**Supplement Table 1.** Association of vitamin D status and calcium supplement frequency with PTH levels in the second trimester of pregnancy.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Groups | | n | PTH(ng/L) | | |  | Elevated PTH | | | |
| *β* | 95% *CI* | *P* |  | n(%) | *RR* | 95% *CI* | *P* |
| 25(OH)D status | |  |  |  |  |  |  |  |  |  |
|  | <30 nmol/L | 445 | 1.69 | 0.63,2.74 | 0.002 |  | 131(29.4) | 1.66 | 1.20,2.31 | 0.002 |
| ≥30-<50 nmol/L | 732 | 1.09 | 0.13,2.05 | 0.026 |  | 180(24.6) | 1.30 | 0.96,1.77 | 0.095 |
| ≥50nmol/L | 359 | Ref | Ref | Ref |  | 72(20.1) | Ref | Ref | Ref |
| Calcium supplement frequency | |  |  |  |  |  |  |  |  |  |
|  | 0-2 times/w | 363 | 1.09 | 0.24,1.94 | 0.012 |  | 108(29.8) | 1.41 | 1.08,1.85 | 0.011 |
| 3-4 times/w | 154 | 0.34 | -0.86,1.54 | 0.582 |  | 40(26.0) | 1.18 | 0.79,1.73 | 0.427 |
| ≥5 times/w | 1019 | Ref | Ref | Ref |  | 235(23.1) | Ref | Ref | Ref |

PTH, parathyroid hormone; 25(OH)D, 25-hydroxyvitamin D.**Supplement Table 2.** Association of combined status of VD and PTH with neonatal birth weight or SGA risk\*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Groups | N | Birth weight | | |  | SGA | | | |
| *β* | 95% *CI* | *P* |  | n(%) | *RR* | 95% *CI* | *P* |
| VD<30 |  |  |  |  |  |  |  |  |  |
| PTH≥P80 | 101 | -94.7 | -170.4,-19.1 | 0.014 |  | 10(9.9) | 3.53 | 1.44,8.62 | 0.006 |
| PTH<P80 | 344 | -88.4 | -140.5,-36.3 | 0.001 |  | 30(29.7) | 2.44 | 1.23,4.83 | 0.010 |
| ≥30-<50 |  |  |  |  |  |  |  |  |  |
| PTH≥P80 | 148 | -95.4 | -159.9,-30.8 | 0.004 |  | 13(8.8) | 2.40 | 1.07,5.40 | 0.034 |
| PTH<P80 | 584 | -47.7 | -93.4,-1.9 | 0.041 |  | 46(7.9) | 1.89 | 1.01,3.55 | 0.048 |
| VD≥50 |  |  |  |  |  |  |  |  |  |
| PTH≥P80 | 59 | -29.0 | -119.3,61.3 | 0.528 |  | 5(8.5) | 2.63 | 0.93,7.46 | 0.068 |
| PTH<P80 | 300 | Ref | Ref | Ref |  | 16(5.3) | Ref | Ref | Ref |

PTH, parathyroid hormone; 25(OH)D, 25-hydroxyvitamin D; VD, vitamin D.

\*Adjusted for gestational age at delivery, gestational age at enrollment, maternal age at enrollment, household income, nulliparous, pre-pregnancy BMI, gestational diabetes, GWG, vitamin D supplement, calcium supplement, milk supplement, sunshine exposure, blood sampling season, gender and anemia.**Supplement Table 3.** Associations of combined status of VD and PTH on serum calcium metabolism and less frequency of calcium supplement during pregnancy\*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Groups | N | Serum calcium (μmol/L) | | |  | Less frequency of calcium supplement† | | | |
| *β* | 95% *CI* | *P* |  | n(%) | *RR* | 95% *CI* | *P* |
| VD<30 |  |  |  |  |  |  |  |  |  |
| PTH≥P80 | 101 | 0.043 | 0.005,0.085 | 0.035 |  | 38(37.6) | 4.58 | 2.64,7.94 | <0.001 |
| PTH<P80 | 344 | 0.036 | 0.008,0.070 | 0.013 |  | 113(32.8) | 3.14 | 2.06,4.78 | <0.001 |
| ≥30-<50 |  |  |  |  |  |  |  |  |  |
| PTH≥P80 | 148 | 0.032 | 0.005,0.064 | 0.045 |  | 37(25.0) | 2.22 | 1.33,3.72 | 0.002 |
| PTH<P80 | 584 | 0.021 | 0.006,0.037 | 0.007 |  | 125(21.4) | 1.81 | 1.21,2.70 | 0.004 |
| VD≥50 |  |  |  |  |  |  |  |  |  |
| PTH≥P80 | 59 | 0.028 | -0.024,0.079 | 0.151 |  | 10(16.9) | 1.39 | 0.65,2.99 | 0.400 |
| PTH<P80 | 300 | Ref | Ref |  |  | 40(13.3) | Ref | Ref |  |

PTH, parathyroid hormone; 25(OH)D, 25-hydroxyvitamin D.

\*Adjusted for gestational age at delivery, gestational age at enrollment, maternal age at enrollment, household income, nulliparous, pre-pregnancy BMI, gestational diabetes, GWG, vitamin D supplement, milk supplement, sunshine exposure, blood sampling season, gender and anemia.

† Less frequency of calcium supplement: calcium supplement <3 times/w.