

Reply to Letter to the Editor to Maternal vitamin D status during pregnancy in Europe: the two sides of the story

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We thank Karras et al. [1] for their interest towards our results which indicated that public health policies can be successful in ensuring vitamin D sufficiency (25-hydroxyvitamin D [25(OH)D] ≥ 50 nmol/l) in pregnant women [2]. We agree that an adequate intake of vitamin D is highly relevant in maintaining sufficient maternal vitamin D status. The Finnish national guidelines for vitamin D food fortification and recommendations for vitamin D supplementation could be adapted in several other countries where maternal vitamin D deficiency is a concern. Along with the extensive fortification of dairy products and dietary fats, vitamin D deficiency was efficiently prevented with daily supplementation of merely 10 μg [2]. We would, therefore, be cautious in increasing the recommended supplementation to 4000 IU/d (=100 $\mu\text{g}/\text{d}$) [1]. Moreover, the optimal 25(OH)D concentration is still under debate, and the potential adverse effects of high 25(OH)D concentrations need to be avoided. According to the Institute of Medicine, 25(OH)D concentrations above 125 nmol/l might be harmful [3]. As long as the optimal 25(OH)D for pregnant women and newborn children remains unclear, public health recommendations should not advocate excessive vitamin D supplementation. In fact, we have reported a positive

association between 25(OH)D concentration and inflammatory biomarkers in cord blood in vitamin D sufficient population [4]. Although the clinical importance of this cross-sectional finding remains unclear, a possibility for U-shaped relationship between 25(OH)D and the inflammatory state of a newborn could not be abandoned.

In Finland, vitamin D food fortification has been proven to be efficient in increasing the vitamin D intake in adult population resulting in a decrease in vitamin D deficiency [5]. The recommended use of vitamin D supplementation during pregnancy has also been well adapted. These public health policies have, in our country, been sufficient to improve maternal and newborn vitamin D status. The coming years will show how this translates to well-being of the mothers and their children. We agree with Karras et al. that prospective randomized studies are needed. While these results are awaited, research to define an optimal vitamin D status in all age groups should continue. It may well be that future findings will allow us to further increase the recommendations, but until then, caution should be exercised. At population level, the emphasis should be in achieving a sufficient maternal vitamin D status by both food fortification and with moderate dose of supplemental vitamin D.

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