RESEARCH SUMMARY

Smoking's toll on periodontal health

A retrospective study of periodontal disease severity in smokers and non-smokers

M. Razali, R. M. Palmer, P. Coward and R. F. Wilson ***Br Dent J* 2005; 198: 495–498**

Background
Smoking has been associated with increased risk of periodontitis. The aim of the present study was to compare the periodontal disease severity of adult heavy smokers and never-smokers referred for assessment and treatment of chronic periodontitis

Methods
A random sample of patients with at least 20 teeth, stratified for smoking and age (5-year blocks, 35 to 55 years), was selected from an original referral population of 1,221 subjects with chronic adult periodontitis. Adequate records for 59 never-smokers and 44 subjects who smoked at least 20 cigarettes per day were retrieved. The percentage of alveolar bone support was measured from dental panoramic radiographs with a Schei ruler at x3 magnification with the examiner unaware of the smoking status. Probing depths at six sites per tooth were obtained from the initial consultation .

Results
There was no significant difference in age between groups. Smokers had fewer teeth ($p<0.001$), fewer shallow pockets ($p<0.001$) and more deep probing depths ($p<0.001$). The differences were greater in subjects 45 years of age and over. In this age group, smokers had approximately 13% more bone loss, 15% more pockets in the 4-6 mm category and 7% more pockets in the ≥7 mm category than the never-smokers.

Conclusions
This study confirmed that smokers had evidence of more severe periodontal disease than never-smokers. The differences increased with age confirming an exposure-related response.

IN BRIEF

- Inform patients that smoking increases alveolar bone loss and tooth loss.
- The effect of tobacco smoking increases with age — the duration of the habit is an important factor.
- Smokers have more deep pockets — this will increase treatment need and complexity.

COMMENT

Smoking is an important factor in the production of periodontal disease. An increasing body of documentation testifies to this. In this paper, Dr Razali ***et al.*** report on their observations of the periodontal conditions in smokers and non-smokers. They investigated 103 patients who were referred for specialist care of periodontal disease and their observations suggest that the disease severity was considerably worse in smokers. Smokers had lost more teeth and the bone support was significantly less and pocket depth significantly greater at remaining teeth in the smokers than in the non-smokers. Investigators were very clear as to the definition of smokers and non-smokers, the former category consisting of patients who smoked at least 20 cigarettes a day, and the latter of patients who had never smoked. Patients, additionally, were matched with respect to age. These circumstances make their findings strong and convincing, facilitating a straightforward interpretation.

The observations reported by Dr Razali ***et al.*** suggest that not only are smokers over-represented among individuals susceptible to periodontal disease but are also more severely affected. Since the increased severity on the part of smokers was comparably more pronounced in older patients, the findings confirm earlier observations by others that the progression rate of the disease is enhanced by smoking. Although it was not reported what previous treatment these patients had received, it may be assumed that the benefit of any treatment would be less efficient in smokers. Since periodontal disease in smokers is driven by smoking, as evidenced by the observations of Dr Razali ***et al.***, the only possible way to effectively combat the progression of the disease is to eliminate smoking. Traditional treatment for periodontal disease, therefore, is insufficient in smoking-associated disease. In cases where smoking is the main factor, the contribution of the patient her/himself is essential. However, the regular smoker patient needs assistance and support. Supportive periodontal treatment in the smoker patient includes counselling and help in cutting down on smoking.

This important contribution adds to the confidence that tobacco smoking is a strong risk factor for destructive periodontal disease. The consequence for the clinical and practical management that follows from this and other evidence is that smoking is the main target to be tackled in the treatment strategy for the smoker patient. We are nowadays more and more aware of the burden of morbidity and mortality that smoking imposes on our health in general. But what about our awareness of smoking's toll on dental health? Embarrassingly little. Unless smoking is eliminated, the prognosis of periodontal treatment for patients who smoke is extremely poor. Periodontists are gradually becoming aware of this and are beginning to help their patients to stop. A greater problem is to persuade our young not to start, not to enter the road to periodontal disease. Is the dental profession ready to take this challenge?

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