Communicating Nutrition Information Through Food Labels

By Tee E Siong, PhD

Communicating nutrition information about packaged foods through labels has been recognised as a useful means of enabling consumers to make an informed choice about food products in the market. Food labels can also include supplementary nutrition information. Overall, information on food labels aim to help consumers adopt sound nutrition principles in the purchase and preparation of food for their families.

Nutrition labels can also be a useful public health tool in the promotion of healthy eating to combat chronic diet-related diseases such as obesity, hypertension, diabetes, coronary heart disease and cancers.

Nutrition information on labels is also beneficial to the food industry. Manufacturers who provide nutrition labels and make responsible nutrition claims about their products have the edge over competitors. Such labelling enables companies to emphasise the nutritional properties of their products and guide consumers to make better food choices. By following regulated nutrition labelling and claims, the industry becomes more aware of the importance of producing nutritious products in order to meet consumers' demands and needs. These products will also have increased trade opportunities and greater acceptability, globally.

Two main types of nutrition information may be communicated to consumers: the declaration of a product's nutrient content (or nutrition labelling) and nutrition and health claims. This article summarises the main features of these two components of nutrition information and discusses the effective use of such information.

Understanding the Nutrition Information Panel (NIP)

Nutrition labelling or nutrient declaration describes the nutrient content of a food product. The nutrients are declared in a table in one section of the food label, commonly known as nutrition information panel or NIP (*see box for sample panel*). The NIP, which focuses on nutritional quality, when factually and informatively provided can assist consumers make better food choices when planning their daily meals. Such information serves to remind the consumer to think of the nutritional quality of a food product, in addition to other information on the packaging, such as ingredients, storage conditions, instructions for use and date marking. Nutrition labelling can indeed be a useful educational tool.

Recognising the potential use of nutrition labelling, the Ministry of Health enforced a law on

mandatory nutrition labelling of pre-packaged processed foods from 2005. Food products requiring mandatory nutrition labelling include:

- 50 categories of commonly consumed foods, including prepared cereals and bread; milk products; flour confection; canned meat, fish and vegetables; canned fruit and various fruit juices; salad dressing and mayonnaise;
- Foods making nutrition claims; and
- Foods that have been fortified or enriched with specific vitamins or minerals.

Besides these, all other processed foods can also voluntarily carry an NIP. However, when the NIP is displayed, the labelling format and requirements stipulated in the regulation must be complied with by declaring the content of:

- Energy;
- Protein;
- Carbohydrate; and
- Fat.

These four nutrients must be declared in the following format:

- kcal (for energy) or g (for protein, carbohydrate and fat) per 100g (for solid foods) or per 100ml (for liquid foods);
- Energy, with the three nutrients declared in each serving of the food product and the serving size; and
- Total sugar content in ready-to-drink beverages.

Table 1: Sample of an NIP for a beverage

NUTRITION INFORMATION PANEL *Serving size: 200 ml* *Servings per package: 5*			
		Per 100 ml	*Per serving (200 ml)*
Energy	(kcal)	100	200
	(kJ)	420	840
Carbohydrate (g)		23.8	47.6
Total sugar (g)		11.5	23.0
Protein (g)		1.1	2.2
Fat (g)		0	0

Vitamins and minerals present in the food product may also be declared if the manufacturer chooses to do so. However, these vitamins and minerals must be present in significant amounts (i.e. at least 5% of the nutrient reference value [NRV] per serving; as per Table 2), in order to prevent manufacturers declaring minute amounts of vitamins and minerals that do not contribute significantly to the dietary intake. The format for declaration is the same as that for the mandatory nutrients, i.e. in per 100g or per 100ml and per serving.

Other optional nutrients that may be declared are dietary fibre, cholesterol and sodium. There is no condition for the declaration of these nutrients, which may provide the consumer with additional information about the food product.

Table 2. Nutrient reference values

Nutrient	Unit	NRV
Vitamin A	µg	800
Vitamin D	µg	5
Vitamin E	mg	10
Vitamin C	mg	60
Thiamin	mg	1.4
Riboflavin	mg	1.6
Niacin	mg	18
Vitamin B6	mg	2
Folic acid	µg	200
Vitamin B12	µg	1
Calcium	mg	800
Magnesium	mg	300
Iron	mg	14
Zinc	mg	15
Iodine	µg	150
Protein	g	50

Using nutrition labelling wisely

Nutrition labelling can help consumers take into account how a particular food contributes to the total energy and nutrient intake of the day. Nutrition labelling will also enable a consumer to compare the nutrient profiles of different brands of a particular food item. It should be emphasised that in doing so, the consumer should be guided by the content of all the nutrients provided on the label, not just the level of one nutrient, for example fat.

Furthermore, the nutrient content of a single food must be considered in the context of the total diet. One food product does not make a meal, much less the daily nutritional requirement. It does not mean that a product that is higher in fat should be shunned in favour of products claiming better nutritional qualities. It is the variety of foods that will more likely provide all

the nutrients and food components a consumer needs. Healthy eating does not mean totally omitting a particular food from the diet.

Nutrition labelling can stimulate consumers to think of "nutrition", not just when they are buying processed foods but also in their choices of fresh food, cooked meals and when they prepare their daily meals.

Older children who tag along during supermarket shopping trips should be educated on nutrition labelling. We must start from young. Children must be made familiar with nutrition in their early years so that the principles of nutrition can lead them to a healthier future.

Avoiding all foods with high fat will not solve the problem of obesity, or, for that matter, any chronic diet-related disease. More importantly, it must be recognised that nutrition labelling will not provide the answers to all the nutritional ills.

Enhancing effective usage of nutrition labelling

Now that nutrient declaration has been made compulsory for almost a year, the authorities may wish to reflect upon its implementation and impact on consumers. The first thing one may ask is: Do most of the stipulated food categories in the market carry the required nutrition labelling? Are companies having difficulties, for example, lack of technical expertise, in complying with the regulation?

The main concern should be the usefulness of nutrient declaration to consumers, who are the primary target of this exercise. Do consumers understand the information placed on the NIP? Do they know how to use such information? Have consumers used such information? What improvements are needed to be made in this area?

These questions need to be addressed to enable the nutrient declaration to be easily understood, meaningful and useful to the consumer. We need to put in greater effort to educate consumers on the use of nutrition labelling and nutrition claims. We need more data on consumer understanding and usage of such nutrition information.

Use of Front-of-Pack signposts

Nutrition information panels have been said to be difficult to be understood by consumers. Hence, some countries (especially in Europe) are considering using a variety of front-of-pack (FoP) signposts to provide further guidance to the nutrient content of a food item, in addition to nutrient declaration. The use of symbols or logos is based on specific criteria, such as low in fat, sugar or cholesterol.

Some of these FoP schemes include:

- Health indicators and health logos (e.g. ticks, stars, smile icons, keyholes);
- Energy labels (highlighting amount of energy);
- Guidelines on daily amount (GDA), or different ways of expressing the percentage contribution of a selected nutrient to the daily requirement;
- Colour coding of labels (e.g. single traffic light or multiple traffic lights to grade amounts of selected nutrients in the pack); and
- A combination of multiple traffic lights and GDA.

Some of these systems have been controversial, with their usefulness challenged. Several evaluations have been conducted on these schemes and the findings have not been clear about which are the more appropriate. It is to be expected that the acceptance and understanding of such schemes depend a great deal on the socio-economic background of the consumer. A well accepted symbol or logo in one country does not necessarily mean it would be the most appropriate for another country or region.

The Ministry of Health was considering adopting one of these schemes. We should look at countries having such programmes and learn from their experience and challenges before embarking on any one of these. Whatever additional nutrition information we may want on a label must be beneficial to the consumer. This requires thorough consultation with all stakeholders as well as knowledge of consumer understanding and acceptance.

Nutrition claims permitted on food labels

Nutrition claims permitted on food labels with the enactment of a regulation by the Ministry of Health and enforced in 2005 are meant to describe or highlight the nutritional value of a food product. They can be seen on the labels of milk powder, beverages, bread, biscuits, noodles and numerous other pre-packaged foods.

Three types of nutrition claims are permitted under this regulation:

- Nutrient content claim;
- Nutrient comparative claim; and
- Nutrient and other function claim.

As the term suggests, the nutrient content claim describes the level of a nutrient in a food product. A permitted nutrient content claim on the label of a beverage is, for example, "source of vitamin C" or "high in vitamin C". Similarly, such claims can be made for protein, 10 vitamins and five minerals. These are the so-called "good nutrients". A food product must contain a minimum amount of protein or a specific vitamin or mineral before a nutrient content claim can be made.

In contrast, another type of nutrient content claim is "low in cholesterol" or "cholesterol free". These claims are for the so-called "bad nutrients" such as fat, saturated fat, cholesterol, trans-fatty acids, sugars and sodium. In order to make such claims, the content of these nutrients in the food must not exceed levels stipulated in the regulation.

With the exception of trans-fatty acids, there are, of course, no "bad nutrients". All nutrients, including energy, fat and cholesterol, are required for normal body functions. It is the excessive intake of nutrients that is undesirable. Indeed, excessive intake of vitamins and minerals are also undesirable!

A nutrient comparative claim is a claim that compares the nutrient levels and/or energy values of two or more similar types of food. Such claims include "less fat", or "reduced salt". The opposing comparative claims can be "extra vitamin A" or "more protein", and so on.

Nutrient and other function claims

The third type of nutrition claim is the nutrient function claim, which describes the physiological role of the nutrient in growth, development and normal functions of the body. Recognising that several non-nutrients or food components can have beneficial physiological and health effects, "other function" claims are also permitted. These claims describe specific beneficial effects of the consumption of a food constituent in improving or modifying a physiological function.

When the nutrition labelling and claims regulations were gazetted in 2003, 11 nutrient function claims were permitted. Over the years, several new nutrient and other function claims have been added to the list. Some of these claims were based on applications from the industry. Other claims were "classical" nutrient function claims of other countries, such as those in Southeast Asia, Australia/New Zealand, Europe, Japan and the United States of America.

Currently, 23 function claims for nutrients are permitted. These are related to functions of protein, nine vitamins (A, B1, B2, B12, C, D, E, folate and niacin) and five minerals (calcium, iron, iodine, magnesium and zinc). Examples of nutrient function claims are:

- Calcium is important for strong bones and teeth; and
- Iron is an important factor in red blood cell formation.

A total of 21 "other function" claims for non-nutrients also permitted. All the claims resulted from petitions from the food industry. These non-nutrients include:

- Several dietary fibres, such as inulin, galacto-oligosaccharide (GOS), fructo-oligosaccharide (FOS), GOS:FOS (90:10), high amylose maize resistant starch, beta-glucan and polydextrose;
- Sialic acid;

- Soy protein;
- Patented cooking oil blend; and
- Bifidobacterium.

The permitted "other function claims" include:

- Helps reduce/lower cholesterol;
- Helps increase intestinal bifidobacteria/bifidogenic/prebiotic and helps to maintain a good intestinal environment;
- Helps to lower to rise in blood glucose; and
- Helps to improve intestinal immune system of babies.

Disease-related health claims are not permitted

The regulations only permit "function claims" to be made. These claims could be for nutrients or other food components and relate only to the physiological function of these nutrients. Disease risk reduction claims are not permitted under these regulations. These claims relate to the consumption of a food or food constituent to the reduced risk of developing a disease or health-related condition. Hence, the following claims are not permitted:

- Soy protein reduces risk of heart disease; or
- Calcium reduces risk of osteoporosis.

Consumers should realise that chronic diseases have multiple causes and taking a particular nutrient or food component alone will not reduce risks of coronary heart diseases, diabetes or cancers. In addition to taking a particular nutrient or food, one must practice overall healthy eating and adopt a healthy lifestyle. The consumer should not be misled by a health claim and consume excessive amounts of a food product and omit other items from his diet.

Specific conditions must be met to make nutrition claims

The regulation on nutrition claims requires specific criteria to be met before any nutrition claim is made. Food manufacturers intending to make a "source of" or "high in" claim must ensure the food product contains a minimum amount of the protein, vitamin or mineral stipulated in the regulation (see Table 3 for a list of these conditions). Similarly, the food intended to be declared as a "low in" or "free of" anything must not contain more than the level stipulated in the regulation. Table 4 lists the required conditions.

Table 3. Conditions for nutrient content claims for "source of" or "high in"

COMPONENT	CLAIM	NOT LESS THAN
Protein	Source	10% of NRV per 100 g (solids) 5% of NRV per 100 ml (liquids) or 5% of NRV per 100 kcal
	High	(at least 2 times the values for source")
Vitamins and Minerals	Source	15% of NRV per 100 g (solids) 7.5% of NRV per 100 ml (liquids) or 5% of NRV per 100 kcal
	High	(at least 2 times the values for "source")

Table 4. Conditions for nutrient content claims for "low in" or "free of"

COMPONENT	CLAIM	NOT MORE THAN
Energy	Low	40 kcal (170 kJ) per 100 g (solids) 20 kcal (80 kJ) per 100 ml (liquids)
	Free	4 kcal per 100 ml (liquids)
Fat	Low	3 g per 100 g (solids) 1.5 g per 100 ml (liquids)
	Free	0.15 g per 100 g (or 100 ml)
Saturated Fat	Low	1.5 g per 100 g (solids) 0.75 g per 100 ml (liquids) and 10% of total energy of the food
	Free	0.1 g per 100 g (solids) 0.1 g per 100 ml (liquids)
Cholesterol	Low	0.02 g per 100 g (solids) 0.01 g per 100 ml (liquids)
	Free	0.005 g per 100 g (solids) 0.005 g per 100 ml (liquids)
Trans Fatty Acid	Low	1.5 g per 100 g (solids) 0.75 g per 100 ml (liquid) and 10% of total energy of the food
	Free	0.1 g per 100 g (solids) 0.1 g per 100 ml (liquids)
Sugars	Free	0.5 g per 100 g (or ml)
Sodium	Low Very Low Free	0.12 g per 100 g 0.04 g per 100 g 0.005 g per 100 g

The law also stipulates specific criteria that must be met before a nutrient function or other function claims are permitted on a label. The food must contain a specified minimum amount of the nutrient that is the subject of the claim. Other conditions could be imposed on specific products, if required, e.g. additional labelling requirements or restriction to selected foods.

A further condition that must be met is that if a food label states any of these nutrition claims, then it is compulsory that the amounts of the four core nutrients (i.e. energy, protein, carbohydrate and fat) are declared on the label. The nutrient or food component that is being claimed must also be declared.

The food company is not required to submit the intended content claim or comparative claim to the Ministry of Health for prior approval. The onus is on it to ensure that the criteria are met. Enforcement officers of the ministry can take samples from retail outlets to check on compliance and take action against offenders. Consumers can also help to ensure compliance: check that the amount of nutrient declared meets the required criteria for nutrient content or comparative claims.

Function claims are different. Only those approved and gazetted by the Ministry of Health are permitted on food labels. The food industry must submit an application to the ministry if it intends to make new function claim. A procedure has been set up with clear guidelines and format for such application. All petitions to the ministry are considered by an Expert Group on Nutrition, Health Claims and Advertisements. The Expert Group reviews submissions based on available scientific data, preferably those derived from human intervention trials.

Appropriate and effective use of nutrition claims

Nutrition claims provide further information to the consumer, in addition to the declaration of the amounts of nutrients on the label. Nutrient content claims and comparative claims provide descriptions of what those amounts of nutrients are, for example, high or low. Such descriptions should be viewed in the right context and used appropriately.

Among the same category or type of food, the consumer may use such claims to guide his selection of a brand. For example, among several similar beverages, preference may be given to the one with "high vitamin C" claim. Among various brands of curry chicken, preference may be given to the one with "low sodium" claim.

However, the consumer should not select a food product based merely on one such claim. The beverage with the "high vitamin C" claim may have high sugar content. Similarly, the curry chicken with the "low sodium" claim may have more fat compared with another brand. It does not mean that a product that does not have a "low in fat" claim is bad for you, just as it does not mean a "cholesterol free" claim is the best choice. It is important to look for the overall nutritional profile of the food and not just rely on one or two claims on the label.

Nutrient function claims are meant to provide factual information to the consumer on the

physiological function of that particular nutrient or food component. These are meant to be nutrition information that a consumer can use, together with other nutrition information from various sources. These claims should not imply that the nutrient cures, treats or protects a person from diseases.

Consumers can help monitor nutrition claims

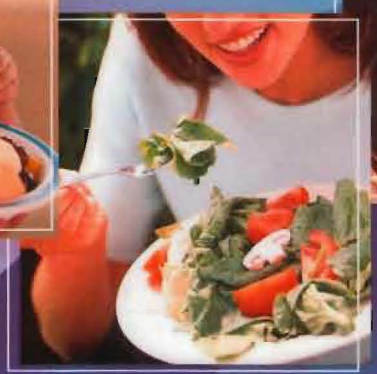
The food industry would like to have nutrition claims on food labels to provide further information on the nutrients contained in the product offered for sale. In addition, nutrition claims may help a food company sell its products. There has, therefore, been an increase in interest among food companies in having nutrition claims on their product labels. Similarly, we also see more nutrition claims in food advertisements in the print and electronic media.

The consumer must try to understand what these claims mean in order to make full use of the information provided. He can also help monitor and determine if the nutrition claims made are those permitted by the ministry. It should be noted that nutrition claims permitted in advertisements are the same as those allowed on food labels. The consumer can provide feedback to the ministry on his understanding of these claims, if these have been useful, and how he used the information provided. Such information will help the authorities when reviewing the implementation of this regulation.

Federation Of Malaysian Consumers Associations

Consumer DIGEST

PUTTING THINGS INTO PERSPECTIVE PP 13611/5/2008 Issue 1 /09



Healthy Living

features in this issue:

- Health of Today' Malaysians – Dietary Implications
- Communicating nutrition information through food labels
- Childhood Obesity: Contributing Factors, Consequences, and Intervention
- The Marketing of Foods to Children in Malaysia – TV advertising regulations
- Tobacco control and prevention in Malaysia