

Home visits for dietary advice reduce caries

Are home advice visits effective in reducing caries at the age of 1 year?

Feldens CA, Vítolo MR, Drachler ML.

A randomized trial of the effectiveness of home visits in preventing early childhood caries. Community Dent Oral Epidemiol 2007; 35:215–223.

Design This was a randomised field trial using block randomisation.

Intervention A control group received routine assistance from their paediatricians in the health service, with research assessment usually within 1 month of the child's 6- and 12-month anniversary, then dietary advice by a fieldworker after the 12-month research assessment. The intervention group received home visits to advise the mother about healthy breastfeeding and weaning within 10 days of the child's birth, then monthly up to 6 months, then at 8, 10 and 12 months. This group also received the 6-month and 12-month research assessment and routine assistance from their paediatricians.

Outcome measure Outcome measures were early childhood caries (ECC), defined as one or more caries surface of a tooth, duration of breastfeeding and dietary behaviours.

Results Of the intervention group, 10.2% (16 out of 157) babies had caries compared with 18.3% (40 out of 219) babies in the control group. The odds of dental caries was 48% lower for the intervention group than for the controls (odds ratio, 0.52; 95% confidence interval, 0.27–0.97), after adjustment for the confounding effect of number of teeth. The intervention group had a longer mean duration of exclusive breastfeeding (X^2 P 0.000), later introduction of sugar (X^2 P 0.005) and a lower probability of their baby ever having eaten honey (X^2 P 0.003), chocolate or sweets (X^2 P 0.001), soft drinks (X^2 P 0.020), biscuits (X^2 P 0.000) and fromage frais cheese (X^2 P 0.001).

Conclusions Home visits for dietary advice appear to help reduce dental caries in infants. Greater efforts are needed to tackle cariogenic dietary behaviours, however, and further studies are required to examine any longer-term effect.

Commentary

The dental element of this trial was a small element of a much larger study conducted to assess the impact of home visits advising mothers about breastfeeding and weaning on children's feeding practices and general health in the early years of life. The intervention used, 'Ten Steps to Healthy Feeding of Younger Children' was based on World Health Organization recommendations¹ and did not contain any advice about oral hygiene, only dietary advice against the addition of sugars (sugar cane, honey) in fruits, porridge, juices, milk or other liquids and against the provision of soft drinks, sweets and savoury snacks.

Dietary practices were recorded by fieldworkers at 6 and 12 months using structured interviews, with the interviews masked to group allocation. Although they attempted to look at patterns on a month-by-month basis this would not have prevented problems with ability to recall dietary behaviour a point noted by the authors. The groups were well balanced, with only 25% earning more than three times the Brazilian minimum wage and 11% earning less than the minimum wage: the bulk were low-income families who are at greater risk of caries. The results show that those in the intervention group had a 48% lower risk of ECC. This equates to a number-needed-to-treat of 12 (95% confidence interval, 7–91). This means that between seven and 91 children may have to receive home visits in order for one extra child to be caries-free at 1 year of age.

The trial does show that home visits have a positive benefit on the dental health of Brazilian children; it would be interesting to see whether other, wider, health benefits also accrue — this would be important in determining whether the approach is cost-effective. As the authors note, whether there are any longer term effects of the intervention will also be of interest. From a UK perspective, we wait to see whether similar results are achieved from the ongoing Childsmile programme (www.childsmile.org), one element of which is a targeted health promotion initiative from birth.

Practice point

A programme of home visits for dietary advice may reduce dental caries in young children.

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1. Brazil Health Ministry. Ten steps for healthy feeding. Brasília: Health Ministry; 2002.

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