



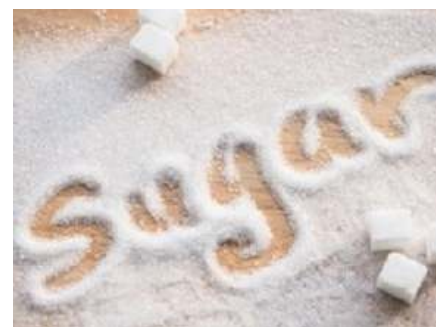
The Sugar Wars: Have the ill effects of sugar been overstated?

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📁 NUTRITION, TALKING POINTS

Have the ill effects of sugar been over-stated by scientists? Experts debate both sides in ***Progress in Cardiovascular Diseases***.

Over the past 50 years researchers, clinicians, professional organisations, and health charities have waged war on sugar, calling for dietary recommendations to be changed and for a sugar tax on soft drinks and sweet treats in an effort to reduce obesity and cardiovascular diseases. In 2014, the **World Health Organisation (WHO)** recommended that adults and children reduce their daily intake of free sugars to less than 10% of their total energy intake. But could the war on sugar be bad for your health? Experts present the arguments both for and against sugar in this hotly contested debate.



In his article, Dr Edward Archer, of **EvolvingFX** in the **US** state of **Florida** challenged the latest dietary recommendations and presented evidence from multiple domains to show that “diet” is a necessary but trivial factor in metabolic health. “Anti-sugar rhetoric is simply diet-centric disease-mongering engendered by physiologic illiteracy,” he wrote. “My position is that dietary sugars are not responsible for obesity or metabolic diseases and that the consumption of simple sugars and sugar-polymers (starches) up to 75% of total daily caloric intake is innocuous in healthy individuals.”

In defence of sugar, Archer argues that biological life depends on sugar in its many forms, for example, sugars and sugar-polymers are major nutritive constituents of many foods and beverages including breast milk, dairy products, fruit, fruit juices, honey, sucrose (table sugar; a disaccharide of glucose, and fructose), sugar-sweetened beverages, rice, beans, potatoes, wheat, corn, quinoa, and other cereal grains.

Sugars and sugar-polymers have played critical roles in both human evolution and dietary history and were the major sources of nutrient-energy (calories) for most of the global population throughout human history.

“Diet-centric” researchers often ignore the fact that physical activity, not diet, is the major modifiable determinant of metabolic health. The consumption of dietary sugars up to 80% of total energy intake is entirely innocuous in active populations.

“There is strong, positive association between sugar availability/consumption and health.

Obesity and type 2 diabetes mellitus are not diet-related diseases but are metabolic conditions caused by the

positive energy balance (over-nutrition) driven by physical inactivity in past and current generations.”

In a letter to the editor, Drs James J DiNicolantonio and James H O’Keefe, of the department of preventive cardiology, **Saint Luke’s Mid America Heart Institute, Kansas City**, provide strong criticisms to Archer’s positions by arguing that dietary sugar (either glucose, sucrose, or high-fructose corn syrup) is not necessary for life, and that humans did not consume refined sucrose or high fructose corn syrup throughout most of their evolution.

“The truth is you really can’t outrun a bad diet, especially when it comes to overconsuming refined sugar. While it’s true that exercise may reduce the risk of obesity from overconsuming refined sugar, it doesn’t prevent dental cavities, inflammation of the gums, or inflammation that occurs in the intestine, liver, and kidneys when the body processes large amounts of sugar,” say DiNicolantonio and O’Keefe. “Healthy populations that consume fairly high amounts of raw honey who also live hunter-gatherer lifestyles should not be used as an example to give an industrialised sedentary population an excuse to overconsume refined sugar. Importantly, raw honey is not the same as refined sugar.”

In his rebuttal, Archer reasserts that obesity and metabolic diseases are caused by the confluence of physical inactivity and non-genetic evolutionary processes over many generations. He points out that by the late 1940s, both the life- and health-spans in the US had increased dramatically despite half of all infants being reared on infant formula – a 100% artificial/synthetic product containing around 40% of calories from added sugars (lactose, sucrose, glucose, fructose, and/or corn syrup). He concludes: “It is time for the medical and scientific communities to return to their roots, eschew magical and miraculous thinking, and demonstrate a modicum of scepticism by refuting the illiterate nonsense and puritanical proscriptions engendered by diet-centrism.”

In an accompanying editorial, Dr Carl J “Chip” Lavie, of the **Ochsner Clinical School, The University of Queensland School of Medicine, New Orleans**, states his personal belief that the ill effects of sugar have been over-emphasised by scientists and, especially, by the media. “Most sedentary people who are gaining weight and/or have high glucose and/or triglycerides should limit their carbohydrates and, especially, simple sugars, but for lean physically active individuals without these characteristics, sugars and carbohydrates are not toxic and, in fact, are probably helpful.” Lavie, however, feels it is important to have the scientists discuss opposing viewpoints in the journal.

Abstract

Sugars are foundational to biological life and played essential roles in human evolution and dietary patterns for most of recorded history. The simple sugar glucose is so central to human health that it is one of the World Health Organization’s Essential Medicines. Given these facts, it defies both logic and a large body of scientific evidence to claim that sugars and other nutrients that played fundamental roles in the substantial improvements in life- and health-spans over the past century are now suddenly responsible for increments in the prevalence of obesity and chronic non-communicable diseases. Thus, the purpose of this review is to provide a rigorous, evidence-based challenge to ‘diet-centrism’ and the disease-mongering of dietary sugar. The term ‘diet-centrism’ describes the naïve tendency of both researchers and the public to attribute a wide-range of negative health outcomes exclusively to dietary factors while neglecting the essential and well-established role of individual differences in nutrient-metabolism. The explicit conflation of dietary intake with both nutritional

status and health inherent in 'diet-centrism' contravenes the fact that the human body is a complex biologic system in which the effects of dietary factors are dependent on the current state of that system. Thus, macronutrients cannot have health or metabolic effects independent of the physiologic context of the consuming individual (e.g., physical activity level). Therefore, given the unscientific hyperbole surrounding dietary sugars, I take an adversarial position and present highly-replicated evidence from multiple domains to show that 'diet' is a necessary but trivial factor in metabolic health, and that anti-sugar rhetoric is simply diet-centric disease-mongering engendered by physiologic illiteracy. My position is that dietary sugars are not responsible for obesity or metabolic diseases and that the consumption of simple sugars and sugar-polymers (e.g., starches) up to 75% of total daily caloric intake is innocuous in healthy individuals.

Authors

Edward Archer

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