**Supplement Table 1** Odds ratios and 95% confidence intervals of preeclampsia according to quartiles of dietary vitamin D intake among participants without GDM (*n* = 382 pairs)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Cases/controls (*n*) | Basic model | |  | Model 1\* | |  | Model 2† | |
|  | OR | 95%CI |  | OR | 95%CI |  | OR | 95%CI |
| Dietary vitamin D intake |  |  |  |  |  |  |  |  |  |
| Q1 | 149/99 | 1 | |  | 1 | |  | 1 | |
| Q2 | 89/92 | 0.63 | 0.42, 0.93 |  | 0.60 | 0.38, 0.96 |  | 0.64 | 0.40, 1.04 |
| Q3 | 87/100 | 0.56 | 0.37, 0.84 |  | 0.54 | 0.33, 0.87 |  | 0.57 | 0.35, 0.94 |
| Q4 | 57/91 | 0.43 | 0.28, 0.65 |  | 0.40 | 0.24, 0.65 |  | 0.43 | 0.26, 0.71 |
| *P*trend b | - | < 0.001 | |  | < 0.001 | |  | 0.001 | |

OR, odds ratios; CI, confidence interval; Q, quartile.

a Median intake of vitamin D in controls, which were adjusted for daily energy intake.

b Performed by entering the median intake in each quartile as continuous variables in the regression models.

\* Model 1 was adjusted for age, gestational age, pre-pregnancy BMI, family history of hypertension, education level, parity, physical activity and time of sun exposure.

† Model 2 was additionally adjusted for daily energy intake, vegetables intake(energy-adjusted) and fruits intake(energy-adjusted).

**Supplement Table 2** Sociodemographic characteristics and serum concentrations of 25(OH)D of participants (*n* =150 pairs)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Cases (*n* = 150) | |  | Controls (*n* = 150) | | | *P*\* | |
|  | Mean/ Median | SD/ IQR |  | Mean/ Median | | SD/ IQR | |  | |
| Age (years) a | 31.41 | 4.75 | 31.31 | | 4.54 | | 0.52 | |
| Gestational age (weeks) a | 34.05 | 2.77 | 34.18 | | 2.69 | | 0.06 | |
| Pre-pregnancy BMI (kg/m2) a | 23.52 | 3.90 | 22.69 | | 3.48 | | 0.05 | |
| Vitamin D supplement user (%) | 76.0 | | 77.3 | | | |  | |
| Serum concentrations of 25(OH)D2 (ng/ml) b | 0.77 | 0.58, 0.97 | 1.05 | | 0.56, 1.54 | | < 0.001 | |
| Serum concentrations of 25(OH)D3 (ng/ml) b | 10.60 | 5.87, 15.33 | 12.30 | | 7.01, 17.59 | | 0.04 | |
| Serum concentrations of total 25(OH)D (ng/ml) b | 11.50 | 6.78, 16.23 | 14.05 | | 8.80, 19.30 | | 0.01 | |

SD, standard deviation; IQR, interquartile ranges; BMI, body mass index.

a Described as mean and SD.

b Described as median and IQR.

\* Continuous variables were evaluated using paired *t*-tests or Wilcoxon rank-sum tests. Categorical variables were evaluated using paired chi-square tests.

**Supplement Table 3** The status of vitamin D deficiency, insufficiency and sufficiency among participants (*n* = 150 pairs)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Definition | Cases | |  | Controls | | *P* |
|  | *n* | % |  |  |  |  |
| Vitamin D deficiency | < 20 ng/ml | 124 | 82.7 |  | 106 | 70.7 | 0.046 |
| Vitamin D insufficiency | 21-29 ng/ml | 20 | 13.3 |  | 32 | 21.3 |  |
| Vitamin D sufficiency | ≥30 ng/ml | 6 | 4.0 |  | 12 | 8.0 |  |