Reviewer’s report

Title: Requiring smartphone ownership for mHealth interventions: Who could be left out?

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Reviewer: Jaranit Kaewkungwal

Reviewer's report:

This study aimed to assess the smartphone ownership in relation to mHealth VDOT intervention. The study continued from a previous study on the effectiveness of VDOT in monitoring treatment compliance of TB patients. The study is interesting. However, there are several issues that require clarifications and modifications:

1. In the Background and Methods sections, the authors mentioned about VDOT briefly with references to previous papers on VDOT. Please elaborate a little bit more on VDOT so that the readers who are not familiar with VDOT can understand how the application functions and could be (or has been) used in public health settings.

2. In the Results section and Table 1, the authors compared smartphone ownership with some TB risk factors, for examples, lifetime history of cigarette smoking, alcohol use, smoking marijuana, injection drug use, or incarceration. How could such TB risk factors be related to smartphone ownership? Please consider cut off these variables from the analysis.

3. In the Results section, the authors stated that in univariate analysis (Table 1), income, education, hours worked/week, sex, and age were significantly associated with not owning a smartphone (p<0.05). But in Table 1, the p-value for sex was 0.079. According to the criteria set for variables to enter into multivariable analysis, baseline variables that were significantly associated with smartphone ownership in univariate analysis (p<0.05) were included in a multivariable logistic regression analysis. Please clarify the criteria; otherwise, the multivariable analysis needs to be changed.

4. In Table 2, multivariable logistic regression analysis of baseline participant characteristics associated with not owning a smartphone showed only 4 variables: age, sex, education, annual income. There was no p-value for sex in Table 2; and, the OR and 95%CI changed from 0.52 (0.25, 1.09) (comparing female vs. male) to 2.86 (1.04, 7.87) (comparing male vs. female). For education and age, the OR and adjusted OR were quite similar; but for income, both OR and adjusted OR were the same at 2.29 (1.10, 4.77)? Please check these calculations. There was no hours worked/week in the final model, this might be due to interrelated between hours worked and income; please explain this issue.
5. In the Discussion and/or Conclusion section, corresponding to the authors' point in the introduction about answering the question of who is more or less likely to own a smartphone would help inform the design of future, adequately resourced, sustainable mHealth applications and interventions. If there is inequalities or disparities in smartphone ownership, is it really feasible and possible to provide smartphone for TB patients? What could be done then to resolve or minimize the inequality issue? Will the smartphone ownership make a different; in other word, will the treatment outcome differ when using VDOT (via smartphone) and in-person DOT?

**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.

Unable to assess

**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

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