Designing an AI Chatbot to Support Diverse Patients in Cardiovascular Self-Management: Insights from Qualitative Interviews

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Background

- AI powered text message based chatbots can promote self-management of chronic disease.[1]
- Perceived ease of use and helpfullness of a new technology supports patient acceptability and promotes health behavior change.[2]
- Incorporating communication skills like humor, flattery, and mimic of user personality into a computer interface for health behavior change increases user willingness to continue working with the system.[3]
- There is limited understanding of how AI chatbots can be designed to resonate with diverse patients to promote sustained adherence to self-management behaviors.

Methods

- Participants were recruited from the three partner sites: Denver Health, Salud Family Health Centers, and STRIDE Community Health Center.
- Semi-structured interviews (n=10) were conducted in person and via Zoom both in English (n=5) and in Spanish (n=5) with interview questions pertaining to self-management, cultural relevance, the core goals of the intervention, and its alignment with participants' needs.
- Each participant received one US $30 gift card in compensation for completing the interview.
- Rounds of inductive qualitative coding were conducted until themes were saturated.
- This project was approved by the University of Colorado Multiple Institution Review Board.

Results

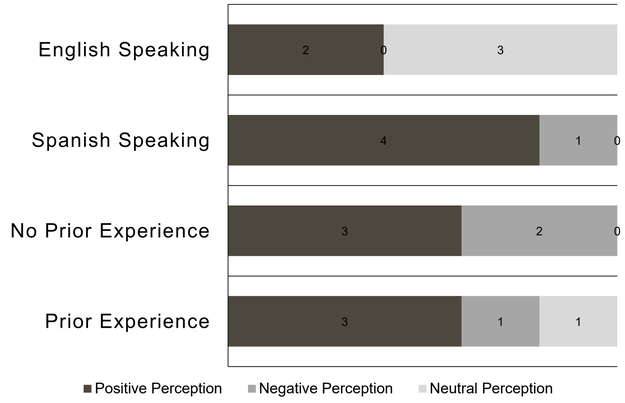

Figure1. Perception of chatbots stratified by language and experience

Participant Preferences

- Messages to be sent in the morning (50% preferred)
- Topics to be consistent throughout the week with a new topic each week (88.9%)
- Some (44%) suggested that financial compensation, such as a gift card, would be helpful to engage them to continue in a proposed 9 week program
- All participants noted that they would like to learn more about at least one of the Life's Essential 8 topics

Theme (a) Individualized and Personable Support

What I'm saying is that I'm retired, and I already eat what I can afford, do you understand me?

So, I would say yes, important, highly important that you feel a connection with a system, trusting that information, and having a conversation and having it almost like having a conversation with a friend.

Theme (b) Motivating, Simple tool for Self-Management

That's what I would need a someone to help me develop action items in a plan and hold me accountable to following up on them, at least for a week, so I can develop the habit and then try to follow up on it myself.

How do you balance the keeping that that really positive? Go get, let's do this together, let's move forward. And instead of like, you know, tut-tut-tut, you haven't done your stuff, what's going on? You're being lazy, which is what the tapes in people's heads do and then they just tune out. They decide not to do it.

Theme (c) Integrated Informational Gateway

Well, let's say with Denver Health, I already know that it's from the hospital, from the clinic, and I pay more attention to it. In fact, I even move away or if I'm in a noisy place or whatever, I step aside to attend well, whatever the call or message is going to be about.

Conclusions

- Our findings revealed that integrating a chatbot with users' existing healthcare systems could foster trust and credibility which may enhance engagement.
- The findings support the existing literature, suggesting that tailoring the chatbot to match users' personalities, and ensuring ease of use can support their willingness to continue using the system.
- The results reinforce that self-management can promote more effective behavior change.
- Participants in the study indicated their intention to engage in goal setting and follow up with the system.

Implications

- These findings were used to develop a chatbot system that is tailored to the diverse patient population engaged in the broader Chat for Heart Health study for self-management of cardiovascular disease.
- This methodology highlights the importance of tailoring health interventions to meet the needs of underserved communities effectively.

References

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