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Title

Healthy and sustainable diets in Europe

Abstract

Introduction: Shifting towards a more sustainable food consumption pattern is an important strategy to mitigate climate change. However, in Europe food availability and food consumption patterns differ across countries. So, solutions to support these transitions might be different across countries and population subgroups.

Objective: We aim to describe the European heterogeneity in dietary intake at the level of foods and nutrients and to assess the greenhouse gas emissions (GHGE) and land use (LU) associated with dietary intake across four European countries.

Methodology: Individual-level dietary intake data were obtained from nationally representative dietary surveys from Denmark, Czech Republic, Italy, and France (two random 24h recalls or diet records). These data were linked to national food composition databases and to a newly developed pan-European sustainability-indicator (life cycle analysis, LCA) database that contains information of GHGE and LU for ~900 foods. Diets were standardized to 2000 kcal/d.

Results: There was clear geographical variability, with a between-country range for fruit intake (mean: 118-199 g/d), vegetables (95-239 g/d), fish (12-45 g/d), dairy (129-302 g/d), sweet beverages (48- 224 ml/d), and for alcohol (8-15 g/d), with higher intakes in Italy for fruit, vegetables and fish, and in Denmark for dairy, sweet beverages and alcohol. In all countries, intakes were low for legumes (<20 g/d), and nuts and seeds (<5 g/d), but high for red and processed meat (>80 g/d).

Mean daily GHGE ranged from 4.4-6.4 kg CO₂-eq, and LU from 5.7-7.8 m²*year, with lowest values for Czech Republic and highest for France. Animal based products were the main contributor to GHGE and LU, however, the amount and type of meat (e.g. beef, pork, poultry) that was consumed varied between and within countries, which resulted in considerable variation in the share of meat to the total GHGE and LU.

Conclusions: There is currently a considerable variation in dietary food intake across Europe, not only between, but also within countries. Furthermore, we observe that variation in GHGE and LU is clearly related to cultural differences in food choice and consumption quantities. These differences in food patterns might have implications for public health, especially when shifting towards a more sustainable dietary pattern.

Key references

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- Mertens E, **Kuijsten A**, Dofkova M, Mistura L, D'Addezio L, Turrini A, Dubuisson C, Favret S, Havard S, Trolle E, Van't Veer P, Geleijnse JM (2018) Geographic and socioeconomic diversity of food and nutrient intakes: a comparison of four European countries. Eur J Nutr. Mar 28. doi:10.1007/s00394-018-1673-6

Key messages

- There is a considerable variation in dietary food intake across Europe, and Current adherence to dietary guidelines is very low
- Differences in food patterns might have implications for public health, especially when shifting towards a more sustainable dietary pattern.
- Consumer preferences should be taken into account when modelling of healthy and sustainable diets in order to improve consumer acceptance