Reviewer's report

Title: Imputation strategies when a continuous outcome is to be dichotomized for responder analysis: a simulation study

Version: 2 Date: 05 Jun 2019

Reviewer: Yusuke Yamaguchi

Reviewer's report:

Thank you for addressing my comments. I have just couple of suggestions:

1) Page 3, Conclusions: Authors should mention some advantages of IBD MI over DTI MI (e.g. for the case of high dropout rate, IBD MI could be less bias and have well-controlled coverage probabilities of confidence interval in comparison to DTI MI), because this paper aims to clarify inconsistent results in the performance of IBD MI and DTI MI. This perspective should also be added in Conclusion section of page 24, which would be helpful for readers to understand the difference between IBD MI and DTI MI.

2) Page 9, line 203: bar{CV} and sd are not defined. Please replace "bar{CV}=38.0, sd=62.7" by ", and mean and standard deviation are 38.0 and 62.7 respectively".

3) Page 12, line 252-253: "0.3 for x_1 and 0.5 for x_0" should be replaced by "0.3 for x_trt = 1 and 0.5 for x_trt = 0".

4) Page 16, line 331: Please replace "conservative in direction" by "in negative direction".

5) Page 16, line 333-334: The higher power from DTI MI over IBD MI might come from its bias. With positively biased estimates, the power can become wrongly higher. I suggest deleting "but with decreased power, compared to DTI MI, to detect treatment differences".

6) Page 17, line 346-347: For the case of high dropout rate (50% of responses were missing), authors should describe the two forms of MI (IBD and DTI) separately. I can find the coverage probabilities from the IBD MI were always closer to the nominal level of 95% than the DTI MI. This suggests another advantage of IBD MI over DTI MI.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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

Yes

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

No

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

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