RESEARCH SUMMARY

Can dental health educators reduce caries incidence?

A cluster randomised, controlled trial of the value of dental health educators in general dental practice

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Aim

To test the effectiveness of dental health educators in general dental practice.

Objective

To evaluate the effectiveness and cost of primary care trusts seconding dental health educators free of charge to suitable general dental practices to provide dental health counselling to mothers of regularly attending pre-school children at risk to caries.

Method

Two-cell, parallel group, cluster randomised, controlled clinical trial of 2 years' duration. Clinical setting: Thirty general dental practices in North-West England. Participants: 269 mothers of 334 pre-school children. Interventions: Those in the test group were given visits to a dental health educator over a 2-year period to counsel mothers of at-risk, pre-school children. The rest were held as a control. Main outcome measures: Caries prevalence of the children and dental health knowledge, attitudes and toothbrushing skills of the parents. The full costs of the exercise were kept throughout. The statistical analysis controlled for the clustering of children within practices.

Results

After 2 years, 271 (81%) children and 248 (92%) mothers remained in the study. There was an 18% difference in mean dmft between the groups in favour of the test group children but this was not statistically significant. At the end of the study there was an 18% difference in mean dmft between the groups in favour of the test group children but this was not statistically significant. No difference in plaque levels was found. The mothers in the test group were more knowledgeable, had better attitudes towards the dental health of their offspring and better toothbrushing skills than those in the control. Each 2-hour session to counsel 10 parents cost £40.

Conclusion

Primary care trusts should carefully consider the cost value of seconding dental health educators to counsel parents of regularly attending, at-risk, pre-school children when considering such an option.

COMMENT

This is a report of a cluster randomised controlled trial in primary care that has followed CONSORT guidance. The aim was to evaluate the effectiveness and cost of seconding a dental health educator in general dental practice to provide dental health counselling to mothers of regularly attending pre-school children at risk of caries. This is an important and politically topical area of research concerned with a priority patient group and the role of dental health educators.

Thirty dental practices participated in areas of North-West England with high levels of dental caries. Randomisation was well conducted at the level of the practice, all practices and patients were accounted for and the outcome assessment was blind. The aims are clear and the sample size is justified based on incremental caries data. The measurement of caries was valid and reliable and assessed by a single trained epidemiologist blind to the intervention and examining the children in school. There were no ambiguities in the description of the intervention and its administration. Statistical methods are well described and the outcomes are clinically relevant. The implication of the size of the treatment effect of using volunteer practices and selected patients is considered. The 18% difference in caries was not statistically significant. Using the mean dmft rather than the increment of caries may have reduced the sensitivity of the study. As the researchers point out, two years is a short time to assess the effect of changes in knowledge and reported behaviour.

This well conducted research project will lead to considerable debate and discussion with respect to its implication for future general dental services. I congratulate the authors and do not think they should be discouraged by the result. The benefit or not of dental education in primary care requires further research and this study will contribute to the design of future studies.

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IN BRIEF

- Asks the question, should PCTs place dental health educators with GPs to give dental health education to parents of at-risk young children?
- Mothers received advice on toothbrushing, fluoride toothpaste and sugar control every 4 months for 2 years.
- Their children showed little difference in caries experience to a control group.
- Test group mothers had more knowledge, better attitudes and toothbrushing skills than controls.