Reviewer's report

Title: Contextual and Individual Assessment of Dental pain period prevalence in adolescents: a multilevel approach

Version: 2 Date: 20 June 2010

Reviewer: Anne Nordrehaug Astrom

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Review of the revised ms: Contextual and individual assessment of dental pain period prevalence in adolescents: a multilevel approach

The authors have done a thorough revision of their manuscript. I have still some questions and notification as to the manuscript in its revised current form;

Minor essential revisions:

1) The authors should rearrange the number of tables as they have inserted a new table (table 1) and also provide a short description of the results of Table 1

2) I am still confused with respect to the approaches to multivariable analyses and the multilevel Poisson regression utilized. In Table 2 (should be table 3) there are three values for PR of the HDI variable, which reportedly has only two categories. This should be explained. Moreover, I am not satisfied with the way this table has been arranged and will urge the authors to look at the example for presentation provided by them in their reply to the review of Sabbah (example in Kuhnene et al 2009). By arranging the results in this manner it provides a good explanation regarding what is happening from step to step – both with respect to confounding and mediation of effects. As the multilevel analysis is presented now it is not easily interpretable. At least the readers should be informed whether the figures provided pertain to the final step in the analyses. Although controlling for HDI by multilevel Poisson regression, most individual variables maintained their statistical significance. The stratified analyses, however, show a different result – namely that most socio-economical factors loose their effect. Why using two different approaches (i.e.multilevel and stratification) to control for confounding effect of HDI? The authors should be concerned with the different results from those two approaches and provide some explanation in the discussion part. Could it be due to reduced statistical power in the stratified analyses? Moreover, I still will encourage the authors to verify any suggested interaction or modification of effect by testing interaction terms for statistical significance. Comments regarding the maintenance of effect of HD I on page 19 should be inserted under description of the results depicted in Table 2.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being
Statistical review: Yes, and I have assessed the statistics in my report.