Vitamin D deficiency in pregnant women and their neonates in spring time in western Turkey.


OBJECTIVE: Although Turkey is located in a sunny region, vitamin D deficiency is still a serious health problem in pregnant women and their infants, especially among the low socio-economic status Turkish population. This study was carried out in order to measure serum 25-hydroxyvitamin D3 [25(OH)D] concentrations of the pregnant women in the last trimester and in their neonates at delivery and to determine the factors associated with maternal serum 25(OH)D concentrations.

METHODS: Among the patients visiting the Ege Obstetrics and Gynecology Hospital in the period March to May 2008, 258 healthy pregnant women ≥37 weeks of gestation were included in this study. The information on different characteristics such as the number of pregnancies and births, nutritional status, vitamin and mineral support during gestation, educational status, clothing style and the economic level of the family was collected from women. Blood samples from the mothers and umbilical cord of the newborns were taken to measure 25(OH)D.

RESULTS: The mean 25(OH)D concentrations of the mothers and their infants were 11.5 ± 5.4 ng/mL and 11.5 ± 6.8 ng/mL, respectively. We found a strong positive correlation between maternal serum and umbilical cord blood 25(OH)D concentrations (r = 0.651, P < 0.001). The concentration of 25(OH)D was ≤20 ng/mL in 233 mothers (90.3%) and ≤10 ng/mL in 130 mothers (50.4%). Maternal serum 25(OH)D concentrations related strongly to factors such as uncovered dressing style, sufficient consumption of dairy products and multivitamin use during gestation (P < 0.05). About half (52.7%) of these women had a covered dressing style. 25(OH)D concentrations of these covered dressing mothers and their infants were 9.7 ± 5.1 ng/mL and 9.7 ± 5.6 ng/mL, respectively, which were significantly lower compared with those of uncovered mothers and their babies (P < 0.001).

CONCLUSIONS: This study showed that, despite a sunny environment, vitamin D deficiency and insufficiency are highly prevalent among the mothers and their neonates. This is generally due to the life style and nutritional status of the mothers. These findings suggest that much more effective vitamin D prophylaxis programmes should be implemented for pregnant women as well as for their babies.

PMID: 22150708