Peer Review File

Article Information: https://dx.doi.org/10.21037/mhealth-24-31

Reviewer A

NB: Was there any scientific reason why the age of the participants was not revealed in this study? I highly recommend the age or mean age of the participant mentioned and not sex only as mentioned.

AUTHORS' RESPONSE:

Thank you so much for your encouraging comments and the point you made about participant age. Please find the age range and mean in the first sentence of the results section, **page 9 line 162**. We have also provided the mean age of the participants in Table 1.

Reviewer B

This study aims to understand the informational and cultural needs of US-based Bangladeshi immigrants regarding a visual health assistants (VHA)-based intervention promoting colorectal cancer (CRC) screening using fecal immunochemical test. The authors used qualitative research methods.

The title is very vague. It gives the impression that the study was on overall perception about a virtual health assistant. However, it was specifically about CRC screening.

AUTHORS' RESPONSE:

Thank you so much for the feedback. We really appreciate your thoroughness of review to improve the quality of the manuscript. Based on your recommendation, we have changed the title to be more specific; **Page 1, line 3.** The revised title is: *"Not Just a Barbie in Hijab: Participant Perspectives on Culturally Tailoring a Virtual Health Assistant for Bangladeshi Immigrants in the US Promoting CRC Screening."*

The abstract was poorly written.

AUTHORS' RESPONSE:

We have revised the abstract, **pages 2-3, lines 30-55**.

Some statements in the background should be part of methods instead.

AUTHORS' RESPONSE:

We moved the following text from background to methods: "*We conducted usability-tests to understand Bangladeshi immigrants' informational needs, barriers, facilitators, and visual and linguistic preferences*" in the abstract; **page 2, lines 29-30.**

There were contradictory results.

AUTHORS' RESPONSE:

Since it was a usability test using qualitative methods, participants mentioned what facilitated the usage of the VHA and what did not. Based on their responses we analyzed the data. There were aspects of the VHA's design and content that were deemed as facilitators by the participants and other aspects of the same content and design were deemed as barriers for the intended audience's usage. We have also edited the first line of the results section (**page 2, line 34)** and have provided the average age of the participants "*39.2 years*".

The conclusions section doesn't match with the results.

AUTHORS' RESPONSE:

We have edited both the results and the conclusion section to enhance clarity. The changes are summarized on **pages 2-3, lines 36-55**.

mHealth and virtual health assistant were not clearly defined in the background section.

AUTHORS' RESPONSE:

Based on your recommendations, we have provided the World Health Organization's definition of mHealth in **page 5, line 60-61; "***mHealth interventions, defined as medical and public health practice supported by mobile devices*"**.** Moreover, we have revised our definition of Virtual Health Assistant to make it more descriptive and specific to the current study, **page 5, line 62-66;** "*VHAs are computer-generate software entities, with varying degrees of autonomy and intelligence, that mimic human behavior, verbal and non-verbal, to communicate with the user (3). VHAs can have an embodied, animated appearance with spoken communication features or they can be chatbots with text-only exchanges; in the current study the VHA used had an embodied appearance."*

In the background section, the authors stated that "development of VHAs without an empirical knowledge of the needs of the intended audiences, such interventions may lead to further health disparities, digital divide, and unsatisfactory outcomes." My main concern about this manuscript is that based on this statement, the authors adopted a wrong research design. They should've performed quantitative research, not qualitative research.

AUTHORS' RESPONSE:

Thank you so much for this feedback. We come from the research background where both qualitative and quantitative methods are considered empirical. However, we do acknowledge that many scholars use quantitative and empirical interchangeably. With that acknowledgement, we have revised the sentence in the background section and have used "*a deep understanding of the needs of the intended audience*" instead of "*an empirical knowledge*"; **page 5, line 70**.

There is lack of details in the methods section. The interview guide questions were not stated. How long was the interview? What does a VHS do? What types of messages or contents does it convey? There was no attempt of achieving triangulation.

AUTHORS' RESPONSE:

We have included a new document, named "supplementary appendix" which contains the interview guide, the questionnaire that the participants filled out, and the links to the VHA's communication which shows what the VHA does, and the types of messages or contents it conveyed.

Thank you for your recommendation on adding more details to the methods section. We initially did not include the details of the interaction out of concern regarding word count. But, your recommendations motivated us to include additional detail. Specifically, we have added the following:

The interview guide questions: We added a reference to the supplementary appendix for the detailed interview guide on **page 9, line 151**.

What the VHA does/ message content: Along with providing the link in the supplementary appendix to the interaction, we have added a new subsection in the method section detailing what the VHA did. **On page 9, lines 154-164**, we added the following text:

"*The interaction: Once the participants clicked the link provided to them to interact with the VHA, they were directed to the online platform that hosts the intervention. They received a brief textual message from a "human clinician" about the interaction. Then the VHA appeared to interact with the participant. The interaction started with the VHA describing what CRC is, what are some of the ways to screen for it, and some population statistics about CRC mortality and screening rates. Then, the VHA asked questions about the participants' diet and behavior (e.g., red meat consumption, tobacco use) to let the participant know whether they are prone to any behavior that increases the risk of CRC. The VHA also assessed the participants' perceived barriers to screen for CRC which included time, commute, and embarrassment. Finally, the VHA conveyed information about FIT kit as a method to conveniently screen for CRC and demonstrated how to hygienically use the FIT kit using animation.* "

We have included the average length of the qualitative interviews based on your feed bank, **page 9, line 146-147,** by stating *that "Each interview lasted for 30 to 50 minutes excluding the interaction time with the VHA…"*

Regarding your comment about triangulatio

Triangulation can be achieved by data triangulation (i.e., one collects data in multiple qualitative ways for validation) or investigator triangulation (i.e., multiple researchers independently analyze the data or parts of it to achieve validation) (Denzin & Lincoln, 2011). While we used one qualitative method of collecting data, we achieved validation using investigator triangulation. As detailed in the **Analysis** section on **page 10, lines 176-179,** we describe how a second coder coded 20% of the data and the intercoder reliability was achieved. Moreover, in earlier steps of the research, we detail how qualitative methodological experts, and the first author brought in their unique perspectives to analyze the data and thus reduce the risk of bias.

Discussion has much overlap/redundancy with results.

AUTHORS' RESPONSE:

The goal of our discussion section is to demonstrate how the results extend theory/literature, describe strengths and limitations, and make recommendations for future research. We have edited to be more concise.

How are some of barriers also facilitators for using the VHA?

AUTHORS' RESPONSE:

The VHA interacted with the participants and the participants provided us with their feedback about what made it easy/encouraging for them to use the VHA and what made it difficult or discouraging for them to use the VHA. Based on their response, we identified the facilitators and barriers. As this is a qualitative study, not all participants found the same things as barriers or facilitators. Our goal was to analyze patterns in participant responses. For example, for a participant who has an "American" identity or prefers to speak in English, having the VHA speak in Bangla would be a barrier. On the other hand, a participant whose salient identity is being a Bengali or who prefers to speak in Bangla, the same feature of the VHA would be considered a facilitator.

Some references on websites need updates with access dates.

AUTHORS' RESPONSE:

We double-checked the website links and all are working. We kept the websites that were used to in the development of the manuscript and the access dates were the ones when we accessed the website for the information per Vancouver style guidelines. If the journal prefers a different format, we are happy to oblige.

Overall, it appears that the authors did not carefully edit the manuscript, leaving many errors.

AUTHORS' RESPONSE:

Thank you for the feedback. We have corrected the typographical errors.