

LETTER TO THE EDITOR

Response to Shahzad A. Our Food: How we went wrong

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The essence of our editorial is in the title. We do not mean to imply that the glucose is not essential for the human body. Indeed, red blood cells can only utilize glucose as its fuel. The brain, which while having the capacity to use ketone bodies, uses glucose as its primary source of energy. It is also correct that the human body has alternate mechanisms to manage glucose scarcity i.e. hypoglycemia, through glycogen degradation and gluconeogenesis in the liver and use of ketone bodies for energy in the brain, through protein and fat breakdown, allowing the human body to survive without glucose. Therefore, reducing or omitting carbohydrates in the diet, particularly refined carbohydrates like simple sugar and white flour, does not affect the human body adversely.

Our editorial is meant to highlight the detrimental impact of our contemporary diets overloaded with unhealthy carbohydrates, with high glycemic indexes (GI), that are leading to the alarming rise of non-communicable diseases (NCDs) including obesity, diabetes, metabolic dysfunction and various inflammatory conditions. These diets are low in unrefined carbohydrates, which are known to have a beneficial role through their high fiber content and nutrients such as vitamins.

Classically, the term “addiction” is used, with reference to alcohol or drugs, for conditions when individuals lose control over their desire to consume a substance, followed with an ever-increasing need to consume and continue to consume, despite negative consequence. However, the term is now used more broadly to include 'routines; or 'behaviours' that are habitually performed to attain reward despite obvious negative consequences. The neurobiology of food addiction has been a focus of many studies in the last decade or so. Although studies have shown conflicting results in humans, there is evidence that high GI carbohydrates produce neurochemical responses similar to addiction. Lennerz and Lennerz have comprehensively reviewed the properties that make high GI carbohydrates a plausible trigger for food addiction that may contribute to obesity.¹

The evidence from fossil records of hunter gatherers is limited in the information they can provide. However, archeological evidence along with studies on present-day hunter gatherer communities from different parts of the world provide some information of the health indicators in associated with this lifestyle.² It has been reported that less than 10% of deaths in individuals over 60 years is caused by chronic NCDs, in these populations. The most common cause is infectious and gastrointestinal disease (70%) and followed by trauma (20%). In contrast all NCDs together accounted for 71% of deaths globally in 2019 in the world according to WHO.³ Non-Insulin Dependent Diabetes (NIDD or Type 2 diabetes) is close to non-existent in hunter gatherer populations and one study on eleven of these populations found a prevalence of only 1%.⁴ The high levels of daily physical activities in these communities contribute significantly to this. Many theories exist about the diets of the hunter gatherer populations which are varied and largely determined by their geography. Some contain a significant proportion of carbohydrates in the form of honey, tubers, plantain etc as well as meat and game. Both fossil records of the Paleolithic diet as well as recent hunter-gatherers reflect a dietary diversity in these populations.

We, again, reiterate that a balanced diet where sugar and starch is replaced by diverse nutrient-rich, organic and fiber-rich foods needs to be promoted. The aim of our editorial was not to promote one or the other diet, but to point out that our current diet, full of fast food and fizzy drinks, are putting the health and wellbeing of our future generations at risk.

Finally, we clarify that our editorial only covered one aspect of our lives, our diet, that affects our health. Besides diet, there are a multitude of factors that contribute to our health and wellbeing. As pointed out by our

colleague, daily high levels of physical activity are protective against NCDs. In addition, our technology-driven sedentary lives associated with chronic social stress, economic disparities and dysfunctional family systems, all directly or indirectly contributing to an increase in NCDs, including metabolic disease and obesity, need correction.

How to cite this: Majeed SMI, Mohyuddin A. Response to Shahzad A. *Our Food: How we went wrong. Life and Science. 2022; 3(3): 143-144. doi: <http://doi.org/10.37185/LnS.1.1.264>*

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Funding Source: NIL; Conflict of Interest: NIL

Received: Jun 20, 2021; Revised: Jul 1, 2022

Accepted: Jul 1, 2022

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