

Evolution of the overall nutritional quality of salty food products available in Québec and associations with Health Canada's new front-of-package nutrition symbol

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Introduction

- The most common chronic condition in Canada is hypertension, of which 30% of cases are due to high sodium intake (1,2).
- In 2016-17, the average daily sodium intake exceeded the recommended maximum intake (i.e., 2300 mg) in both Canada and Québec (respectively, 2760 mg and 3642 mg) (2, 3).
- Processed foods contribute as much as 77% of the daily sodium intake of consumers (2).
- Nutrient profiling models (NPM) and front-of-package (FOP) labelling can help consumers identify healthier foods and guide industries to improve the nutritional quality of their products (4).

Objectives

- To evaluate the five-year evolution of the overall nutritional quality, as determined by the Nutri-Score (NS), of food categories considered as salty snacks commonly sold in Québec.
- To evaluate the association between the overall nutritional quality and the theoretical presence of Health Canada's (HC) FOP symbol on pre-packaged foods in the studied categories.

Methods

- Three food categories generally consumed as snacks and contributing highly to sodium intakes were collected twice by the Food Quality Observatory in a 4 to 5-year span: crackers, salty snacks, and processed cheeses.
- The NS algorithm (version 2017) was used to determine the overall nutritional quality of food products (Figure 1 and 2) (5).
- The theoretical presence or absence of HC's FOP nutrition symbol on the studied food products was assessed according to HC's guide for industry (version 2, May 2023) (Figure 3) (6).



Figure 1. Visual representation of the Nutri-Score algorithm

*% of Fruits, Vegetables, Nuts, and Legumes

Preliminary Results: Crackers

- The overall nutritional quality of products, determined by the NS, remained stable between the two collections (Table 1).
- For both data collections, products that would not display HC's FOP symbol had a better nutritional quality (i.e., lower NS) than products that would display it (Table 2).
- Unsurprisingly, in products that would display HC's FOP symbol, sodium would be the nutrient most frequently exceeded in both data collections (Table 3).

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Figure 2. Nutri-Score symbol



Figure 3. Health Canada's FOP symbol

Table 1. Four-year evolution of the nutritional quality of crackers

Year of collection	n	Mean NS \pm SD	NS Letter	p-value*
2020	439	9.59 \pm 6.95	C	0.16
2024	497	9.89 \pm 6.80	C	

*Obtained from a Wilcoxon rank-sum test, p-value significant at p < 0.05.

Table 2. Overall nutritional quality of crackers in relation to Health Canada's FOP symbol

Year of collection	HC's FOP symbol		p-value*
	0	1 or more	
2020	7.04 \pm 6.14	15.72 \pm 4.51	<.0001
2024	6.69 \pm 5.87	15.82 \pm 3.70	<.0001

*Obtained from a Wilcoxon rank-sum test, p-value significant at p < 0.05.

Values are mean NS \pm SD.

Table 3. Number of crackers displaying Health Canada's FOP symbol per nutrient

Year of collection	Saturated fat	Sugars	Sodium
2020	53(12)	4(1)	98(22)
2024	86(17)	1(0,2)	128(26)

Values are n(%).

Conclusion

The preliminary results on crackers provide insights into the evolution of the overall nutritional quality of this food category. Results from the three food categories will provide a portrait of salty food products offered in Québec and will have the potential to help food industries in reformulating food products and help consumers wishing to reduce their sodium consumption by identifying products with a more interesting nutritional value.

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