Prevalence and Risk Factors for Vitamin D Deficiency among Mothers in Labor and Their Newborns

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Background and Objectives: Vitamin D deficiency is recognized as a global public health problem. Studies of vitamin D levels in mothers in labor and their newborns in Bahrain are lacking. The aim of this study is to identify the prevalence of vitamin D (25(OH)D) deficiency among mothers in labor and their newborns in Bahrain.

Design: A cross-sectional multicenter study.

Setting: Four Public and Four Private Maternity Hospitals in Bahrain.

Method: The study was conducted in April 2012. It included mothers in labor and their newborns. Differences between the subgroups were analyzed using Chi-Square or Student's *t*-test as appropriate. Linear regression analysis was used to evaluate independent predictors of 25(OH)D level.

Result: The study included 403 mothers and 403 newborns. Overall prevalence of 25(OH)D deficiency (<50 nmol) was 358 (88.8%) of the mothers and 364 (90.3%) of the newborns. The mean maternal alkaline phosphatase level was significantly higher than the neonatal level and the maternal mean calcium was significantly lower than the neonatal level.

Significant association with vitamin D deficiency was found among Bahraini and non-Bahraini Arab mothers, delivering in public rather than private hospital, living in flats, low education, the use of veil, gravida ≥4, not using multivitamins, vitamin D or calcium supplements.

Conclusion: Vitamin D deficiency among mothers and their newborns is high. This mandates increasing awareness, vitamin D supplementation among mothers in labor and their infants; in addition to the introduction of vitamin D fortification of dairy products and flour at the national level.

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