

Supplemental tables

eTable 1. Sensitivity analysis of characteristics in included subjects and excluded subjects

| Variables | Included | Excluded | P-value |
|------------------------------------------------------|----------------|----------------|----------|
| n | 13015 | 9287 | |
| Variables at registration for pregnancy | | | |
| Age, year | 28.48 ± 2.92 | 28.64 ± 3.07 | <0.001* |
| Pre-pregnancy BMI, kg/m ² | 22.32 ± 3.38 | 22.47 ± 3.57 | 0.002* |
| Han-nationality | 12401 (95.3%) | 8901 (95.8%) | 0.050** |
| Weight, kg | 59.53 ± 9.73 | 59.83 ± 10.22 | 0.026* |
| Height, cm | 163.22 ± 4.72 | 163.11 ± 4.69 | 0.081* |
| Systolic blood pressure, mmHg | 105.72 ± 10.74 | 105.42 ± 10.63 | 0.044* |
| Diastolic blood pressure, mmHg | 68.52 ± 7.78 | 68.34 ± 7.73 | 0.090* |
| Parity ≥1 | 484 (3.7%) | 422 (4.5%) | 0.002** |
| Family history of diabetes in first degree relatives | 1125 (9.2%) | 710 (8.7%) | 0.237** |
| Gestational age at registration, weeks | 10.38 ± 2.33 | 10.58 ± 2.65 | <0.001* |
| History of caesarean delivery ≥1 | 262 (2.0%) | 162 (1.74%) | 0.079** |
| Variables at Glucose challenge test | | | |
| Smoke before or during pregnancy | 665 (5.1%) | 443 (4.8%) | 0.263** |
| Drink before or during pregnancy | 4126 (31.7%) | 2628 (28.3%) | <0.001** |
| Gestational diabetes mellitus | 897 (7.3%) | 642 (8.2%) | 0.024** |
| Glucose challenge test, mmol/L | 6.63 ± 1.56 | 6.63 ± 1.66 | 0.916* |
| Weight gain from registration to GCT, kg | 7.64 ± 3.17 | 6.98 ± 4.27 | <0.001* |
| Occupational physical activity | | | <0.001** |
| Low | 11257 (86.5%) | 2365 (94.8%) | |
| Moderate | 1741 (13.4%) | 129 (5.2%) | |
| High | 9 (0.1%) | 2 (0.1%) | |
| Commuting physical activity(min/day) ^a | | | <0.001** |
| low | 12273 (94.4%) | 2405 (97.4%) | |
| Moderate-to-high | 725 (5.6%) | 64 (2.6%) | |
| Leisure-time physical activity(min/week) | | | <0.001* |
| 0 | 7025(54.0%) | 1499(64.3%) | |
| <150 | 3764 (28.9%) | 624 (26.8%) | |
| ≥150 | 2173 (16.8%) | 205 (8.8%) | |
| Housework physical activity(h/day) | | | 0.7240** |
| ≤1 | 9983 (78.6%) | 1069 (79.1%) | |
| >1 | 2716 (21.4%) | 283 (20.9%) | |
| Physical activity during pregnancy ^b | | | |
| Low | 7027 (54.0%) | 676 (55.2%) | 0.441** |

| | | | |
|----------------------------------------|--------------|--------------|----------|
| Moderate-to-high | 5988 (46.0%) | 549 (44.8%) | |
| Sleep duration during pregnancy(h/day) | | | 0.005** |
| <7 | 251 (1.9%) | 35 (1.8%) | |
| ≥7 to <9 | 5568 (42.8%) | 768 (39.0%) | |
| ≥9 | 7196 (55.3%) | 1166 (59.2%) | |
| Sleep quality during pregnancy | | | 0.1050** |
| Good | 4913 (37.9%) | 999 (39.8%) | |
| Moderate | 7765 (59.8%) | 1460 (58.2%) | |
| Poor | 299 (2.3%) | 48 (1.9%) | |
| Variables at delivery | | | |
| Gestational age at delivery, weeks | 39.08 ± 1.50 | 37.32 ± 6.25 | <0.001* |
| Birth weight, kg | 3.38 ± 0.47 | 3.36 ± 0.48 | 0.001* |
| Neonatal height, cm | 50.15 ± 1.64 | 50.05 ± 1.71 | <0.001* |

Abbreviations: BMI, body mass index; GCT, glucose challenge test; CD, caesarean delivery.

*Derived from Student's t-test; **Derived from Chi-square Test or Fisher's exact test.

a Low was defined as defined barely outgoing, using motorized transportation or <30 min/day walking or cycling to and from work; b Low was defined when subjects simultaneously reported the light level of occupational physical activity, low commuting physical activity, <150min/week of leisure-time physical activity, and ≤1 h/day housework physical activity; and others were defined as 'moderate-to-high'

eTable 2. Sensitivity analysis of reclusion of the 979 subjects who had multiple pregnancies or delivered stillbirth

| Variables | OR (95% confidence interval) | | |
|------------------------|------------------------------|------------------|------------------|
| | Model 1 | Model 2 | Model 3 |
| Physical activity | | | |
| Low | 1.11 (1.03-1.19) | 1.13 (1.04-1.22) | 1.13 (1.04-1.22) |
| Moderate-to-high | 1.00 (Reference) | 1.00 (Reference) | 1.00 (Reference) |
| Sleep duration (h/day) | | | |
| <7 | 1.11 (0.85-1.44) | 1.06 (0.79-1.41) | 1.04 (0.78-1.40) |
| ≥7 to <9 | 1.00 (Reference) | 1.00 (Reference) | 1.00 (Reference) |
| ≥9 | 1.10 (1.02-1.18) | 1.14 (1.05-1.23) | 1.14 (1.05-1.23) |
| Sleep quality | | | |
| Good | 1.00 (Reference) | 1.00 (Reference) | 1.00 (Reference) |
| Moderate | 1.01 (0.94-1.08) | 1.00 (0.92-1.08) | 1.01 (0.93-1.10) |
| Poor | 0.90 (0.71-1.15) | 0.87 (0.67-1.14) | 0.90 (0.69-1.18) |

Abbreviations: OR, odds ratio.

Model 1: Univariable analysis.

Model 2: Multivariable analysis, adjusted for age, body mass index, weight gain from registration to glucose challenge test, gestational age at delivery, habitual smokers before and during pregnancy, alcohol drinkers before and during pregnancy, family history of diabetes in first-degree relatives, parity≥1, Han nationality, systolic blood pressure at registration for pregnancy, birth weight, neonatal height.

Model 3: Further adjusted for gestational diabetes, in addition to the variables listed in model 2.

eTable 3. Sensitivity analysis of commuting, housework, occupational and leisure-time PAs on CD for medical reasons or non-medical reasons

| Variables | OR (95% confidence interval) | |
|------------------------------------------|------------------------------|----------------------------|
| | CD for medical reasons | CD for non-medical reasons |
| Model 1 | | |
| Commuting physical activity ^a | | |
| Low V.S Moderate-to-high | 1.23 (1.04-1.45) | 1.42 (1.14-1.76) |
| Housework physical activity(h/day) | | |
| ≤1 V.S >1 | 1.15 (1.04-1.26) | 1.00 (0.89-1.12) |
| Occupational physical activity | | |
| Low V.S Moderate-to-high | 1.09 (0.97-1.22) | 1.06 (0.93-1.22) |
| Leisure-time physical activity(min/week) | | |
| <150 V.S ≥150 | 1.04 (0.94-1.16) | 1.02 (0.90-1.16) |
| Model 2 | | |
| Commuting physical activity ^a | | |
| Low V.S Moderate-to-high | 1.15 (0.96-1.37) | 1.38 (1.10-1.75) |
| Housework physical activity(h/day) | | |
| ≤1 V.S >1 | 1.22 (1.10-1.35) | 1.05 (0.93-1.19) |
| Occupational physical activity | | |
| Low V.S Moderate-to-high | 1.09 (0.96-1.23) | 1.07 (0.92-1.24) |
| Leisure-time physical activity(min/week) | | |
| <150 V.S ≥150 | 1.05 (0.94-1.18) | 1.06 (0.92-1.21) |
| Model 3 | | |
| Commuting physical activity ^a | | |
| Low V.S Moderate-to-high | 1.18 (0.99-1.42) | 1.42 (1.12-1.80) |
| Housework physical activity(h/day) | | |
| ≤1 V.S >1 | 1.22 (1.10-1.36) | 1.06 (0.94-1.21) |
| Occupational physical activity | | |
| Low V.S Moderate-to-high | 1.09 (0.96-1.23) | 1.08 (0.93-1.26) |
| Leisure-time physical activity(min/week) | | |
| <150 V.S ≥150 | 1.04 (0.93-1.17) | 1.06 (0.92-1.21) |

Abbreviations: CD, caesarean delivery, OR, odds ratio, PA, physical activity.

^a Low was defined as defined barely outgoing, using motorized transportation or <30 min/day walking or cycling to and from work.

Model 1: Univariable analysis.

Model 2: Multivariable analysis, adjusted for age, body mass index, weight gain from registration to glucose challenge test, gestational age at delivery, habitual smokers before and during pregnancy, alcohol drinkers before and during pregnancy, family history of diabetes in first-degree relatives, parity≥1, Han nationality, systolic blood pressure at registration for pregnancy, birth weight, neonatal height.

Model 3: Further adjusted for gestational diabetes, in addition to the variables listed in model 2.