Published in final edited form as:
J Am Coll Health. 2008 ; 57(3): 357–360. doi:10.3200/JACH.57.3.357-360.

Recruitment Strategies and Motivations for Sexually Transmitted Disease Testing Among College Students

Jessica Roberts Williams, PhD, MPH, RN, **Jonathan Zenilman, MD**, **Joy P. Nanda, PhD**, and **Hayley Mark, PhD, MPH, RN**
Drs Williams and Mark are with Johns Hopkins University's School of Nursing. Dr Zenilman is with Johns Hopkins' School of Medicine. Dr Nanda is with Johns Hopkins' Bloomberg School of Public Health

Abstract

Objective—The authors evaluated procedures for recruiting college students for sexually transmitted disease (STD) testing as part of a research study examining the impact of HSV serologic testing.

Participants—A convenience sample of 100 students was drawn from students aged 18 to 35 years enrolled at one university in a mid-Atlantic state between September 2004 and March 2006.

Methods—Six strategies were used to recruit students for participation in the study. Upon enrollment, participants were asked where they heard about the study. Students were also asked about their motivations for participation.

Results—Findings show that a significant recruitment strategy involves targeting places where students seek health care. Other effective strategies include those where information is directly provided to individuals. Most students were motivated to participate because of a possible past exposure to herpes simplex virus 2.

Conclusions—Targeting places where students seek health care and educating students about STDs are important strategies for recruiting students for STD testing.

Keywords

college students; recruitment strategies; sexually transmitted diseases

Despite numerous prevention and treatment efforts, the transmission of sexually transmitted diseases (STDs) on college campuses continues to be a significant health concern. College-age individuals are at a higher risk of acquiring STDs compared to other age groups. Estimates show that 15- to 24-year-olds account for nearly one-half of all new STD cases in the United States even though they only represent 25% of the sexually active population.[1] According to the Centers for Disease Control and Prevention (CDC),[2] in 2005, 15- to 19-year-old women had the highest rate of gonorrhea compared to all other age categories. In addition, 20- to 24-year-old women had the highest rates of primary and secondary syphilis. Among women and men, 20- to 24-year-olds had the highest rate of gonorrhea during the same time period.

The higher prevalence of STDs among college-age students may in part be explained by the multiple barriers they experience to receiving STD-related health information[3,4] and services for STD screening and treatment.[5–8] In a recent study conducted by the American College

For comments and further information, address correspondence to Dr Jessica Roberts Williams, 46834 Willowood Place, Potomac Falls, VA 20165 (e-mail: jrober65@son.jhmi.edu).

Health Association, [3] only 35.8% of students reported receiving information from their college or university related to STD prevention. In addition, 90.1% of students felt that health information provided by health center medical staff was believable, but only 59.7% of students actually received health information through this source. In another study, Tilson et al[8] examined the perceptions about existing barriers to STD services through 8 focus groups including 53 racially diverse youth from ages 14 to 24 years. Participants reported that the main barriers to STD care included lack of knowledge of STDs and available services, cost, shame associated with seeking services, long clinic waiting times, discrimination, and fear of testing methods.

Barriers to screening often result in a delay in diagnosis and treatment of STDs, which, in turn, has major implications for further disease transmission and increases in the risk of adverse health outcomes. Untreated gonorrhea and chlamydia are among the main causes of pelvic inflammatory disease and infertility in women[9,10] and untreated STDs have been shown to increase the transmission of HIV.[11,12]

A better understanding of effective recruitment strategies and motivations for STD testing by health care professionals could reduce the time from infection to treatment and is therefore important if prevention and treatment efforts are to be successful. Despite this, nothing has been reported in the literature about effective recruitment strategies and motivations for STD testing among college students.

Because of the paucity of information regarding methods to recruit college students for STD testing, we sought to examine different methods for recruiting students for STD testing and evaluate the effectiveness of each method. In addition, we also sought to determine the motivations students had for undergoing such testing. In summary, we describe a set of procedures used for recruiting college students as part of a research study examining the impact of herpes simplex virus (HSV) serologic testing on asymptomatic college students and self-reported motivations for undergoing HSV testing.

METHODS

Study Overview and Objectives

A longitudinal descriptive pilot study entitled “Impact of HSV-2 testing on asymptomatic college students” was conducted under the direction of Dr Hayley Mark to investigate the impact of receiving HSV-2 test results on asymptomatic college students. The specific aims of the study were to (1) determine the feasibility of recruiting and retaining university students willing to be tested for HSV-2 and (2) compare psychological and behavioral responses of university students who receive a positive test result for HSV-2 with those of students who receive a negative test result at recruitment and 3 months after receiving test results.

After determining eligibility and obtaining written informed consent, data collection consisted of a self-administered questionnaire that assessed demographic characteristics, herpes knowledge, depression, anxiety, and sexual behavior. Blood samples were collected and participants were provided with HSV test results by phone approximately 2 weeks after enrollment. Participants were compensated $20 for questionnaire completion. Participants who tested HSV-2 positive were asked to return to the clinic within 1 week to meet with a study staff member to ensure that all questions were answered. In addition, all participants were offered free counseling from the school clinic and extra meetings with study staff to review results and answer questions.

Participants who were positive and a subset of those who were negative were asked to come back in 3 months for a follow-up questionnaire. Those who returned to complete questionnaires at the 3 month follow-up appointment were compensated $25 for their time.

We collected data reported in this article as an adjunct to the original study. Recognizing the importance of understanding effective recruitment strategies for STD testing among college students and acknowledging the paucity of this information in the literature, we decided to begin collecting information from participants regarding which recruitment strategies were effective in informing them about the study. We began collecting this information after the study had begun (after 10 students had been enrolled). About halfway through the original study, we determined that it was also important to assess motivations for study participation in addition to recruitment strategies. Therefore, we began to collect information on motives for participation after 58 students had been enrolled.

Participants

A convenience sample was drawn from all students aged 18 to 35 years enrolled part or full-time at a large-private, urban university in a mid-Atlantic state. At the time the study was conducted, this university had 3,961 full-time undergraduate students, 1,297 full-time graduate students, and 8,725 part-time students. The student body was approximately 51% male and 49% female. The racial and ethnic distribution was 80.4% White, 7.3% African American, 9.8% Asian, 2.2% Hispanic, and 0.3% American Indian. Eligibility criteria included (1) aged 18 to 35 years; (2) full- or part-time students; (3) self-report of sexual activity in the past 6 months; and (4) no known history of genital sores or genital herpes.

Procedure

College students were recruited for participation between September 2004 and March 2006. Six strategies were used to recruit participants for the study. All methods were approved by the institutional review board at the participating university.

The first strategy was to post fliers around the university campus. The university has designated areas for the posting of such advertisements located in hallways, lecture halls, study areas, and dormitories. These areas are located in places of high student density and students are informed to look in these areas if they are interested in participating in research studies. Approximately 30 fliers were posted in these designated areas over the course of the recruitment period and were periodically checked and replaced if needed.

Another recruitment strategy involved class announcements made by study staff members. Classes were identified on the basis of size, with larger classes (> 50 students) being targeted. Approximately 10 classes were visited by a study staff member during the recruitment period, all of which were health-related. About half of the classes were at the undergraduate level and the other half were at the graduate level. During each announcement, a standardized script was followed, providing students with information regarding the purpose of the study, eligibility criteria, compensation, and contact information. Fliers containing the same information were also distributed to every student in the class.

The student health care center located at the university was another area for recruitment. At the beginning of the study, clinic staff were educated about the purpose of the study and eligibility criteria. In addition, they were provided with contact information for the study and encouraged to inform students about the study and refer those who were interested. Fliers were also posted in the waiting room, examination rooms, and bathrooms.

Announcements on Web sites and e-mail listservs was an additional method used to locate participants. University Web pages were searched to find appropriate places to post information

regarding the study. Four Web postings were made on 4 different Web pages providing campus-related information to students. Two announcements were posted on Web pages at the university's schools of public health and medicine, where students sign in to check their school e-mail accounts. One was posted to a Web-page specifically created by the school of nursing at the university for announcements related to research and job opportunities. The last announcement was posted on a student-run Web site targeting all undergraduate students, which serves as a resource for campus- specific information and activities, including opportunities for research participation. These announcements were posted in March 2005 and remained active for 1 year.

Schools at the university were also contacted to obtain permission to e-mail study information through student listservs. Three listservs (school of nursing, school of public health, and graduate student organization) were used to inform students of the study. The first announcement was posted to each of these listservs in March 2005 and subsequent announcements were posted approximately every 3 months for 1 year.

Information regarding the study was also advertised in the campus student newspaper. A quarter page advertisement was placed in the newspaper and ran 5 days a week for a 2-week period.

The last method of recruitment involved information about the study being spread through word of mouth. Participants were given fliers to give to other potentially interested students.

To assess the effectiveness of recruitment strategies, participants were asked an open-ended question (how did you hear about the study?) immediately after determining eligibility. Nine students stated that they heard about the study through multiple channels. These students were asked to provide the name of the recruitment strategy that most influenced their decision to participate.

Another aim was to assess motives for participation in the study. To accomplish this, students were asked an open-ended question (what motivated you to participate in this study?). The answers to these two questions were provided verbally by the participants and recorded in writing by the researchers. At the end of the study, all answers were examined and categories were created on the basis of these responses.

RESULTS

A total of 100 college students were recruited for participation in the study. Study participants were, on average, 24.5 years of age (range 18–35, *SD* = 4.4). Almost two-thirds were female (64%), and more than two-thirds (69%) were white. Two out of five participants were enrolled in graduate programs. Staff members did not begin assessing the effectiveness of recruitment strategies until after 10 students had already been enrolled. Motive for participation was not assessed until 58 students had been enrolled. Therefore, 90 students reported where they heard about the study and 42 reported motives for participation.

Recruitment efforts conducted at the student health care center yielded the highest number of participants (*n* = 30; 33%). Other effective methods included Webmail/listservs (*n* = 21; 23%); word of mouth (*n* = 18; 20%); and class announcements (*n* = 15; 17%). Only 6 students (7%) were recruited from fliers posted around campus, and no students reported hearing about the study from advertisements in the campus newspaper. This was surprising considering that posting fliers around campus was the most time-consuming recruitment strategy and advertising in the campus newspaper was the only strategy that had financial costs.

Participant responses about motives for participation yielded 4 general categories. These included concern about possible exposure to HSV-2 (36%); compensation (31%); desire to support research (25%); and general interest in the study (8%).

COMMENT

Findings show that a significant recruitment strategy for HSV-2 testing involves targeting places where college students seek health care information. Student health care centers are an important area for recruiting college students for STD research, and clinic staff play an integral role in these efforts. For recruitment efforts to be effective at student health care clinics, clinic staff should be knowledgeable of the purpose and objectives of the testing, types of testing available, eligibility criteria, and contact information for participation.

Other effective recruitment strategies include those where information is directly provided to individuals, such as e-mails, class announcements, and word of mouth. Given the associated stigma and confidentiality concerns related to STD testing, students may be reluctant to seek out testing on their own. Tilson et al[8] found that a significant barrier to STD testing involved fear of being judged or treated punitively by health care providers. She also found a lack of knowledge regarding STDs and services as another barrier for testing and treatment. Employing strategies in which information about STD testing and research is directly provided to individuals may be an effective approach for reducing these barriers.

It is also important, however, that students do not feel, they are being individually targeted for STD research or that their confidentiality may be violated by expressing interest in the study. Several studies have shown that confidentiality and overall trust in a health care system are important factors in determining whether an individual will participate in STD testing.[13,14,15] An example of how a student may feel that their confidentiality could be compromised would be making a class announcement and leaving fliers for students to pick up after class. Students may be reluctant to obtain study information in this way, for fear that other students will see them pick up a flier and wonder about their STD status. This can be overcome by providing study information to all individuals in a large group as was done in this study through class announcements and listserv e-mails.

With regards to motivations for participating in the study, the majority of students were motivated to participate because of a possible past exposure to HSV-2. Although knowledge of past exposure may be a significant motivator for STD testing, oftentimes individuals may not know that they have had a past exposure and may be unaware of their own risk. For example, with regards to HSV-2, it is estimated that 50 to 90% of these infections are transmitted by individuals who are unaware of being infected.[16] Several studies have also found that a significant factor in delaying health care seeking behaviors for STD screening and treatment involves the perception that STDs are not very serious or harmful to one's health.[5,7,17] This indicates the importance of informing students as to the risk factors, symptoms, and outcomes of STD infections and the benefits of early screening and treatment. Incorporating efforts to increase awareness of risk factors can serve as an additional strategy to improve effectiveness of recruitment efforts.

Other motivating factors included compensation for participation and a desire to support research. Studies have shown that the cost of STD testing is a significant barrier for screening and treatment[8,18] and that lower costs can increase the acceptability of testing treatment.[19] Therefore it is understandable that free testing and compensation would be a motivator for participation.

Limitations

There are several limitations to this study. First, data for the study was collected from a convenience sample of students at 1 university. Therefore, these findings cannot necessarily be generalized to other populations or other college students. More research is needed to see if these findings can be replicated in different populations and settings. Second, because of our small sample size, we did not have enough power to detect differences in recruitment methods or motivations on the basis of sample characteristics. Future studies should examine whether or not there are differences in the effectiveness of recruitment strategies or motives for STD testing on the basis of factors such as gender, age, and sexual history, among others. Finally, data for this study were collected as an adjunct to another study and therefore were not part of the original study plan. Because of this, there is no way of knowing if the recruitment strategies and motives of students who participated in the beginning of the study (before this data was collected) differed from those from whom we collected this data.

Understanding effective recruitment strategies and motives for participation is an important component of STD research and screening. The use of effective strategies by health care providers to encourage students to seek early testing and treatment for STDs can help to reduce the spread of these infections and decrease the occurrence of more serious health outcomes. The information presented in this paper can be used by similar studies and programs to better direct recruitment efforts, reduce barriers to STD testing, and conserve limited resources.

References

1. Weinstock H, Berman S, Cates WJ. Sexually transmitted diseases among American youth: incidence and prevalence estimates, 2000. Perspect Sex Reprod Health 2004;36:6–10. [PubMed: 14982671]
2. Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance, 2005. Atlanta, GA: Department of Health and Human Services; 2006.
3. The American College Health Association. American College Health Association–national college health assessment (ACHA–NCHA) spring 2004 reference group data report (abridged). J Am Coll Health 2007;55:195–206. [PubMed: 17319325]
4. Brener ND, Gowda VR. US college students' reports of receiving health information on college campuses. J Am Coll Health 2001;49:223–228. [PubMed: 11337897]
5. Fortenberry JD. Health care seeking behaviors related to sexually transmitted diseases among adolescents. Am J Public Health 1997;87:417–420. [PubMed: 9096544]
6. Godin G, Fortin C, Mahnes G, et al. University students' intention to seek medical care promptly if symptoms of sexually transmitted diseases were suspected. Sex Transm Dis 1993;20:100–104. [PubMed: 8503056]
7. Meyer-Weitz A, Reddy P, Van den Borne HW, Kok G, Pietersen J. Health care seeking behavior of patients with sexually transmitted diseases: determinants of delay behavior. Patient Educ Couns 2000;41:263–274. [PubMed: 11042429]
8. Tilson EC, Sanchez V, Ford CL, et al. Barriers to asymptomatic screening and other STD services for adolescents and young adults: focus group discussions. BMC Public Health 2004;4:21–28. [PubMed: 15189565]
9. Ness RB, Smith KJ, Chang CC, et al. Prediction of pelvic inflammatory disease among young, single, sexually active women. Sex Transm Dis 2006;33:137–142. [PubMed: 16505735]
10. Moodley P, Sturm AW. Sexually transmitted infections, adverse pregnancy outcome, and neonatal infection. Semin Neonatol 2000;5:255–269. [PubMed: 10956450]
11. Roberts C. Genital herpes in young adults: changing sexual behaviors, epidemiology and management. Herpes 2005;12:10–14. [PubMed: 16026639]
12. Fleming DT, Wasserheit JN. From epidemiological synergy to public health policy and practice: the contribution of other sexually transmitted diseases to sexual transmission of HIV infection. Sex Transm Infect 1999;75:3–17. [PubMed: 10448335]

13. Newman PA, Duan N, Roberts KJ, et al. HIV vaccine trial participation among ethnic minority communities: barriers, motivators, and implications for recruitment. J Acquir Immune Defic Syndr 2006;41:210–217. [PubMed: 16394854]

14. Stanford PD, Monte DA, Briggs FM, et al. Recruitment and retention of adolescent participants in HIV research: findings from the REACH (reaching for excellence in adolescent care and health) project. J Adolesc Health 2003;32:192–203. [PubMed: 12606113]

15. Ford CA, Millstein SG, Halpern-Feisher B, Irwin CE. Influence of physician confidentiality assurance on adolescents' willingness to disclose information and seek future health care. JAMA 1997;278:1029–1034. [PubMed: 9307357]

16. Brugha R, Keersmaekers K, Renton A, Meheus A. Genital herpes infection: a review. Int J Epidemiol 1997;26:698–709. [PubMed: 9279600]

17. Cunningham SD, Kerrigan D, Pillay KB, Ellen JM. Understanding the role of perceived severity in STD-related care-seeking delays. J Adolesc Health 2005;37:69–74. [PubMed: 15963909]

18. Forsythe S, Arthur G, Ngatia G, et al. Assessing the cost and willingness to pay for voluntary HIV counseling and testing in Kenya. Health Policy Plan 2002;17:187–195. [PubMed: 12000779]

19. Boehner CW, Howe SR, Bernstein DI, Rosenthal SL. Viral sexually transmitted disease vaccine acceptability among college students. Sex Transm Dis 2003;30:774–778. [PubMed: 14520177]