


Abstract

Contribution of Plant-Based Dairy and Fish Alternatives to Iodine Nutrition in the Swiss Diet—A Swiss Market Survey[†]

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Abstract: Background and objectives: In Switzerland, conventional dairy and fish products are major sources of iodine, along with iodized salt. However, the growing popularity of plant-based alternatives may impact the iodine supply of the population. This study aimed to comprehensively assess the iodine content in plant-based dairy (milk, yogurt, and cheese) and fish alternatives available in the Swiss retail market and compare them with conventional dairy and fish products. Methods: In 2022, a market survey was conducted in Zurich, Switzerland, to identify the plant-based dairy and fish alternatives available in major retail outlets, online grocery stores, and health food stores. Product information from a total of 477 plant-based alternative products was recorded. Iodine content in unfortified alternatives was factorially calculated using the nutritional composition of plant ingredients listed in the Swiss Food Composition Database. To further comprehend the impact of plant-based alternatives on iodine consumption, we modelled dietary scenarios by substituting the intake of dairy and fish items with plant-based alternatives, based on the recommendations of the Swiss Food Pyramid. Results: Out of the 477 products identified, 58% were organic products. Only 4 out of 170 milk alternatives were iodine fortified (mean iodine concentration: 22.5 µg/100 mL), and there were no yogurt, cheese, or fish alternatives that were iodine fortified. The median iodine concentration in unfortified plant-based alternatives was negligible compared to conventional dairy and fish products (milk: 0.21 vs. 9.5 µg/100 mL; yogurt 0.36 vs. 6.1 µg/100 g; cheese: 0.10 vs. 20 µg/100 g; fish 0.50 vs. 44 µg/100 g). Three portions of dairy per day as recommended by the Swiss Food Pyramid provide 25% of the RDA (150 µg/day), whereas substituting three portions of dairy per day with unfortified alternatives provides only 0.7% of the RDA for iodine. Discussion: Only 4 out of 170 plant-based milk alternatives are iodine-fortified in the Swiss market, while no fortified yogurt, cheese, or fish alternatives are available. Thus, the risk of the consumers to miss out on the ca. 25% of the RDA for iodine by consuming plant-based alternatives is high, placing them at a risk for inadequate iodine intake.

Keywords: plant based alternatives; milk; dairy; fish; iodine; fortification



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