Exploring global consumer attitudes toward nutrition information on food labels

Josephine M Wills, David B Schmidt, Francy Pillo-Blocka, and Georgina Cairns

In many parts of the world, food companies, consumers, and governments are re-examining the provision of nutrition information on food labels. It is important that the nutrition information provided be appropriate and understandable to the consumer and that it impact food-choice behaviors. Potentially, food labeling represents a valuable tool to help consumers make informed decisions about their diet and lifestyle. Food information organizations worldwide have been following consumer trends in the use of this information as well as consumer attitudes about food, nutrition, and health. This paper summarizes a workshop that examined consumer attitudes gathered regionally with the aim of establishing commonalities and differences.

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RESEARCH ON CONSUMER RESPONSE TO NUTRITION INFORMATION ON FOOD LABELS IN EUROPE

In some European countries, nutrition labeling of food packaging has been a major instrument for providing consumers with information, enabling them to make nutritionally appropriate choices. In recent years, there has been a particular focus on interpretational aids, which consist of a simplified message or a nutrition summary on the front of the package (signpost) summarizing the more complex information that is given on the back of the label. Consumer research conducted in 2003–2006 in Europe on how consumers perceive, understand, like, and use nutrition information on food labels was reviewed.¹

A total of 58 studies were identified by conducting a search of databases of academic publications, a Google-based search, and direct inquiries of a range of food retailers, food companies, consumer associations, and government agencies. These studies were summarized using a standard format guided by a model of consumer information processing; they were then processed using MaxQDA software (VERBI Software, Marburg, Germany) in order to identify key findings and common themes.

The studies showed widespread consumer interest in receiving nutrition information on food packages, though this interest varied across situations and products. Consumers liked the idea of simplified front-of-pack information but differed in their liking for the various formats (color-coded indicators of nutrient level [traffic lights], Guideline Daily Amounts, healthy logos). Differences can be related to conflicting preferences for ease of use, for being fully informed, and for not feeling pressured into behaving in a particular way. Most consumers understand the most common signposting formats. There is, however, virtually no insight into how labeling information is used in a real-world shopping situation and how it will affect consumers’ dietary patterns. Further research in a real-world setting is consequently needed.

CONSUMER PERCEPTION AND USE OF NUTRITION AND HEALTH INFORMATION ON FOOD LABELS IN THE UNITED STATES

For the past 15 years, consumers in the United States have had access to nutrition and health information on food...
labels, but there are many questions about the perception and use of this information. The Dietary Guidelines for Americans convey science-based advice on food and physical activity choices for health. One of the communication tools developed to help consumers apply these guidelines is the Nutrition Facts panel (NFP), which provides information on the nutrient content of foods and beverages. This information is intended to aid consumers in making informed, health-based decisions about what to eat and drink in the context of their overall daily diet.

Since 2003, the International Food Information Council (IFIC) Foundation has conducted qualitative and quantitative research to explore how consumers perceive, understand, and apply health and nutrition information on the food label when purchasing or consuming food and beverages (unpublished raw data). The following are key research findings on consumers’ perceptions of the NFP and its elements and nutrition-related claims.

The Nutrition Facts panel

In an environment in which about half of the consumers say their overall diet is healthful, the food label is named as one of the top three sources of information by those who are trying to make a diet-related change over a 6-month period (unpublished raw data from IFIC). About 58% of consumers say they use the NFP when deciding to buy a certain food or beverage, especially when making first-time purchases or comparing two products with similar prices or front-of-package claims. Despite the high frequency of NFP usage, only a quarter of consumers find it easy to use.

Calories

Two-thirds of consumers say they look at calorie information on the NFP. However, they cannot place this information in the context of their total energy requirements. Eighty-eight percent (88%) of consumers incorrectly estimated their daily caloric needs based on their age, weight, and height. Nearly half of consumers would not even venture a guess. Less than one-third of consumers correctly stated that calories in general – regardless of their source – caused weight gain if consumed in excess amounts.

Percent daily values

Key nutrients listed on the NFP have recommended intake levels known as daily values (DVs). These are stated in the footnote section of the NFP. The percent DVs help determine whether a serving of the product is high or low in certain nutrients on the basis of a 2,000-calorie reference diet.

Consumers are not using percent DVs to see how nutrients fit into their overall daily diet. They believe these are industry-defined thresholds based on science-based, government-regulated standards. Some also think that the percent DVs describe a product’s composition (e.g., a product with 10% fat listed is perceived to be made of 10% fat) (unpublished raw data from IFIC). Consumers seem to prefer the amount-per-serving information, expressed in metric units (grams), instead of the percent DV.

Nutrition-related claims

Table 1 provides examples of current nutrition-related claim formats regulated by the US Food and Drug Administration (FDA). The definitions and levels of scientific evidence required to support these claims are described elsewhere. Health claims contribute to a greater awareness of diet-disease relationships, but the regulatory process and the levels of scientific evidence required for various claims is poorly understood by consumers, which suggests that simpler language may be preferred. Still, the presence of health claims on the front of packages may yield increased use of the NFP (unpublished raw data from IFIC).

Suggestions for improving the NFP

Table 2 summarizes key consumer recommendations for improving the NFP. The changes include format and font adjustments; standardization of serving sizes and terminology; clarifying nutrient-calorie relationships and the meaning of percent DV; and moving key information to a small panel on the front of the package (unpublished raw data from IFIC).

Table 1 Sample formats of nutrition-related claims.

<table>
<thead>
<tr>
<th>Claim format</th>
<th>Sample claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health claim</td>
<td>25 grams of soy protein (food component) a day, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease (condition)</td>
</tr>
<tr>
<td>Structure/function claim</td>
<td>Calcium (nutrient) builds strong bones (structure)</td>
</tr>
<tr>
<td>Dietary guidance statement</td>
<td>Diets rich in fruits and vegetables may reduce the risk of some types of cancer and other chronic diseases</td>
</tr>
</tbody>
</table>

The Tracking Nutrition Trends (TNT) survey was first conducted in 1989 in Canada to study adult consumers’
self-reported knowledge, attitudes, and behaviors related to food and nutrition. Each phase of the series (I through VI) has built on the previous findings and tracked changes.

The intent of the TNT series is to provide health professionals, academics, and those in the food industry with insights into Canadians’ perspective on 1) the importance of nutrition, 2) their own level of knowledge, and 3) their food-related behaviors.

The survey themes have evolved along with the marketplace and regulatory landscape. Results of the survey have shown that 87% of Canadians believe they have some knowledge of nutrition. Self-rated knowledge is a good predictor of knowledge about specific nutrition issues and a strong driver of nutrition-related decisions and lifestyle choices.

Access to information about nutrition is key to consumers being informed and being in a position to make relevant choices. The sources from which Canadians receive nutrition information are as follows: product labels (77%), print media (76%), friends, relatives, and colleagues (66%), electronic media (65%), family physicians or other health professionals (51%), and dietitians (23%). Previous TNT studies show a high credibility rating for health professionals (dietitians, physicians, and others): more than 75% of consumers believed such professionals to be credible. The product label is also viewed as being credible (40%).

It appears that many Canadians (66%) do not recall health claims or statements made by food companies. For those who do recall something, the focus is on the fat content of a food (38%), followed by general health claims (16%) and specific references to fiber or whole grains (14%).

Most Canadians (77%) continue to obtain nutrition information from product labels. A larger proportion of individuals in TNT VI indicate being able to find what they are looking for on the label (67% can often find this information, versus 56% in TNT V). The purpose of reading labels is to obtain information about ingredients and nutrition. Half of those who read labels often seek to find foods that claim to be good for their health.

While few people see their health or eating habits as poor, there is some variation between good and excellent ratings. The desire to maintain good health is the most important motivator. A large majority report the perception that they have, at minimum, a good health status. The next cited motivation is the desire to have food that provides energy and stamina, followed by weight management and the need to follow a prescribed diet.

The motivation to eat well raises the question of what Canadians care about when it comes to nutrition and food choices. Nutrition is almost as important for Canadians as taste, and is much more important than cost or convenience when selecting foods. Canadians also care about food-based considerations (e.g., whole grains) more than other factors (e.g., a low glycemic index), although a knowledge gap is apparent. The next important attributes cited are the presence of omega-3 fatty acids, the presence of added nutrients, and the fact that the food item is organic.

Food choices are also affected by the tendency of people to select food on the basis of the amount of a particular nutrient. When selecting foods on the basis of specific nutrient content, people most often base their choices on the composition of fiber, protein, and vitamins. The largest increase related to the effect of nutrient content on food choice occurred with respect to the presence of trans fatty acids, with 68% of the sample indicating that they sometimes or often select a food on the basis of this nutrient (versus 41% in TNT IV).

### CONSUMER ATTITUDES TOWARD NUTRITION INFORMATION ON FOOD LABELS AND PACKAGING IN ASIA

The Asian Food Information Centre (AFIC) conducted qualitative research in 2006 in China and Malaysia by exploring consumer responses to nutrition information

<table>
<thead>
<tr>
<th>Readability</th>
<th>Usability</th>
<th>Clarity</th>
<th>Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase font size</td>
<td>Maintain a standard serving size across similar products</td>
<td>Clarify the relationship of total fat to other fats</td>
<td>Move key information to a small panel on the front of the package</td>
</tr>
<tr>
<td>Avoid “paragraph style” NFPs</td>
<td>Ensure information on serving size is easily interpretable</td>
<td>Clarify the relationship of total calories to calories from fat</td>
<td></td>
</tr>
<tr>
<td>Present gram and percent information in a columnar form</td>
<td>Maintain consistent terminology (e.g., “bag” and “package”)</td>
<td>Clarify the meaning of the percent daily value; consider moving the footnote into columnar format</td>
<td></td>
</tr>
<tr>
<td>Use bold typeface for the serving size</td>
<td>Link the information to standards familiar to consumers, e.g., the Food Pyramid graphic</td>
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**Table 2** Consumer recommendations for improving the nutrition facts panel (NFP).
on food packaging as well as contextual factors that impacted consumer responses.\textsuperscript{12}

The following conclusions were drawn from this research: 1) Consumers approved of the provision of nutrition information on packaging, but they self-rated their own knowledge levels as low. 2) Structure/function claims, i.e., a claim that describes the effect of a particular nutrient on body function, were preferred over simple nutrient content claims. The response to qualified health claims was more mixed and was determined by many factors, including the validation of claims by a third party (e.g., national regulatory authority, internationally recognized organization), previous knowledge (unfamiliar/new information was ignored and had low credibility), and the volume of information provided (supplementary information or claims perceived as surplus were ignored and had low credibility). 3) Consumer mindset regarding the impact of dietary choice on health was focused on the short term, and recognition of the long-term impact of eating behavior on health was poor. This may be related to the 2,000-year-old Asian tradition of consuming specific foods to influence a particular health/disease state.

Qualitative data from AC Nielsen, a market research agency that conducted an analysis of out-of-home eating choices and attitudes toward weight management in 12 countries in Asia, was also presented.\textsuperscript{13} The findings of this survey were as follows: 1) Out-of-home eating choices were primarily driven heuristically by familiarity, taste, convenience, and social inclusion criteria. Survey respondents reported that health and nutritional balance were also included as decision criteria but were of secondary importance. 2) Consumer definitions of "healthful" and "nutritional balance" were socially determined, scientifically inaccurate (e.g., some believed that the energy contribution of fatty food could be reduced by combining it with sour food) and rarely re-examined. 3) The energy content of out-of-home foods was frequently underestimated, especially with regard to local/traditional food dishes. 4) Consumers welcomed the concept of nutrition information on a label but desired positive/"good-for-me" indicators as well as warnings and information/advice on reducing consumption.

The frequency of eating out of the home is higher in Asia than in other parts of the world, is seen across all income groups, and contributes substantially to nutritional status. Furthermore, a large proportion of food consumed out of the home is purchased in the informal sector, where prepackaging is rare and regulatory monitoring and control is difficult. These sectors are unlikely to be included in labeling policies addressing nutrition information.

In conclusion, the provision of nutrition information on labels is in the early stages of implementation in Asia. Asian nations can gain from the experiences of countries that began the implementation and evaluation of nutrition information on food packaging some time ago. The region represents a very wide, unique mix of culinary patterns, knowledge levels, and values in relation to food and health. Therefore, it is recommended that regional and contextual factors, which may influence consumer responses to nutrition information, also be considered when developing nutrition information strategies.

AFIC is planning further quantitative research to test some of the findings and preliminary conclusions drawn from the 2006 research.

In view of the potentially low levels of accurate nutrition knowledge and understanding and the substantial volumes of food that are sold without packaging in Asia, nutrition information on packaging strategies are likely to be more effective if they are complemented with information delivered through additional consumer outreach channels. Comparative research on communication channel impact is recommended.

CONCLUSION

In a climate in which the prevalence of diet-, nutrition-, and health-related disease is increasing, it is important that the nutrition information provided on food labels be appropriate and understandable to the consumer and that it impact food-choice behaviors. The nutrition label is an important vehicle that food manufacturers can use to communicate essential information about the nutritional value and composition of their product. Potentially, this represents a valuable tool to help consumers make informed decisions about their diet and lifestyle. However, despite 15 years of providing comprehensive nutrition information on food labels in the United States, rates of obesity have increased and consumers express confusion about the way such information is conveyed.

Research on the importance of nutrition to consumers, the level of consumer knowledge about nutrition, and actual consumer behavior provides insight that is useful for developing communications on the role of food and nutrition in health, for directing further nutrition research projects, for making decisions on the development and marketing of food products, and for formulating policies. Recent consumer research indicates that labels might be improved by placing information about calories more prominently on labels and by making portions and DVs easier to understand. It appears that nutrition labels are not always effective in getting the message across, and more research is needed to determine how to educate and motivate consumers to apply the nutrition information already available to them and to determine how nutrition labeling is used in real-world settings.
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REFERENCES