Nutritional quality of processed foods: Findings of the Food Quality Observatory
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Conflict of interest to declare

- Scientific Director of the Food Quality Observatory (funded by the Government of Quebec);
- Received honorarium for serving as a Grant Reviewer for the Dairy Farmers of Canada;
- Participated to a research funded by the Consortium for Research, Innovation and Transformation of Agrifood at McGill University.
What is the Food Quality Observatory?

Mission

Monitoring the food supply and contributing to improve its quality and accessibility
Four domains to support the mission

- Monitor
- Watch
- Research
- Transfer

Food Quality Observatory
Governance structure

Over 30 cross-sectoral partners in addition to international collaborations (e.g. Observatoire de la qualité de l’alimentation [OQALI], France)
2017-2020 Scientific Program

AXIS 1
• Characterizing and monitoring the food supply’s quality and accessibility

AXIS 2
• Supporting improvements made by the agri-food industry

AXIS 3 – cross-cutting research axis
• Cross-sectoral mobilization and ethical application of knowledge
How can a high-quality food supply be defined?

• For the Food Quality Observatory, a **high-quality supply** is primarily characterized by **high-quality foods**, i.e., foods that are **nutritious** and **safe**, whether they are **prepared**, **processed** or not. These foods are also produced, prepared or processed in a manner that **respects people** and the **environment**.

• A high-quality supply consists of a **variety** of quality foods that are **available and affordable** in different living environments in sufficient **quantities**. In these environments, **strategic product placement** and proper **marketing** of high-quality foods also characterize a quality supply.

• In addition, the Food Quality Observatory recognizes that the foods constituting a quality supply must be **physically and economically accessible** to all and also **acceptable** to consumers.

For further details: [https://offrealimentaire.ca/en/quality](https://offrealimentaire.ca/en/quality)
Current context of our work in the province of Québec
AXIS 1 – Portrait of the food supply’s quality

1. Literature review
2. Data collection and entry
3. Product identification and classification
4. Nutritional database and purchase data coupling
5. Result analysis and interpretation
Methodology

- **Nutritional composition → protégezvous OR**
  - Data collection in supermarkets, grocery stores and specialty stores.

- **Food sales data → nielsen**
  - Sales data of all foods from this category sold in the Province of Québec.

- **Data linkage using the Universal Product Code (UPC).**
Selection and prioritization of food categories

Criteria established by the Scientific and KM Committees, and then approved by the Steering Committee:

- Consumption of foods within a given category previously shown to have an impact on health;
- Large variability in terms of product characteristics (e.g. nutritional composition, price);
- High penetration rate in households;
- Potential for improvement which could lead to actual beneficial changes in the food supply.

For further details: https://offrealimentaire.ca/en/how
Portrait of the food supply (n=11 food categories)

For further details: https://offrealimentaire.ca/en/portrait-of-the-food-supply

Other categories currently in progress:
- Salted snacks
- Pizza (in collaboration with Health Canada)
- Cheese products
Assessing nutritional value of ready-to-eat breakfast cereals in the province of Quebec (Canada): a study from the Food Quality Observatory

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(n=331 for food supply vs. n=306 for food purchases; covers 90% of the market)
Threshold based on the % daily value (DV) – Sugar

- One RTE breakfast cereal out of five (20%) exceed the 15 % of the DV for sugar (15 g);
- Chocolate (65 %) and sweetened cereals (49 %) are those most often above the 15 % threshold;
- Actually, 65% of sweetened cereals’ sales are above the 15% DV for total sugar.

*Fig. 1 (colour online) Distribution of sugar content of different types of ready-to-eat (RTE) breakfast cereals and their sales volume. The bigger the circles, the higher the sales (kg). Signs + represent RTE breakfast cereals for which sales data were not available.*
Nutritional composition of RTE breakfast cereal targeted at children

<table>
<thead>
<tr>
<th>Targeted consumers</th>
<th>Energy (kcal) Mean</th>
<th>Fat (g) Mean</th>
<th>Saturated fat (g) Mean</th>
<th>Carbohydrates (g) Mean</th>
<th>Total sugars (g) Mean</th>
<th>Free sugars* (g) Mean</th>
<th>Fibers (g) Mean</th>
<th>Proteins (g) Mean</th>
<th>Sodium (mg) Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>General population (n=259)</td>
<td>219.4</td>
<td>24.7</td>
<td>4.5</td>
<td>3.7</td>
<td>40.2</td>
<td>5.5</td>
<td>10.0</td>
<td>4.5</td>
<td>7.4</td>
</tr>
<tr>
<td>Children (n=72)</td>
<td>212.0</td>
<td>15.4</td>
<td>2.0</td>
<td>1.8</td>
<td>0.4</td>
<td>0.7</td>
<td>45.7*</td>
<td>3.5</td>
<td>16.4*</td>
</tr>
</tbody>
</table>

SD, Standard deviation

The reference serving used for RTE breakfast cereals was 55g.

§ Step-wise approach for the calculation of free sugars content for RTE breakfast cereals was adapted from Bernstein et al. Nutrients 2016.

*Significantly different from general population (p<0.00185) (Wilcoxon rank sum). Threshold was corrected using the Bonferroni correction (5% / 27).

Free sugars were twice as high and sodium was 1.8 fold higher
Portraits of sliced breads available in Quebec 2016-2017

(n=294 for food supply vs. n=262 for food purchases; covers 75% of the market)

Highlights available in both French and English
Threshold based on the % daily value (DV) – Sodium

The analysis of the 294 sliced breads listed shows that:

In terms of supply, more than one quarter (27%) of the breads offered contain more than the 15% daily value threshold for sodium (350 mg).

However, these breads account for 47% of sales. Breads made of 100% whole grain (77%) and 100% refined grain (79%) most often exceed the 15% daily value threshold for sodium.

27% of sliced breads offered contain more than 350 mg of sodium/serving

https://offrealimentaire.ca/en/sliced-breads
Conclusion

- Alongside food composition data from other provinces, findings from the Observatory will contribute to the INFORMAS Canada monitoring efforts to examine improvements to the nutritional quality of the Canadian food supply by using both nutritional composition and food sales data (i.e., foods that are purchased, not only offered);

- It is of the utmost important to emphasize the social utility of this work for all knowledge users, in order to guide product reformulation by focusing on nutrients which should be targeted for improvement.
Perspectives

- A better quality of the food supply is possible, even for processed foods:
  - Making the healthier choice easier;
  - Acting on both availability and access.
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… as well as research collaborators and several undergraduate, MSc and PhD students.
More informations

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