Handheld Computers to Run ACASI to Assess HIV Risk and Deliver Tailored Soap Opera Video Feedback: Acceptability Among Young Adult Urban Women

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The majority of all adolescent and young adult women (90%) with HIV were infected by unprotected sex with an infected male partner (Centers for Disease Control and Prevention [CDC], 2010b). As of 2008, the epidemic had disproportionately affected Black women, who were 14% of the population of women in the United States but comprised 67% of women with HIV infection. It is estimated that in a lifetime, 1 in 30 Black women will be infected with HIV (CDC, 2010a). Innovative approaches to reduce sexual transmission of HIV to this population are needed.

This paper will report on the development of an audio computer-assisted self-interview (ACASI) that was programmed to (a) assess and categorize the level of HIV sexual risk (ranging from no risk to very high risk) by executing an algorithm based on criteria risk behaviors, and (b) deliver video feedback in the form of an entertaining soap opera tailored to the level of HIV risk and type of partner. We tested the accuracy of the prototype to correctly categorize the risk level and deliver the appropriate video. Finally, we compared the feasibility and acceptability of completing the ACASI and viewing the near feature-length video on a small handheld computer to that of a laptop and a desktop using systematic sampling assignment. The objective of the latter was to compare whether the experience of completing a roughly half-hour long ACASI and viewing a relevant video on the small 4.5-inch screen of a handheld device would be equally acceptable to that of the much larger touch screens of a Tablet Personal Computer (PC; 12-inch screen), or desktop computer (15-inch screen) in a population of young adult urban women.

These results could provide support for the use of emerging small handheld technologies, such as cell phones (available with a 4.3-inch screen), to deliver a video-based intervention, particularly when privacy and portability are desired. This prototype accomplishes the goals of targeting an intervention to a population of urban young adult African American women, and tailoring the message to an individual's HIV risk and type of partner.

Background

With consistent and correct condom use, the risk of HIV sexual transmission is negligible (CDC, 2010c). However, complex relationship dynamics get in the way of successful adherence to risk reduction. Findings by Bell, Atkinson, Mosier, Riley, and

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Brown (2007), indicated that the primary motivation for reducing one's HIV risk was to protect one's partner, but paradoxically, the most important obstacle to reducing one's risk is emotional closeness. Other findings indicated that women may experience pressure to show trust by engaging in unprotected sex, although aware of their partner's risk behaviors (Jones, 2008; Jones & Gulick, 2009). A key problem in promoting condom use is that unprotected sex is perceived to fulfill important relationship-promoting needs (Albarracin et al., 2003; Jones & Oliver, 2007).

Entertainment-Education (EE) is purposefully designed to communicate prosocial norms and behaviors through media entertainment, particularly the soap opera (Singhal & Rogers, 2004). Through the soap opera format, the host of relationship dilemmas, which are addressed through the normative response of high-risk unprotected sex, can be associated with gratifying health promoting options (Jones, 2008). By associating alternative risk-reduction behaviors with normative patterns of risk through associative memory processing, risk-reducing behaviors may be more readily remembered and enacted (Stacy, Newcomb, & Ames, 2000). Because sex scripts are thought to guide sexual behavior (Simon & Gagnon, 1986), sexual health promotion messages can be woven into familiar, emotion-laden contemporary sex scripts as an alternative to normative high-risk sex scripts (Jones, 2006).

This approach was tested in a pilot study of *A Story About Toni, Mike, and Valerie,* a 43-minute soap opera video that communicated HIV-risk reduction in the context of urban women's realistic relationship dilemmas with men (Jones, 2008). The story was based on a content analysis of a series of focus groups with young urban women (Jones & Oliver, 2007). Results indicated that compared to a control group that received a video concerning careers in health care and technology, the intervention group demonstrated a statistically significant reduction in stereotypical gender-based expectations to have sex. Results of the pilot study also provided preliminary support for using a small handheld computer to complete an abbreviated interview and view a near feature-length video in this population.

For the current study, several soap opera scenes were filmed with specific variations in order to tailor different versions of the video to address lower or higher HIV risk themes for women with main partners. An entirely different video was created to tailor the message to women with non-main partners. The objective was to test the accuracy of the application to correctly categorize risk and deliver the correct video according to the algorithm.

Development of an HIV Risk Algorithm

Defining the level of HIV sexual risk. The purpose of the algorithm developed for this study was to determine an individual's relative level of HIV sexual risk and deliver a relevant video. Branching rules were based on the criteria responses of: (a) the frequency of vaginal, oral, and anal sex; (b) the frequency of condom use; (c) the type of partner (main or non-main); (d) the perception of that partner's risk behaviors during the previous 3 months (sex with other women, sex with men, and injecting drugs); and (e) the occurrence of unprotected sex with multiple partners during the previous year. Three researchers in the field of HIV-risk reduction reviewed these risk criteria.

Sexual intercourse and condom use data were collected in the context of a specific partner, considered to be a more reliable approach than asking these items out of context (Noar, Cole, & Carlyle, 2006). Data on a participant's perception of her partner's risk behaviors were collected for the most important main and/or non-main partner during the previous 3 months. Assessing risk in the context of a relationship reduces the problem of overestimating HIV-transmission risk (Miner, Robinson, Hoffman, Albright, & Bockting, 2002). The problem with "one-approach fits all" is that the health-promotion message is more likely to be dismissed as not relevant (Kreuter & Wray, 2003).

Period of recall. When collecting retrospective data, the objective is to identify a time period that facilitates optimal recall. Time periods may range from the last time the individual engaged in sexual intercourse, the past month, the past 3 or 6 months, the past year, or a lifetime. The retrospective reporting period used in this study was the previous 3 and 12 months. Three months has been recommended for adequate memory recall, while shorter periods