Front-of-Package References to Fiber on Foods in Canadian Supermarkets Highlight the Need for Increased Nutrition Knowledge Among Consumers

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Why investigate the food environment?

• Most food purchasing in Canada occurs in supermarkets, but the high volume of options in these stores makes it difficult to identify healthy choices.

• Population health problems suggest suboptimal food choices are prevalent:
  – high prevalence of obesity and overweight among adults and children
  – relatively high prevalence of inadequate or suboptimal intakes of several key nutrients

→ What kind of nutrition guidance is available in Canadian supermarkets?
Mandatory:
Information for calories + 13 nutrients is required.

Optional:
Amounts for one or more of 30 other nutrients may also be declared.

Exceptions:
Manufacturers must declare the content of any other nutrient(s) they add.
Voluntary labelling

→ appears at the discretion of food manufacturers, and therefore is used as a form of marketing

A mixture of

regulated text
e.g., ‘source of fibre’, ‘reduced sodium’, ‘trans fat free’

unregulated text and symbols
e.g., ‘whole grain’, ‘fibre’, check marks, stars
Median vs Adequate Intake of dietary fibre,
Canadian Community Health Survey, 2004

* Males and females grouped

(CCHS 2.2, Health Canada, 2007)
Objective

To assess the nature of the guidance on fibre provided by manufacturers’ use of front-of-package references on food in Canadian supermarkets.

1. What information is being provided and on which products?
2. How do front-of-package references to fibre relate to the fibre content of foods?
3. To what extent do foods that highlight the presence of fibre also provide information on the product’s overall nutritional quality?
Research Methods

1. Survey of the landscape of nutrition-related food marketing in supermarkets:
   - 3 large supermarkets in Toronto - from chains that comprise the top 3 food retailers in Canada.
   - Jul 2010 – Aug 2011
   - recorded all front-of-package references to nutrition on packaged foods, including text, symbols, components with stated or implied health benefits.
   - excluded fresh produce, meat, fish, poultry, infant foods, dried herbs and spices, products in pharmacy section
   - n = 20,520 unique products
Research Methods

2. In-depth study of marketing and nutrition information on loaf breads

- Included in-store baked breads, frozen and fresh breads, but excluded sweet breads, cheese breads, buns, and rolls.
- n=334 unique products
- Recorded information on Nutrition Facts table.
Results

1. WHAT INFORMATION ABOUT FIBRE IS BEING PROVIDED ON FRONT-OF-PACKAGE AND ON WHICH PRODUCTS?
Front-of-package references to fibre:

• 6% of foods made reference to fibre on front of package.
  – 47% of these were grain products
  – 17% were identified as ‘foods to limit’ in Canada’s Food Guide because of excessive energy, fat, sodium, or sugar.

• Large proportions of foods that were naturally high in fibre made no reference to it on front-of-package.
Figure 1. Foods making reference to fibre (n=1181) by food category.
Figure 2. Proportion of products within each food category that make a reference to fibre on the front-of-package. Only food categories with at least one product making a reference to fibre are represented in this figure.
Presence of fibre was declared on front-of-package in > 30 different ways:

- Nutrient content claims
- Quantitative statements
- Health claims
- Product names
- Specific forms of fibre: e.g., inulin, psyllium, prebiotics, beta glucan, soluble fibre
Table 1. Number and proportion of all products making a reference to fibre on the front-of-package

<table>
<thead>
<tr>
<th>Types of claims</th>
<th>Examples</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regulated claims</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrient Content Claim</td>
<td>'Added Fibre', 'Source of Fibre', 'Plus Fibre', 'Source of Inulin', 'High source of Psyllium'</td>
<td>935</td>
<td>4.56</td>
</tr>
<tr>
<td>Disease Claim</td>
<td>'Oat fibre helps reduce/lower cholesterol, which is a risk factor for heart disease'</td>
<td>22</td>
<td>0.11</td>
</tr>
<tr>
<td>Nutrient Function Claim</td>
<td>'...may assist in achieving and maintaining a healthy body weight because it is high in fibre and low in fat'</td>
<td>18</td>
<td>0.09</td>
</tr>
<tr>
<td><strong>Unregulated claims</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantitative Statements</td>
<td>'X % DV fibre', 'X g of fibre'</td>
<td>325</td>
<td>1.58</td>
</tr>
<tr>
<td>Product Name/Variety</td>
<td>'Fibre First', 'Fibre 1', 'Multi-fibre', 'Fruit and Fibre'</td>
<td>43</td>
<td>0.21</td>
</tr>
</tbody>
</table>

*aProportion of all products included in the survey using each type of fibre claim.

*bUnregulated claims are references to fibre for which no compositional criteria are required.
Results

2. HOW DO FRONT-OF-PACKAGE REFERENCES TO FIBRE RELATE TO THE FIBRE CONTENT OF FOODS?
Table 2. Comparison of fibre content of breads with and without reference to fibre on front-of-package (n=334), and regulated vs unregulated reference to fibre on the front-of-package (n=73)

<table>
<thead>
<tr>
<th></th>
<th>Mean Fibre Content (SD), grams per 50 g bread</th>
<th>t Value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibre reference (n=73)</td>
<td>3.45 (1.07)</td>
<td>12.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>No fibre reference (n=261)</td>
<td>1.82 (0.99)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulated reference (n=41)</td>
<td>3.70 (1.00)</td>
<td>2.40</td>
<td>0.02</td>
</tr>
<tr>
<td>Unregulated reference (n=32)</td>
<td>3.12 (1.07)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Front-of-package references to fibre vs fibre content:

• 169 breads contained ≥ 2 grams of fibre per stated serving size and reference amount (50 grams) = criteria to declare *source of fibre*

• 62% of these breads made no reference to fibre on front-of-package.

*i.e., For every bread that bore a fibre reference, there were almost 2 others with comparable levels of fibre but no front-of-package reference.*
3. TO WHAT EXTENT DO FOODS THAT HIGHLIGHT THE PRESENCE OF FIBRE ALSO PROVIDE INFORMATION ON THE PRODUCT’S OVERALL NUTRITIONAL QUALITY?
References to fibre and other nutritional attributes?

Among breads with a fibre reference,

- 14% bore health endorsements (e.g., Health Check, Sensible Solutions, etc)
- 74% contained a reference to sodium, sugar, saturated or trans fat, or calories.
- 26% bore a reference to $\geq 2$ of these negative nutrients.
- Two-thirds of breads with reference to negative nutrients had a ‘belt’ of nutrient content values
  
  = presentation of nutrition information typically devoid of evaluative or interpretive comments
Study limitations

- Focus on only one nutrient, fibre.
  *Advantages:* this nutrient is part of the mandatory Nutrition Facts table, and it is a nutrient of public health concern.
  *Disadvantage:* fibre may be treated differently from other nutrition attributes because it is on the Nutrition Facts table, and it is a positive nutritional attribute.

- Examination of front-of-package references in relation to information on Nutrition Facts table limited to one product, bread.

→ generalizability of findings?
Summary

• Front-of-package references to fibre are an insensitive guide to available sources of fibre in supermarket.
  – Most foods rich in fibre bore no front-of-package reference to it.
  – Foods with front-of-package references were not necessarily better sources of fibre than those without.

• Regulated language was associated with higher fibre content, at least among breads, but it is unrealistic to expect consumers to be able to differentiate regulated and unregulated text.

• References to fibre were rarely accompanied by more comprehensive assessments of the healthfulness of the products.
Implications

• A very high level of nutrition literacy is needed to navigate front-of-package nutrition-related marketing.

• Front-of-package nutrition information needs to be recognized as a marketing strategy. It cannot substitute for nutrition education and in fact, makes nutrition education all the more important.

• Consumers need education to identify foods that comprise a healthy diet because they are rich in fibre, etc.

• Consumers need to be educated to be wary of front-of-package nutrition information and rely only on the Nutrition Facts table when comparing products.