Nutrient profiling systems: are science and the consumer connected?¹⁻⁴

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ABSTRACT

The other articles in this supplement to the Journal presented the science behind 4 nutrient profiling systems currently available in the US marketplace that cross manufacturers and apply to multiple food categories and have considered their value as tools to promote positive behavior change in American consumers. This article discusses these nutrient profiling systems in terms of the consumer's understanding of science, familiarity with label messaging, and potential to facilitate healthy food decisions. Am J Clin Nutr 2010;91(suppl):1116S–7S.

WHAT DO CONSUMERS WANT?

As Americans become increasingly aware of the connection between diet and health, there is a growing interest in which nutrition symbols, health claims, and information sources are relevant when purchasing food. Questions relating to the functional and educational value of these profiling systems are as follows: 1) How important is diet and nutrition to consumers when purchasing food? and 2) Do consumers view package nutrition and health symbols as credible sources of information? According to the American Diabetic Association's Nutrition and You: Trends 2008 Survey, 67% of consumers surveyed rate diet and nutrition as "very important." Yet, of those surveyed, only 35% listed on-package health symbols as sources of credible nutrition information and even fewer than 10% identified food manufacturers as credible sources of nutrition information (1, 2).

In addition, consumers have different levels of familiarity with the various nutrients and specific diet-disease relations. This familiarity and the type of health message presented can affect consumer interpretation of the health message as well as consumer perception of a product. More detailed health messages seem to have stronger effects on consumers when the nutrients or diet-disease links are less familiar or unknown. Also, consumers are more likely to consider purchasing a product if a nutrition-health connection is clearly identified. For example, "calcium-rich foods such as yogurt may reduce the risk of osteoporosis" is more effective than an on-package message identifying yogurt simply as "a good source of calcium" (3). Likewise, consumers are more inclined to trust nutrition symbols that are endorsed by third parties such as health organizations—and the simpler the symbol or icon, the better (4).

Traditionally, consumers shy away from making a healthier food choice that requires accounting for several nutrients simultaneously. It is just too difficult and time-consuming to make these comparisons. In a supermarket environment, consumers generally have limited opportunity to process information, and their motivation to do this is likely to be low, resulting in relatively superficial processing of information at the point of purchase. To simplify, consumers tend to use a single nutrient (eg, fat) as a measure for comparing a product's effect on overall health. This has the disadvantage of leading consumers to make the wrong choice in some cases because a product low in one nutrient, fat, may be high in others, such as sugar or salt. A shopper requires significantly less time to read and evaluate a symbol, score, or labeling format such as a front-of-pack labeling, making the front-of-pack labeling approach more appropriate in a supermarket environment where consumers make quick decisions in the aisles perhaps when moving a cart forward and the opportunity to process information is minimal.

ARE NUTRIENT PROFILING SYSTEMS THE ANSWER?

The passage of the 1990 Nutrition Labeling and Education Act provided the US Food and Drug Administration (FDA) with specific authority to require nutrition labeling on packaged foods and to require that all nutrient content claims and health claims to be consistent with agency regulations. In 1994 additional guidance and requirements for label format and content were provided by the FDA (5).

Shortly thereafter, food manufacturers, trade associations, and health organizations began developing nutrition symbols. Often health claims made during that time were not backed by significant scientific agreement, which caused some confusion for the consumer. Although the graphics varied in format and design, the most prevalent placement of these symbols was on the front of the food packaging. Today there are spots, stamps, and other symbols on food products, but are these symbols resonating with...

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consumers? Also, can they help consumers improve diet and health in a credible way?

Nutrient profiling systems claim to be a means of ranking the healthfulness of a single food or diet quality depending on the nutrient profiling system used. However, the development and usefulness of these systems are multifaceted. Some have been developed for regulatory purposes; others are intended to simplify and increase consumer understanding of labels or are used for other educational purposes. Consumers need a scientifically reliable system but one that is easy to understand, quick to use, and relevant to their shopping habits and health and wellness concerns. This appears to be in line with what the 4 nutrient profiling systems have to offer. By adding nutrition symbols on packaging and/or nutrition scores to shelf tags, these systems have the potential to link to and enhance the use of the Nutrition Facts Panel, improve diet quality, improve health, and be a practical tool for nutrition education. But the systems are not created equal, nor are they found in every region of the country, and for some, not all foods, such as fresh foods, snacks, and medical foods, are rated. Nutrition educators should not overlook the fact that such a scoring system not only may be confusing to the consumer, but also could overload consumers with too much nutrition information about healthy food choices. In addition, although nutrition symbols can assist people in the grocery store, they do not necessarily add up to a quality diet or provide the whole picture on how these foods can fit into a healthy lifestyle.

WHAT DO NUTRIENT PROFILING SYSTEMS NEED TO MEASURE UP?

What does a nutrient profiling system need to best serve the consumer? An objective, science-based, and validated nutrient profiling system is needed to characterize foods on the basis of their nutrient composition. This conceptual framework should be integrated into the Dietary Guidelines for Americans and aligned with MyPyramid (6-8). In addition, it should follow labeling practices of the Food and Drug Administration, be based on which nutrients to encourage and which nutrients to limit, be validated against accepted measures of a healthful diet such as the Healthy Eating Index (9) and measurable public health markers such as blood pressure and cholesterol, and be consumer driven to guide better food choices and more healthful diets. A national rather than a multiple systems approach may be best to avoid consumer confusion arising from using different conceptual frameworks, distinctive developmental criteria, and unclear algorithms to score or rate food products from system to system.

For the most part, the 4 systems presented in this supplement to the Journal (10-13) are science-based and aligned with the Dietary Guidelines for Americans and up-to-date nutrient knowledge and composition. Complex formulas or algorithms are used for scoring. Symbols of nutrient value are common. Each is designed to direct consumers to smarter food choices in the supermarket but do not necessarily account for the quality of a total diet or provide educational materials or information to support that goal. All actively look at the functionality and validity of their systems.

Clearly, a consistent approach is needed to motivate consumers to make healthier choices at the point of purchase, whether it is the supermarket, restaurant, vending machine, or home recipe. To be effective and justifiable, a consistent approach must be science-based, validated, reliable, and understood by consumers so they can make better food choices to realize a healthier diet. The integration and interpretation of nutritional information within the system are important to its functionality and usefulness to the consumer. Although consumers do not require detailed nutritional knowledge, they do need to enhance awareness of healthy foods and make better food choices. Nutrient profiling systems potentially reduce the cognitive effort and the time needed to process information—which is much less when compared with more detailed labels—and have the potential to facilitate and improve consumer decision making with regard to healthy foods.