National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport

Salt, saturated fat and sugars in selected foods in EU Member States

IEJ Milder, IB Toxopeus, CHM van den Bogaard, S Westenbrink, JMA van Raaij MAH Hendriksen, EHM Temme

Centre for Nutrition, Prevention and Health Services

National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport

Contents

1. Background and aim
2. Methods
3. Results
4. Conclusions and discussion

Background

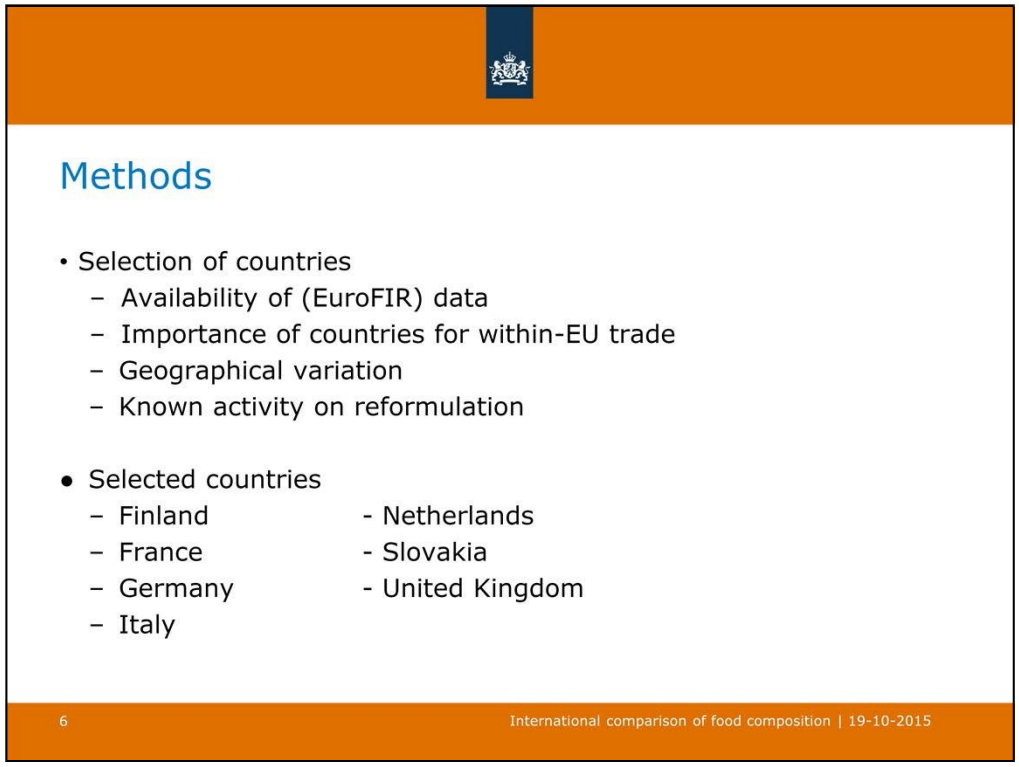
- Unhealthy diet is an important contributor to overweight and cardiovascular diseases and other non-communicable diseases
- Intakes of salt, saturated fat, and sugars are above recommended intakes across Europe
- Improvement of food composition (reformulation) is an important option to achieve a lower intake of salt, saturated fat and sugars

Background

- Variation in food composition within food groups provides an indication of the room for improvement by reformulation
- To develop future actions insight in the current situation with respect to food composition and existing policies is needed
- Monitoring of (changes) food composition over time shows whether the food composition improves

Aim

- To describe the (variation in) levels of salt (sodium), saturated fat (fatty acids), and sugars (mono- and disaccharides) in selected food groups, in EU member states

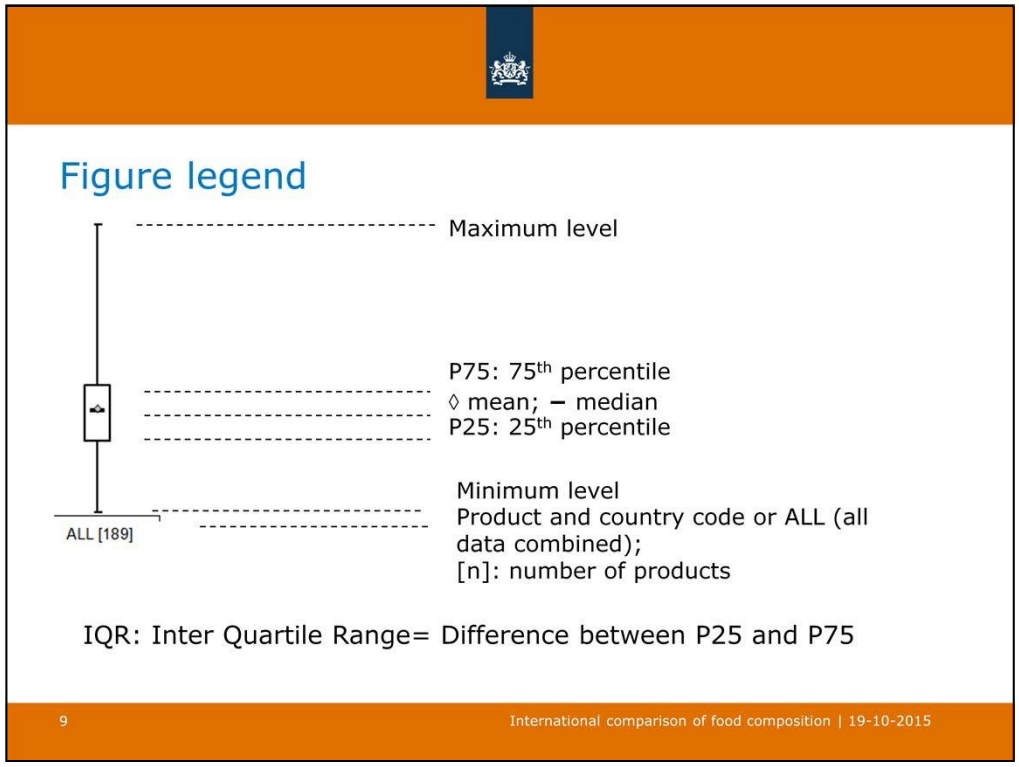


- Selection of countries was mainly based on availability of (EuroFIR) data und further based on
  - -importance of countries for within-EU trade
  - -geographical variation
  - -known activity on reformulation

- Selection of food groups was made, so that the selection includes:
  - important dietary sources (of salt, saturated fat, and sugars)- *based on Dutch data, but data from a.o. Auestad 2015 indicates that the major dietary sources are similar in developed countries*
  - Are products that can be reformulated by food manufacturers/ for which national agreements/regulation of product composition already exist in Member States
  - Are traded internationally-*Bread is an exception, because it is mostly a local product, but is included because many countries have policies on sodium in bread.*

Methods

- Data obtained from EuroFIR database/ National database (BLS) for GE
  - Generic product data
  - Selection of product groups based on EuroFIR Langual (with some additional rules for in- exclusion)
  - Year of publication of the database
    - 2008: FR, UK, IT
    - 2009: SK
    - 2011: FI
    - 2013: NL
    - 2014: GE



Each figure has the same structure, and contains boxplots for each Member State as well as for the combined data.

In each boxplot the mean is indicated with a diamond (◊), the median with a horizontal line (-), and the 25th and 75th percentile are indicated by the bottom and top of the boxplot; and the minimum and maximum are indicated with the whiskers below and above the box.

ALL: Data of the countries combined.

MS: Member State

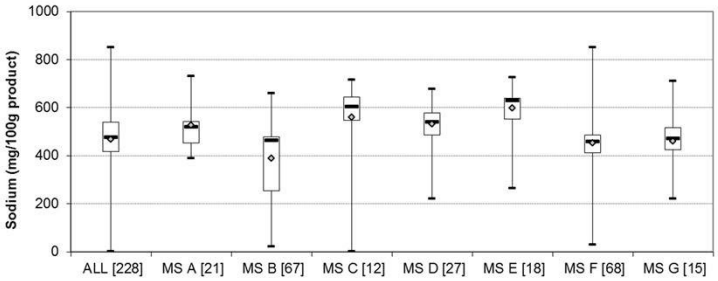
The number of products for which data were available is indicated between brackets behind the Member State code [n].

To describe the variation, the Inter Quartile range (IQR), and the Coefficient of Variation (CV%) are presented. The IQR is the difference between the 25thand 75th percentile. This gives an indication of the variation for the bulk of items within the food group.

The CV% is the ratio of the standard deviation to the mean composition, expressed as a percentage.

Sodium in bread

All types of leavened and unleavened bread, such as wheat bread, rye bread, including loafs, bread rolls and flat bread.



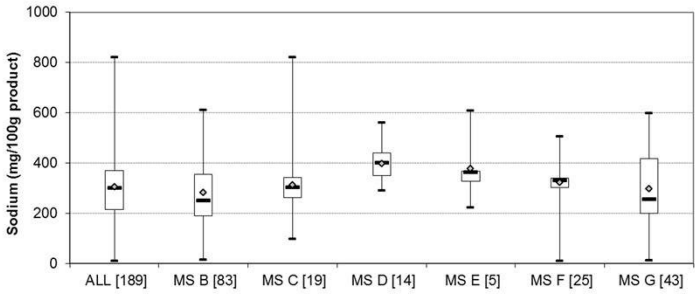
- Median levels range from about 460-470 mg/100g to >600 mg/100g
- Overall IQR (P25-P75): 122 mg/100g
- Within-country IQR (P25-P75): 74 to 224 mg/100g

Excluding 'bread replacements' such as rusks, crackers, crisps etc.

Note: the lower values for MS B,C,F were for products labelled 'low-sodium'. In the other countries this may also be the case, but this is not visible in the product names.

Sodium in soups

All types of soup including prepared dried soup and broth

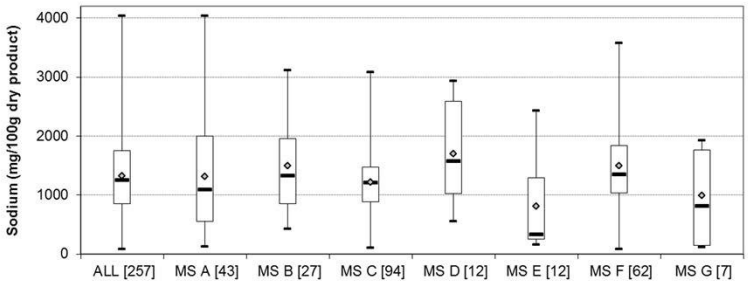


- Median sodium content ranged from about 250 mg/100g to 400 mg/100g
- Overall IQR (P25-P75): 156 mg/100g
- Within-country IQR (P25-P75): 37 to 217 mg/100g

No data available for MS A.

Sodium in cheese

All types of cheese e.g. ripened/unripened, cured/uncured, including processed cheese products such as cheese spreads



- Median sodium values relatively high in MS D and MS F
- Overall IQR (P25-P75): 900 mg/100g dry-weight
- Within-country IQR (P25-P75): 595 to 1615 mg/100g dry-weight

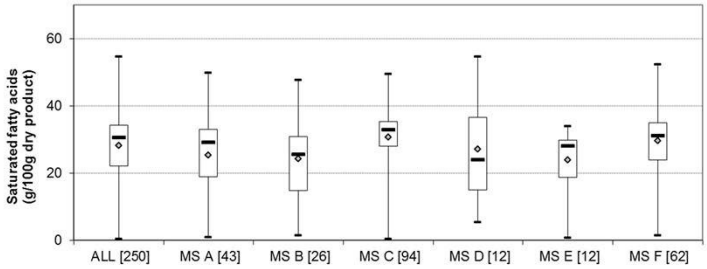
Note for cheese data are expressed on a dry-weight basis (g/100g dry matter)

Even when expressed on a dry weight basis the comparison of sodium values in cheese between countries is hampered by the large variation in types of bread.

Sodium level in MS D is relatively high.

Saturated fat in cheese

All types of cheese e.g. ripened/unripened, cured/uncured, including processed cheese products such as cheese spreads

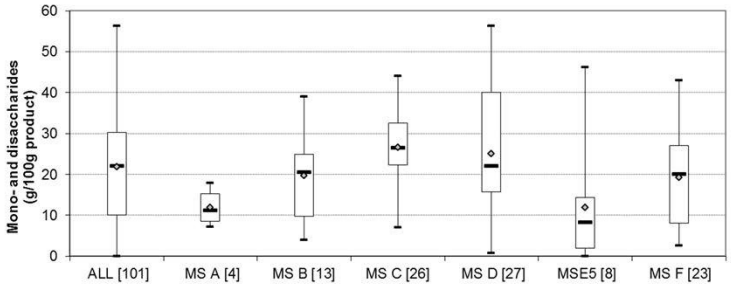


- Median value ranges from 24 to 31 g saturated fat/100g dry weight
- Overall IQR (P25-P75): 12 g/100 g dry-weight
- Within-country IQR (P25-P75): 7 to 22 g/100g dry-weight

Note no data avaiable for MS G

Sugars in breakfast cereals

Includes all cereals, such as cornflakes and muesli. Data for product as ready-to-eat, but not prepared with milk or any other liquid



- Median level ranges from about 8-11 g/100g to >20 g/100g
- Overall IQR (P25-P75): 20 g/100g
- Within-country IQR (P25-P75): 7-19 g/100g

Note no data are available for MS G

Sugar includes all mono- and disaccharides both intrinsic and added.

Conclusions

- The ranges in food composition generally overlap between countries
- However, there is considerable variation in food composition
  - For each nutrient (salt, saturated fat, sugars)
  - In each studied food group
  - Both overall and within countries
- Variation appeared to be particularly large for sodium in cheese and sugars in breakfast cereals
- This shows, that there is room for improvement of food composition (reformulation) within food groups

Discussion

- Comparability of food composition data between countries may be limited due to differences in:
  - Availability of products and food composition data
  - Sampling period
    - Publication data for the databases used ranged from 2008-2014
  - Sampling methods (a.o. generic vs branded data)
  - Analytical methods and measurement units
- The choice of the level of food (sub) groups at which comparisons are made is critical for the comparability of the results

Recommendations

- To facilitate international comparison of food composition, uniform methods and coding are required
- For monitoring of food composition and product improvement, recent data of good quality, representative for the current food supply is needed
- In addition to salt, saturated fat, and sugar energy-density needs to be included in monitoring of reformulation
- To gain insight in the potential impact of changes in food composition on intakes, information on food consumption/ market volumes is necessary
- Sharing countries experiences to identify good practices of food reformulation and monitoring activities is recommended

More information

RIVM Staff		
Liesbeth Temme	Public Health Nutritionist, project leader	Liesbeth.Temme@rivm.nl
Ivon Milder	Researcher Nutrition, Lifestyle and Health	Ivon.Milder@rivm.nl
Ido Toxopeus	Data manager	
Henny Brants	Dietitian	
Coline van de Bogaard	Dietitian	
Susanne Westenbrink	Dietitian, coordinator of Dutch food consumption data	
Joop van Raaij	Public Health Nutritionist, coordinator WHO CC for nutrition	
Marieke Hendriksen	Public Health Nutritionist	
Matthijs van den Berg	Head of the department for Prevention and Nutrition	

- http://www.rivm.nl/en/Topics/F/Food_Reformulation
- A background document about this research is available at the request of the authors