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NO PARADOXICAL EFFECTS OF ASPARTAME ON FOOD INTAKE

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It has been claimed that aspartame may be of no use as a dietary aid because consumption of an aspartame-sweetened solution was found to increase appetite ratings (Blundell & Hill 1986). This claim was investigated with two studies of the effects of aspartame in commercially available foods and drinks on appetite and food intake in humans. In the first experiment, normal weight, non-dieting males and females were given either a sucrose-sweetened or aspartame-sweetened pudding or gelatin dessert to eat ad libitum. Subjects were either informed or uninformed about the caloric content of the foods. Intake (g) across conditions did not differ; however, caloric intake was higher with the high-calorie foods ($p<0.001$). Additionally, subjects did not consume significantly more calories when presented with a self-selection lunch 2 h after the low-calorie foods as compared to the high-calorie conditions. Hunger ratings were decreased and fullness ratings were increased similarly by consumption of the different caloric versions of the foods. Knowing the caloric content of the foods influenced neither intake nor appetite ratings. Thus, hunger ratings and consequent food intake were not affected differentially by the sweeteners contained in the gelatin or pudding.

The second study compared the effects of aspartame- or sucrose-sweetened lemonade on food intake and hunger ratings in normal-weight, non-dieting males. The subjects consumed 8 or 16 oz of aspartame- or sucrose-sweetened lemonade, the same volumes of water, or no drink. Subjects received the drink with a self-selection lunch, 30 min before lunch, or 60 min before lunch, and they were not informed which sweetener had been used. As in the previous study, food intake (kcal) at lunch did not differ across conditions at each interval. In the subjects who took the drink with the meal, significantly more calories were consumed overall (lunch plus drink) with the sucrose-sweetened lemonades ($p<0.01$), and there were no differences in energy intake between the water and aspartame conditions. This trend continued when the drinks were consumed 30 and 60 min before lunch; however, only intake after the 16 oz sucrose-sweetened lemonade consumed 30 min before lunch was significantly greater. Thus, aspartame in concentrations found in commercially available drinks was not associated with increased food intake or increased hunger ratings. A similar study is currently being conducted on restrained and unrestrained female subjects who are informed, uninformed, or misinformed about the sweetener used in the drink. This data will be discussed.

A number of other investigators have also found that aspartame is associated with decreased or unchanged ratings of hunger. Even if aspartame does increase ratings of hunger in some situations, this apparently has little impact on the controls of food intake and body weight. Aspartame has not been found to increase food intake; indeed, both short-term and long-term studies have shown that consumption of aspartame-sweetened foods or drinks is associated with either no change or a reduction in food intake. Preliminary clinical trials suggest that aspartame may be a useful aid in a complete diet and exercise program or in weight maintenance. Intense sweeteners have never been found to cause weight gain in humans.

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