

**The role of the transnational ultra-processed food industry in
the pandemic of obesity and its associated diseases:
problems and solutions⁽¹⁾**

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Epidemics resemble great warning signs on which the true statesman is able to read that the evolution of his nation has been disturbed to a point which even a careless policy is no longer allowed to overlook. (Rudolf Virchow) (1)

The stakes

A number of phenomenal global catastrophes confront humanity. Six of these are ‘superbugs’ resistant to antimicrobial drugs; cigarettes and other use of tobacco; alcohol abuse; climate disruption; gross inequities; and the pandemic of obesity and diseases of which obesity is a leading cause, notably diabetes, and also cardiovascular diseases and a number of common cancers. These dreadful calamities are similar in various ways. None are natural. All are disastrous socially and economically as well as personally. All are predicted to get worse and even irreversibly uncontrollable, with the partial exception of cigarette smoking, which has decreased in many countries.

There is however one difference. The causes of the first five phenomena mentioned here are known beyond reasonable doubt, and public policies and actions that would reduce the devastation they cause are generally agreed beyond reasonable argument. But this is not the case with pandemic obesity and related diseases. Their causes are still debated, and their remedies disputed.

The purpose of this background paper is to help to clarify the causes of the pandemic obesity and to propose solutions in line with these causes. Without general agreement there is no hope for concerted policies and actions. What is meant by ‘cause’ here is not the immediate cause, but what Aristotle termed the efficient cause, or agent (2).

We state that the main agent of what is now pandemic obesity, are the transnational corporations whose profits depend on the manufacture, promotion and sale of ultra-processed food and drink products. This conclusion is supported directly or indirectly by the findings of over 100 papers published since 2010 in peer-reviewed journals, from researchers working in a large number of independent academic institutions in various regions of the world. Some of these findings are summarised and referenced below.

The problem

Food processing as such is not a health problem, and criticisms of ‘processed food’ are therefore misleading. Most food is industrially processed in some way, and various forms

of processing are harmless or beneficial, as for example drying, non-alcoholic fermentation, chilling and freezing, pasteurizing and vacuum-packing.

The problem is ultra-processed foods, as defined by the NOVA food classification system (3,4). While these products provide dietary energy and some nutrients, they are not foods in the sense of being nourishing. Characteristically they are ready-to-consume industrial formulations of homogenised cheap ingredients obtained from high-yield crops, notably sugars and syrups, refined starches, oils and fats, protein isolates, and also sometimes from remnants of intensively reared animals. These formulations are made to look, smell, and taste good by use of sophisticated combinations of flavours, colours, emulsifiers, sweeteners, thickeners and other additives that have a cosmetic function. Processes and ingredients used for the manufacture of ultra-processed foods are designed to create highly profitable products (low cost ingredients, long shelf-life, branded products) which are liable to displace the production and consumption of unprocessed or minimally processed foods, processed foods and freshly prepared dishes and meals – or ‘real food’ for short. Their convenience (imperishable, ready-to-consume), hyper-palatability, branding and ownership by transnational corporations, and aggressive marketing, give ultra-processed foods enormous market advantages over ‘real food’ (3,4).

Ultra-processed foods as a group have higher energy density, more sugar, unhealthy fats and salt, and less dietary fibre, protein, vitamins and minerals, than non-ultra-processed foods taken together, and their consumption is systematically associated with the deterioration of the overall nutritional quality of diets. This has been shown in studies, mostly using national dietary surveys, carried out in Brazil, Chile, Colombia, Mexico, the US, Canada, the UK, France, Belgium, Australia, New Zealand and Japan (5-23). Experimental studies show that ultra-processed foods have low satiety potential, induce high glycaemic responses (24), and create a gut environment favouring microbes that promote inflammatory diseases (25). Cross-sectional and longitudinal studies show dose-response association between the dietary contribution of ultra-processed foods and obesity (26-29), and also hypertension(30), cardiovascular diseases (31), dyslipidaemia(32), metabolic syndrome (33), gastrointestinal disorders(34), total and breast cancer(35), and depression (36).

The nature of the processes and ingredients used in their manufacture and their displacement of the production and consumption of ‘real food’, make ultra-processed foods, most of which are snacked, intrinsically harmful to human health. This displacement is also a cause of social, cultural, economic, political and environmental disruptions and crises. These are described elsewhere (3).

National dietary intake surveys show that ultra-processed foods may make up half or even more than half of the total dietary energy consumed in high-income countries (17-18,37) and between one fifth and one third of total dietary energy in middle-income countries (8,9,38). Statistics on global sales confirm the higher consumption of ultra-processed foods in high-income countries and show exponential growth in middle income countries. For example, between 1998 and 2012 sales of sugary and salty snacks and soft drinks increased

by 50% in upper middle-income countries and by more than 100 per cent in lower middle-income countries (39)

Body weight has risen in parallel with the rise in the production and consumption of ultra-processed foods. In fifteen Latin American countries, increases in sales of ultra-processed products such as carbonated soft drinks, sugary or salty packaged snacks, biscuits, sweetened breakfast cereals, confectionery, ice-cream and ready-to-heat pre-prepared meals between 2000 and 2009 were strongly associated with increases in population mean body mass indices (40). A similar study carried out between 2002 and 2014 using data from 80 countries distributed in 8 world regions shows similar results (41).

The problem behind the problem is the spectacular increase in the size and reach of the transnational corporations whose profits depend on the manufacture and sale of ultra-processed food products. Together, the revenues of ten giant transnational ultra-processed food corporations (Nestlé, PepsiCo, Unilever, Mondelēz/Kraft, Coca-Cola, Mars, Danone, Associated British Foods, General Mills, Kellogg's) amount to more than a billion dollars a day (42). The annual sales of Nestlé, with its 2,000 brands, including baby formula and baby foods, packaged snacks, chocolate confectionery, breakfast 'cereals', ice cream, pre-prepared dishes, and instant soups and sauces, amounted to \$US 91.2 billion and its profits to \$US 7.3 billion (43). Nestlé's sales are roughly the same as the gross national product (GDP) of Sri Lanka and of Kenya (44). The annual sales of Pepsi-Co with its 22 brands, mostly packaged snacks and soft drinks, amount to \$US 63.5 billion and its profits to \$US 10.8 billion. (45). In each of Brazil, India, Mexico and Russia, one of the two market leaders in total packaged foods is transnational, and Nestlé is always one of the top three manufacturers (46).

Increases in disposable income have made ultra-processed foods affordable for more people while 'neo-liberal' economic policies and trade agreements have deregulated industry, promoted capital flow, opened countries to foreign investment, enabled transnational corporations to take over domestic companies, and constrained governments from introducing statutory policies to limit consumption of ultra-processed foods (47). Among other strategies the transnationals mount massive mass-marketing campaigns, co-opt policy makers and health professionals, lobby politicians and public officials to oppose public regulation, fund and promote biased research, and press citizens to oppose public health regulation (47)

Giant transnational corporations compete for market share, but all of them have an overall interest in common. To adapt an old Coca-Cola advertisement, they want to teach the world to snack, thus to displace freshly prepared dishes and meals, and to build loyalty to their brands – in the case of Nestlé, from cradle to grave. They found, fund and control organisations, some seemingly independent, that represent their joint interests, usually based in Washington DC, Geneva or Brussels (48-50). One declares 'Our member companies represent the global leaders of the food and non-alcoholic beverage industry. We employ more than 3 million people worldwide and had combined annual revenues in 2016 of over USD 410 billion' (48).

The mistaken ‘solution’

The transnational corporations’ response to evidence that their products are causing the obesity pandemic is product reformulation. This strategy is now quite commonly supported by policy-makers outside industry. Here we summarise why this is not a solution. The first loyalty of corporations is to their shareholders, and their profitability depends on products formulated from the cheapest ingredients. Changing one such ingredient for another, as was done as from the 1980s when products were reformulated to contain less fat but more sugar, is not an improvement. Reformulated ‘premium’ lines sold with health claims at higher prices could prove to be comparably profitable, but would remain unhealthy snack foods, often too expensive for low-income families.

In 2014 a *Lancet* Action Group on Non-Communicable Diseases (47) examined reformulation, stating: ‘The case for reformulation is most apparent in high-income countries where markets might be saturated with ultra-processed products... [Here]... consumers might prefer the new product without consuming more ultra-processed products... Nonetheless, in such countries, the main emphasis on and support of national governments and the public health community should be promotion of healthy meals, dishes, and foods’. Also: ‘In low-income countries, benefits are less obvious, and the dangers are very apparent. In such countries, consumption of ultra-processed products is low. These countries are therefore the prime targets of transnational corporations. If they reformulate, advertise, and promote some of their less unhealthy products as healthy – e.g., sodium-reduced (but still high energy-dense) packaged snacks or artificially sweetened (but still nutrient-devoid) soft drinks – the overall consumption of ultra-processed products is likely to increase, which would undermine long-established dietary patterns based on fresh or minimally processed foods. In low-income countries, the reformulation of ultra-processed food and drink products is similar to the tactics of the tobacco industry in introduction of filtered cigarettes and low-tar cigarettes’. The conclusion of *The Lancet* Action Group was: ‘The reformulation approach is a damage-limitation exercise, to avoid evidence-based approaches such as the restriction of availability and of advertising, and pricing policies designed to promote healthy food’.

One extended analysis of the limits of product reformulation when applied to ultra-processed foods may be seen elsewhere (51).

The rational solution

It is often said that food is not like tobacco or alcohol, in that food is necessary for life. This is of course true. But there is no need to consume any ultra-processed products, which in this respect are similar to tobacco and alcohol.

So the solution becomes obvious. Governments, encouraged by public interest civil society organisations and social movements, and supported by public health authorities, should apply statutory including fiscal and other public policies and actions to ultra-processed products similar to those used to control and reduce use of tobacco and consumption of alcoholic drinks.

These policies and actions should take into account a complete regularly updated estimate of the cost of the personal, social, cultural, and environmental impacts of ultra-processed foods, calculated financially and in other appropriate ways.

Rational policies and actions will encourage sustainable and equitable agriculture, manufacture, distribution and retailing. All subsidies and other incentives to grow crops solely or mostly used as ingredients in ultra-processed food or as feed for animals mostly destined to be used in ultra-processed food to be removed, and destruction of forests and other environmentally valuable land to grow such crops or to rear animals to be prohibited.

As with tobacco products and alcoholic drinks, a central part of statutory action is taxation. With ultra-processed food and its ingredients, taxes to be levied at two stages. The first tax to be on ingredients exclusively used by ultra-processed food manufacturers, in particular cosmetic additives. The second tax to be on the product as sold, and the levels of taxation should be calculated to generate revenue equivalent say to half the profits currently made by the corporations. Much of the tax revenue should be used to support small, co-operative and family farmers and small traders, to make unprocessed and minimally processed food more available and affordable, and to set the retail prices of unprocessed and minimally processed foods at levels affordable by impoverished families.

All advertising and promotion of ultra-processed products should be prohibited, and their labels should include prominent warnings.

Special consideration needs to be given to institutional food. No ultra-processed food should be available in any form at workplaces, schools, hospitals and prisons, and no outlets selling ultra-processed food should be allowed within say 400 metres of a school. Household economy and food preparation and cooking should be taught in all schools.

All these and other measures for which governments are responsible need to be anticipated and explained by UN and other international agencies, national governments, and professional and civil society organisations. The collaboration of government departments and international and national organisations responsible for social, cultural, agricultural, financial and environmental as well as health regulations and other public action will be essential.

The first step is to achieve a general agreement initially within the research, public health and public interest non-government organisations around the analyses and conclusions summarised in this paper. One important step forward will be an agreement made at the Mahidol conference, supported by its twelve sponsoring organisations.

It is not just Big Tobacco anymore. Public health must also contend with Big Food, Big Soda, and Big Alcohol. All of these industries fear regulation, and protect themselves by using the same tactics. ... These... include front groups, lobbies, promises of self-regulation, lawsuits, and industry-funded research that confuses the evidence and keeps the public in doubt... This is formidable opposition. Market power readily translates into political power. Few governments prioritize health over big business... Not one single country has managed to turn around its obesity epidemic in all age groups. This is not a failure of individual will-power. This is a failure of political will to take on big business. (Margaret Chan) (52).

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