

# Helping to promote healthy diets and lifestyles: the role of the food industry

Anne-Laure Gassin\*

Nutrition Affairs, Kellogg Europe, Kellogg's PA, F-93118 Rosny-sous-Bois Cedex, France

## Abstract

In order to be successful, public health nutrition strategies require the active collaboration of all stakeholders in the promotion of healthy diet and lifestyle patterns. The food industry plays an important role both in providing products that meet consumers' needs in terms of taste, convenience, quality, nutrition and value as well as in communicating to consumers about the importance of good nutrition, including the contribution of specific foods to a balanced diet. The food industry contributes to educational efforts regarding healthy diets and lifestyles both directly – through product labelling, advertising, educational materials, on-line communications and information provided by Consumer Services departments – and indirectly, through active involvement and participation in educational programmes pursued in collaboration with nutrition and health education authorities. Through ongoing dialogue with its consumers and research conducted on consumer knowledge and attitudes towards diet, the food industry can ensure that communications developed are motivating and relevant to consumers' lives. In this paper, the specific contribution of the food industry will be illustrated through the promotion of healthy eating habits among children, focusing in particular on the importance of the breakfast meal.

**Keywords**  
Food industry  
Nutrition education  
Children  
Breakfast

Diet in childhood is critical to ensuring children's well-being and growth, providing the energy and nutrients required for optimal physical and mental development. Energy and nutrient needs are highest during the pre-school and teenage years due to rapid growth spurts. Current evidence shows that children are heavier and taller than in previous generations<sup>1,2</sup>, but yet many European children do not achieve recommended intakes in nutrients essential for growth such as iron and calcium<sup>3–8</sup>. In addition to the immediate influence of diet on children's well-being and health, there is also increasing evidence that diet in childhood is a critical factor in determining future adult health<sup>9,10</sup>. The foundations of many chronic diseases, such as diabetes, coronary heart disease and osteoporosis, are now thought to be rooted in childhood where critical periods of development depend on an adequate supply of appropriate nutrients. More generally, food and diet play an important role in childhood in establishing a foundation for happiness and fulfilment, fostering enjoyment of life, family, school and play.

Nutrition education in its broadest sense is of course a key parameter in improving children's diets and ensuring that children and their parents understand how best to achieve a balanced and varied diet. As dietary habits are

acquired at an early age, childhood is a particularly favourable time to undertake educational programmes regarding healthy diets and lifestyles<sup>11–13</sup>. The fact that good eating habits established in childhood are likely to be continued into adult life further increases the relevance of such initiatives from a public health perspective.

Public health nutritionists recommend the active collaboration of all stakeholders in the promotion of healthy diet and lifestyle patterns. Successful public health strategies are developed according to an overall framework that addresses all levels, i.e. the individual, community, environment as well as public policy<sup>14</sup>. This can be achieved by working through specific targets (e.g. children, adolescents, pregnant women, etc.) and settings (e.g. schools, health sector, workplace, etc.), and also by selecting from a variety of different approaches (e.g. the use of mass media, community development, policy changes, etc.)<sup>14</sup>.

In this context, the food industry – as a key stakeholder – has a unique and important role to play not only in providing consumers with tasty, convenient and nutritious foods but also in pursuing and participating in integrated nutrition communications and educational programmes, in collaboration with nutrition and health authorities. The contribution of the food industry to

nutrition education will be illustrated through the specific strategies and programmes undertaken to promote healthy eating habits among children, focusing in particular on the importance of the breakfast meal.

### **Education regarding healthy diets and lifestyles: why focus on children?**

Childhood is a particularly favourable period for nutrition education. At a very young age, nutrition education can be linked to sensorial discovery and education; later on, in primary and early secondary schools, nutrition can be associated with the acquisition of knowledge regarding the life sciences<sup>11</sup>. Indeed schools provide the most effective and efficient way to reach a large segment of the population, involving not only the children themselves, but their parents, teachers and other members of the community<sup>15</sup>.

Research conducted in the field of food preferences supports the influence of tasting and trying a wide variety of foods from early years on the development of food likes and dislikes by children<sup>15,16</sup>. Nutrition education strategies should therefore address such issues as food preferences and encourage children to choose a varied diet, the key to the development of healthy eating habits<sup>17</sup>. In addition, nutrition education strategies for children should focus on how to adapt dietary intake to energy needs<sup>18</sup> and contribute to educate informed consumers in order to enable them, at an early age, to make individual food choices in the midst of what has been called a 'dietary cacophony' of messages regarding food, diet and health<sup>19</sup>.

Population studies show that the nutritional quality of meals eaten by children and adolescents improves when eaten with the family<sup>20,21</sup>. Given trends that confirm the decreasing presence of the family at meal time, particularly as children grow older<sup>10,17,22</sup>, nutrition education should also strive to promote the role of eating as a social occasion. Furthermore, the last decades have shown an alarming increase in both the prevalence of childhood obesity<sup>23,24</sup> and in the numbers of children exercising dietary restraint in order to either lose or maintain weight<sup>25</sup>. Nutrition and health educators should therefore strive to encourage a positive body image – key to maintaining appropriate body weight – both among children and adolescents, the latter constituting a key target group for educational initiatives both in and out of the school setting<sup>11,17</sup>.

### **Nutrition education: are children interested?**

Children are clearly interested in nutrition, provided the information conveyed is relevant to them. Research on the knowledge and attitudes of children to food, diet and health reveals that the term 'nutrition' is a vague concept in the minds of children: while it may be associated with

health and the dietary benefits of foods, very few can actually specify its precise meaning<sup>26,27</sup>. Although children may be able to articulate or repeat general, parental advice on healthy eating, such as 'One must avoid eating too much fat' or 'In order to be healthy, one must eat a bit of everything', in general actual knowledge about nutrition or the nutritional composition of foods is low<sup>26,27</sup>.

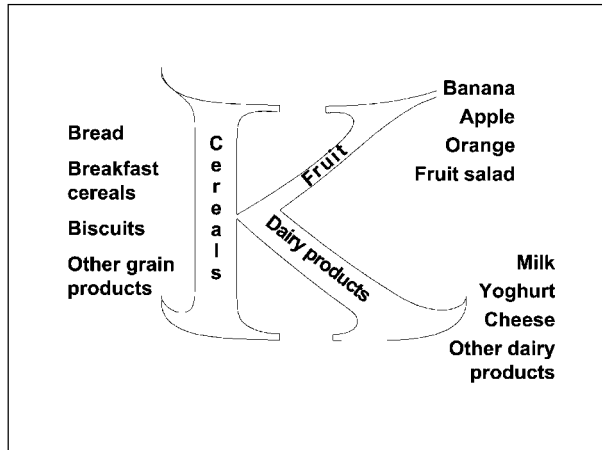
However, a study carried out in France among 9–11-year-old children confirms that this age group is certainly interested in nutrition and specifically wants to understand the relation between diet and the body; i.e. where food goes in the body, what its effects are on body function, etc.<sup>27,28</sup>. Research carried out among 6- to 15-year-old children in the United Kingdom revealed that the factors which motivate 'healthy' food choices are linked to immediate and tangible benefits: personal appearance (for girls) and performance (for boys), together with convenience, ease of preparation, filling/substantiality and youth appeal (for both genders)<sup>29</sup>.

Hence a major obstacle to good nutrition may be that children fail to see its immediate relevance to their daily lives: children's lack of understanding of what constitutes a balanced diet as well as its importance to them makes any potential benefit completely intangible. It is interesting to note that the same obstacles continue into adulthood. Indeed, a pan-European survey on consumer attitudes towards food, nutrition and health revealed a large discrepancy between what people believe constitutes a healthy lifestyle – i.e. the importance of a healthy, balanced diet and physical activity – and their own personal commitment to change<sup>30</sup>. Attitudes towards breakfast illustrate quite well the gap that can exist between theory and practice. For instance, the results of another pan-European survey conducted among nearly 12 000 European households showed that three out of four consumers agreed that breakfast is 'the most important meal of the day'<sup>31</sup>, while in practice skipping breakfast is prevalent and has been quite stable in Europe for the past 10 years.

The problem does not appear to be lack of knowledge or concern about diet and exercise, but rather how people relate this knowledge to themselves<sup>30</sup>. The challenge therefore resides in how to make healthy lifestyles relevant to the individual, at all ages. Some propose that children themselves can be powerful ambassadors of healthy diet and lifestyle messages, helping to influence and instigate change within the family<sup>32</sup>, which again argues in favour of child-targeted educational efforts<sup>17</sup>.

### **How do children learn about nutrition and health?**

Children's principal source of information about diet and the foods they eat are their parents, and in particular their mothers<sup>26–29</sup>. Children are better informed if their



**Fig. 1** Guidelines for a healthy breakfast in school children (source: Pérez-Rodrigo *et al.*<sup>21</sup>)

parents/mothers are themselves more concerned about diet and nutrition<sup>27,28</sup>. Packaging is also an important and well-trusted source of information, both for children and adults<sup>27,30,31</sup>.

**A simple message: starting the day right with breakfast**

The importance of the breakfast meal in helping both children and adults to ensure adequate nutrient intakes has been documented in numerous studies conducted throughout the world<sup>7,21,33–42</sup>. Health professionals often recommend that breakfast provide between 20 and 25% of the daily nutritional requirements and that it be a complete meal including foods from three basic food groups: cereals and other grain-based foods, dairy products and fruit (Fig. 1)<sup>21</sup>. Such recommendations are based on the impact of breakfast on both dietary intakes<sup>7,21,33–42</sup> and nutritional status<sup>42</sup>, as well as its positive influence on mental and physical performance<sup>43–46</sup>.

Breakfast habits may also play a role in helping to maintain a healthy body weight<sup>21</sup>. For example, a French study conducted in 7–12-year-old children found that obese children tend to eat a smaller breakfast and a larger dinner compared with normal and thin children<sup>47</sup>.

Similarly, a study conducted in Spain among young people aged 2 to 24 years found a greater prevalence of obesity among those who skip or eat a small breakfast (i.e. 1–15% of daily energy intake) compared with those who eat a more substantial breakfast, the difference being greater for males than females<sup>21</sup>. Regular consumption of breakfast cereals is associated with less body fat in children<sup>48</sup> and lower dietary fat intakes<sup>7,21,39,41,42,48–50</sup>.

Consumers of breakfast cereals have more substantial and varied breakfasts<sup>42</sup>, are more likely to meet nutritional requirements than non-consumers<sup>7,21,39,42,50</sup> and tend to have lower body mass index than non-consumers<sup>21,42,48,50</sup>.

The important contribution of fortified breakfast cereals to micronutrient intakes is illustrated in the analysis of the diets of schoolchildren aged 12 and 15 years in Northern Ireland. For most micronutrients, the percentage of subjects with intakes below the Lower Reference Nutrient Intake (LRNI) decreased with increasing cereal consumption (see Table 1)<sup>10</sup>.

Hence, a simple message about the need to make breakfast a real meal, including breakfast cereals and other grain-based products, milk and other dairy products, and fruit, can be a powerful means of improving the diet and health of children, with possible positive influence on future adult health. It is certainly for this reason that the importance of breakfast is included in many educational programmes promoting healthy diets and lifestyles<sup>21,51,52</sup>.

**Nutrition education: is there a role for the food industry?**

The inherent interest and involvement of children in the food they eat<sup>27–29</sup> can only encourage nutrition and health promoters to pursue educational efforts targeted at children. They are indeed a receptive audience provided nutrition information is relevant to their lives. The challenge for nutrition education experts then resides in making healthy eating and lifestyle advice relevant to the individual; adapting messages to different cultural and social contexts; bridging the knowledge gaps, including providing practical information on how to enact dietary

**Table 1** Impact of fortification on the diets of Northern Irish children. Proportion of children with intakes below the Lower Reference Nutrient Intake (LRNI) for selected nutrients by consumption level of breakfast cereals (g day<sup>-1</sup>)<sup>10</sup>

	Breakfast cereal consumption (g day <sup>-1</sup> ): 12-year-old girls			
	0 (n = 31)	1–20 (n = 67)	20–40 (n = 106)	>40 (n = 34)
Thiamine	35%	3%	0%	0%
Riboflavin	13%	3%	1%	1%
Niacin	10%	0%	0%	0%
Folate	94%	93%	93%	76%
Iron	35%	22%	13%	11%

change; ensuring common understanding both in terms of terminology and concepts; and striving for consistency in messages.

The food industry is ideally placed to address this challenge. Through ongoing dialogue with consumers (Consumer Services, on-line communications, etc.) and research on consumer needs and attitudes to diet, the food industry can quickly and effectively respond to consumer expectations. It is through such research for instance that the food industry understands how best to address consumers' food and dietary needs in the morning. Indeed breakfast is a relatively functional meal, characterised by a desire for healthy foods that provide essential nutrients. Consumers also expect foods eaten in the morning to help stave off hunger, provide energy, and that these foods be enjoyable to eat and easy to prepare<sup>53</sup>.

In addition, the food industry contributes to scientific knowledge through support of and involvement in research to further understanding on diet and health, including the contribution of specific foods and/or food components. In collaboration with the scientific community, the food industry strives to elucidate the nutritional challenges facing consumers in order to meet their needs more effectively.

The food industry, which has the privileged position of being in direct contact with consumers, can play a significant role not only by making available to children foods that they enjoy eating, that are relevant to their lives and needs, and that make a significant contribution to their diets, but also by initiating and supporting nutrition and health education initiatives. In this context, collaboration with other stakeholders is key – i.e. scientists, regulators, health professionals, educators, media and the retail trade – in order to ensure consistency of messages and maximum impact.

A notable example of such collaboration between private and public sectors is that of the campaign conducted in the United Kingdom between 1995 and 1998 by the Health Education Authority (HEA) in order to promote the benefits of folic acid in the prevention of neural tube defects. The programme was funded by the Department of Health and consisted of a variety of approaches including work with health professionals, education for young people and consumer research, as well as development of educational materials and advertising targeted at women planning pregnancy and women of childbearing age. One of the focal points of the HEA campaign was the introduction of a 'flash' labelling scheme to highlight products fortified with folic acid, including fortified breakfast cereals. This labelling scheme was developed in consultation with key statutory bodies, companies and trade associations. Overall, the HEA campaign was successful in contributing to an increased awareness of folic acid. Research conducted among women aged 16–45 years showed that 49%

spontaneously mentioned folic acid as something that women should take more of before and during pregnancy, compared with only 9% at the start of the campaign in 1995<sup>54</sup>. Awareness also rose among health professionals: 71% spontaneously identified folic acid as a 'very important' nutrient for women planning a pregnancy in 1997 compared with 55% in 1996, and one out of two (49%) of those who had seen the campaign information claimed to have changed their practice as a result<sup>54</sup>. The range of fortified products and supplements available on the market increased during this period as well as the prescription rates of folic acid<sup>54</sup>.

The involvement of the food industry in public health nutrition campaigns can be considered at each of the key junctures in the planning process. In Spain, for instance, The enKid Study – the first nationally representative nutritional survey of young people aged 2 to 24 years – was supported by a grant from the Kellogg Company. This study assessed the eating habits of the young Spanish population, with specific objectives to estimate the risk of nutritional deficiencies; to evaluate nutritional status; and to relate breakfast habits and breakfast cereal consumption to nutritional status. The results of The enKid Study were announced at the 4th International Congress of the Spanish Society of Community Nutrition (SENC) and made available to nutrition and health professionals in a publication entitled *Desayuno y Equilibrio Alimentario. Estudio enKid [Breakfast and Balanced Eating. The enKid Study]*<sup>21</sup>. The learning gained from this research was then utilised by Kellogg's to develop a communications campaign targeted to mothers and children, 'Perfil K', promoting the importance of a balanced diet, and in particular the need to lower fat intakes and increase intakes in carbohydrates, fibre, vitamins and minerals.

The prevention of obesity is today a major public health priority and the development of successful educational strategies to promote healthy diets and lifestyles, including the importance of physical activity, can be strengthened through collaboration between the public and private sectors. A recent publication by the Italian Society of Human Nutrition<sup>55</sup>, outlining the methodology to be applied in the design and evaluation of nutrition education strategies to prevent obesity, was supported by Kellogg Italia. This document will be made available to over 5000 nutritionists, dietitians, health professionals and teachers in order to provide valuable information to key stakeholders in the development of effective educational strategies and programmes.

The breakfast cereal industry, and Kellogg's in particular, has played an important role in raising public awareness regarding the importance of the breakfast meal through sponsorship of events such as the UK National Breakfast Week and National Breakfast Days conducted in France and Belgium in collaboration, respectively, with the French Health Education Committee and the Belgian Health Ministry. More recently, the company sponsored

the UK Breakfast Club Awards in association with Education Extra and the New Policy Institute, with backing from the Department of Education and Employment. The specific objectives of this programme are to raise the importance of good nutrition and specifically the value of breakfast to mental and physical performance, underlining the social importance of breakfast clubs in schools<sup>52</sup>.

The food industry can also provide an important contribution to educational programmes concerning healthy diets and lifestyles conducted in schools. Food manufacturers develop educational materials so that they communicate nutrition messages that are attractive to children and can easily be integrated by teachers in the school curriculum. Such educational programmes are often developed in collaboration with nutrition and health organisations. The French Nutrition Foundation has published a code of practice in order to ensure that materials developed by its members meet the following objectives: address the shared objective of public and private sectors to safeguard the school environment from promotional efforts; guarantee the educational quality of nutrition messages; and situate nutrition education in a context of balance, diversity and variety<sup>56</sup>. These guidelines were developed by a working group comprising professionals from the food industry, nutrition scientists and education specialists.

In a world of e-communications, it is also important to reach children through the medium that they are accustomed to using, i.e. the Internet. *Mission Nutrition* ([www.missionnutrition.ca](http://www.missionnutrition.ca)) is an ongoing joint nutrition education initiative of Dietitians of Canada and the Registered Dietitians at Kellogg Canada. Leading experts in the fields of child psychology, nutrition, eating disorders, physical and health education have contributed their expertise in the development of online resources including: curriculum-based lesson plans for teachers (grades 6–8), answers to common questions for parents, interactive educational activities for students, and other useful resources and web site links.

## Conclusions

Being in direct contact with consumers, the food industry is ideally placed to make a strong contribution to diet and health by providing foods that meet consumers' needs in terms of taste, convenience, quality, nutrition and value. Through nutrition and consumer research, the food industry gains valuable insights on consumers' expectations regarding food, diet and health in order to ensure that both products and communications are motivating and relevant to consumers' lives. Advertising, product packaging, educational materials and on-line communications provide useful information to consumers about the importance of physical activity and good nutrition, including the role that individual products can play in

helping consumers to achieve a balanced diet. Importantly, effective communications about healthy diets and lifestyles requires teamwork and integrated campaigns involving all stakeholders –including the scientific community, health professionals, educators, media, the food industry and retailers – are critical to the successful implementation of public health nutrition strategies. Further research should be conducted to identify the key success criteria of such campaigns and evaluate their effectiveness over time.

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