Psychology of behaviour change is key to effective oral health promotion

Abstracted from

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Question: Is oral health promotion within dental practice effective and how can its effects be optimised?

Data sources AMED, CINAHL, Cochrane Library, Embase, Medline, PsycINFO, PsycARTICLES, ScienceDirect, SocINDEX, ASSIA, Social Policy and Practice, HMIC (Health Management Information Consortium), The Knowledge Network, Intute, MedNar, Copac, EPPI-Centre, EThOS, OpenGrey and TRIP databases. Searches were limited to publications in the English language published after 1994.

Study selection Studies set in general practice that investigated promoting good oral health in adult or child patients were considered. Study quality was assessed using NICE public health guidance checklists.

Data extraction and synthesis Studies were grouped according to the evidence they offered in relation to the research questions and key findings and themes identified. No meta-analysis was conducted. Qualitative studies underwent thematic analysis. The evidence was synthesised after considering the studies' homogeneity, quality and applicability and studying the evidence tables.

Results Forty-four studies reported in 52 papers were considered. Fifteen studies were randomised controlled trials (RCTs), two cluster RCTs and one controlled trial. Five quasi-experimental studies, two before and after studies without controls, three surveys, 11 qualitative studies, three mixed methods studies, one audit and one pilot study were included.

The studies were very heterogeneous; the quality of reporting highly variable with many using patient reported behaviours rather than objective measures. Follow-up periods were also short. Narrative summaries of psychological and behavioural models, verbal advice, written advice, other methods of conveying advice, message content, sender characteristics, receiver factors, 'framing' of advice, barriers and facilitators and patient satisfaction were provided.

Conclusions The results of this review suggest that the psychology of behaviour change is the key to oral health promotion, and greater emphasis on teaching oral health professionals about health psychology would make oral health promotion in the dental surgery more effective.

Commentary

Oral health promotion (OHP) aims to improve and protect oral health whilst reducing inequalities through a focus upon the underlying determinants of oral health.[1]

This review focuses upon the effectiveness of oral health promotion efforts and interventions in dental practice settings only. It was commissioned and funded by the UK National Institute of Health and Care Excellence (NICE) for the purpose of informing public health guidance. The scope of this review is much narrower than an earlier review on this subject published in the late 1990's.[2] The authors justify the narrow scope because they wished to ensure that the review's conclusions could be applied by dental professionals operating in dental practice environments. Consequently, more 'upstream' OHP interventions and activities including policy, legislation and community development initiatives[3-4] were not considered in this review, but these areas have been considered elsewhere.[5-7]

The review adopted a thorough search strategy, which involved a call for evidence, a wide range of electronic database catalogues, the grey literature and searches conducted by hand. Studies from all countries were included from 1994 onwards, but papers were only considered if they had been published in the English language. The inclusion and exclusion criteria were clearly reported.

The review team steered away from considering the underlying scientific evidence for effective dental disease prevention because it was felt that this was already well-established and accepted.[8] Instead, the focus of this review was built around a clear research question: is oral health promotion within dental practice effective and how can its effects be optimised?

A total of 44 studies met the inclusion criteria and were included in the review. A wide range of study types were considered and these ranged from randomised controlled trials - RCTs (n=15), cluster RCTs (n=2) and a controlled trial, through to quasi-experimental studies, surveys, qualitative studies, an audit and a pilot study. A strength of this review is the extent to which the quality of quantitative and qualitative studies was assessed by the authors with respect to each study's internal and external validity. The review team used appraisal checklists developed by NICE for the development of public health guidance.[9]

Unfortunately, the quality of evidence in the included studies was described as 'very disparate' and the quality of reporting was reportedly 'highly variable'. Many studies reported relatively short follow-up periods (<3 years in the majority of studies) and others relied upon patient-reported outcomes rather than objective clinical

or observed behavioural measures.

As a result of these findings, a limitation of this review is that it was not possible to undertake a meta-analysis because of the heterogeneity of the interventions and the outcome measures used. Consequently, there is no graphical representation of the underlying data, and the review is limited to narrative analysis and commentary. Fundamentally, the heterogeneous findings mean that the authors were unable to draw firm conclusions about a 'best' approach to deliver OHP to patients in dental surgery settings. Instead, a series of evidence statements were used to inform future recommendations in this area and the strength of the underlying evidence was simply summarised as either 'strong', 'moderate' or 'weak' according to the level of support provided by specific study types.

There is strong evidence particularly from studies positioned in the higher levels of the traditional 'hierarchy of evidence', that oral hygiene and gingival/periodontal health may be significantly improved through OHP interventions developed using behavioural and psychological models. However, whilst strong evidence exists for the impact of verbal OHP on improving patients' knowledge and behaviour relating to gingival health, unless fluoride was a component of the OHP package, verbal OHP on its own was insufficient to impact upon caries levels. Similarly, whilst written leaflets may increase patients' knowledge about a subject, this format is less personal than other forms of OHP and may therefore be potentially less acceptable to patients.

Moderate evidence suggests that oral health professionals' personal beliefs and attitudes influence their likelihood of participating and being positive about OHP activities. The receivers of OHP are also more likely to be receptive if oral health messages are delivered by dental professionals who understand and appreciate the context of their lives. Strong evidence (from predominantly qualitative studies), shows that dentists gave OHP messages derived from their own personal experiences and that those who enjoyed and gained satisfaction from delivering OHP activities facilitated their effectiveness.

As the authors acknowledge, this review reveals similar findings to previously published reviews of the evidence for OHP.[10-12] Any review will be limited in its ability to provide clear conclusions if there is underlying heterogeneity and variable quality of the primary studies. This review highlights a need for more high quality studies which use interventions and clinical outcome measures that allow for direct comparability. Nevertheless, this review emphasises the importance of the relationship between dental professionals delivering OHP and patients as the receivers. The authors discuss this 'therapeutic alliance'[13] as a key factor in the success of OHP in the dental surgery as well as a need for greater emphasis on the teaching of health psychology to oral health professionals. The authors assert that positive outcomes for patients are more likely to be achieved if OHP approaches are based upon accepted models of behaviour change and psychological techniques. In this regard, the validity of the review's findings are supported by existing guidance published by NICE in the U.K. on the subject of behaviour change.[14-15]

Practice points

- Strengthening the 'therapeutic alliance' between the professional and patient is key to the success of oral health promotion in dental practice settings. This alliance may be strengthened by greater understanding and appreciation of the context of oral health within the lives of patients.
- If practitioners truly believe in the efficacy and effectiveness of the advice they give to patients, they strengthen the potential for success of their oral health promotion activities.

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