

Pilot Testing a Multiplayer HIV/STI Prevention Videogame Intervention for Black Adolescent Girls: Protocol for a Randomized Controlled Trial

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ABSTRACT

Background:

Black adolescent girls between the ages of 14 and 19 years are more than twice as likely than White girls to be diagnosed with an STI. Since STI diagnosis is associated with a two- to fivefold increase in the risk for HIV acquisition, an early intervention specifically tailored to Black adolescent girls is warranted. One possible way to reach this demographic is through a web-based videogame intervention. Since studies of social and behavioral determinants of disease have recently demonstrated the protective role of peer group structures on individual outcomes, a multiplayer game can facilitate opportunities the exchange and evaluation of information, the learning of social norms, the development of behavioral skills, and allow peers to influence each other's attitudes and behaviors within the context of the game. Although a multiplayer videogame intervention offers a promising strategy for reaching Black adolescent girls, no prior research has examined the feasibility of a web-based multiplayer game intervention for this population.

Objective:

This study describes the protocol for a randomized controlled trial (RCT) pilot testing the feasibility, acceptability, and limited efficacy of a multiplayer game-based intervention for increasing HIV/STI testing and condom use in Black adolescent girls.

Methods:

We enrolled 79 Black adolescent girls aged 14 to 19 years residing in the United States into a 2-arm parallel RCT. The intervention is a theory-based, community-informed, multiplayer game that can be played with peers online using video conferencing software. The goal of the game is to empower Black adolescent girls to make healthy decisions regarding dating, relationships, and sex thus reducing HIV/STI infection. Control condition participants received a list of resources after playing a time-attention controlled game. Notably, all study procedures were conducted via the internet. We conveniently sampled Black adolescent girls using Web-based advertisements. Study assessments occurred at enrollment, 1-week following enrolment, 1 month after enrollment, and 4 months after enrollment. The primary outcome of this study is increased HIV/STI testing by Black adolescent girls. Secondary outcomes include increased condom use, self-efficacy to use condoms, positive attitudes toward condom use, intentions, harm perceptions, HIV/STI and PrEP knowledge, positive sexual norms, sexual communication with partners, and reduced incidence of sexual risk behaviors associated with HIV/STI transmission. Secondary outcomes also included assessment of intervention feasibility and acceptability.

Results:

From February to April 2022, 79 Black adolescent girls were enrolled, with 40 randomized into the intervention condition and 39 into the control condition. At baseline, participant ages ranged from 14 to 19 years ($M = 16.4$, $SD = 1.23$).

Conclusions:

Web-accessible game interventions overcome common impediments of face-to-face interventions and present a unique opportunity to reach Black adolescent girls and improve their sexual health and self-efficacy. This trial will provide data on the limited efficacy of the intervention and will inform future web-based studies and a larger RCT aimed at improving the sexual health of Black adolescent girls. Clinical Trial: ClinicalTrials.gov NCT04108988; <https://clinicaltrials.gov/ct2/show/NCT04108988>