**Online supplementary**

**etable 1. The unadjusted effects of covariates included in the main analysis of pregnancy and self-harm risk…………………………………………………………………………………………………………….p2**

**etable2. The effect of pregnancy and post-partum on risk of self-harm for women by type of mental illness and risk self-harm post-partum by birth outcome...……………………………………………………….p3**

**etable3 The effect of pregnancy and post-pregnancy periods on the risk of self-harm risk for women at different ages…………………………………………………………………………………………………..p4**

**etable 1. The unadjusted effects of covariates included in the main analysis of pregnancy and self-harm risk.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Covariate | Person-time\* | Rate | 95%CI | adjHR | 95%CI |
| Age period: |  |  |  |  |  |
| 15 to 19 | 2062 | 7.79 | 7.67 to 7.91 | Ref |  |
| 20 to 24 | 1866 | 4.87 | 4.77 to 4.97 | 0.62 | 0.60 to 0.64 |
| 25 to 29 | 2207 | 3.29 | 3.22 to 3.37 | 0.44 | 0.43 to 0.46 |
| 30 to 34 | 2594 | 2.93 | 2.87 to 3.00 | 0.41 | 0.39 to 0.42 |
| 35 to 39 | 2911 | 3.02 | 2.95 to 3.08 | 0.42 | 0.40 to 0.43 |
| 40 to 45 | 3073 | 2.93 | 2.87 to 2.99 | 0.41 | 0.39 to 0.42 |
| Year category: |  |  |  |  |  |
| 1990-1993 | 657 | 2.50 | 2.39 to 2.63 | Ref |  |
| 1994-1997 | 1050 | 3.14 | 3.03 to 3.25 | 1.38 | 1.29 to 1.47 |
| 1998-2001 | 1945 | 3.38 | 3.30 to 3.46 | 1.46 | 1.37 to 1.56 |
| 2002-2005 | 2925 | 4.09 | 4.02 to 4.17 | 1.76 | 1.66 to 1.87 |
| 2006-2009 | 3153 | 4.13 | 4.06 to 4.20 | 1.85 | 1.74 to 1.96 |
| 2010-2013 | 2995 | 4.16 | 4.09 to 4.24 | 1.89 | 1.78 to 2.01 |
| 2014-2017 | 1988 | 4.43 | 4.34 to 4.52 | 1.97 | 1.85 to 2.10 |
| Region: |  |  |  |  |  |
| London  | 1534 | 2.11 | 2.04 to 2.19 | Ref |  |
| North East | 263 | 4.92 | 4.66 to 5.20 | 2.27 | 2.11 to 2.45 |
| North West | 1740 | 4.36 | 4.26 to 4.46 | 2.00 | 1.90 to 2.11 |
| Yorks & The Humber | 531 | 3.57 | 3.41 to 3.74 | 1.69 | 1.58 to 1.81 |
| East Midlands | 551 | 4.28 | 4.11 to 4.46 | 1.98 | 1.86 to 2.12 |
| West Midlands | 1383 | 3.67 | 3.57 to 3.77 | 1.72 | 1.62 to 1.82 |
| East of England | 1245 | 3.39 | 3.29 to 3.49 | 1.56 | 1.47 to 1.66 |
| South West | 1171 | 4.47 | 4.35 to 4.59 | 1.97 | 1.86 to 2.09 |
| South Central | 1463 | 3.86 | 3.77 to 3.97 | 1.73 | 1.64 to 1.83 |
| South East Coast | 1322 | 3.00 | 2.90 to 3.09 | 1.42 | 1.34 to 1.51 |
| Northern Ireland | 548 | 5.18 | 5.00 to 5.38 | 2.28 | 2.14 to 2.43 |
| Scotland | 1395 | 5.53 | 5.40 to 5.65 | 2.36 | 2.24 to 2.49 |
| Wales | 1566 | 4.29 | 4.19 to 4.39 | 1.98 | 1.87 to 2.09 |
| Mental illness: |  |  |  |  |  |
| Common: |  |  |  |  |  |
| Unexposed  | 13074 | 1.96 | 1.94 to 1.99 | Ref |  |
| Exposed | 1639 | 19.6 | 19.4 to 19.8 | 9.27 | 9.06 to 9.48 |
| Serious: |  |  |  |  |  |
| Unexposed  | 14631 | 3.67 | 3.63 to 3.70 | Ref |  |
| Exposed | 82 | 45.0 | 43.7 to 46.4 | 3.26 | 3.07 to 3.47 |
| Addiction: |  |  |  |  |  |
| Unexposed  | 14607 | 3.52 | 3.49 to 3.55 | Ref |  |
| Exposed | 105 | 52.3 | 51.1 to 53.6 | 4.60 | 4.33 to 4.89 |
| Other: |  |  |  |  |  |
| Unexposed  | 14605 | 3.58 | 3.55 to 3.61 | Ref |  |
| Exposed | 108 | 44.4 | 43.2 to 45.6 | 3.39 | 3.19 to 3.61 |
| IMD quintile: |  |  |  |  |  |
| 1 | 1882 | 2.70 | 2.62 to 2.77 | Ref |  |
| 2 | 1943 | 3.27 | 3.19 to 3.35 | 1.17 | 1.12 to 1.22 |
| 3 | 2214 | 3.39 | 3.31 to 3.46 | 1.23 | 1.17 to 1.28 |
| 4 | 2370 | 3.69 | 3.61 to 3.77 | 1.31 | 1.26 to 1.36 |
| 5 | 2794 | 4.60 | 4.52 to 4.68 | 1.58 | 1.52 to 1.64 |
| \*1000 person-years |

**etable2. The effect of pregnancy and post-partum on risk of self-harm for women by type of mental illness and risk self-harm post-partum by birth outcome.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Period | Exposure | person-time\* | Self-harm | Rate | 95%CI | adjHR\*\* | 95%CI |
|  | **Mental Illness** |  |  |  |  |  |  |
| Pregnancy | None | 429 | 431 | 1.01 | 0.91-1.10 | 0.73 | 0.67-0.80 |
|  | Any | 60 | 579 | 9.67 | 8.92-10.5 | 0.40 | 0.36-0.44 |
|  | Self-harm | 3 | 116 | 46.3 | 38.6-55.5 | 0.26 | 0.22-0.32 |
|  | Common | 51 | 460 | 9.05 | 8.26-9.91 | 0.38 | 0.34-0.41 |
|  | Serious | 1 | 33 | 22.2 | 15.8-31.2 | 0.39 | 0.27-0.56 |
|  | Addict | 3 | 98 | 28.4 | 23.3-34.6 | 0.44 | 0.36-0.54 |
|  | Other | 4 | 57 | 15.9 | 12.3-20.7 | 0.36 | 0.28-0.47 |
| 0-3 post-pregnancy | None | 208 | 347 | 1.67 | 1.50-1.85 | 1.27 | 1.15-1.40 |
|  | Any | 32 | 583 | 18.2 | 16.8-19.8 | 0.77 | 0.71-0.85 |
|  | Self-harm | 1 | 114 | 84.2 | 70.0-101 | 0.51 | 0.42-0.62 |
|  | Common | 27 | 483 | 17.8 | 16.2-19.4 | 0.75 | 0.68-0.83 |
|  | Serious | 1 | 33 | 38.0 | 27.0-53.4 | 0.74 | 0.51-1.06 |
|  | Addict | 2 | 75 | 38.9 | 31.0-48.8 | 0.63 | 0.50-0.80 |
|  | Other | 2 | 52 | 27.8 | 21.2-36.5 | 0.64 | 0.48-0.85 |
| 3-6 post-pregnancy | None | 449 | 459 | 1.02 | 0.93-1.12 | 1.13 | 1.03-1.23 |
|  | Any | 99 | 1,437 | 14.5 | 13.8-15.3 | 0.87 | 0.81-0.92 |
|  | Self-harm | 3 | 317 | 100 | 89.7-112 | 0.72 | 0.61-0.84 |
|  | Common | 88 | 1,282 | 14.6 | 13.8-15.4 | 0.84 | 0.79-0.90 |
|  | Serious | 3 | 121 | 38.0 | 31.8-45.4 | 0.96 | 0.75-1.22 |
|  | Addict | 6 | 252 | 40.8 | 36.1-46.2 | 0.88 | 0.75-1.03 |
|  | Other | 5 | 154 | 28.0 | 23.9-32.8 | 0.94 | 0.77-1.15 |
| 6-12 post-pregnancy | None | 403 | 514 | 1.28 | 1.17-1.39 | 1.24 | 1.14-1.35 |
|  | Any | 87 | 1,524 | 17.4 | 16.6-18.3 | 0.92 | 0.87-0.98 |
|  | Self-harm | 3 | 297 | 92.3 | 82.3-103 | 0.65 | 0.57-0.75 |
|  | Common | 77 | 1,338 | 17.4 | 16.5-18.4 | 0.88 | 0.83-0.94 |
|  | Serious | 2 | 108 | 43.8 | 36.3-52.9 | 1.11 | 0.90-1.37 |
|  | Addict | 5 | 253 | 47.4 | 41.9-53.6 | 0.94 | 0.82-1.08 |
|  | Other | 5 | 166 | 35.2 | 30.3-41.0 | 1.04 | 0.86-1.25 |
| All other times | None | 1,1353 | 17,584 | 1.55 | 1.53-1.57 | ref |  |
|  | Any | 1,593 | 34,333 | 21.6 | 21.3-21.8 | ref |  |
|  | Self-harm | 51 | 9,060 | 178 | 174-182 | ref |  |
|  | Common | 1,396 | 28,561 | 20.5 | 20.2-20.7 | ref |  |
|  | Serious | 85 | 3,910 | 45.8 | 44.4-47.2 | ref |  |
|  | Addict | 107 | 5,808 | 54.3 | 52.9-55.7 | ref |  |
|  | Other | 108 | 5,076 | 46.8 | 45.5-48.1 | ref |  |
|  | **Birth Outcome** | **person-time\*** | **Self-harm** | **Rate** | **95%CI** | **adjHR\*\*\*** | **95%CI** |
| Pregnant | \_ | 489 | 1,010 | 2.07 | 1.94-2.20 | 0.52 | 0.48-0.55 |
| 0-3 post-pregnancy | Live-birth | 122 | 174 | 1.42 | 1.23-1.65 | 0.40 | 0.34-0.47 |
|  | Loss | 21 | 153 | 7.37 | 6.29-8.63 | 1.41 | 1.21-1.65 |
|  | Termination | 27 | 320 | 11.9 | 10.7-13.3 | 1.93 | 1.72-2.17 |
|  | Unknown | 55 | 235 | 4.27 | 3.76-4.85 | 0.98 | 0.87-1.11 |
| 3-6 post-pregnancy | Live-birth | 304 | 725 | 2.39 | 2.22-2.57 | 0.72 | 0.66-0.78 |
|  | Loss | 90 | 310 | 3.45 | 3.09-3.86 | 1.10 | 0.98-1.24 |
|  | Termination | 47 | 386 | 8.29 | 7.50-9.16 | 1.54 | 1.37-1.73 |
|  | Unknown | 147 | 562 | 3.82 | 3.51-4.14 | 0.98 | 0.88-1.09 |
| 6-12 post-pregnancy | Live-birth | 242 | 663 | 2.74 | 2.54-2.95 | 0.72 | 0.66-0.79 |
|  | Loss | 81 | 337 | 4.18 | 3.76-4.65 | 1.17 | 1.37-1.64 |
|  | Termination | 68 | 572 | 8.36 | 7.70-9.07 | 1.49 | 1.37-1.64 |
|  | Unknown | 116 | 499 | 4.30 | 3.94-4.70 | 1.08 | 0.98-1.18 |
| All other times | - | 12946 | 51917 | 4.01 | 3.98-4.04 | Ref | - |

\* 1000 person-years \*\* Adjusted for age, region and calendar year \*\*\* Adjusted for age, region, calendar year and any mental illness

**etable3 The effect of pregnancy and post-partum periods on the risk of self-harm for women at different ages**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Time period** | **Age-group** | **person-time** | **failures** | **rate** | **95%CI** | **adjHR1** | **95%CI** | **adjHR2** | **95%CI** |
| **Pregnant** | **15-19** | 34 | 301 | 8.81 | 7.87-9.86 | 0.95 | 0.84-1.07 | 0.69 | 0.61-0.77 |
|  | **20-24** | 81 | 286 | 3.55 | 3.16-3.98 | 0.65 | 0.58-0.74 | 0.53 | 0.47-0.59 |
|  | **25-29** | 130 | 187 | 1.44 | 1.25-1.66 | 0.43 | 0.37-0.50 | 0.42 | 0.36-0.49 |
|  | **30-34** | 145 | 125 | 0.86 | 0.72-1.02 | 0.28 | 0.23-0.34 | 0.33 | 0.27-0.39 |
|  | **35-39** | 80 | 87 | 1.08 | 0.88-1.33 | 0.35 | 0.28-0.44 | 0.42 | 0.33-0.52 |
|  | **40-45** | 18 | 24 | 1.32 | 0.89-1.97 | 0.48 | 0.32-0.71 | 0.52 | 0.35-0.78 |
| **0-3 post-pregnancy** | **15-19** | 18 | 273 | 15.3 | 13.6-17.3 | 1.67 | 1.48-1.90 | 1.20 | 1.06-1.35 |
|  | **20-24** | 40 | 268 | 6.76 | 6.00-7.62 | 1.27 | 1.12-1.44 | 0.99 | 0.87-1.12 |
|  | **25-29** | 59 | 156 | 2.63 | 2.25-3.08 | 0.79 | 0.67-0.93 | 0.74 | 0.62-0.87 |
|  | **30-34** | 68 | 128 | 1.87 | 1.58-2.23 | 0.62 | 0.51-0.74 | 0.68 | 0.57-0.82 |
|  | **35-39** | 42 | 79 | 1.86 | 1.49-2.32 | 0.60 | 0.48-0.76 | 0.69 | 0.54-0.87 |
|  | **40-45** | 12 | 26 | 2.08 | 1.42-3.06 | 0.75 | 0.50-1.12 | 0.78 | 0.52-1.17 |
| **3-6 post-pregnancy** | **15-19** | 16 | 255 | 16.2 | 14.3-18.3 | 1.66 | 1.46-1.89 | 1.13 | 0.99-1.28 |
|  | **20-24** | 51 | 394 | 7.69 | 6.97-8.49 | 1.41 | 1.26-1.58 | 1.02 | 0.91-1.13 |
|  | **25-29** | 94 | 380 | 4.06 | 3.67-4.48 | 1.15 | 1.02-1.28 | 0.95 | 0.85-1.06 |
|  | **30-34** | 140 | 369 | 2.63 | 2.37-2.91 | 0.87 | 0.76-0.99 | 0.84 | 0.74-0.96 |
|  | **35-39** | 145 | 304 | 2.10 | 1.88-2.35 | 0.73 | 0.63-0.84 | 0.76 | 0.66-0.87 |
|  | **40-45** | 102 | 194 | 1.91 | 1.66-2.20 | 0.73 | 0.61-0.86 | 0.78 | 0.66-0.92 |
| **6-12 post-pregnancy** | **15-19** | 22 | 320 | 14.9 | 13.3-16.6 | 1.59 | 1.41-1.79 | 1.06 | 0.94-1.19 |
|  | **20-24** | 63 | 516 | 8.15 | 7.48-8.88 | 1.48 | 1.34-1.63 | 1.05 | 0.96-1.16 |
|  | **25-29** | 103 | 436 | 4.25 | 3.87-4.67 | 1.24 | 1.12-1.38 | 1.01 | 0.91-1.12 |
|  | **30-34** | 135 | 389 | 2.88 | 2.61-3.18 | 0.94 | 0.84-1.06 | 0.91 | 0.81-1.02 |
|  | **35-39** | 110 | 235 | 2.13 | 1.88-2.42 | 0.71 | 0.61-0.82 | 0.73 | 0.63-0.84 |
|  | **40-45** | 57 | 142 | 2.48 | 2.10-2.92 | 0.93 | 0.76-1.13 | 0.94 | 0.77-1.15 |
| **All other times** | **15-19** | 1972 | 14904 | 7.56 | 7.44-7.68 | ref |  |  |  |
|  | **20-24** | 1631 | 7614 | 4.67 | 4.57-4.77 | ref |  |  |  |
|  | **25-29** | 1822 | 6106 | 3.35 | 3.27-3.44 | ref |  |  |  |
|  | **30-34** | 2105 | 6595 | 3.13 | 3.06-3.21 | ref |  |  |  |
|  | **35-39** | 2533 | 8079 | 3.19 | 3.12-3.26 | ref |  |  |  |
|  | **40-45** | 2883 | 8619 | 2.99 | 2.93-3.05 | ref |  |  |  |

\* 1000 person-years 1Adjusted for region and calendar year 2Adjusted for mental illness region and calendar year