Applied Physiology, Nutrition, and Metabolism

Discussion

In response to: How does Canada's new vitamin D fortification policy affect the high prevalence of inadequate intake of the vitamin?

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To the Editor,

We have read the recent publication by Vatanparast and Longworth entitled "How does Canada's new vitamin D fortification policy affect the high prevalence of inadequate intake of the vitamin?" published in the Applied Physiology, Nutrition and Metabolism journal and wish to make some contributions and provide some background and clarification from the regulator's (Health Canada's) perspective (Vatanparast and Longworth 2023).

Serum 25-hydroxy-vitamin D (25OHD) is the most widely accepted biomarker for vitamin D status, reflecting vitamin D contributions from food, supplements, and ultraviolet B (UVB) radiation. At northern latitudes, such as Canada, UVB exposure and endogenous vitamin D synthesis are insufficient to support vitamin D status year-round. The estimated average requirement (EAR) for vitamin D of 10 μg was set on the basis of achieving 25OHD levels of 40 nmol/L and under the assumption that sun exposure is minimal. In North America, a 25OHD level of 40 nmol/L is applied as the cut-point for determining the adequacy of vitamin D status of a population group (Institute of Medicine 2011). Applying this cut-point, the prevalence of vitamin D inadequacy in Canada is 19% (Weiler et al. 2023).

Only a few foods, such as fatty fish and egg yolk, are naturally rich in vitamin D. To help support bone health, the vitamin D fortification of milk and margarine has been mandated in Canada under the *Food and Drug Regulations* (FDR) since the 1970s. Either cholecalciferol or ergocalciferol may be used as a vitamin D source.

In 2011, dietary intake recommendations for vitamin D were increased (Institute of Medicine 2011) and consumers in Canada could not easily meet the new requirements from food alone. To address this, a vitamin D fortification strategy was developed. The first step involved increasing vitamin D content in milk and margarine since these foods are still the largest contributors to vitamin D intakes based on data from the 2015 Canadian Community Health Survey-Nutrition (Health Canada 2019). Modelling demonstrated that by doubling vitamin D content in these foods there would be improvements to vitamin D intakes without posing a risk of excess. As per Vatanparast and Longworth's report, a small proportion of the population already exceeds the tolerable upper intake level (UL) due to supplement use; however, doubling vitamin D levels in milk and margarine does not exacerbate the risk of exceeding the UL (Vatanparast and Longworth 2023).

An amendment to the FDR is typically required to modify regulations. In 2018, the regulatory amendment process was initiated when a proposal to double vitamin D content in milk and margarine was published in Canada Gazette, Part I for comment (Canada Gazette, Part I 2018). Stakeholder support was received, but publication of the final regulations was delayed due to the government's response to the COVID-19 pandemic. Therefore, steps were taken to advance this measure through a marketing authorization that enabled manufacturers to voluntarily double vitamin D content in milk and margarine by exempting these foods from certain prohibitions and provisions in the *Food and Drugs Act* (FDA) and FDR. The marketing authorization took effect immediately upon its registration in late 2021 (Canada Gazette, Part II 2022*a*).

In 2022, new regulations were published, which mandated increased vitamin D content in milk and margarine by updating the FDR. Industry was provided a transition period ending on 31 December 2025 to implement this increase (Canada Gazette, Part II 2022*b*). The marketing authorization permitting voluntary fortification did not expire and remains in effect. However, it will be repealed in the near future since the new regulations make it redundant. In 2022, Health Canada also supported increasing vitamin D content in fortified plant-based beverages to align with the new level in milk by updating its interim policy (Health Canada 2022).

To help people in Canada meet their vitamin D requirements, more food sources of vitamin D are needed to complement natural dietary sources and currently fortified foods. To this end, the next planned step of the vitamin D fortification strategy is to permit the vitamin D fortification of yogurt

and kefir that are made from dairy products. Health Canada published a notice of intent to solicit stakeholder feedback on this proposal in July 2023 (Health Canada 2023) and received strong support. Therefore, Health Canada intends to publish a marketing authorization in 2024 to allow the voluntary addition of vitamin D to yogurt and kefir. Enabling the fortification of these foods will help support the diversity of people living in Canada and their food preferences.

Health Canada will continue to assess the effectiveness of its vitamin D fortification strategy through the ongoing monitoring of intakes and blood status.

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