

The prevalence, consumption, and overall health effects of nonnutritive sweeteners

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Introduction

Artificial sweeteners remain a controversial topic despite their prevalence in our foods. There are currently six nonnutritive sweeteners (NNSs) approved for use in the United States. These include acesulfame potassium (Ace-K), advantame, aspartame, neotame, saccharin, and sucralose. Each NNS has a different acceptable daily intake (ADI) because they have different chemical compositions and are metabolized differently in the human body. The approval of the Food and Drug Administration (FDA) means there is a, “reasonable certainty that a substance is not harmful under the intended conditions of use.” This review of literature aims to examine the prevalence, consumption, and overall effects of NNSs on human health.

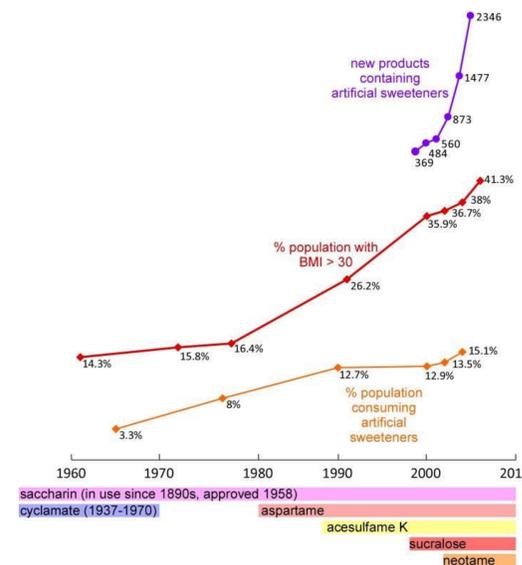
Methodology

This presentation is a result of a literature review that includes information from the Journal of the Academy of Nutrition and Dietetics, American Journal of Clinical Nutrition, and other peer-reviewed publications.



Conclusion

As the prevalence and consumption of NNSs increases, the public concern of possible adverse effects rises as well. Until recently, NNSs were regarded as a useful tool in decreasing energy and sugar intake and supporting a goal of weight management, weight loss, and/or glycemic blood control. However, recent studies have shown that there is not a significant correlation between NNS use and weight loss. Although the prevalence of NNS consumption has increased, the amount of research studies done about NNS effects have not. More research must be done to investigate potential long-term effects of NNS and to evaluate whether the possible weight loss benefits of NNS are maintainable long-term.



Source: Yale Journal of Biology and Medicine June 8 2010: v83(2)

Results

Prevalence and Consumption of NNSs

- 6,000 new foods & beverages containing NNS in U.S. between years 1999 and 2004
- National average consumption increased from 24% (2001-2002) to 28% (2007-2008)

Potential Health Effects of Consuming NNSs

- Most observational cohort studies find association between routine intake of NNS and increased risk of obesity, hypertension, metabolic syndrome, and stroke.
- Most randomized controlled trials (RCTs) find a positive association between NNS intake and weight loss.
- Short-term RCTs do not show immediate metabolic effects.
- Long-term health effects are not known due to a lack of research.



References:

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