Reviewer's report

Title: Alternatives for logistic regression in cross-sectional studies: an empirical comparison of models that directly estimate the prevalence ratio

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Reviewer: Claudio Jose Struchiner

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Accept after discretionary revisions

The authors address an important, and also neglected, issue in epidemiologic research. They provide a very useful review of the main results in the literature and list the alternative analytical methods.

Compulsory revisions - which the author must respond to before a decision on publication can be reached

1) On page 4 2nd paragraph, several alternatives discussed in the literature are introduced as "using the prevalence ratio rather than the odds ratio". Some of the proposed methods, ex. poisson regression, do not seem to provide estimates of prevalence ratio, rather they estimate incidence ratios. This point needs further clarification. The same comment applies to the description of the coefficients in equation (2), page 6, and in the Conclusions (page 14) where the authors refer to "prevalence of cumulative incidence ratios".

2) Page 5 (Methods): "... where h0(t) is the base function of time ... " should read "is the base hazard function of time".

3) Definition of confounding appears on page 10. Alternative definitions of confounding would certainly lead to different strategies. Robins (Epidemiology 2001;11:313-320) offers a recent account of the subject and shows that "an appropriate etiologic analysis of an epidemiologic study depends as much on study design and background subject-matter knowledge as on the data". The main conclusions outlined in the manuscript under review should be checked against more appropriate definitions of confounding than the operational definition appearing on page 10.

4) The results are presented on the basis of simulation studies. I wonder whether the same results could have been foreseen on the basis of analytical considerations.
Competing interests:

None declared.