INAHTA Briefs

Issue 2009/110

Title **Effect of Smoking Habits on Treatment Outcome**

Agency **NOKC, Norwegian Knowledge Centre for the Health Services**
PO Box 7004 St Olavs plass, NO-0130 Oslo, Norway;
Tel: +47 23 25 50 00, Fax: +47 23 25 50 10; post@nokc.no, www.nokc.no

Reference Report no. 29 – 2008. ISBN 978-82-8121-228-2.
www.kunnskapssenteret.no/binary?download=true&id=8887

Aim

To evaluate smoking status against the outcome following scaling and root planing (SRP), or surgical flap procedures in patients diagnosed with periodontitis.

Conclusions and results

Established periodontitis can be treated by the dentist and usually includes scaling and root planing, surgical flap procedures, gingivectomy, antibiotics, or combinations of these procedures. Compared to non-smokers, smokers probably show a poorer prognosis following periodontal treatment. Treatment efficacy among ex-smokers and never-smokers seems to be comparable, but the conclusions are impaired by methodical weaknesses in the studies.

We identified 38 relevant research papers. Tooth loss among patients undergoing periodontal therapy was reported in one of the studies and showed a statistically insignificant trend toward increased risk of tooth loss in the smoker group (Odds Ratio 2.27; 95% Confidence Interval 0.86 to 5.94).

The mean difference (MD) effect estimate and 95% confidence interval (CI) indicated that non-smokers may show better effects from periodontal therapy than smokers do in terms of pocket depths (MD 0.33; 95% CI 0.22 to 0.43 mm) and clinical attachment levels (MD 0.30; 95% CI 0.19 to 0.41 mm). The greatest difference in treatment efficacy between smokers and non-smokers was evident when pretherapeutic pocket depths were large (> 7 mm) Pocket depth: (MD 0.87; 95% CI 0.49 to 1.24 mm). Attachment level: (MD 0.75; 95% CI 0.33 to 1.18 mm).

Methods

A systematic search for relevant literature included: MEDLINE, EMBASE, SveMed, and Cochrane Library. We used predefined inclusion and exclusion criteria to establish the relevance of the identified literature. Results from relevant research articles were summarized in tables and described in the text, and in meta-analysis where appropriate.

Further research/reviews required

Randomization to smoking habits is not possible, and large, high-quality observational studies using standardized treatment and measurement procedures and dose-response correlation analysis could increase the level of evidence.

Written by Kjetil G Brurberg, NOKC, Norway

ISSN 1654-501X