparing women who delivered during 1973-1977 with those who delivered during 2003-2008. In all the other cases the p-values were ≥0.05.

**Table S3.** *Hazard ratios for early term delivery (during gestational weeks 37-38) according to bereavement the year before or in the first 38 weeks of pregnancy*

|  |  |  |  |
| --- | --- | --- | --- |
| Exposure groups | N | Early term delivery | |
| Events | Adjusted HR (95% CI)a |
| Unexposed | 3,755,342 | 623,420 | 1.00 |
| Any death during the exposure periodb | 111,761 | 19,811 | 1.08 (1.06-1.09) |
| Time of deathb  7-12 months before pregnancy  0-6 months before pregnancy  1st trimester of pregnancy  2nd trimester of pregnancy  3rd trimester of pregnancy | 32,073  34,645  15,795  16,471  12,777 | 5,709  6,260  2,776  2,910  2,136 | 1.07 (1.05-1.10)  1.10 (1.07-1.12)  1.06 (1.02-1. 10)  1.06 (1.02-1. 10)  1.06 (1.01-1. 10) |
| Cause of deathb  Natural death  Unnatural death | 98,355  12,958 | 17,515  2,212 | 1.08 (1.06-1. 09)  1.04 (1.00-1. 09) |
| Relationship to the deceased  Older childc  Partnerd  Siblinge  Parentf | 1, 298  1,254  6,340  96,763 | 2,654  272  1,053  16,609 | 1.50 (1.44-1. 56)  1.33 (1.17-1. 50)  1.00 (0.94-1. 07)  1.04 (1.02-1. 05) |

N, number; HR, hazard ratio; CI, confidence intervals.

a Adjusted for country, year of delivery, maternal age, education, country of origin, parity, psychiatric disorder before the exposure window, chronic hypertension and record of preeclampsia, placental abruption or a small for gestational infant in a previous pregnancy.

b Analysis were performed among women with term delivery and register linkage to parents and to the father of the index child (n=3,867,103).

c Analysis were performed among women with term delivery and who had at least a live child at the start of the exposure window

(n=2,610,859).

d Analysis were performed among women with term delivery and register linkage to the father of the index child (n=4,664,504).

e Analysis were performed among women with term delivery and register linkage to parents and at least a live sibling at the start of the exposure window (n=3,563,928).

f Analysis were performed among women with term delivery and who had register linkage to parents and at least a live parent at the start of the exposure window (n=3,869,920).

**Table S4.** *Hazard ratios for induced and spontaneous early term delivery (during gestational weeks 37-38) according to maternal bereavement the year before or in the first 38 weeks of pregnancy in Sweden since 1990*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Exposure group | N | Spontaneous early term delivery | | Medically indicated early term delivery | |
|  | Events | Adjusted HR (95% CI)a | Events | Adjusted HR (95% CI)a |
| Unexposed | 1,240,326 | 147,404 | 1.00 | 64,042 | 1.00 |
| Exposed to any lossb | 30,518 | 2,026 | 1.00 (0.97-1.04) | 3,450 | 1.16 (1.10-1.21) |
| Exposure by type of relative  Older childc  Partnerd  Parente | 2,345  327  26,625 | 354  38  1,583 | 0.97 (0.85-1.10)  0.90 (0.64-1.28)  1.01 (0.97-1.05) | 251  38  3,038 | 2.73 (2.46-3.04)  2.47 (1.79-3.40)  1.03 (0.98-1.08) |

N, number; HR, hazard ratio; CI, confidence intervals.

a Adjusted for year of delivery, maternal age, education, country of origin, parity, psychiatric disorder before the exposure window, chronic hypertension and record of preeclampsia, placental abruption or a small for gestational infant in a previous pregnancy.

b Analysis were performed among women with term delivery in Sweden during 1990-2006 and who had links to parents and to the father of the index child, and in case their delivery was early term, had information on the precursor of delivery (n=1,270,844).

c Analysis were performed among women with term delivery in Sweden during 1990-2006 and who had at least a live child at the start of the exposure window, and in case their delivery was early term, had information on the precursor of delivery (n=829,549).

d Analysis were performed among women with term delivery in Sweden during 1990-2006 and register linkage to the father of the index child, and in case their delivery was early term, had information on the precursor of delivery (n=1,482,982).

e Analysis were performed among women with term delivery in Sweden during 1990-2006 and who had register linkage to parents and at least a live parent at the start of the exposure window, and in case their delivery was early term, had information on the precursor of delivery (n=1,266,994).