Should the use of smoking cessation products be promoted by dental offices: an evidence-based report

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Authors' objectives
To apply an evidence-based approach to determine whether the use of smoking cessation products should be promoted by Canadian dental offices. The evidence-based methodology is applied to each of the following three questions.

1. Does tobacco use affect periodontal health?
2. Are dentists effective cessation counsellors?
3. Do smoking cessation products (nicotine-replacement therapy and bupropion) improve the effectiveness of cessation interventions?

Searching
MEDLINE was searched from 1980 to 2000 using the MeSH 'smoking cessation', 'tobacco-use cessation', 'dentistry' and 'periodontitis', and the following keywords: 'bupropion', 'Zyban', 'nicotine', 'patch' and 'gum.' Searches were restricted to studies reported in the English language, studies of humans, local holdings, adults over 19 years, and meta-analyses or randomised trials. Manual searches of bibliographies and unspecified sources were also conducted.

Study selection
Study designs of evaluations included in the review
Meta-analyses and randomised trials were considered for question 2; case series, case-control studies and cross-sectional studies were considered for question 1.

Specific interventions included in the review
Smoking cessation counselling and smoking cessation products such as nicotine patches, nicotine gum and bupropion.

Participants included in the review
The participants were smokers aged 19 years and above.

Outcomes assessed in the review
The effect of smoking on periodontal health and response to periodontal treatment was assessed. Smoking cessation rates after counselling and after the use of smoking cessation products were also measured.

How were decisions on the relevance of primary studies made?
The author does not state how the papers were selected for the review, or how many of the reviewers performed the selection.

Assessment of study quality
The quality of the studies was assessed in terms of the reported sample size, study length, controls, blinding, randomisation and use of placebo. Levels of evidence were graded according to the criteria of Goldbloom and Battista (see Other Publications of Related Interest). The author does not state how the papers were assessed for quality, or how many of the reviewers performed the quality assessment.

Data extraction
The author does not state how the data were extracted for the review, or how many of the reviewers performed the data extraction.
Methods of synthesis
How were the studies combined?
A narrative summary of the included studies was provided for each question. The author does not report a formal method for combining the studies.

How were differences between studies investigated?
The author does not state whether differences between the studies were investigated.

Results of the review
For question 1, 33 studies were included: 11 cohort or case-control, and 22 descriptive. For question 2, 10 studies were included: 1 meta-analysis, 6 randomised controlled trials, and 3 case series. For question 3, 10 studies were included: 8 meta-analyses and 2 randomised controlled trials. The number of participants was not provided.

1. Does tobacco use affect periodontal health?
Tobacco use is associated with and shows a dose-response relationship with deteriorating periodontal health. Smokers respond less favourably to periodontal therapy, and former smokers show periodontal health intermediate to that found in current smokers and individuals who have never smoked.

2. Are dentists effective cessation counsellors?
Oral health professionals are effective at increasing the proportion of dental patients who successfully quit using tobacco.

3. Do smoking cessation products improve the effectiveness of cessation interventions?
Transdermal nicotine patches more than doubled the quit rates obtained in smoking cessation programmes (odds ratios: 2.07 to 2.6). Nicotine gum increased cessation rates by about 50% (odds ratios: 1.4 to 1.6). Bupropion nearly doubled smoking cessation success, with reported quit rates of 23.1 and 30.3% versus 12.4 and 15.6% for placebo.

Authors' conclusions
In view of the strong supporting evidence, dental offices should routinely provide systematic smoking cessation services, and should promote nicotine replacement therapy and bupropion to patients who are attempting to quit.

CRD commentary
The review questions were clear and the study selection criteria were clearly stated. The search strategy was limited to English language papers only, from a single database and the reference sections of previous meta-analyses. Details of the review protocol were generally absent. Apart from labels for their design, the study details were not presented in the table of results and recommendations. The narrative summary presented few study details apart from some results. It is therefore difficult to assess the quality of the evidence used to support the author's conclusion without examining the original studies.

Implications of the review for practice and research
Practice: The author states that dental offices should routinely provide systematic smoking cessation services and should promote nicotine replacement therapy and bupropion to patients who are attempting to quit.

Research: The author did not state any implications for further research.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.