

# Obese women alter diets in response to additional calories from soft drinks

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Obese women voluntarily reduce what they eat in response to additional soft drinks being added to their diets – a new 4 week study finds.

41 [obese women](#) took part in the study, co-ordinated by Professor Marie Reid at the University of Hull and published in *British Journal of Nutrition*, to determine the effect of consuming 1-litre a day of either a sugar-sweetened or an artificially-sweetened drink, along with their normal dietary intake.

For 4 weeks the women drank 4 x 250ml bottles of their allocated beverage each day, and completed food, mood and activity diaries, as well as having measures taken by researchers of [body weight](#) and composition. All the women were told that they were consuming sugar-sweetened drinks and the bottles were disguised, so that the study could be performed as a single-blinded, [controlled trial](#).

20 women were allocated to the sugar-sweetened drink group, which provided an additional 1800kJ (430kcal) of energy to their diets. The other 21 women consumed a [diet](#) variety of the same drink that was artificially sweetened with aspartame, and provided an additional 170kJ (41kcal) a day.

Comparisons were made of the women's diets over the 4 weeks of the study to that at baseline. This found that the women consuming the sugar-sweetened drinks, reported to have reduced their habitual energy intake by 1,584kJ (378kcal) by the 4th week, compensating for 88% of the

additional energy being provided by the study drinks. This shows that the obese women therefore decreased the energy intakes from their diets to compensate for most of the additional energy being provided in the supplementary drinks.

Co-author, Professor Richard Hammersley, states: "This line of research suggests that sucrose (sugar) given blind is compensated for elsewhere in the diet and does not lead to weight gain. The women ate fewer carbohydrates from other sources, and also reduced their intake of energy from other parts of the diet. Sucrose does not cause weight gain any more than any other type of food. However, the over-consumption of any food and drink in everyday life may well be problematic".

The new research is published in the *British Journal of Nutrition*, and replicates previous studies conducted by Reid and colleagues with normal-weight and overweight women. The results show that in contradiction to concerns that obese people may have more difficulty regulating their diets than normal-weight people, that obese women are actually able to compensate for additional calories. Furthermore, the dietary response of obese women is not fundamentally different to normal-weight or overweight women.

**More information:** Reid, M., Hammersley, R., Duffy, M., & Ballantyne, C. (2013) Effects on obese women of the sugar sucrose added to the diet over 28d: a quasi-randomised, single-blind, controlled trial. *British Journal of Nutrition*, [DOI: 10.1017/S0007114513002687](https://doi.org/10.1017/S0007114513002687)

Reid, M., Hammersley, R., & Duffy, M. (2010) Effects of sucrose drinks on macronutrient intake, body weight, and mood state in overweight women over 4 weeks. *Appetite*, Volume 55, Issue 1, 130-136.

Reid, M., Hammersley, R., Hill, A. J., & Skidmore, P. (2007) Long-term dietary compensation for added sugar: effects of supplementary sucrose

drinks over a 4-week period. *British Journal of Nutrition*, 97, 193-203.

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