



Sugar is leaving a bad taste in the mouth of some food campaigners, who claim it's an addictive health hazard. But does their argument have any bite? By Angus Holland.

Sweet assassin





TWO YEARS AGO, EX-MASTERCHEF presenter, writer and former editor of *Cosmopolitan* magazine Sarah Wilson went cold turkey. It was an experiment for a weekend magazine column, to see how “quitting” might improve her physical and emotional well-being.

“The white stuff has made me crankier, puffier, foggier and sicker than usual,” she lamented in her column before she quit, describing how, when she was younger, even a small dose had her “bouncing off the ceiling”. In a follow-up piece, Wilson declared she was “slowly, slowly” able to wean herself off the “stuff”, with noticeable improvements over a period of many months. “It’s made me a nicer person,” she concluded, explaining she felt happier and healthier.

Two years after her “A-ha!” moment, Wilson has lost none of her zeal. “I was very resistant to giving up,” she says today. “I was addicted.” Wilson has since thrown herself into spreading her message with the enthusiasm of many a reformed addict, writing an advice book on the subject, a blog and maintaining a Facebook page with 15,000 likes that offers support to fellow quitters.

The punch line is that Wilson isn’t talking about an addiction to heroin or cocaine, but sugar. And it wasn’t even a guilty fondness for Mars bars or Coca-Cola; health- and weight-conscious, Wilson believed it was fine to have honey in her chai tea and to eat dark (presumably fair trade) chocolate and organic muffins from the health food shop. But, she learnt, just because that kind of sugar is billed as natural, “It doesn’t mean it’s good for you.”

Some people have worried about the sugar added to our foods since the hippie days of the early 1970s, but few have been prepared to listen. Today, though, in part because of the efforts of anti-sugar campaigners such as Sarah Wilson here and Robert Lustig – a professor of paediatrics at the University of California, San Francisco – in the United States, and a small wave of new research linking excessive sugar intake to a range of health problems, it’s becoming more accepted that “the white stuff” may indeed be worse for us than previously thought.

Some campaigners even believe that all those years we spent fighting saturated fat were misguided; that while we fretted over the fat content of meats, dairy products and processed foods, sugar was the real culprit behind our widening waistlines and rising levels of type 2 diabetes. (When we say “sugar”, we’re generally talking about the grainy white stuff and the various forms of “added sugars” used in processed foods as sweeteners, but sugar is also found naturally in fruit, and converted by the body into glucose.)

THE CASE AGAINST SUGAR IS CERTAINLY mounting. Over the past 12 months alone, papers have been published in some of the world’s most prestigious medical journals linking high consumption of sugary soft drinks to a higher risk of heart disease in men (*Journal of the American Heart Association*) and increased rates of pancreatic cancer (*Cancer Epidemiology*), while researchers at Sydney’s Westmead Hospital have associated soft-drink consumption to early signs of cardiovascular disease in children as young as 12.

Perhaps most controversial of all are the studies examining sugar’s effect on the brain. A study at University of California, Los Angeles, published in May last year, showed a high-fructose diet in rats

hampered learning and memory. More recently, researchers at the Australian National University published a study of 249 Canberra residents aged 60-64 showing that those who had high blood sugar were more likely to experience brain shrinkage, based on MRI scans taken four years apart. The difference was significant enough to cause dementia by the time people reached old age, noted the director of ANU's neuroimaging and brain lab, Dr Nicolas Cherbuin, who suggested the cause could be long-term consumption of refined flour and sugary drinks.

Authorities in the United States, at least, are taking note of the new international research: on March 12, unless blocked by last-minute court action, New York City will introduce regulations to limit the serving size of sugary soft drinks at places like fast-food restaurants and sports arenas. Mayor Michael Bloomberg has declared: "This is the single biggest step any city, I think, has ever taken to curb obesity".

Meanwhile, Denmark and other European countries have considered a sugar tax. And in Australia, the National Health and Medical Research Council is about to publish an update to its dietary guidelines – the government's "nutrition bible" – that is expected to include a warning to "limit" our consumption of added sugar (at present we are simply advised to "moderate" it). The new recommendation could have wide-ranging effects on everything from nutritional panels on food to what gets served in government and school canteens.

The Australian charge was begun by Brisbane author and former corporate lawyer David Gillespie, whose 2008 book *Sweet Poison* has, he says, now sold more than 200,000 copies. Gillespie believes that a form of sugar, fructose, is a major contributor to type 2 diabetes and may encourage the growth of some cancers. The anti-sugar movement gained local momentum recently with the launch of the Rethink Sugary Drinks television ad campaign, which has the support of The Heart Foundation and Diabetes Australia.

It was after meeting Gillespie and reading *Sweet Poison* that Wilson's own anti-sugar mission began. Her advice book, *I Quit Sugar*, hits

the shelves this month, offering sugar-free recipes and an eight-week "detox" program. In a TV segment, the writer and former Australian rugby union player Peter FitzSimons, who also read Gillespie's book, declared sugar "a substance as addictive as nicotine".

In the United States, the most high profile of the anti-sugar campaigners is Robert Lustig, whose 2009 YouTube video, *Sugar: The Bitter Truth*, has been viewed more than three million times, resulting in his recasting by the food industry as an enemy of the state. "To them, I'm a dangerous zealot," he writes in an email interview with GOOD WEEKEND. "I've even made Coca-Cola's enemies list. But this is what the science says. I'm all about the science."

The smoking gun on sugar, claims Lustig, is "new data [not yet published] that shows causatively that the rise in sugar availability is responsible for the increased prevalence of diabetes worldwide over the last decade". Lustig insists that he practises what he preaches ("No soda, no juice, no sugar-sweetened beverages of any kind"). And he's not afraid of throwing out a sensational quote or two – referring to sugar as a poison or claiming it's more addictive than cocaine. (A study of rats at Princeton University in the US in 2008 did suggest sugar could have addictive qualities.)

The phenomenal response to Lustig's video caught the attention of American health writer Gary Taubes, who in 2011 wrote a much talked-about cover story titled *Is Sugar Toxic?*, for *The New York Times Magazine*. "In Lustig's view," Taubes summarised, "sugar should be thought of, like cigarettes and alcohol, as something that is killing us."

However, not everyone in Australia is buying the sugar-is-villain argument. "Moderate sugar intake does no harm," insists Jennie Brand-Miller, professor of human nutrition at Sydney University. "The case against sugar is overstated."

Nutritionist Bill Shrapnel, who sits on Sydney University's Nutrition Research Foundation and has consulted to companies including Goodman



Fielder and Kellogg's, says the data linking sugar to health problems are "poor" and dismisses the war on sugar as a "euphoria that's out there".

Not surprisingly, they are backed by sugar industry representatives. Geoff Parker, CEO of the Australian Beverages Council lobby group, says the New York soda ban is based on "unsound science" and is concerned about a similar "knee-jerk" reaction happening in Australia.

Says Dr Mary Harrington, nutrition communications manager at Sugar Australia, "Should an Australian government authority seek to introduce regulations limiting the serving size of soft drinks, we would be interested to know the scientific reasons for this proposal."

The "ban" in New York is in practice quite limited: it only prevents public venues – restaurants, cinemas, sports arenas – from selling soft drink in enormous cups, capping individual servings at 500ml, around the size currently called "small". The food industry has learnt that it can up its profits by selling larger ("super-sized") portions than small ones, because the cost difference to manufacturers between a small soft drink and a large one is minimal. Mayor Bloomberg hopes that people will buy a "small" and realise that that's enough.



FOR THE MORE COMMITTED ANTI-sugar campaigners, though, it's not about eating too much sugar – it's about avoiding it entirely. Especially one form of sugar called fructose, which is found, not surprisingly, in fruit. Fructose is a hot issue in the

US, where many processed foods and soft drinks are sweetened with an industrial sugar called high-fructose corn syrup (which, as the name suggests, contains high levels of fructose).

Lustig and Gillespie say studies show that because of the way we digest fructose, there are unwanted effects on our metabolism that can lead to weight gain and diseases such as type 2 diabetes and heart disease. They believe fructose interferes with our appetite control, "turning off" the trigger that tells us to stop eating, making us feel hungry more often.

The case against fructose has been simmering away for more than 40 years. When British

physiologist John Yudkin published his book *Pure, White and Deadly* in 1972, he faced considerable resistance from the health establishment because the dietary demon of the time was saturated fat, believed to be the main culprit in the rising tide of heart disease and obesity. Driven by the legendary American scientist and diet expert Ancel Keys, who popularised the Mediterranean diet, the focus on saturated fat saw sugar research sidelined for decades.

For the food industries, meanwhile, sugar became a useful ingredient to boost the flavour of the new "low-fat" foods that were increasingly in demand. "In some ways, our fixation on fat has led to the replacement in foods with lots of extra sugar," says Tim Gill, principal researcher at the Institute of Obesity, Nutrition, Exercise and Eating Disorders at the University of Sydney.

While David Gillespie is a vehement opponent of too much sugar, he is an advocate for natural, unprocessed fats, following a similar dietary philosophy to the Atkins, "Paleo" or "caveman" diets, high in protein, but with limited complex carbohydrates such as potato, rice and pasta. In his follow-up book, *Big Fat Lies*, Gillespie argues that there is no evidence that saturated fats cause heart disease, as has been widely assumed, but claims that cooking with polyunsaturated fats like sunflower and canola oil increases our chances of developing cancer. Sarah Wilson says she now tucks into cheese and butter, "the fats that my grandmother used to eat. I realised I'm never going to get fat from eating fat."

Katie Falkiner, a Melbourne writer and mother of two, has also taken Gillespie's advice. Four years ago, she stopped eating sugar and started eating more animal fats: butter, cheese, crème fraîche. She avoids anything "low fat", cooks with butter and lard and even makes chips using beef tallow (which McDonald's stopped doing years ago) ▲

after a health campaign against it). Dropping sugar – including anything that contained added sugar, such as tomato sauce – was hard: “I found it easier to give up smoking,” she says. But the effects were convincing: she felt better, and she lost weight; she is now 12 kilograms lighter than when she had her first child. It hasn’t been easy quitting entirely – she lapsed during her second pregnancy – and sometimes she thinks, “Goodness, what if I’m totally wrong?” But for her, the results have been compelling.

For Gillespie, it’s another happy customer and proof enough that he’s right, despite what the critics say about his claims. “If what I was saying was nonsense,” he says, “a thousand people would have bought the book, said, ‘This is nonsense,’ and that would be that.” Instead, he believes, the movement against sugar is gaining such momentum that in five years “we’ll look back and say, ‘I can’t believe that people ate that stuff.’”

FOR ALL THE STUDIES THAT PILE UP, though, there are others that cloud the issue. “The balance of available scientific studies indicates sugar is not implicated as a direct cause of diseases such as obesity, diabetes or heart disease,” says Sugar Australia’s Mary Harrington.

None of the papers is more contentious, to the anti-sugar campaigners, at least, than a study co-authored by Sydney University’s Jennie Brand-Miller called “The Australian Paradox”, published in the journal *Nutrients* in April 2011.

Using Australian Bureau of Statistics data, she and Dr Alan Barclay, the Australian Diabetes Council’s head of research, showed that sugar consumption in recent years in Australia had actually dropped, while the incidence of obesity had increased. The two researchers therefore concluded that sugar couldn’t be the prime dietary culprit, and “efforts to reduce sugar consumption may not reduce the prevalence of obesity”.

The research sparked some heated debate with the anti-sugar lobby, beginning when a Sydney economist called Rory Robertson, who lost weight using Gillespie’s book, examined the data and declared it flawed. “I’m very familiar with the ABS data, that’s where I live and breathe,” he says during a lengthy phone interview. Robertson is convinced the paper is wrong, and is waging war on the University of Sydney to try to get it

amended or retracted, so far to no avail.

In turn, Brand-Miller and Barclay have posted a response to Robertson on the University of Sydney’s website, accusing him of making his own “factual errors” and holding the “erroneous belief that

the sugar fructose is the primary cause of obesity”.

Industry groups, arguing forcefully against the change to the nation’s nutrition guidelines, have seized on “The Australian Paradox” as supporting evidence for their case. Nevertheless, Beverages Council CEO Geoff Parker is not optimistic their objections will succeed. “We’re planning for the guidelines to be amended on weak science,” he says resignedly.

WHOEVER WINS THE FIGHT, THERE IS ALWAYS THE risk that the debate over sugar has arrived too late. We’ve lived through decades of health advice – and hearsay – warning us about the dangers of this, that and the other. We were told to avoid

eggs, then saturated fats, then salt, then carbs.

Now it looks like sugar (fructose) may be the bad guy, is there a risk the message won’t be heard?

“Absolutely,” says Robert Lustig. “Bottom line, they’re all problems, but more so for individual people, depending on your specific biochemical physiology.” Some of us should actively avoid eggs and dietary saturated fat, salt and refined carbs, he says. “But sugar affects everyone. Since this is the one nutrient your body doesn’t need, doesn’t it make sense for everyone to cut it back?”

The debate rages, though, because it’s difficult science. Sugar, if it is a toxin, is a very slow-acting one, requiring long-term human trials to determine its effect on the body. “It’s surprisingly hard to do definitive studies on this subject,” says writer Gary Taubes.

Science aside, there is another possibility – that habits will change culturally and that industry will simply respond to consumer demand, even if governments don’t regulate it (Denmark, for one, has decided it’s too hard to impose a sugar tax for now). “No added sugar” is appearing on more and more food packaging. “Now with 40 per cent less sugar,” boasts a popular brand of tomato sauce. Even the convenience store 7-Eleven, home of the much-derided, high-



kilojoule Big Gulp Slurpee, recently introduced a version with less than 1 per cent sugar. (It's good news, too, for the artificial sweetener industry, but that's another story.)

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UT IS "QUITTING" SUGAR EVEN possible? Unless you plan to cook every future meal yourself from scratch and avoid fruit entirely, probably not. However, says Sarah Wilson, it's not about being super extreme. For her, it's about avoiding things that are obviously

sweet, including dried fruit and honey, and being more educated about processed foods that have lots of added sugar, such as low-fat yoghurts. And, of course, cutting down on fruit juices – apple juice, for example, contains as many teaspoons of sugar as an equivalent-sized glass of Coca-Cola.

"I'll eat a few squares of dark chocolate, knowing that it amounts to about three-quarters of a teaspoon of sugar, or I'll have a taste of a dessert that a friend's made," Wilson explains. "Being draconian about it all is just not helpful. Which is why this is not a diet. I simply make the choice each day to not eat it." **GW**

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I was very
resistant to giving
up sugar. I was
addicted.
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Sweet temptation: Sarah Wilson gave sugar the cold shoulder.

DIFFERENT KINDS OF SUGAR

SUCROSE: commonly known as table sugar, it is derived from sugar cane or sugar beet.

FRUCTOSE: known as fruit sugar, it is nearly twice as sweet as sucrose, and found in many fruits and vegetables.

GLUCOSE: the main circulating sugar in the blood.

HIGH-FRUCTOSE CORN SYRUP: a concentrated sweetener made by processing corn syrup, it is used in soft drinks, breakfast cereals foods and baked snacks.

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**HOW
MUCH SUGAR
IS IN IT?**

COCA-COLA: around
10 per cent.

APPLE JUICE: around
10 per cent.

LOW-FAT YOGHURT: 14 per cent.
COMMERCIAL PEANUT BUTTER:
around 8 per cent.

MUESLI: 17 per cent (in versions
containing dried fruit).

**CHOCOLATE HAZELNUT
SPREAD:** 54 per cent.

RAISINS: 74 per cent.

COMMERCIAL MAYONNAISE:
9 per cent.

BARBECUE SAUCE:
48 per cent.