HOPE Social Media Intervention for HIV Testing and Studying Social Networks

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Research Design and Methods

Participants. Participants from Greater Los Angeles will be recruited in 5 waves (approximately 120 participants and 18 peer leaders per wave). Participant inclusion criteria are as follows: 1) 18 years of age or older, 2) biologically male and self-identified as male, 3) has had sex with a man in the past 6 months, 4) has a Facebook account, 5) currently living in Greater Los Angeles, 6) self-reported HIV negative or unknown serostatus, and 7) African American and/or Latino.

Participant Recruitment. Participants in both the control and intervention group will be recruited through 3 methods: (a) through the help of community organizations such as the Los Angeles Gay and Lesbian Center who will provide referrals and fliers to participants; (b) through advertisements and fliers at local gay organizations, clubs/bars and universities; and (c) through Internet recruitment methods such as postings on discussion forums on Craigslist.org, banner Internet and social media advertisements targeted toward at-risk populations, and a Facebook "fan page." Banner ads will be tailored to ethnic background as this has been found to increase online recruitment (55). An independent website (including access for mobile/phone viewing) will also be created listing a study description, criteria for participation, and contact information.

Participants will be recruited and informed about the potential benefits of participating in the study: (a) meet other men with similar backgrounds and interests, (b) learn how to overcome shyness by meeting other people and learning about their methods of communicating with others, (c) learn how to live a healthy lifestyle, and (d) meet and befriend cool and popular people within the same community (see human subjects section), including the right to refuse participation and a confidentiality statement.

The Facebook Connect "application" is a computer science method that helps reduce likelihood of people registering multiple times (multiple respondents). The application requests participants to enter their Facebook username and password and uses Facebook "API's" to connect to Facebook and authenticate that the participant is a valid Facebook user. While this process may reduce recruitment numbers compared to studies not using this approach, it can improve data quality by verifying that participants are unique Facebook users. This process will also help to screen out participants who might try to falsely report HIV status to enroll in the study. Authentication such as through Facebook Connect has become a standard procedure when downloading mobile "applications" and registering for Websites (45,56). Further, this process will be used to analyze data on the exploratory aim (an alternative method of collecting social network data). Participants will have been informed during consent that we will collect information on their social networks characteristics (among those who provide access), including changing number of friends, and that we can collect these social network data through either weekly screenshots of their profiles, or through them accepting us to access these data from the Facebook application. If participants allow this Facebook application to store their social network data, we willl store these data. Otherwise, we will use this application to verify with Facebook that the participant is a unique Facebook user, but no information will be stored.

Study Design and procedures. This is a 2-group cluster randomized controlled study with repeated measures at post (12-week) intervention and 6-month and 1-year follow-up. Participants will be randomly assigned to an experimental or control condition. Peer leaders will be randomly assigned to communicate with participants in their cluster. Peer leaders in the control group will follow the same methods as the experimental group but will focus on general health rather than HIV prevention. Peer leaders will be able to contact participants through Facebook email, chatting (which is done from within the Facebook platform by seeing that other members of the group are online), and by posting comments, pictures, and videos on the group webpage.

At the beginning of the study, participants will be asked to log onto their Facebook accounts (to ensure privacy settings allow for accepting Facebook group emails), and to be receptive to communicating with others in the group. However, once participants have joined the group they will be told to use Facebook as they would normally, with no obligation to interact with peer leaders or remain a part of the group. Participants will be asked to complete a baseline and 3 follow-up questionnaires: 1) at completion of their 12-week interactions with peer leaders (post-intervention), 2) at 6 months after the post-intervention questionnaire (6-month follow-up), and 3) at 12-months after the post-intervention questionnaire (12-month follow-up). During the 12-week intervention, participants will be emailed to inform them that they can receive a free home-based HIV test for participating in the study.

C3: Measures. All questionnaire items will be in both English and Spanish.

Demographics.

Sexual history and risk behaviors. Participants will be asked to report recent and overall number of sexual partners and sexual risk behaviors (e.g., types of sexual intercourse, condom use and health service usage). Items are adapted from the Center for AIDS Prevention Studies (CAPS) HIV measurement tools (58), and tailored for AA and Latinos. For reliability and validity see Koblin, Chesney, Husnik, et al. 2003 (59). Although our preliminary studies found reduced sexual risk behaviors among both intervention and control groups participants (with greater reduction among intervention group members), it is possible that a social networking-based intervention might increase sexual risk behaviors. We have therefore included sexual risk measures to assess how the intervention might impact sexual risk behaviors.

Testing Rates and linkage to care. Participants can request an HIV home test to be mailed to them by emailing the study coordinator and providing an address to receive the test. Tests will be mailed along with an instruction kit and pre-paid addressed labels to return the test to the laboratory. Each kit will have a unique identification number that can be used to track participant results. Participants will be able to access results by calling the number on the testing kit. The kit manufacturer/laboratory will provide us with data (de-identified numbers linked to participants) on participants who returned the testing kit, followed-up for results, and the test result.

Test Result. HIV testing will be performed using the Home Access Express HIV-1 Test System. This FDA-approved kit requires a finger stick sample for analysis. Test results are anonymous and provided only by a specific code number. Users complete the home test themselves at their preferred time, and mail the sample to Home Access directly. The Home Access lab completes the tests within 24 hours and participants can call an 800 number to obtain results. If HIV positive, they are provided with free counseling by counselors trained in pre and post-test counseling. As with any Internet study and many non-Internet studies, there is a possibility that the person testing is not the study participant. However, this is unlikely as participants are not required to test and therefore might be more inclined to be honest as they are testing out of interest. Although oral, fluid, rapid, HIV self-tests have been FDA-cleared and are available for use (by Orasure) , Home Access “mail-in” tests are being used for this study to verify whether the test has actually been used and to have access to test results. Although it would be possible to request participants to mail us their results from an oral test, in our interviews of testing methods, participants have indicated that they be reluctant to mail us a test showing they were positive if they had just tested HIV positive. We therefore think that using the Home Access mail-in home-based tests would improve data quality for this study.

C4: Data Analysis

C4.2 STATISTICAL ANALYSIS

Planned Analyses. Chi square tests at $p < .05$ significance level will measure baseline demographic differences between intervention and control groups. All analyses will include random effects to allow for correlation among subjects within clusters. Comparisons of proportions (including demographic differences) will use mixed effect logistic models. Fixed effects will be used for group differences, and for covariate adjustments; random effects will be used to model cluster correlations. We will use the Poisson distribution to model count data, again checking for larger than expected variation, which for sexual experience data is not uncommon. For evaluating changes from baseline in self-report data, longitudinal modeling (68,69) will be used, as this is likely to increase power. Stata modules xtlogit and xtmepoisson will be used to fit and evaluate the clustering for binary and Poisson outcomes, respectively. An alternative to mixed effects modeling, generalized estimating equations, implemented through the Stata command xtgee will be done and compared to the mixed effects modeling. No formal adjustments for multiple comparisons are planned; however for the differences anticipated, the power is adequate to accommodate simple Bonferroni adjustments for post-intervention and 12-month follow-up.