Reviewer's report

Title: Estimating Adjusted Prevalence Ratio in Clustered Cross-Sectional Epidemiological Data

Version: 1 Date: 28 September 2008

Reviewer: Robert Gibberd

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Estimating adjusted prevalence ratio in ……

This paper presents results on methods to obtain prevalence ratios (relative risks). This problem has been studied before, and the current paper provides one method to report such data. The paper has useful recommendations, and the aspects that I would address are given below. The paper uses a logistic model, which assumes that the effect of a covariate is multiplicative on the ratio, \( \frac{p}{1 - p} \). As such the usual odds ratio is a convenient statistic to quantify the effect of a covariate. In converting this to PR, a problem arises since the covariate effect on the PR varies depending on the other values of the predictors in the study. This is not a problem if there are no other covariates but does mean that an average affect is used, which would not apply to most combinations of covariates. Hence, PR is often not used.

Major Compulsory Revisions
The introduction / background is two and a half pages long, and I would aim to reduce it to one and a half. It is a bit repetitive.

Minor Essential Revisions
There are many grammatical errors that can be easily fixed. I suggest that the authors are asked to have someone check the paper. Some of the changes I found with my changes are listed below:

Abstract: Results: ‘pointed out the improved’

Background para 1. ‘The main reason for the OR’

Page 6 after the equation. ‘a cluster specific random effect’

Page 7 page 7 line 10. ‘approximately the case in sufficiently’

Page 7 para 2. ‘data are’

Page 7 para 3 ‘study in the city of ……of Brazil, studied the association’

Page 7 para 3 ‘questionnaire used’

Page 8 first para. Can you specify how many clusters there were, and how they were defined?
although it does not characterize

to evaluate the effect of this drug on the

variations in the degree of dependency, the intraclass

pointing out an important effect

It is worth mentioning the poor and when increasing the number and equals 0.03, to 46.3-41.8% when ICC

should avoid interpreting odds ratios as an approximation to prevalence ratios and in spite of this,

have been shown to have

even when the same and interaction effects may differ

“through simulation studies with several levels and there are data for a small number of clusters and number of clusters are’

noticed a poorer performance

‘when increasing the level of’

‘problems when the number of’

the use of the logistic model

shorten discussion

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 published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

'I declare that I have no competing interests'