Group Counseling at STD Clinics to Promote Use of Condoms

DEBORAH A. COHEN, MD, MPH
DAVID P. MacKINNON, PhD
CLYDE DENT, PhD
HYACINTH R.C. MASON, MPH
ELAINE SULLIVAN, MPH

Dr. Cohen is Assistant Professor at the Louisiana State University, School of Medicine, Department of Medicine, Section of HIV. Dr. MacKinnon is at Arizona State University, Department of Psychology. Dr. Dent and Ms. Mason are at the University of Southern California, Institute of Health Promotion and Disease Prevention Research, Department of Preventive Medicine. Ms. Sullivan is with the Los Angeles County Department of Health Services, Sexually Transmitted Disease Program, as a Senior Health Educator. During the study, the first three authors were with the University of Southern California School of Medicine.

Clinical data was made available by Dr. Hampton Deslonde and staff members of the Ruth Temple STD Clinic. The study was supported by grant 14654 from the Robert Wood Johnson Foundation and grant U62/CCU902056 from the Centers for Disease Control and was carried out under the auspices of the Los Angeles County Office of Health, AIDS Program Office. The information was presented at a poster session at the VIII International AIDS Conference, San Francisco, CA, June 23, 1990.

Tearsheet requests to Deborah A. Cohen, MD, MPH; LSU Medical Center, Department of Medicine, 1542 Tulane Ave., New Orleans, LA 70112; tel. (504) 568-7041, fax (504) 568-7893.

Synopsis

An intervention was developed to promote safer sex and condom use among patients seeking treatment for sexually transmitted disease (STD) at a public health STD clinic in Los Angeles, CA. The intervention consisted of a short group discussion on condom use, a presentation of a videotape portraying condom use as socially acceptable behavior, and a role-playing session concerning negotiating the use of a condom with one's sex partner.

The study group was 551 persons who visited the clinic in 1988. Medical records of 426 (77 percent) were located and reviewed 7 to 9 months later. Among those, 220 had participated in the intervention and 206 were control subjects who had not participated in the intervention. The rates at which patients reacquired STD after treatment and after the intervention were compared between the intervention group and the control group. Men who participated in the intervention subsequently showed a lower rate of STD reinfection than those who did not. There was no evidence that the intervention reduced reinfection among women. The strongest predictor of reinfection was found to be a history of STD infection prior to the infection that was being treated at the time of the intervention. The results show that group interventions directed to STD patients can be effective in reducing STD reinfection among men.

Recommendations for counseling to prevent human immunodeficiency virus (HIV) transmission and infection with other sexually transmitted diseases (STD) include confidential and comprehensive assessment of the patient's medical and drug use history and sexual behavior and advice on the appropriate uses of barrier contraceptives (*1*).

Public health STD clinics, however, often are crowded, serve large numbers of patients, and lack sufficient space for staff members to conduct private interviews, making intensive and individualized counseling unfeasible. Many STD patients, particularly adolescents, heterosexuals, and members of minority groups are at risk for HIV infection as a result of their sexual behavior, but may not readily identify themselves as being in an HIV risk group (*2*). As a result, they may not respond to risk reduction messages when such counseling is presented in the context of HIV infection prevention.

To promote the use of condoms by STD patients, we devised a group intervention to be delivered in the waiting area of an inner city urban public health STD clinic. A group format as the forum for an intervention has been associated with positive outcomes in modifying sexual behaviors (*3, 4*). Group discussions have been a major component of successful school-based programs for pregnancy prevention (*5*) and drug abuse prevention (*6*). Theoretically, the effects of group discussions

Table 1. Demographic characteristics of 426 patients of a STD clinic in Los Angeles, CA, in 1988, by sex and intervention and control groups, shown as percentages of sample size

Characteristic	Men		Women	
	Intervention (N = 141)	Control (N = 160)	Intervention (N = 79)	Control (N = 46)
Average age (years)	29.1	30.4	26.6	27.6
Married	6.4	6.9	6.3	15.2
Black	93.6	96.9	89.9	76.1
First language English	94.3	98.8	81.0	67.4
Prior gonorrhea contact	66.0	69.4	32.9	32.6
Prior syphilis	14.9	15.0	16.5	15.2
Prior PID	...	...	5.1	2.2
Prior NGU	6.4	8.8	1.3	0.0
Prior other STD	3.6	3.8	24.0	21.7
Any prior STD	70.9	74.4	59.5	52.2
Multiple sex partners in past month	31.2	33.1	8.9	13.0
Condom user	37.6	34.4	11.4	15.2
Homosexual or bisexual	2.8	3.1	2.5	4.4
IV drug user	11.9	7.8	9.7	2.4

NOTE: Sample sizes differ because of missing data. STD = sexually transmitted diseases. PID = pelvic inflammatory disease. NGU = nongonococcal urethritis.

are mediated through changes in normative expectations and social skills (*7*).

One component of the group intervention was a videotape, "Let's Do Something Different," produced by the Education Development Center, Newton, MA, under a grant from the Centers for Disease Control (*a*). The videotape, which is in a soap-opera format, delivers the message that condoms are socially acceptable and that sexual intercourse can be exciting and pleasurable when condoms are used.

Solomon and DeJong (*8*) evaluated the effects of that videotape among 103 patients at the Boston City Hospital STD clinic, where it was shown to them individually. Subjects who saw the videotape had higher knowledge scores and more accepting attitudes toward condom use than a group that had not seen it. In contrast to the Solomon and DeJong study, we examined the rates of reinfection with STD among patients at a Los Angeles County STD clinic to determine the effects of the program on STD reinfection and to identify predictors for reinfection.

Methods

Subjects. The subjects were 551 patients registered at a public health STD clinic in Los Angeles, CA, who visited the clinic from October 18 through November 28, 1988. Subjects of the intervention were all patients who registered during clinic sessions when the intervention was being given; control subjects were all who registered during sessions when the intervention was not being given.

On the first day, morning patients were assigned to the intervention group and afternoon patients were the control group. On alternate days the order was reversed. Assignment continued until about 250 patients were in each group. Sessions were attended by about 10 to 25 patients.

Intervention. The intervention consisted of a short group discussion of condom use, viewing the videotape showing condom use as socially acceptable, and a session of role-playing concerning negotiating the use of a condom with a sex partner. The intervention was held in the clinic waiting room. In the group discussion, a health educator discussed methods of preventing sexually transmitted diseases, condom use, and reasons why people like and dislike condoms. She also distributed a pamphlet graphically depicting how to use a condom (*9*). After the video, the health educator asked the patients in the waiting area to participate in the role playing, giving them an opportunity to practice how they would try to convince their sexual partner or partners to agree to use condoms.

The health educator began the role playing component by modeling a situation in which she pretended to be a potential sex partner trying to convince the patient to use a condom. The patient was instructed to repeatedly refuse to use a condom, while the health educator modelled several strategies to persuade the patient to use condoms. The patient was asked to play the same scenario with another patient, this time trying to convince the other patient to agree to use a condom. Other patients were asked to coach the patients doing the role play. Questions relating to medical aspects of STDs were referred to clinic nursing and medical personnel. All members of the intervention group and the control group were offered 10 free condoms by clinic nurses.

There were several difficulties connected with delivering the intervention in the clinic waiting rooms. First, at any point in the intervention patients might be called by clinic staff for examination. Second, participation in the role-playing activity was voluntary and it was a challenge for the facilitator to consistently motivate discussion. Therefore, patients in the intervention group were not uniformly exposed to the intervention. Many patients were unwilling to take an active role, yet they appeared to be interested in watching the role playing going on in front of them. The health

educator did not pressure patients to participate. Modeling responses appeared to make it easier for patients to join in. At least one or more patients would participate in role plays and ask questions.

Measures. About 7 to 9 months later, we were able to locate 426 clinic medical charts of intervention and control group members and extracted demographic information, data on sexual behavior, and medical diagnoses, maintaining the anonymity of the patients. STD reinfection rates were determined by counting the number of diagnoses of STDs newly incident after enrollment in the study. For the purposes of the study, reinfection was defined as (*a*) a diagnosis of gonorrhea, syphilis, chlamydia, nongonococcal urethritis (NGU), primary herpes genitalis, or pelvic inflammatory disease (PID), (*b*) venereal warts or trichomoniasis or bacterial vaginosis not present at the original examination, or (*c*) if the patient was a subsequent sexual contact of a person with gonorrhea, syphilis, or chlamydia, and did not use a barrier method of contraceptive. The other variables extracted from the records were the patient's sex, sexual preferences, race, age, marital status, level of education, religion, prior STD history, birthplace, number of sexual partners in the last month, travel, and previous condom use.

Of the 551 clinic patients during the study period, charts for 426 were obtained and reviewed (77 percent). The remaining 127 charts could not be located. However, there was an equal proportion of charts missing for intervention and control groups and for men and women. As shown in table 1, women patients were overrepresented in the intervention group compared with the control group. For this reason, demographic characteristics of the intervention group and the control group were stratified and analyzed by sex.

Results

There were no significant differences in age, race, history of prior STDs, number of sex partners, or time between intervention and record review, between the intervention and control groups by sex.

Most patients were single, English speaking, black men in their late 20s or early 30s. Women patients of the clinic, compared with men, were about 2.5 years younger, equally likely to be diagnosed with syphilis, but about half as likely to be diagnosed with gonorrhea. Compared to women, men were much more likely to report multiple sex partners and to say that they had used condoms as a contraceptive in the past.

Table 2. STD reinfection after intervention in a study group of 426 patients of a STD clinic in Los Angeles, CA, in 1988

	Intervention (N = 220)		Control (N = 206)		
Status	Number	Percent	Number	Percent	RR
Study group:					
STD reinfection	14	6.3	27	13.1	[1]0.49
No STD reinfection	206	93.7	179	86.9	
Men:					
STD reinfection	8	5.7	24	15.0	[2]0.38
No STD reinfection	133	94.3	136	85.0	
Women:					
STD reinfection	6	7.6	3	7.0	1.16
No STD reinfection	73	92.4	43	93.0	

[1] $P < 0.05$. [2] $P < 0.01$.
NOTE: STD = sexually transmitted diseases. RR = relative risk.

Table 3. Predictors of STD reinfection after intervention in a study group of 426 patients of a STD clinic in Los Angeles, CA, in 1988

	STD reinfection			
Characteristic	Yes	No	RR	CI
Sex:				
Men	32	269	1.48	0.73, 3.00
Women	9	116	...	...
Marital status:				
Married	2	30	0.63	0.16, 2.50
Single	39	355	...	...
Prior STD:				
Yes	37	253	4.34	1.58, 11.93
No	4	132	...	...
Number of sex partners in past month:				
None or 1	30	286	0.95	0.49, 1.83
2 or more	11	99	...	...
Condom user:				
Yes	5	119	0.34	0.14, 0.84
No	36	266	...	...
IV drug user:[1]				
Yes	2	34	0.55	0.14, 2.19
No	37	330	...	...

[1] Data were missing for 23 subjects.
NOTE: STD = sexually transmitted diseases. RR = relative risk. CI = 95 percent confidence interval.

Effects on reinfection. As shown in table 2, the relative risk for reinfection in the subsequent 7 to 9 months among men exposed to the intervention was 0.38 (95 percent CI 0.18, 0.81) of the risk for men in the control group. There was no evidence that the intervention reduced reinfection among women. Of the 41 patients with reinfection, 2 of 14 (14 percent) in the intervention group and 7 of 27 (26 percent) in the control group had 2 or more episodes of a new STD infection in the followup pe-

riod. Several patients had multiple diagnoses. Nineteen had gonorrhea; 11 were gonorrhea, syphilis, or chlamydia contacts; 5 had NGU or chlamydia; 2 had PID; 3 had bacterial vaginosis or trichomoniasis; 1 had primary syphilis; and 5 had other sexually transmitted diseases.

Predictors of reinfection. The strongest predictor of reinfection was found to be a history of multiple STD infections (RR 4.34, 95 percent CI 1.58, 11.93). Prior condom use was protective for future STD infection (RR 0.34, 95 percent CI 0.12, 0.81), shown in table 3.

Discussion

The intervention program appears to have reduced the risk of STD reinfection among male STD patients. The lack of effects for women possibly resulted from the short period of followup and the small number of women participants. Women are more likely than men to have asymptomatic STD infections (*10*), which may explain the lower reinfection rates among women control subjects compared with the men. Women report fewer sex partners then men, and may be at overall lower risk for STD infection than men for this reason.

The health educator was a black woman, and she may have been more persuasive with men than with women clients. If men believe that women don't like condoms, men may be more likely to be persuaded by a woman advocating the use of condoms. That a condom promotion program would primarily affect men is not surprising because men wear them, and more men (36 percent of the men and 14 percent of the women) had prior experience using them. The success of this type of intervention may be dependent upon the skills, energy, or other personal characteristics of the health educator.

There are limitations to the conclusions of this study. First, although there were no refusers, owing to the use of chart data, many charts could not be located. However, intervention and control groups did not differ in the percentage or sex distribution of missing charts. Second, the randomization of the prevention program to time of day may have been unsuccessful as the number of women differed between the two groups. After stratification by sex, the program and control groups did not differ significantly on demographic and sexual behavior measures. Third, this study was based on chart reviews at a single public STD clinic. It is possible that some patients may have gone to other health clinics for STD evaluation and treatment. There was, however, no difference between the intervention and the control groups with respect to the percentage of men who came back to the clinic for a reason other than a new STD, 18.4 percent for the intervention group and 16.5 percent for the control group. This suggests that the differences in STD reinfection among men are likely to be attributable to the intervention.

Because the intervention combined both videotape and group discussion components, it is impossible to determine the relative contribution of each. Future studies should examine the individual effectiveness and possible interaction of each method. It is likely that the combination is more powerful than either method alone (*11*).

The findings suggest that successful group interventions can be implemented in STD clinics, that condom promotion may be more effective for men than women, and that having a prior infection is a predictor of subsequent infection. A busy waiting room with distractions and interruptions is a less than ideal setting for an intervention. However, given the lack of space and difficulty in recruiting patients to other sites, even interventions in waiting rooms can be beneficial.

Any opportunity to intervene in the sexual behavior of patients at high risk for STD needs to be exploited. Additional research is needed to enhance preventive strategies for both men and women, to identify correlates of high-risk sexual behavior, and to intervene effectively to prevent repeated STD infections.

References

1. Counseling to prevent HIV infection and other sexually transmitted diseases. *In* Guide to clinical preventive services: an assessment of the effectiveness of 169 interventions. Report of the U.S. Preventive Services Task Force. Support provided by the Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services. William and Wilkins, Baltimore, MD, 1989, pp. 331–339.
2. Strunin, L., and Hingson, R.: Acquired immunodeficiency syndrome and adolescents: knowledge, beliefs, attitudes, and behaviors. Pediatrics 79: 825–828 (1987).
3. Valdiserri, R. O., et al.: AIDS prevention in homosexual and bisexual men: results of a randomized trial evaluating two risk reduction interventions. AIDS 3: 21–26 (1989).
4. Kelly, J. A., St. Lawrence, J. S., Hood, H. V., and Brasfield, T. L.: Behavioral intervention to reduce AIDS risk activities. J Consult Clin Psychol 57: 60–67 (1989).
5. Zabin, L. S., et al.: Evaluation of a pregnancy prevention program for urban teenagers. Fam Plann Perspect 18: 119–126, May–June 1986.
6. Flay, B. R.: Psychosocial approaches to smoking preven-

tion: review and recommendations. Adv Health Educ Promot 2: 121-180 (1987).
7. MacKinnon, D. P., et al: Mediating mechanisms in school-based drug prevention: first year results of the Midwestern Prevention Project. Health Psychol 10: 164-172 (1992).
8. Solomon, M. Z., and DeJong, W.: Preventing AIDS and other STDs through condom promotion: a patient education intervention. Am J Public Health 79: 453-458 (1989).
9. Maryland State Department of Health and Mental Hygiene: How to use a condom. Family Planning Division, STD Control Program, and the Health Education Resource Organization, Annapolis, MD, 1986.
10. Stamm, W. E., and Holmes, K. K.: Chlamydia trachomatis infections of the adult. *In* Sexually transmitted diseases, edited by K.K. Holmes, et al. McGraw Hill, Inc., New York, NY, 1990, pp. 181-193.
11. Solomon, M. Z., and DeJong, W.: Recent sexually transmitted disease prevention efforts and their implications for AIDS health education. Health Educ Q 13: 301-316 (1986).

Mothers' Motivations to Participate in a Pregnancy Health Survey

DONNA SCHAFFER, MPH, RD
GARY M. SHAW, DrPH

Miss Schaffer is a former Research Methodologist with the California Birth Defects Monitoring Program (CBDMP) and Dr. Shaw is an Epidemiologist with the program.

Andrea Farber, Christopher Geller, Virginia Heffernan, Judy Morse, Sandra Moses, Jeanne Scheer, Judy Via, and Elva Yrarrázaval, of the CBDMP, participated in conducting the survey.

Tearsheet requests to Gary M. Shaw, DrPH; California Birth Defects Monitoring Program, 5900 Hollis St., Suite A, Emeryville, CA 94608; tel. (510) 653-3303, fax (510) 653-1678.

Synopsis

An important question in interpreting epidemiologic data is why some persons agree to participate in a health survey while others do not. Information about why people agree to interview or answer a questionnaire could help researchers to devise procedures for a health survey and to chose information to be communicated in the interview or questionnaire so as to increase subjects' participation.

The authors interviewed 180 mothers who gave birth to a child with a birth defect and 198 mothers whose children were born without a birth defect. The interviews were part of two case-control studies to determine risk factors for selected birth defects. In the course of the interviews, each mother was asked why she agreed to be interviewed, and whether anything about the survey procedures that were followed could be improved. Among both the case mothers and the control mothers the most common reason for agreeing to be interviewed was humanitarian, expressed as "to help others" or "to prevent what happened to my baby from happening to babies in the future."

Case mothers, more frequently than control mothers, gave as their reason for participating either to help themselves, their child, their family, or to further scientific understanding. Emphasizing these as benefits of participation to those who are survey subjects at the time of the initial contact could increase the proportion who agree to respond.

Nonresponse by persons who are the subjects of an epidemiologic survey can bias study results (*1*). Epidemiologists often ask why some people agree to participate in a health survey interview or respond to a mailed questionnaire, while others do not.

Generally, little information is available on people who are subjects of a survey but who cannot be located. More information may be available on those who are located but who refuse to participate. For those who agree to participate in a study, much descriptive information potentially is available both on them and their motivations to participate.

Better understanding of the reasons why some people agree to participate in health surveys could help epidemiologists in increasing subjects' participation. That knowledge would help those designing a survey to make more effective approaches to people who are subjects and to make better selections of the information to be communicated during an interview or in a questionnaire.

Methods

Two case-control studies were conducted by the California Birth Defects Monitoring Program, which is administered by the March of Dimes Birth