Reviewer’s report

Title: Causal assessment of smoking and tooth loss: A systematic review of observational studies

Version: 2 Date: 26 December 2010

Reviewer: Rutger Persson

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Comments by reviewer

The references 7-8 are not correct: Bergström et al started publishing on this matter in 1980. By 1985 there are several other papers.

Categories and outcome

Periodontal disease is not necessarily the primary cause of tooth loss. There are several other primary factors for tooth loss such as neglect, and tooth decay. The authors must review this matter in more detail and not only refer to one referenced document!!

The major concern relates to the title “Causal”. The authors present information identified in the literature by the occurrence of tooth loss “by chance” or an effect of smoking given that tooth loss is primarily caused by periodontitis. The authors do not consider causality interpreted as the etiology and mechanisms for tooth loss and the reasons why smoking cause tooth loss is poorly discussed and properly addressed by the authors.

There is a short statement about infectious agents (bacteria) and that the literature has not proven the infectious link to smoking and tooth loss. What factors in smoking induce the inflammatory process leading to tooth loss must be discussed in a paper such as this one.

Are smokers nervous, and stressed people releasing stress hormones and cytokines that up-regulate the inflammatory response causing increased osteoclast activation and then bone loss and loose teeth and as a consequence extraction by a dentist?

The issues of dose and response in regards to smoking are more or less impossible to assess. If nicotine is thought to be the cause then there are immense differences by brand name of cigarettes. If other products such as tar in smoking are the factors then again, the mechanisms must be investigated.

Technically speaking, tooth loss is caused by dentists!!!!!

If the authors change the title much of my concerns are removed. Then the matter is one more related to if this review provides new insight or not
Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.