

Institutionen för kost- och idrottsvetenskap

Dietary intake, nutritional status, and food literacy competencies among youth adhering to vegan, lacto-ovo-vegetarian, pescatarian or omnivorous diets in Sweden

Av

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AKADEMISK AVHANDLING

som med tillstånd av Utbildningsvetenskapliga fakulteten vid Göteborgs universitet för vinnande av doktorsexamen i kostvetenskap framläggs till offentlig granskning

*Fredagen den 8 maj 2026, kl. 09:00*

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Göteborgs universitet*

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## Abstract

**Title:** Dietary intake, nutritional status, and food literacy competencies among youth adhering to vegan, lacto-ovo-vegetarian, pescatarian or omnivorous diets in Sweden

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**Language:** English

**ISBN:** 978-91-7963-259-5 (printed)

**ISBN:** 978-91-7963-260-1 (pdf)

**ISSN:** 0436-1121

**Keywords:** Food and nutrition, Plant-based diet, Vegan, Lacto-ovo-vegetarian, Pescatarian, Omnivore, Youth, Dietary assessment method, Dietary intake, Nutritional adequacy, Nutritional status, Diet quality, Food literacy, Nutrition knowledge, Vitamin B<sub>12</sub>, Vitamin D, Iron, Iodine

There is a need for a shift towards healthy and more plant-based diets to address global health and environmental challenges. Well-planned plant-based diets (i.e., vegan, lacto-ovo-vegetarian, pescatarian) can be nutritionally adequate and reduce environmental impact. However, if the diet is not well-planned, there is a risk of inadequate intakes of some essential nutrients. Few studies have assessed the nutritional consequences of consuming plant-based diets of differing strictness among youth and there is a need for new studies in the present era of plant-based diets.

The overarching aim of this doctoral thesis is to assess nutritional consequences of consuming plant-based diets of differing strictness in a youth population in Sweden, and to investigate if their intakes are in line with dietary recommendations. To achieve this, a cross-sectional study was conducted in Gothenburg, Sweden, and dietary intake, nutritional status, and food literacy competencies were assessed and compared between youth who adhered to vegan, lacto-ovo-vegetarian, pescatarian or omnivorous diets. The final study sample consisted of 235 youth aged 16-24 years (78% female).

The results showed that healthy youth consuming well-planned plant-based diets do not, per se, have a nutritionally adverse intake compared with omnivores. In the diet of vegans, fortified plant-based foods (e.g., plant-based dairy alternatives) were main sources of several essential micronutrients (vitamin D, B<sub>2</sub>, B<sub>12</sub>, and calcium), and 77% reported using dietary supplements. Nevertheless, nutritional challenges were observed across all dietary groups; some challenges were specific to vegan and lacto-ovo-vegetarian diets, some were associated with increasing consumption of animal-sourced food groups, and some were shared across the four groups. This indicates that dietary improvements are needed regardless of plant-based or omnivorous diet. Biomarker data supported several of the findings from the dietary intake data. Across the four dietary groups, youth demonstrated a moderate level of general nutrition knowledge. Findings from the present doctoral thesis suggest that more specific dietary guidelines are required on the types and quantities of plant-based foods needed to replace animal-sourced foods and achieve nutritionally adequate plant-based diets through foods only. In addition, youth regardless of dietary practice may need more food-related education to strengthen their food literacy competencies.