

## Obese women partially compensate for sucrose added to the diet, without weight gain, over 28 days

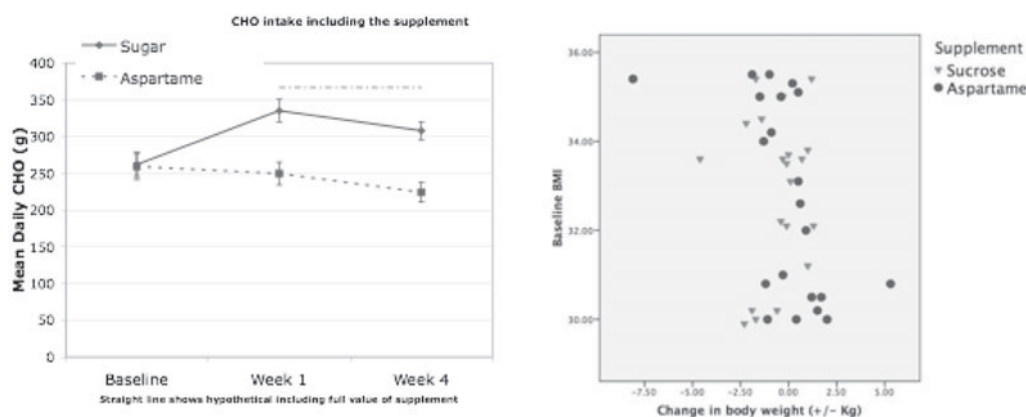
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Sugars, including sucrose, added to the diet in liquid form may displace other nutrients from the diet<sup>(1)</sup> and may be inadequately compensated for and lead to weight gain<sup>(2)</sup>, although the literature is beset with methodological issues<sup>(3)</sup>. However, some studies have shown that in normal and overweight women, who do not know that they are receiving sucrose because the experimental design is blind, compensate for added sucrose over four weeks by reducing voluntary energy intake, with reductions in voluntary carbohydrate and fat intake<sup>(4,5)</sup>. Aim: To extend this line of experimental research to obese women, who may compensate less accurately. In a between-subjects single blind design, 41 healthy obese (BMI 30–35) women (age 20–50), not currently dieting received sucrose drinks (4 × 250ml total 1800 kJ per day; n = 20) added to the diet over 4 weeks with equivalent aspartame sweetened drinks for the control group (n = 21). As in previous work, women were free-living and food intake was recorded with a detailed, unweighed, prospective food diary used successfully in previous studies<sup>(4,5)</sup>.

By 4 weeks, sucrose supplements significantly reduced voluntary sugar and starch intake from baseline compared to aspartame. Daily energy intake did not increase significantly, nor was there any significant change in body mass index.

It is concluded that when sucrose is given blind obese women partially compensate for the additional energy by reducing voluntary carbohydrate intake, with no signs of adverse effects. These findings are inconsistent with theories which propose that sugars directly increase appetite leading to weight gain. One can infer that among obese women inadequate compensation for sucrose in everyday life may be due primarily to cognitive factors, such as expectations and abstinence violation effects, rather than to adverse physiological effects of sucrose itself. Further research is required to investigate more clearly the psychological and physiological mechanisms underlying appetite regulation in this group. The precise mechanisms remain to be clarified.



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