

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

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## ABSTRACT

**Objective:** To assess the nature of the guidance on fiber, a nutrient for which many Canadians' intakes are suboptimal, provided by manufacturers' use of front-of-package references on food in Canadian supermarkets.

**Design/Setting:** Survey of all prepackaged food sold in 3 large supermarkets in Toronto.

**Variables Measured:** Front-of-package references to fiber and other forms of nutrition-related marketing were recorded from all products. For a subsample of breads, Nutrition Facts table information was also collected.

**Analysis:** Descriptive statistics; *t* test.

**Results:** Front-of-package references to fiber were found on 6% of all foods, but large proportions of high fiber foods bore no front-of-package references to fiber. Many foods making a reference to fiber (17%) are "foods to limit," according to Canada's Food Guide. Front-of-package references to fiber were declared in at least 30 different ways, and 31% used unregulated language. Among breads, use of regulated language was associated with higher fiber content.

**Conclusions and Implications:** Consumers may be faced with challenges in seeking out healthful sources of fiber in the grocery store, given the complexity of existing front-of-package nutrition-related marketing and limited references to fiber in some categories. This work suggests that current nutrition-related marketing cannot function as a substitute for nutrition education.

**Key Words:** nutrition labeling, nutrition literacy, dietary fiber, nutrition-related marketing, front-of-package (*J Nutr Educ Behav.* 2013;45:518-524.)

## INTRODUCTION

The provision of nutrition information on packaged food sold in grocery stores has become an increasingly popular marketing tool in Canada and internationally.<sup>1,2</sup> Although some of the nutrition information presented on food labels in Canada is mandatory and tightly regulated, much of what appears is at the food manufacturer's discretion. The Nutrition Facts table, which displays the content of 13 nutrients plus calories, has been required on the back of the package for most foods

since 2005,<sup>3</sup> in part to facilitate healthy food choices.<sup>4</sup> The provision of other nutrition information, including the messaging on the front of the package, is voluntary in Canada. It includes regulated statements, such as nutrient content claims and health claims, for which wording is prescribed and qualifying nutrient criteria must be met, and unregulated messaging, such as quantitative statements about nutritional content.

There has been limited study of the prevalence or nature of nutrition information on foods sold in Canadian supermarkets, but food labeling

is reported to be an important and credible source of nutrition information for Canadians.<sup>5,6</sup> However consumers are often confused by nutrition labeling and do not always interpret this information correctly.<sup>7-9</sup> There is also evidence that consumers may draw exaggerated inferences about product healthfulness when presented with limited nutrition information.<sup>10,11</sup> As the nutrition information presented on foods in grocery stores becomes increasingly prevalent, it is important to understand the implications of current front-of-package nutrition-related marketing practices for nutrition literacy, and ultimately health.

Ensuring that current nutrition labeling practices support healthy dietary patterns is especially important, given that suboptimal or inadequate intakes of a number of nutrients are prevalent in Canada,<sup>12,13</sup> which suggests that shifts in dietary practices are necessary. One

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nutrient of particular concern is fiber. Evidence from the 2004 Canadian Community Health Survey suggested that Canadians' fiber intakes fell well below current recommendations.<sup>12</sup> This is of concern given the relationship between low fiber intake and increased risk of certain chronic diseases, particularly cardiovascular disease,<sup>14</sup> a leading cause of death among Canadians.<sup>15</sup> Furthermore, in consumer surveys from 2004–2008, fiber was the most common nutrient influencing food selection among Canadians.<sup>6</sup>

Drawing on data from a larger study of nutrition-related marketing in Canadian supermarkets, the objective of this study was to assess the nature of the guidance on fiber provided by manufacturers' use of front-of-package references on food in Canadian supermarkets.

## METHODS

### Data Collection

Front-of-package nutrition-related marketing was recorded from all packaged foods in 3 large grocery stores in Toronto (1 each of Loblaws, Metro, and Sobeys), representing the top 3 food retailers in Canada.<sup>16</sup> Data were collected between July, 2010 and August, 2011. For every prepackaged food sold in the stores, trained research assistants systematically recorded product identifiers, including food type, brand name, product name, flavor/variety, and product size. All front-of-package text references to essential and nonessential nutrients, food components, or characteristics with stated or implied health benefits, as well as third-party and manufacturers' health endorsements (eg, Heart and Stroke Foundation's *Health Check*, Kraft's *Sensible Solutions*) were also recorded. The only foods excluded from data collection were fresh produce, meat, fish and poultry, dried herbs and spices, infant foods, and products found in the pharmacy sections.

Across the 3 stores, information was recorded for a total of 26,973 products. Excluding identical products found in more than 1 store, this survey captured 20,520 unique products. Products were considered unique if they differed from other products on

the basis of any product identifier (including product name, brand name, variety/flavor, or product size) or front-of-package nutrition-related marketing. The latter criterion ensured that where nutrition-related marketing highlighted product reformulation or a different product variety, both versions were captured.

To assess the relationship between front-of-package nutrition-related marketing and nutrient content, information from the Nutrition Facts table was collected for 1 product group, breads.<sup>17</sup> Bread was chosen because it is a staple food for many Canadians, a relatively large contributor of fiber to the diets of Canadians,<sup>18,19</sup> and a product group in which front-of-package fiber references were prevalent. The breads selected for this sub-study were all loaf breads found in the 3 selected supermarkets, including in-store baked breads, frozen, and fresh breads, but excluding sweet breads and cheese breads, buns, and rolls. The number of unique breads identified was 334.

### Data Analysis

Drawing on data from the supermarket survey, the proportion of all products making reference to fiber and the type of references made were examined by food category. Fiber was defined broadly to include any reference to dietary or functional (eg, psyllium) fiber.<sup>14</sup> Front-of-package references to fiber were classified in terms of whether the language employed was regulated<sup>20</sup> or unregulated. The use of the term *unregulated* refers to references to fiber in a product identifier and the use of quantitative statements (ie, statements of the gram amount of fiber in a serving, frequently appearing in a row or belt with values for selected other nutrients on the front of package). Whereas the language used in quantitative statements is regulated under the Food and Drugs Regulations, foods bearing quantitative statements are not required to meet compositional criteria.<sup>21</sup> Products were grouped into food categories using, as a guide, the Bureau of Nutritional Sciences food groupings developed by Health Canada.<sup>22</sup> These foods were further categorized into each of the

major food groups found in Canada's *Food Guide for Healthy Eating*, including vegetables and fruit, grain products, milk and alternatives, and meat and alternatives.<sup>23</sup> Categories for fats and oils and foods to limit were also included. The latter group are foods identified in Canada's Food Guide as those to limit because they are often high in energy, fat, sugar, or salt. Mixed dishes, as well as miscellaneous foods such as soups, sauces, and gravies, were considered separately because they could not be easily categorized into 1 of the food groups.

Concerns have been expressed that nutrition-related marketing can function to promote foods on the basis of select attributes which are taken out of context from other nutritional attributes of the food.<sup>24</sup> To understand whether foods that highlight the presence of fiber also provide information on the product's overall nutritional quality, the frequency with which references to fiber appear in conjunction with singular references to energy, sodium, saturated and trans fat, and sugar were assessed, as well as third-party or manufacturer-developed health endorsements, which suggest a comprehensive evaluation of nutritional quality, and references to Canada's Food Guide. Energy, sodium, saturated and trans fat, and sugar were chosen because they are core components of the Institute of Medicine's proposed front-of-package nutrition rating system, selected because of their relationship to obesity and chronic disease.<sup>1</sup> These nutrients are also included in the United Kingdom Food Standards Agency's traffic light system,<sup>25</sup> which suggests that there is broad consensus on the importance of their inclusion in a front-of-package nutrient-rating system.

The normality of the observed distribution of fiber content was confirmed through inspection of the box plot and normal probability plot. The fiber content of breads was compared between products with and without a reference to fiber on the front of the package, using a *t* test. Among breads with a front-of-package fiber reference, a *t* test was also applied to compare the fiber content of breads containing regulated or unregulated language.

All analyses were conducted using SAS (version 9.2, SAS Institute, Cary,

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