Reviewer’s report

Title: Adaptive propensity score procedure improves matching in prospective observational trials

Version: 0 Date: 04 Apr 2019

Reviewer: Reviewer 2

Reviewer’s report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

No - there are minor issues

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

Yes - experiments and analyses were performed appropriately

STATISTICS - Is the use of statistics in the manuscript appropriate?

Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?

Yes - current version is technically sound
PEER REVIEWER COMMENTS:

GENERAL COMMENTS: The authors proposed a new method to compute the total required sample size after the interim analysis. The idea is great. But, this approach seems to be a "Ad Hoc" approach by using the lower 99% confidence limit as the weight, instead of the mean rate.

The motivation example is great. I like that very much.

The simulation studies assume the independence between Xs, which may not be the case in practice. I would expect them to be correlated in the simulation studies.

REQUESTED REVISIONS:

The conclusion of overestimation of the matching rate (page 2, line 28) was based on the simulation studies, which may not be true in other simulation studies, unless they could theoretically prove it.

The lower 99% limit was used. Reviewers may have the concern of the underestimation of matching rate if 99% limit is used. How about 95% 90% limits?

ADDITIONAL REQUESTS/SUGGESTIONS:

page 3 line 27, the authors do not explain why n_treat.interim patients are sampled from the control, not n_treat+5?

page 3 line 36 second column, before "By using a logistic regression", I would suggest adding the logit model from page 2 here.

page 4 line 62, you may provide the detailed functions from the R packages?

Note: This reviewer report can be downloaded - see attached pdf file.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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