Author’s response to reviews

Title: Frequency of ubiquitous connectivity and associated factors among Mexican adolescents.

Authors:

Arturo Aguilar-Ye (aaguilarye@gmail.com)
Hortensia Reyes-Morales (hortensia.reyes@insp.mx)
Lourdes Campero-Cuenca (lcampero@insp.mx)
Niceforo Garnelo-Bibiano (niceforo.garnelo@gmail.com)

Version: 1 Date: 14 Dec 2018

Author’s response to reviews:

December 14th, 2018
Dirk Krüger
Editor
BMC Medical Informatics and Decision Making

Enclosed you will find the revised manuscript Ref. No.: MIDM-D-18-00022 entitled “Frequency of ubiquitous connectivity and associated factors among Mexican adolescents” (Former title: "Ubiquitous connectivity. A necessary condition for the promotion of adolescent health in the 21st century?").

The new version has been modified according to the reviewers’ requests. The following pages include the point-by-point response report, incorporating where and how the modifications were done.

We hope the revised manuscript is suitable to be published by BMC Medical Informatics and Decision Making.

Sincerely,

Arturo Aguilar-Ye
Corresponding Author, on behalf of all authors.
Authors’ response to Reviewers’ comments

Ian Bennett (Reviewer 1)

Reviewer (General):

Most importantly there is insufficient information related to the methods and administration of the survey to understand major aspects of the work including survey development (item development and validation), sampling frame, response rates, and other key issues that are needed to interpret the results; this is a key issue since the stated object of the study is to "determine the proportion of adolescents connected ubiquitously..." requiring robust methods for population sampling to achieve.

Response. A detailed description of the development and administration of the survey was included in the Methods section (page 7, paragraph 2; page 8, paragraph 1).

There was some mention of concepts such as Health 2.0 and "ubiquitous connectivity" which could have been framed as a conceptual model to guide the study but was not concretely shown how that happened - if it did. I needed to see such a model visually if possible to understand how these different pieces fit together and see what interventions could come from it. The lack of a clear conceptual model for the study makes the utility for this work less - how where the items for the survey picked, how do the results fit into a larger plan for interventions, etc.

Response. We create a scheme inserted in figure 1

While a smaller issue there was also some awkward wording that made the authors points unclear and could use some editing.

Response. The text was professionally edited by American Journal Experts Company and a native speaker of English.

Reviewer (Abstract):

- It is unlikely that there is "no information" regarding the topic of the current manuscript - I would suggest that the authors use terms like "limited"

Response. The expression was substituted according to the suggestion.

- The first sentence of the abstract is awkward, and I cannot understand what the point is that the authors are making.

Response. The paragraph was deleted as unnecessary.

- The response rate to the survey is needed

Response. The number of questionnaires eliminated was included. The response rate was practically 100%, because the survey was carried out as part of the activities in the school schedule, in which all eligible students participated.

- The conclusion goes well beyond what would be supported by the apparent parameters of the study by, for example, mentioning gamification and participatory when no mention of analyses of these strategies for mHealth engagement was addressed in the study.
Response. The conclusion was adjusted to be consistent with the results of the study.

Reviewer (Introduction):
- The authors primary/only references for some of the background information on device use include sources that appear to be in Spanish language and potentially limited access - increasing the references to include other sources even if it is not limited to Mexico would be helpful to frame the work more broadly.
Response. The literature review was expanded and relevant references from international studies were incorporated (References 2,3,7,9,31-33.)

- Starting in the second paragraph the authors make claims for the ability to deliver health interventions through mHealth strategies that are not supported currently by research findings - changing the language to reflect this by stating that there is potential for this approach, etc., is needed - Health 2.0 has promise but has not been proven to improve outcomes.
Response. The scope of digital innovation and interconnectivity was limited to express its potential use in health promotion interventions (Background section, paragraph 2).

Reviewer (Methods):
- The details of methods for item development are needed including what if any conceptual model was used to identify potential domains for investigation, the creation of draft items, revisions based on testing, validation, etc.
Response. We create a scheme inserted in figure 1

- There is mention of "12 selected sites" without providing any information on where they were or why they were selected - more information is needed (nature of the sites, location, population, etc.).
Response. The characteristics of the study sites were described in more detail (Methods section, first paragraph).

Reviewer (Results):
- The first paragraph states that results came from 11 of 12 cities - where these the "sites" mentioned in the methods section? We need much more information on sampling frame and response rate - how many adolescents could have responded and how many did - without a denominator that is clearly described it is impossible to interpret the results.
Response. The description of the study sites was improved, replacing "cities" with "schools", which adequately defines the study sites. All schools of the chosen educational system were included in the study (one school was eliminated). The response rate was practically 100%, because the survey was carried out as part of the activities in the school schedule, in which all eligible students participated (Results section, first paragraph, and Methods section, first paragraph).
Reviewer (Discussion):
- In the first paragraph of this section the authors state that "more than half of young people are behind in technological development primarily because of access problems"
  o It is critical that the authors not generalize the results to all "young people" but rather just say "more than half of survey respondents,"
  o I do not know what is meant by "behind in technological development" and recommend clarifying this,
Response. According to the suggestion of the reviewer, the correction of the paragraph was made to improve the description of the results.

Reviewer (Conclusions):
- The authors conclude that gamification should be included in mHealth intervention despite not being a reported part of this study - this should be removed or framed differently - such as "strategies with potential to increase adolescent engagement should be explored."
Response. The reviewer's suggestion is very valuable and was included to replace the statement of the previous version (Conclusion section, first paragraph).

- Same comment that "strategies must be participatory" are not directly addressed by the current research presented and so cannot be presented as a conclusion of the study.
Response. We agree with the reviewer and rewrite the paragraph supporting the phrase with references from other authors (References 31-33).

Sisira Edirippulige (Reviewer 2)
Reviewer
Title of the study does not reflect the scope of the work. It is best to revise to tell the story that you are intending to tell.
Response. The title was modified to improve its accuracy and congruence with the objective of the study.

Reviewer
- The researchers have used an online survey to assess the level of Internet use by the young people; this has been used to understand their level of online connectivity. However, it is hard to understand how these findings can be used to make the conclusions relating to mHealth.
Response. The interpretation of the results was limited to reflect the scope of the study, focusing on the potential of connectivity for the development of interventions that should be evaluated. (Abstract; Discussion section: page 9 third paragraph, page 10 second paragraph; and, Conclusion section, first and second paragraphs).
Methods do not describe the how authors have associated the results with health related connectivity of young people based on the level of Internet use. This has to be explained.

I think this the most critical aspect to be addressed in the study and this has to be done in all sections - Intro, Methods, Results and Discussion. I would be good to reflect this in the Intro; examine the literature to see if there has been previous studies to explore this question and if so how they have done that.

Response. The interpretation of the results was limited to reflect the scope of the study, focusing on the potential of connectivity for the development of interventions that should be evaluated. In accordance with the recommendations of the reviewer, new references were included in Introduction section to strengthen the basis of the study.

Reviewer

There is no doubt that the level of online connectivity is a prerequisite for online health promotion; however, there maybe some other factors that have to be taken in to consideration. These aspects have to be discussed. As noted before, there must be a strong justification for using the 'level of connectivity as a means for m-Health/online health promotion'.

Response. We agree with the reviewer on the importance of emphasizing the presence of other relevant factors for health promotion interventions, which was highlighted in the conclusions section. In addition, the text was revised and corrected to avoid using the connectivity level concept as equivalent to M-health.

It would be good to have a careful review of the manuscript for English expression. Language/expressions must be improved to fit standards of academic writing.

Response. The text was professionally edited by American Journal Experts Company, and reviewed by the authors for assuring the correct use of academic writing.

Technical Comments:

1. Tables
   - It should be numbered and cited in the text in sequence using Arabic numerals (i.e. Table 1, Table 2 etc.).

Response. The numbering of the tables was corrected to meet the requirements.