

A school based programme to reduce carbonated drink consumption reduced obesity in children

James J, Thomas P, Cavan D, *et al.* Preventing childhood obesity by reducing consumption of carbonated drinks: cluster randomised controlled trial. *BMJ* 2004;**328**:1237-41.

Q Does a school based educational programme aimed at reducing consumption of carbonated drinks prevent excessive weight gain in children?

METHODS

-  **Design:** cluster randomised controlled trial.
-  **Allocation:** unclear allocation concealment.
-  **Blinding:** unblinded.
-  **Follow up period:** 1 year.
-  **Setting:** 6 junior schools in the UK.
-  **Participants:** 644 children 7-11 years of age (mean age 9 y, 50% boys) in 29 classes. Each class formed a cluster.
-  **Intervention:** school based educational programme (intervention) (15 clusters, n = 325) or no intervention (14 clusters, n = 319). The intervention comprised four 1 hour sessions (1 each term) that focused on discouraging consumption of carbonated drinks. Teachers assisted in sessions and reinforced the message during lessons. The first session focused on the balance of good health, promotion of drinking water, sweetness of natural products including fruit, and effects of sweetened carbonated drinks on dentition. The second and third sessions involved a music competition, with the classes composing a song with a healthy message, and the fourth session involved art presentations and a classroom quiz based on a game show.
-  **Outcomes:** change in body mass index (BMI), proportion of overweight and obese children (mean percentage >91st percentile for BMI), and consumption of carbonated drinks (self report in drink diaries).
-  **Patient follow up:** 89%.

MAIN RESULTS

Groups did not differ for mean change in BMI (table). The proportion of overweight or obese children decreased in the intervention clusters and increased in the control clusters (table). Data on carbonated drink consumption were available for <80% of students.

CONCLUSION

A school based educational programme aimed at reducing consumption of carbonated drinks had a modest effect on prevention of obesity.

Commentary

Although obesity is a highly topical subject in the UK, limited evidence exists on the prevention of obesity in children and young people.¹ The study by James *et al* tested an educational intervention in preventing weight gain. It is unique because it focuses on 1 particular aspect (reducing consumption of carbonated drinks), which is counter to the conclusions of systematic reviews¹ and clinical practice guidelines² that suggest promotion of a balanced diet combined with increased physical activity and reduced sedentary activity.³ Children and young people may then “grow” into their weight. Weight maintenance is therefore a perfectly acceptable objective.

The study is limited in its conclusions because only 36% of baseline and follow up drink diaries were returned. Furthermore, the design focused on children rather than involving the entire family. Study strengths include the longitudinal design and multimedia programme of interventions.

The study will be relevant to school and public health nurses who work with school aged children, as well as family health, paediatric, and other community nurses who provide advice on family health and nutrition. The study provided limited evidence that weight maintenance may be achieved with simple interventions. Insufficient evidence exists to recommend immediate implementation of this approach on its own, but it should be tested as part of a larger study that includes family involvement, increasing physical activity, and decreasing sedentary behaviour.

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- 1 Campbell K, Waters E, O'Meara S, *et al.* Interventions for preventing obesity in children. *Cochrane Database Syst Rev* 2002;(2):CD001871.
- 2 *Clinical practice guidelines for the management of overweight and obesity in children & adolescents.* Canberra, Australia: National Health and Medical Research Council, 2003. <http://www.obesityguidelines.gov.au/guidelines/children.htm>
- 3 Scottish Intercollegiate Guidelines Network. *Management of obesity in children and young people. A national clinical guideline.* Edinburgh: SIGN, 2003. (SIGN publication no. 69) <http://www.sign.ac.uk/pdf/sign69.pdf>

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School based educational programme to reduce carbonated drink consumption (intervention) v no intervention in children*

Outcomes	Intervention		No intervention		Difference in change from baseline (95% CI)
	Baseline	1 year	Baseline	1 year	
BMI	17.4	17.9	17.6	18.3	0.1 (-0.1 to 0.3)†
Mean percentage > 91 st percentile for BMI	20.3%	20.1%	19.4%	26.9%	7.7% (2.2 to 13.1)

*BMI = body mass index. CI defined in glossary.
†Not significant.