The Effect of Artificial Sweeteners on Body Weight of Mice

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Abstract

Background: Sugars added to food or drinks and its one of the main causes of weight gain and tooth decay. People are concerned about sugar and its health-related implications such as diabetes, heart disease, and obesity. So, artificial sweeteners (AS) (also known as intense sweeteners) are synthetic sugar substitutes have sweetening potency hundreds of times more than table sugar (sucrose). Therefore, AS regarded as attractive alternatives to sugar because they add no calories to your diet. Beside its benefit, the rate of obesity has remained stable suggesting that AS not an optimal tool for weight loss and there are many hypotheses suggest that these sweeteners may cause weight gain.

Objective: To evaluate the effect of artificial sweeteners on appetite, food intake, and body weight.

Method: Acceptable daily intake (ADI) of AS solutions were administered orally to a different set of mice for four weeks. The body weight and food consumption measured once weekly and solution intake was measured twice a week. At the same time, the effect ofZingiber officinaleandThymus Vulgaris extract on weight was evaluated.

Results: Artificial sweeteners consumption cause insignificant changes in body weight ($p>0.05$). Although, the mean consumption of food and solutions varies significantly for some groups.

Conclusion: The consumption of AS has no significant effect on body weight and AS may contribute to weight maintenance and energy balance as substitutes to high caloric sugar.