

## Making us fat (and sick)



In May this year, the *Lancet* published an analysis of global, regional and national prevalence of overweight and obesity in children and adults during 1980 - 2013, for the Global Burden of Disease Study 2013.<sup>[1]</sup> The findings are salutary. Worldwide, the proportion of adults with a body mass index of  $\geq 25$  kg/m<sup>2</sup> increased between 1980 and 2013 from 28.8% to 36.9% in men, and from 29.8% to 38.0% in women. The prevalence of obesity has also substantially increased among children and adolescents in both developed and developing countries.

South Africans are the fattest population in sub-Saharan Africa – 7 in 10 women (69.3%) and 4 in 10 men (38.8%) are overweight or obese. These rates are reflected in our children as well, with 7% of boys and 9.6% of girls classified as obese.

These global and local changes have taken place over a mere 33 years, an incredibly short time in terms of population biology. And with the rising prevalence of obesity comes an increase in the associated non-communicable diseases, type 2 diabetes probably epitomising the worst effects of too much fat on our bones.

The prevailing view of many of those in the public health arena is that this epidemic is caused by people eating too much and exercising too little. But there is little evidence to support this. The sheer numbers involved – and the spread of the epidemic to regions of the world where people traditionally have less to eat than those in the West, and often walk long distances as part of their daily lives – make this simple approach to the problem less and less plausible. We can no longer simply blame the individual. As in any other biological system, where we see major changes across a whole population, we have to start looking at the environment.

Walk down a supermarket aisle and take a good look at the foods arranged on the shelves – colourful packaging, prominent marketing messages, highly processed foods, and very few items that your grandmother would recognise as food. Does some of the problem start here? Earlier this year, the BBC broadcast two of a series of three documentaries by Jacques Peretti looking at the role of the food industry in changing our size and relationship with food – ‘The Men Who Made us Fat’.<sup>[2]</sup> Peretti starts with the 1977 US dietary guidelines, at least partly informed by Ancel Keys’ landmark study<sup>[3]</sup> on the relationship between saturated fat in the diet and the incidence of cardiovascular disease. What many people do not realise is that, at the same time, John Yudkin was blaming sugar.<sup>[4]</sup> Keys became conventional wisdom, while Yudkin was literally ridiculed. I am not going to go into the politics behind the formulation of the 1977 guidelines. Suffice it to say that guidelines that made carbohydrates the basis of a prudent diet and demonised fats gave the food industry the trigger it needed to change the way that we eat.

During the early part of the last century, agriculture and the food industry were starting to grow massively and had a lot of political clout. But people tended to eat simply – processed foods were not common, and you bought your food from local high-street grocers, butchers and bakers. And people ate three meals a day. This led the food industry to identify what they called ‘down time’ – time when people weren’t eating. So aggressive marketing started to push the idea of ‘snacking’. Some of our older readers will remember advertising campaigns such as ‘Milky Way – the sweet you can eat between meals’ – a relatively small bar made up almost entirely of sugar.

As you follow Peretti through three programmes examining the food industry in minute detail – and in the final episode such embarrassing detail that the BBC did not show it (you can see it on YouTube) – you realise that the 1977 dietary guidelines gave the industry almost *carte*

*blanche* to completely change the composition of the food on our tables. Low-fat foods, such as yoghurt without the fat, taste dreadful, so sugar was added for taste. And as the prevailing view was that sugar was simply empty calories, no one thought anything of it. Low-fat foods multiplied on the shelves, all packed with refined carbohydrates of one type or another. At the same time, snacking (and eating in public) became the norm. By the mid- to late 1980s you could not walk down a street in a city in just about any Western country without seeing somewhere to buy and consume food. And those Milky Way bars got larger and larger, as did servings of carbonated soft drinks containing staggering amounts of sugar. The fast-food outlets realised that all they had to do to make more money (a lot more money) was to increase their serving sizes just a little, for very little more money from the consumer, and the average calorie content of a fast-food meal inexorably increased – and the calories were made up of sugars, other refined carbohydrates, and some pretty dreadful fats, few of them saturated. For the less well off, a fast-food meal is a cheap and tasty way to eat – hence the high prevalence of obesity among lower socioeconomic groups.

So yes, people have started to eat more, no doubt about it – it is almost impossible not to, if you eat what is presented to you in such tempting and convenient ways. Relatively small amounts of modern foods are so calorie dense that you are consuming more without realising it. There is also the controversial idea that these sugars and refined carbohydrates are addictive as well, but I won’t get into that.

The third of Peretti’s programmes – the one that the BBC pulled (no doubt on the advice of their legal department) – is the most damning. Not content with touting ‘low-fat’ products, industry marketing campaigns turned to wealthier people’s increasing realisation that there is something wrong, and their wanting to eat ‘healthier’ foods. Now we started to see words such as ‘organic’ and ‘vitamin’ (as in vitamin water – check the sugar content!), all aimed at a section of the market who want to be careful what they eat. But the content of the food is no ‘healthier’ than it was previously – it’s still packed with sugars and refined carbohydrates of various kinds.

I am not going to get involved in the argument about diets low in carbohydrates and high in fats v. diets high in carbohydrates to replace saturated fats. But the epidemiological evidence for our increasing girth is not in dispute. And a simple trip to a supermarket bears out Peretti’s arguments (and research) pretty well. The message to individuals who are fortunate enough to be able to control their own environment is ‘eat real food’. The public health approach is rather more complex, but a more rational approach to the high-carbohydrate food pyramid still pushed by the various disease groupings would be a start. We have to undo 33 years of bad advice, and soon.

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1. Ng M, Fleming T, Robinson M, et al. Global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013: A systematic analysis for the Global Burden of Disease Study 2013. *Lancet* 2014;384(9945):766-781. [http://dx.doi.org/10.1016/S0140-6736(14)60460-8]
2. [https://www.youtube.com/watch?v=iE-H\\_aIEFE](https://www.youtube.com/watch?v=iE-H_aIEFE) (accessed 27 October 2014).
3. Keys A, ed. *Seven Countries: A Multivariate Analysis of Death and Coronary Heart Disease*. Cambridge, Mass: Harvard University Press, 1980.
4. Yudkin J. *Pure, White and Deadly: The Problem of Sugar*. London: Davis-Poynter, 1972.

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