Usability of PDAs to Deliver Multi-Language Health Worker Training and Patient Behavioral Assessment in Kenya

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Abstract and objective

To assess the utility of PDAs to deliver health provider training and HIV patient assessment in Kenya, we conducted usability testing with 15 people living with HIV/AIDS (PLHA), and 15 nurses providing HIV care, in Nairobi. We found that PDA content in both English and Kiswahili was acceptable and usable by both highly-educated nurses, and PLHA who had no previous computer experience.

Keywords:

PDA, HIV, Adherence, Nurses, Patients, Kenya.

Methods

Our Pambazuko-PALM was developed with HAPI™ software (QDS, Nova Research) as audio-narrated patient and nurse surveys, and nurse training using Pocket Slides (Conduits Technologies, Inc.). Usability was tested among 15 people living with HIV (7 male, 8 female) and 15 nurses (5 male, 10 female) who provide HIV care in Nairobi, Kenya (October-December 2007) using a mixed method approach that included observation as well as use of a standardized questionnaire.

Results

Nurses

Most nurses used computers rarely (never 3/15, 1-2 a week 10/15, almost daily 2/15). None ever used a PDA before, but 14/15 owned their own cell phones, and all of these used text messaging (12/14 daily). The average time orienting nurses to the PDA was 12.5 minutes, with PDA usability test time averaging 19 minutes (range 15-27 minutes). Overall nurses liked the PDA portability and size. They enjoyed learning to use the PDA, found it easier than expected, and thought the information provided was very relevant to their practice. Interestingly (given that all were literate in English), 10/15 found the audio helpful; only 3/15 preferred reading text (20%). Most preferred a female voice, 9/15. When asked whether they thought this tool "could be helpful [10] for you, or is it a waste of time [0]?", results were 7 (1/15), 8 (1/15), 9 (4/15), 10 (9/15).

HIV (+) clients

Average time on ART was 28 months (range 9–72 months). Only one ever used a computer (never 14/15). None had used a PDA before, but like the nurses 14/15 owned their own cell phones, 12/14 used for text messaging fairly heavily: 8/14 1-2 a week, 3/14 almost daily, 1/14 several hours most days. Average time for orienting PLHAs to the PDA was 12 minutes, with PDA usability test time averaging 26 minutes. Four of 15 used the English, and 10/15 the Kiswahili, version. Assistance was required for using the stylus (5/15), advancing screens (10/15), scrolling options (11/15), going back/replaying a question (11/15), and changing an answer (4/15). Many mentioned that using the computer reminded them of things like need to practice safer sex and remain adherent to ART. Three patients reported that they felt more comfortable with the computer in terms of being able to answer questions related to sex and adherence honestly. Most reported that it was easy to use after being shown how. When asked, "Remembering that this tool is not meant to replace your time with your health provider, would you prefer to answer questions like this with a person or a computer?", answers were: definitely prefer person 0/15, somewhat prefer person 0/15, neutral 9/15, somewhat prefer PDA 0/15, definitely prefer PDA 6/15. When asked whether this tool "could be helpful [10] for you, or is it a waste of time [0]?" results were 8 (1/15), 9 (1/15), 10 (13/15).

Our results suggest that Pambazuko Palm was well-received and easily usable by most of the participants. Computer counseling holds great potential for providing assessment and health promotion to PLHA, particularly as a supplement to scarce staff resources [1]. Mobile health applications are being implemented in the developing world [2] and have being tested successfully in the field of HIV/AIDS [3-4]. More research is needed to determine efficacy and costs of these tools.

Conclusion

PDAs may be an efficient way to deliver health provider training, and a culturally-appropriate way to support ART adherence and safer sex for PLHA [3].

References

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