

EVIDENCE SUMMARY

How can dietary advice to prevent dental erosion be effectively delivered in UK general dental practice?

Original question submitted by Anh Lam, November 2009

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Key Terms:

Dietary advice: diet therapy, nutrition therapy, nutritional status - the improvement/maintenance of individual health status by adjusting the quantity or quality of food intake. Also, diet, food, drink.

Dental erosion: tooth erosion.

Progressive loss of the hard substance of a tooth by chemical processes that do not involve bacterial action.

Prevention: primary prevention – specific practices for the prevention of disease in susceptible individuals/populations, including advice/health education/promotion. Secondary prevention – prevention of recurrences/exacerbations of a disease already diagnosed. Also patient education.

Background

In 2000, 52-65% of children and adolescents were found to have tooth surface loss due to dental erosionⁱ. 'Erosive tooth wear has for many years been a condition of little interest to clinical dental practice or dental public health', although this perception is changingⁱⁱ. Public recognition of dental erosion is poor.

The trend towards longer retention of dentitionⁱⁱⁱ is making tooth wear (whether dental erosion or other forms) an increasing clinical challenge. Progression of erosion is believed to be greater in older adults (52-56 years) compared to younger (32-36 years)^{iv}.

Multifactorial approaches to prevention and control of dental erosion have been described^{v, vi, vii} in response to the spectrum of chemical, biological and behavioural influences upon the development of dental erosion^{viii}.

Diet plays an important role in the prevention of oral diseases^{ix,x}. Dietary factors, particularly acidic food and drinks, contribute to the development of dental erosion.

The current review question specifically focuses upon how dietary advice can be effectively delivered in general dental practice.

Aim

This review aimed to identify, evaluate and summarise primary research studies which are either of:

- i. interventions where the dietary advice given has been solely related to preventing dental erosion, or of
- ii. interventions where, in an overall broader campaign to improve/protect oral/dental health using dietary advice, the prevention (primary/secondary) of dental erosion is a stated aim.

Review Method

Initial search: Ovid MEDLINE (1950 – October wk5 2009) using the search terms diet therapy, tooth erosion and prevention. 34 papers identified. 34 excluded (no interventions identified).

Second search: Ovid MEDLINE (1950 – November wk3 2009) using the search terms diet, tooth erosion and prevention. 100 papers identified. 100 excluded (no interventions identified).

Further searches: included CEBD, Cochrane Oral Health Group, CRD, ADA, National Library for Public Health.

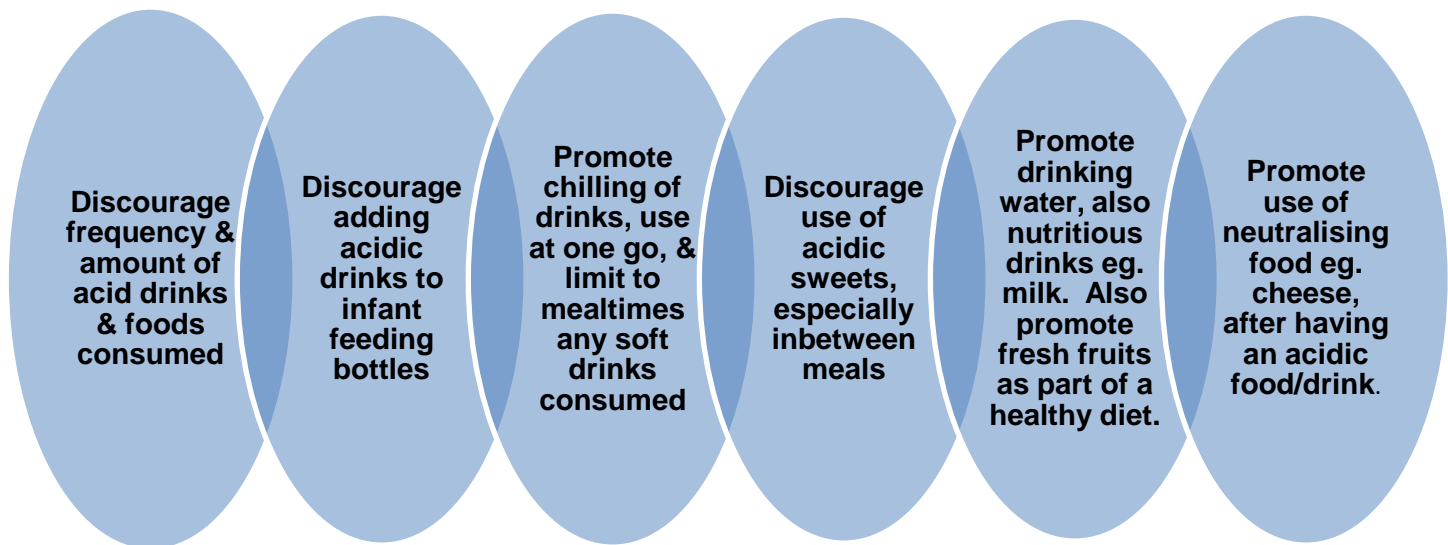
Findings

We could find no studies that have compared alternative strategies for the delivery of dietary advice to prevent dental erosion. No studies were found either where the dietary advice solely related to dental erosion or as a stated element of a broader oral/dental health campaign.

Whilst not the primary focus of this review, more evidence was identified about the dietary messages that may be communicated to prevent dental erosion. These messages and details of recent reviews/guidelines on the prevention of dental erosion, including through dietary means, are provided overleaf.

In summary, there was no evidence found on the relative effectiveness of different strategies to apply dietary advice for the prevention of dental erosion. Given the apparently increasing prevalence of the disease in industrialised countries, it appears to be a priority area for future primary research.

Dietary recommendations in dental practice in relation to dental erosion^{xi}



Recently published reviews including dietary advice for the prevention of dental erosion.

O'Sullivan, E. & Milosevic, A. UK National Clinical Guidelines in Paediatric Dentistry: diagnosis, prevention and management of dental erosion. *International Journal of Paediatric Dentistry*, 18(Suppl.1): 29-38, 2008 November.

Magalhaes, AC. Wiegand, A. Rios, D. Honorio, HM. & Buzalaf, MAR. Insights into preventive measures for dental erosion. *Journal of Applied Oral Science*, 17(2): 75-86, 2009 April.

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- ^{ix} Moynihan, PJ. The role of diet and nutrition in the etiology and prevention of oral diseases. *Bulletin of the World Health Organisation*. 83(9):694-9, 2005 September.
- ^x Moynihan, P. & Peterson, PE. Diet, nutrition and the prevention of dental diseases. *Public Health Nutrition*. 7(1A):201-226, 2004.
- ^{xi} Auad, S. & Moynihan, P. Diet and dental erosion. *Nutrition & Oral Health*. 37(2), 2007 February.