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[Intervention Review]

# One-to-one dietary interventions undertaken in a dental setting to change dietary behaviour

Rebecca Harris<sup>1</sup>, Ana Gamboa<sup>2</sup>, Yvonne Dailey<sup>3</sup>, Angela Ashcroft<sup>4</sup>

<sup>1</sup>Department of Health Services Research, University of Liverpool, Liverpool, UK. <sup>2</sup>Centre for Clinical and Diagnostic Oral Sciences, Institute of Dentistry, Queen Mary University of London, Barts & The London School of Medicine and Dentistry, London, UK. <sup>3</sup>Public Health Department, NHS Western Cheshire, Chester, UK. <sup>4</sup>School of Dental Sciences, University of Liverpool, Liverpool, UK

Contact address: Rebecca Harris, Department of Health Services Research, University of Liverpool, Waterhouse Building, Block B, 1st Floor, Room B113, 1-5 Brownlow Street, Liverpool, L69 3GL, UK. [r.v.harris@liverpool.ac.uk](mailto:r.v.harris@liverpool.ac.uk).

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## ABSTRACT

### Background

The dental care setting is an appropriate place to deliver dietary assessment and advice as part of patient management. However, we do not know whether this is effective in changing dietary behaviour.

### Objectives

To assess the effectiveness of one-to-one dietary interventions for all ages carried out in a dental care setting in changing dietary behaviour. The effectiveness of these interventions in the subsequent changing of oral and general health is also assessed.

### Search methods

The following electronic databases were searched: the Cochrane Oral Health Group Trials Register (to 24 January 2012), the Cochrane Central Register of Controlled Trials (CENTRAL) (*The Cochrane Library* 2012, Issue 1), MEDLINE via OVID (1950 to 24 January 2012), EMBASE via OVID (1980 to 24 January 2012), CINAHL via EBSCO (1982 to 24 January 2012), PsycINFO via OVID (1967 to 24 January 2012), and Web of Science (1945 to 12 April 2011). We also undertook an electronic search of key conference proceedings (IADR and ORCA between 2000 and 13 July 2011). Reference lists of relevant articles, thesis publications (Dissertations Abstracts Online 1861 to 2011) were searched. The authors of eligible trials were contacted to identify any unpublished work.

### Selection criteria

Randomised controlled trials assessing the effectiveness of one-to-one dietary interventions delivered in a dental care setting.

### Data collection and analysis

Abstract screening, eligibility screening and data extraction decisions were all carried out independently and in duplicate by two review authors. Consensus between the two opinions was achieved by discussion, or involvement of a third review author.

## **Main results**

Five studies met the criteria for inclusion in the review. Two of these were multi-intervention studies where the dietary intervention was one component of a wider programme of prevention, but where data on dietary behaviour change were reported. One of the single intervention studies was concerned with dental caries prevention. The other two concerned general health outcomes. There were no studies concerned with dietary change aimed at preventing tooth erosion. In four out of the five included studies a significant change in dietary behaviour was found for at least one of the primary outcome variables.

## **Authors' conclusions**

There is some evidence that one-to-one dietary interventions in the dental setting can change behaviour, although the evidence is greater for interventions aiming to change fruit/vegetable and alcohol consumption than for those aiming to change dietary sugar consumption. There is a need for more studies, particularly in the dental practice setting, as well as greater methodological rigour in the design, statistical analysis and reporting of such studies.

## **PLAIN LANGUAGE SUMMARY**

### **Interventions to change diet in a dental care environment**

Unhealthy sugar consumption habits are known to be associated with high rates of dental decay, and fizzy drink consumption habits associated with tooth enamel being dissolved (dental erosion). Members of the dental team routinely assess patients' diets, highlighting areas where this could be improved to reduce disease. This advice might extend to dietary issues affecting general as well as oral health. Although we know that certain dietary habits contribute to disease, whether patients take note of advice given to them and change their diet as a result, is less certain. The aim of this review was to determine whether efforts by dentists and other dental staff members are successful in changing patients' diets. We limited the review to looking at studies where diet advice was given in a dental surgery or similar place, and where the advice was given by one member of staff to an individual patient.

We identified five studies. Two of these were concerned with diet advice given concerning general health (one was about alcohol and one was about fruit and vegetable consumption). In both these studies there was a change to healthier behaviour following the advice.

We also identified three studies which attempted to change sugar consumption habits in order to reduce dental decay. However, in two out of these three studies there were also other types and forms of advice given at the same time, for example about toothbrushing. It was therefore impossible to say whether changes in diet came about because of the diet advice given or because they were subtly influenced by the other messages. For example: advice on toothbrushing might make patients more aware of their oral health resulting in changes to their diet. Most of the studies concerning sugar consumption are of relatively weak quality. The evidence for dietary advice aiming to change sugar consumption is poor. Further studies in this area should be considered.