Reviewer's report

Title: Behavioral factors to include in guidelines for lifelong oral healthiness: an observational study in Japanese adults

Version: 4 Date: 14 November 2006

Reviewer: Jimmy Steele

Reviewer's report:

This paper has already been extensively reviewed and modified so I shall keep the comments to the fundamental points.

This is not the strongest epidemiological paper overall, but some of the methodological shortcomings are less important than they seem and, despite the shortcomings, the findings are probably still relevant and may be of some value.

The response rate is very poor but as the authors are looking for associations, a perfectly representative sample is not perhaps as important as if prevalence rates were being reported. There will be biases in the sample as a result of the poor response, but I think they are unlikely to have affected the associations found in a profound way. Only bivariate associations are investigated (rather than using multivariate techniques to address issues of co-variance) which I find a little surprising. In terms of clarity, and when thinking about a common risk approach simply considering bivariate associations has some merits, but it can result in some slightly unusual conclusions. This may well account for some of the findings. For example “not having a hobby” may be associated with tooth loss, but getting a hobby would not necessarily change the risk at an individual level – or at least I find that unlikely. It might of course lead to greater self worth and better oral health behaviours, but equally the people who have higher self esteem may have better health behaviours and incidentally be more likely to have a hobby. Such associations appearing in an analysis of this sort are due to co-variance. This is an important consideration and a limitation of such a simplistic approach. This should be addressed in the discussion.

Details such as the diagnostic criteria used are not important in this case, as tooth loss (which is simply done by counting teeth) was the dependent variable. Similarly, the retrospective nature of the data is unavoidable, and there is little that could be done to rectify this. We have to either accept this or not do the research, whilst recognising the limitations – which I think are now noted in the paper.

Provided the discussion is altered to reflect these shortcomings and acknowledge them more clearly, I would be inclined to accept the paper given the previous journey.

Declaration of competing interests:

I have no conflicting interests in this case.