Table 4: Association of age, parity, physical job demands, absorbed dose, and Standard Sleep Interval time (analyzed simultaneously) with early miscarriage (gestational weeks 4-13) according to time period a

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable b | Weeks 4-8 | | | |  | Weeks 9-13 | | | |  | Weeks 4-13 | | | |
| No. Pregnancies | No. Miscarriages | OR | (95% CI) | No. Pregnancies | No. Miscarriages | OR | (95% CI) | No. Pregnancies | No. Miscarriages | OR | (95% CI) |
|  |  |  | Model 1 | |  |  |  | Model 2 | |  |  |  | Model 3 | |
| Age at last menstrual period |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| (One year) | 797 | 78 | 1.1 | (1.1-1.2) |  | 719 | 69 | 1.0 | (0.96-1.1) |  | 797 | 147 | 1.1 | (1.0-1.1) |
| Parity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nulliparous c | 478 | 45 | 1.0 |  |  | 433 | 47 | 1.0 |  |  | 478 | 92 | 1.0 |  |
| Parous | 319 | 33 | 0.91 | (0.56-1.5) |  | 286 | 22 | 0.70 | (0.43-1.2) |  | 319 | 55 | 0.81 | (0.57-1.2) |
| Physical job demands in pregnancy d |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Low c | 157 | 8 | 1.0 |  |  | 149 | 6 | 1.0 |  |  | 157 | 14 | 1.0 |  |
| High | 640 | 70 | 2.2 | (1.1-4.5) |  | 570 | 63 | 2.8 | (1.2-6.4) |  | 640 | 133 | 2.5 | (1.5-4.1) |
| Absorbed dose and Standard Sleep Interval travel e |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| No work flights f | 75 | 15 | 2.6 | (1.4-4.9) |  | 60 | 5 | 1.6 | (0.54-4.6) |  | 75 | 20 | 2.3 | (1.3-4.0) |
| Low-Low (<0.1 mGy and <15 hours) c | **290** | 28 | 1.0 |  |  | 136 | 9 | 1.0 |  |  | 164 | 37 | 1.0 |  |
| Low-High (<0.1 mGy and ≥15 hours) | **39** | 8 | 1.8 | (0.86-3.9) |  | 19 | 3 | 2.4 | (0.64-9.3) |  | 27 | 11 | 2.0 | (1.0-3.9) |
| High-Low (≥0.1 mGy and <15 hours) | **162** | 11 | 1.2 | (0.55-2.4) |  | 167 | 15 | 1.5 | (0.69-3.4) |  | 178 | 26 | 1.3 | (0.76-2.1) |
| High-High (≥0.1 mGy and ≥15 hours) | **231** | 16 | 0.97 | (0.50-1.9) |  | 337 | 37 | 2.3 | (1.1-4.6) |  | 353 | 53 | 1.6 | (1.0-2.5) |

a Models of pregnancies in weeks 4-13 included 797 flight attendant study pregnancies (11 miscarriages in gestational weeks 1-3 and 32 pregnancies with one or more missing covariates were excluded).

b All variables were included in each model; however, estimates for age and parity are not necessarily interpretable as total effects.40

c Reference category

d High physical job demands defined as (1) being on your feet (including standing and walking) more than 8 hours/day or (2) two or more of the following: lifting or carrying objects that weigh at least 15 pounds more than 10 times a day, bending at the waist more than 25 times/day, and pushing or pulling heavy objects requiring at least 15 pounds of force or effort 20 or more times/day.

e Cumulative occupational exposure metrics were evaluated from the estimated date of last menstrual period through the cutoff week; cut points reflect the median exposure among cases.

f Some employed flight attendants did not incur work flights during the first trimester.