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Your Food Is Not Your Medicine; How the Food Industry Feeds Us to Big Pharma

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Our society is very sick and very fat, and it is getting sicker and fatter. The way we live, combining junk diets with the kind of sedentary lifestyle that modern technology makes possible, has created a situation where today's adults are so unhealthy that they are, in almost every sense, 15 years 'older' than their parents and grandparents were at the same age [1]. The fact that we are ageing more rapidly than our recent ancestors did tells us that there is something seriously wrong with today's lifestyles - and it is showing through in our terrible health statistics.

An authoritative and depressing study recently predicted, on the basis of current trends, another 76 million obese adults by 2030 with an additional 6-8.5 million cases of diabetes, 6-7 million cases of cardiovascular disease and 492,000-669,000 cases of cancer in the UK and USA alone [2]. This huge burden of disease will cause dramatic and unaffordable increases in health care costs, already out of control at around a fifth of GDP. Things do not get any better after 2030; leaders in these fields forecast that by 2050 the incidence of diabetes will double [3], while Alzheimer's disease [4] and cancer [5] will triple (1).

In technical terms, we are going to hell in a handcart - and it is getting worse [1]. To the 20% of GDP (USA) we must add the costs of lost productivity caused by absenteeism due to illness. In the USA, the total yearly bill for lost productivity due to workers being above normal weight or having a history of chronic conditions is an astonishing $84 billion [6] and rising.

We cannot afford to continue like this. Given the growing mis-match between our spiralling healthcare costs and the wider economic environment, we will soon arrive (many would say we have already arrived) at an inflection point. We cannot blindly continue, as we have been doing for the last century, to medicalise and medicate our lives. Developing new drugs to treat the symptoms of these rising tides of disease is like applying new coats of paint to crumbling plaster while the foundations of the house rot. We must return to basics and rebuild the foundations - and this means re-designing our lifestyles and our diets. Fortunately, the science we need to do this is already in place.

Large and growing numbers of pre-clinical studies show that when animals are fed diets containing higher levels of the key anti-inflammatory nutrients, their risk of developing signs and symptoms of the degenerative diseases linked with ageing diminishes dramatically [7-17]. There is little doubt that humans react in the same way; similar findings have emerged in a range of multi-national epidemiological and prospective studies. A Mediterranean Diet, for example, which contains higher levels of anti-inflammatory compounds than occur in the depleted Western diet, reduces the risk of many diseases by around 50% [18-23].

This has lead to calls for changes in the regulatory framework to encourage the consumption of anti-inflammatory foods and supplements, the marketing of which is currently so heavily censored that it is impossible for responsible manufacturers in this sector to say anything meaningful about their products (2). The laws around supplements and foods, which were originally drafted to protect consumers from unscrupulous pill peddlers, are now actively blocking the flow of information to consumers which they should be able to use to improve their health.

The only people to gain from the current laws are the drug and medical insurance companies; and the constant exchange of personnel between the regulatory agencies and the Pharma/insurance complex has led many to conclude that collusion is taking place which is doing great damage to individual and public health. Very senior regulators have admitted to me (off the record) that their decisions are frequently based more on political and financial criteria than on science.

Some of the more progressive regulators agree privately that we must liberalise the current laws but are out-voted by their colleagues who say that as we only have two data points (i.e. Western and Mediterranean diets), we cannot derive a dose-response curve. In layman's terms, we do not know whether supra-Mediterranean intakes of anti-inflammatory compounds would be even more protective, or whether adverse effects might emerge at high doses. This is known as the hormetic argument.

In toxicology, hormesis refers to a biphasic dose response to a substance or activity, characterized by a beneficial effect at low doses and a toxic effect at high doses. In biology, hormesis is defined as an adaptive and positive response of cells and organisms to low-level (and usually intermittent) stressors. These same stressors at high doses are harmful our health.

Stress is a two-edged blade, operating within an evolutionary dialectic that is red in tooth, claw and - if we could only see it - leaf and root. Polyphenols, for example, are phytochemicals that plants produce both as anti-stress compounds for themselves, and as stressors for other hostile organisms. They protect the plants from stresses such as UV, but at the same time they act as stressors against microbes and animals that might attack the plant. Specifically, the polyphenols have anti-nutrient and anti-microbial properties which reduce the nutritional gains a predator might make from eating the plant, and the microbes' ability to thrive in a new host.

The Omega-3 fatty acids are also anti-stress compounds, produced by marine algae to defend themselves against the thermal stresses they encounter in conditions of extreme cold. Omega-3 fatty acids are more flexible than saturated fatty acids and have a lower freezing point; algae that contained mostly saturated fat would solidify in the cold Polar waters, as would the rest of the Polar marine food chain. Cold-water krill that eat the algae containing Omega-3 fatty acids, and the cold water fish and mammals that eat those krill, gain the same defence against thermal stress. (Psychrophilic or cold-tolerant bacteria utilise an analogous anti-freeze defence involving proteins which, like omega-3's, have a structure which makes them more flexible and lowers their effective freezing point (3).

From our perspective, however, polyphenols and Omega-3 fatty acids are important anti-inflammatory nutrients we use to defend ourselves against chronic inflammatory stress. When we consume low doses of these compounds they elicit adaptive cellular stress responses [24,25], such as the production of sirtuins and anti-inflammatory lipid mediators and enzymes, which confer significant health benefits. These benefits go a long way to explaining the positive effects of the Mediterranean diet. But if we were to eat polyphenols or Omega-3's in excessive amounts, they would damage our health. They would do this by binding essential trace elements and thus creating nutritional stress (the polyphenols); or by oxidising and exerting oxidative stress (the Omega-3's).

This, in a nutshell, is what the regulatory bodies say they are concerned about. If we ate too much of these normally health-promoting nutrients, say these regulators, we would suffer toxic consequences - and they have a statutory concern for our health. (It is fair to say that some of these bureaucrats are more concerned by the considerable damage that better nutrition would do to the profit margins of the pharmaceutical industry).

I understand their argument but it is obsolete. A recent, detailed study of 19th century public health in Britain showed that a diet which contained roughly 10 times more of the key anti-inflammatory compounds than occur in the Mediterranean diet today are even more protective in humans; the mid-Victorian diet reduced the incidence of the major degenerative diseases to 10% of contemporary levels [26]. The research behind the mid-Victorian story, which is presented in detail elsewhere [27], justifies the use of omega 3/lipophile polyphenol blends to suppress chronic inflammation and start, finally, to stem the pandemics of degenerative disease that are bankrupting healthcare services today.

I have personally witnessed the effective alleviation of a wide range of symptoms of chronic inflammation, from chronic joint pain to essential hypertension, by a proprietary combination of omega 3's and lipophilic polyphenols, in several thousand cases. A collection of case histories is not yet science, of course, but it certainly justifies a prospective RCT, It is a public health tragedy that no prospective randomised clinical trials have yet been done to demonstrate the protective effects of an anti-inflammatory diet to the stipulated, quasi-pharmaceutical standards. This failure is largely due to the pharmaceutical perspective of the current regulatory regimes; and their conceptual failure in turn amounts to public health malpractice.

Going back to the future and restoring the nutrient density of today's depleted food universe will provide a kinder, more effective and far more cost-effective way of improving public health than the currently failing, post-hoc pharmaceutical nightmare.

[1]The dogs and cats that share our homes and unhealthy lifestyles are experiencing the same catastrophic rise in obesity, diabetes, heart disease and cancer [36].

[2]Once the pharmaceutical industry became awae of the significance of chronic inflammation (CI), and the ability of specific nutrients to damp it, they lobbied regulatory agencies to have CI designated as a disease. This was a lie. CI is in fact a condition that leads to disease, but by calling it a disease, foods and supplements were now banned from talking about it. But there are no drugs safe enough to be used prophylactically, or long-term. There are currently no effective and safe drugs. I have been informed that a good deal of money was spent to achieve this trahison des clercs.

[3]Many of these bacteria also utilise the fascinating anti-freeze sugar, trehalose.

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