

Position Paper on Non-nutritive Sweeteners

I. INTRODUCTION

Nonnutritive sweeteners are defined as zero or low-calorie alternatives to nutritive sweeteners¹. There are currently eight nonnutritive sweeteners approved by the Food and Drug Administration: saccharin (Sweet'N Low[®]), aspartame (Equal[®]), acesulfame potassium, sucralose (Splenda[®]), neotame, advantame, steviol glycoside (Stevia[®]), and luo han guo fruit extract².

The use of FDA approved non-nutritive sweeteners has increased over the past few decades³. Consumers use such non-nutritive sweeteners as an alternative to nutritive sweeteners in an attempt to achieve weight management and glycemic control³. However, there is not yet a consensus on the long-term health consequences of consumption of FDA approved non-nutritive sweeteners⁴. *Therefore, for optimal health, it is recommended that only minimal FDA approved non-nutritive sweeteners be consumed, if at all⁴.*

II. BACKGROUND

The use of the aforementioned non-nutritive sweeteners has been associated with short-term health improvement in weight loss and blood glucose management^{3,5,6}. The 2012 position statement from the Academy of Nutrition and Dietetics, the 2012 joint statement from the American Heart Association and the American Diabetes Association, and the 2015-2020 Dietary Guidelines for Americans all endorsed the potential benefits of non-nutritive sweeteners in short term weight loss and glycemic control when non-nutritive sweeteners are used as replacements for nutritive sweeteners^{3,5,6}. However, the same documents also cautioned the risk of compensatory increase in energy intake for consumers of non-nutritive sweeteners and the uncertainty in the health effects of extended consumption of non-nutritive sweeteners^{3,5,6}.

Potential adverse effects of non-nutritive sweeteners in children and adults include long term weight gain, increased abdominal obesity, increased risks of diabetes and cardiovascular diseases, disruption of normal gastric motility, dysregulation of the gut hormones, and disturbance of gut microbiome⁷⁻⁹. When non-nutritive sweeteners are consumed by pregnant women, there are also concerns related to increased risk of prematurity, asthma, metabolic syndrome, and diabetes in the offspring^{10,11}.

In assessing the potential health consequences of long-term consumption of non-nutritive sweeteners, recent meta-analyses and systematic reviews consistently concluded that more research is needed as there is a lack of consensus due to conflicting data⁷⁻¹².

III. RECOMMENDATION

Based upon current evidence-based literature, there are insufficient data to recommend for or against long-term consumption of non-nutritive sweeteners. While short-term non-nutritive sweeteners consumption may contribute to weight maintenance and glycemic control, for long-term optimal health, minimal consumption of FDA approved non-nutritive sweeteners is recommended, if at all.

References:

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