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Letters to the Editor

Nutrient profiling

The good, the bad, and the ultra-processed

Madam

In his recent invited commentary, Carlos Monteiro proposes a classification of foods based on the type and intensity of food processing[1]. In particular, he identifies a category of 'ultra-processed foods', the consumption of which should be avoided to prevent disease and enhance well-being. In his fairly provocative title, he states that 'The issue is not food, nor nutrients, so much as processing'.

Yet, we eat foods and we need nutrients, which is why we need efficient food-based approaches to meeting nutrient requirements. The evidence for a link between nutrition and health has prompted many countries to design food-based dietary guidelines[2]. However, the implementation of these recommendations may be impaired by their imprecision[3]. Indeed, they are based on wide food categories, not on individual foods in the form actually bought by consumers. In that sense, those guidelines are wrongly called 'food'-based dietary guidelines, because they do not provide recommendations on individual foods, but on categories of foods, the definition of which is very imprecise. As a result, clear recommendations on foods composed of more than one food category, such as mixed dishes and snacks, are lacking.

Moreover, food category-based recommendations are useless when it comes to choosing between two foods that have the same selling name but different ingredient and nutrient compositions and different prices. However, stigmatising a category as 'ultra-processed foods' will not help to overcome these limitations, because the classification Dr Monteiro proposes also lacks precision, and is therefore unlikely to be useful and operational.

Given the actual complexity of the food supply, we urgently need guidelines that present a real guarantee of optimal nutrition. Nutrient profiling systems, by providing clear information on the nutritional quality of individual foods, and explicit recommendations on the consumption of these foods, could be the missing link between nutrient-based recommendations and food category-based recommendations.

Initially intended for consumer protection and the regulation of health and nutrition claims in Europe[4], nutrient profiles can be used for different purposes, including food labelling, marketing controls, taxation/subsidies policies or product reformulation. Some of them could also be used for nutrition education and information.

This is the case with the SAIN,LIM nutrient profiling system proposed by the French Food Safety Agency[5]. This system is not based on the idea that there are good foods and bad foods, but on the notion that all foods may present positive and negative aspects for health.

The SAIN,LIM system provides factual information rather than a global judgement. The positive aspects are estimated through the SAIN (score of nutritional adequacy of individual foods, calculated as the mean percentage nutrient adequacy per 100 kcal), and the negative ones through the LIM (score of nutrients whose intakes should be limited, calculated as the mean percentage of maximal recommended values for salt (as sodium), saturated fatty acids and added sugars per 100 g).

Each food can be represented on a graph (SAIN = y axis and LIM = x axis) and, by defining threshold values for both scores, each food can be classified into one of four possible classes. With this system, most unprocessed and unrefined foods fall into class 1 (i.e. the most favourable nutrient profile: high SAIN, low LIM); whereas most energy-dense nutrient-poor foods fall into class 4. Because there is no compensation between the two scores, and because artificially added nutrients are not taken into account when calculating the SAIN score, using this system or a similar one should encourage the formulation of food products that are low in energy, fat, sugar and salt, and also rich in essential nutrients and other beneficial micro-constituents naturally present in foods.

Unfortunately, the nutrient profiling system that is going to be enforced at the European level to control health and nutrition claims[6] does not present such advantages. It will likely induce the development of products that, in order to 'pass' the system, will be moderately loaded with fat, sugar and/or salt, and in order to have something to claim, may be artificially fortified with vitamins, minerals or other ingredients considered as positive.

Clearly, promoting the consumption of such foods, by authorising them to display nutrition and health claims, will not help people to balance their diets. On that point, I fully agree with Dr Monteiro when he says that ' "premium" ultra-processed foods are not a solution'. But well-done nutrient profile systems could provide a rigorous approach to overcome these drawbacks by helping to make the difference between foods that really contribute to healthy eating and foods that will instead induce nutrient inadequacy[7].

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All the harmful effects of ultra-processed foods are not captured by nutrient profiling

Madam

In reacting to my commentary on food processing and health[1], Nicole Darmon[2] advocates nutrient profiling systems as an expression of food category-based recommendations. In so doing, she regrets the adoption by the European Community of a version of such systems that 'will likely induce the development of products that, in order to "pass" the system, will be moderately loaded with fat, sugar and/or salt, and in order to have something to claim, may be artificially fortified with vitamins, minerals or other ingredients considered as positive'. The EU decision makes one of my points. It illustrates the limitation of reducing the relationship between food and health to nutrient profiles, while ignoring other features and effects of food processing.

As I said in my commentary, diets largely made up from ultra-processed foods – such as breads, sausages, cookies, cereal bars, chips, ice creams, confectionery, savoury and sweet snacks in general, and soft drinks and other sugared beverages – are intrinsically harmful to human health. The reason is not only the nutrient profile of these foods.

Again as I said, other features of ultra-processed foods, unrelated to their nutrient composition and so not detected by nutrient profiling systems, make both 'regular' and 'premium' products intrinsically harmful to health. Ultra-processed foods, whether 'regular' or 'premium', are not perishable (as vegetables and fruits are) and do not require preparation or cooking (as grains and meat do). This is why they are correctly termed 'convenience foods' or 'fast foods'. But the convenience and the rapidity cause eating patterns which are known to harm the human ability to regulate energy balance, and therefore increase the likelihood of excess eating and obesity. Such unhealthy eating patterns, which include snacking instead of having regular meals, eating while watching television and consuming a lot of energy in liquid form[3–5], are all reinforced by the typically very heavy and aggressive advertising and marketing of such foods.

Also, both 'regular' and 'premium' ultra-processed foods are branded, packaged and marketed to give the impression to consumers that they are unique. This, plus the incredibly low cost of the main ingredients used in the production of ultra-processed foods (vegetable oils and fats, starches, sugars and salt), and the limitless opportunities to invent 'new' products and market them all over the world, explain why transnational food and drink manufacturers have a colossal investment in this sector. This, plus sophisticated marketing techniques targeted particularly at children and adolescents, and the general failure of national governments to establish effective regulations to limit unethical marketing strategies, also explain the explosive increase of production and consumption of ultra-processed foods, and the displacement of unprocessed or minimally processed foods, now evident everywhere.

The best recommendation on all ultra-processed foods, irrespective of their nutrient profiles, is to avoid them, or at least to minimise their consumption.

Further, as well stated by Mark Lawrence[6]: '…as the degree of food processing increases, often so does the requirement for energy inputs – directly in the processing itself, and indirectly in packaging…'. This is another reason to avoid all types of ultra-processed foods. The weakening of traditional food cultures, and the loss of culinary diversity, are also not captured by nutrient profile systems.

Ultra-processed foods and drinks, in the amounts now produced and consumed, are a menace to public health all over the world. Regulations are needed that will restrict their advertising and marketing. So are fiscal policies that will stop them being artificially cheap and that will make unprocessed and minimally processed foods more affordable as well as more accessible.

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