

Nutrition information on food labels: Is it read and understood?

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Nutrition labelling becomes more and more widespread on food packages in Europe. But do consumers really notice these labels and do they understand them? Most critically, are they able to use such nutrition information to make healthier choices when shopping?

Universe of nutrition labelling in Europe

Nutrition labelling is a means to inform consumers about the nutritional value of foods and ideally should help them make healthier food choices when doing their shopping. In Europe, the provision of such information is not compulsory, unless a nutrition or health claim is made. However, a recent EU-funded research project, FLABEL (Food Labelling to Advance Better Education for Life) has shown that on average 85% of products contained nutrition information on the back of the pack and around 48% on the front.¹

Various labelling schemes are available as governments, food manufacturers, retailers, and health and consumer organisations work on a consumer-friendly label design. The most frequently used formats in Europe include:

- Nutrition table, which usually either displays a set of items known as the “big 4” (energy, protein, carbohydrates, fat) or “big 8” (i.e., “big 4” plus sugar, saturated fat, fibre and sodium) given per 100 g/ml of the food or per portion or package.
- Guideline Daily Amounts (GDA) are a guide to the amount of energy (calories) and some nutrients a healthy adult should be eating in a day. The GDA system displays the nutritional information per portion or serving (e.g., per bar, per slice) of the product, usually indicating the amounts of energy and the 4 nutrients fat, saturated fat (saturates), sugar and sodium (salt) in that portion. The GDA percentages tell you what that represents in relation to the (maximum) daily allowance of these nutrients for healthy adults. Of note, GDA figures take the average dietary needs of healthy adult women as the reference to discourage over-consumption.
- Colour-coded systems (e.g. Traffic Lights) use colours (e.g. red, amber and green in the Traffic Light system in the UK; orange, yellow and green in the nutri-pass system in France) to indicate whether the nutrient content and sometimes also the energy content of a food product is high, medium, or low per 100 g/ml. Some systems adapt the colour-coding per portion under certain circumstances (e.g. Traffic Lights in the UK). On the food labels, in addition to the colour-coding, the amount of the nutrients (e.g. fat, saturated fat, sugar and salt) with or without energy present in a portion or serving of the food, are also provided.
- Colour-coded GDA are a combination of the GDA labelling system and Traffic Lights labelling systems or similar colour-coding. These labels show the GDA percentages for energy and certain nutrients in a portion or serving of a food or drink, and combine them with colour codes to show

whether the amount of these nutrients (with or without energy) is high, medium or low in 100 g/ml (or in a portion, if the portion is more than 100 g/ml) of the food considered.

- Health logos, such as the Swedish Keyhole, are used on foods that meet certain nutrient criteria by category of food (which vary from logo to logo), and help consumers to identify and purchase better-for-you options.

Good nutrition knowledge

Many research studies have tried to shed light on consumers' reactions to nutrition labels, but little information exists so far as to the actual consumer behaviour in store.² To fill this gap, EUFIC (together with Professor Klaus Grunert from Aarhus University, Denmark), conducted a field study in retail stores that included consumer observations, in-store interviews and in-home questionnaires.³ The in-store observational work was carried out in six product categories (ready meals, soft drinks, yoghurts, confectionery, salty snacks, breakfast cereals), and over 11,600 in-store interviews were conducted across six European countries (UK, France, Germany, Hungary, Sweden and Poland). Over 5,700 in-home questionnaires were returned. In the study all the above-mentioned schemes were addressed.

One of the findings was that consumers demonstrated a reasonably good nutrition knowledge. More than 95% of respondents knew that health experts recommend eating lots of fruits and vegetables, while most of them were unaware of the advice to eat a lot of starchy foods (such as bread, rice, pasta and potatoes). Many consumers also had a tendency to exaggerate with regard to foods high in fat, sugar and salt, believing that these should not be eaten at all rather than eaten in smaller quantities. This reaction was strongest in the UK.

Calories

European consumers had a reasonably good command of calories. Most respondents knew the approximate calorie content of foods and the fact that men and women had different calorie needs. In all six countries, women had slightly better knowledge than men about the calorie needs of an active adult. However, consumers tended to underestimate the calorie needs and expenditure of an average adult, whereas they overestimated children's calorie needs. This misconception (from 32% of the respondents in Sweden to 58% in Poland) could lead people to feed their children more calories than is actually needed.

Nutrients

Consumers seem to understand some nutrients better than others. Whereas the majority of respondents knew they should decrease their intakes of saturated fat, trans fat and total fat and eat more omega-3, they did not realise that higher intakes of polyunsaturated fatty acids are also recommended.

Nutrition Knowledge Index

An index was designed to evaluate the overall nutritional knowledge of the respondents in the six countries audited. This index covers expert recommendations on food groups and nutrient intakes as well as nutrient and calorie content in selected food products. According to this index, the UK consumers had the highest nutrition knowledge, while the consumers in Poland and France had the lowest.

Labelling awareness and understanding

On average, European consumers spent about 35 seconds handling individual products. Many respondents were aware of the existing nutrition labelling schemes. For GDA the awareness ranged from 40% in Sweden to as high as 90% in the UK, the four other countries ranging around 60%. When focusing on country-specific labelling, an overwhelming majority of Swedish consumers was aware of the Swedish Keyhole logo (95%) and was able to understand it (71%). The awareness of colour-coded systems was high in the UK (81% for the Traffic Lights) and low in France (23% for the nutri-pass). Colour-coded systems were often misinterpreted by consumers in that most of them exaggerated the meaning of the colour indicating the highest nutrient levels (red in the UK, orange in France). Consumers wrongly believe this colour means they “should try not to eat this product”, while the correct definition is “It’s fine to have this product occasionally as a treat.” Moreover, less than 15% of UK consumers considered that the interpretive elements (colour-coding or high/medium/low) were the most helpful for indicating the healthiness of a product, with absolute amounts of each nutrient and GDA scoring highest.

When given a realistic choice between three pre-packed ready meal labels, a large majority (over 70%) correctly identified the healthiest product in France, Germany, and the UK, and still about 50% in Hungary, Poland and Sweden, regardless of the nutrition labelling systems. In addition, more than 65% of the European respondents could correctly use GDA to identify the healthier option between two products (from 66% in Poland to 88% in the UK). However, less than half of respondents in five countries understood that GDA refer to a serving of food rather than 100 g/ml of food, with the exception of consumers in France.

Consumers’ awareness, understanding and ability to make correct health inferences were shown to be linked to their nutritional knowledge, age, social grade and interest in healthy eating. The consumer’s gender or body mass index (BMI) had no effect. Thus, improving consumers’ nutritional knowledge could help them interpret nutrition labels correctly.

Consumers use of nutrition labels when shopping

Most people are able to use nutrition information when prompted, but few actually look for it spontaneously when shopping. Overall, more than 60% of respondents looked at the front of the food pack (except in France, where only 31% did so), while less than 15% looked somewhere else on the pack. Yet, less than one-third of consumers said they had looked for nutrition information on the packaging (from 9% in France to 27% in the UK).

Of the consumers that reported looking for nutrition information, most consumers in all six countries said they had looked for calories, fat or sugar. Salt and saturated fat was only looked for by consumers in the

UK. Food additives were also frequently mentioned in Hungary, France and Poland, as well as fibre in Sweden, protein in Hungary and vitamins in Poland. The most often cited sources of nutrition information were the Nutrition Table, the GDA information and the ingredients list. Among the six product categories considered in the study, people spent most time handling ready meals. The major reason for choosing a product was taste, rather than nutrition and health. However people were most likely to look for nutrition information on yoghurts and breakfast cereals, which already benefit from a healthy image.

Further information

1. [FLABEL Webinar “Current penetration of nutrition information on food labels in the EU 27 & Turkey.”](#)
2. Grunert KG and Wills J (2007). A review of European research on consumer response to nutrition information on food labels. *Journal of Public Health* 15:385-399