

Predictors of Condom Acquisition After an STD Clinic Visit

By Lydia O'Donnell, Alexi San Doval, Richard Duran and Carl R. O'Donnell

Data from a survey of 691 men and women who made patient visits to an inner-city, sexually transmitted disease (STD) clinic and were given coupons to redeem for condoms at a neighborhood pharmacy show that only 22% of the sample did so. Gender, ethnicity, marital status and education were not significant predictors of whether study participants redeemed their coupons. Factors that significantly predicted coupon redemption included the extent of acculturation and age, with those who were older and less acculturated more likely to do so. Other significant factors were having a primary sexual partner and having had more than one sexual partner in the last month; having ever had an STD was negatively associated with coupon redemption. A perception of being at high STD risk and a favorable attitude about condoms also significantly predicted condom acquisition. All these variables, except for attitude toward condoms and a history of an STD, remained significant when entered into a logistic regression controlling for the influence of all independently significant predictors.

(Family Planning Perspectives, 27:29–33, 1995)

A better understanding of the predictors of condom acquisition among individuals at high risk of acquiring and transmitting sexually transmitted diseases (STDs) is needed to plan interventions in the sexual and reproductive health care settings they use. Inner-city public STD clinics treat large numbers of individuals with multiple risk factors for STDs, including frequent unprotected sex, multiple sexual partners, history of an STD and residence in communities with exceptionally high rates of infection with the human immunodeficiency virus (HIV) and other STDs, as well as high rates of unintended pregnancies.¹ Such clinics serve primarily low-income residents, many of whom are recent immigrants to the United States. Specially targeted and culturally appropriate prevention programs are needed to educate different groups within this clinic population and promote consistent condom use, for protection from both disease and pregnancy.

A number of studies have examined

Lydia O'Donnell is senior scientist, Alexi San Doval is senior project director, Richard Duran is senior research associate and Carl R. O'Donnell is statistical consultant, all at the Education Development Center, Newton, Mass. The authors are grateful for the support provided by the New York City Department of Health and the Morrisania Clinic throughout this study. They also thank Magali Calderón for her assistance in data collection and the project officers from the Centers for Disease Control and Prevention (CDC), Richard Conlon and Mary Neumann. Funding for this study was provided under an STD demonstration grant from the Behavioral and Prevention Research Branch, Division of Sexually Transmitted Diseases, CDC.

patterns and predictors of condom use.² Differences by race and education exist in knowledge of and attitudes toward HIV and other STDs, and in self-reported condom use.³ The extent of acculturation also has been shown to be related to one's perceived HIV risk and high-risk behavior. For example, less acculturated Hispanic men have more positive attitudes toward condoms and carry them more frequently than do more acculturated Hispanic men;⁴ however, Hispanics in general may be less likely than non-Hispanic whites or blacks to use condoms.⁵ For immigrants from English-speaking countries, to whom the standard language measure of acculturation does not apply, their length of residence in the United States may also influence condom acceptability.

Individuals who are at the greatest risk for HIV and STD infection—such as STD clinic clients—are unlikely to report consistent condom use.⁶ Furthermore, the use of contraceptive methods other than the condom has been negatively associated with condom use.⁷

Several studies have documented the relationship between psychosocial factors and self-reported condom use. While these factors may all play some role in predicting condom use, the findings across studies have been inconsistent.⁸ Although some studies have shown that gender and cultural background influence psychosocial predictors of condom use,⁹ few have been based on samples that were sufficiently large and diverse to fully explore

the relationship. Further, most of these studies have been limited by reliance on self-reports of condom use, instead of on behavioral measures.

In this article we use an innovative proxy measure—a strategy of dispensing coupons for condoms that was first employed by Solomon and DeJong¹⁰—to identify factors that predict condom acquisition following patient visits to a large STD clinic in New York City. Women and recent immigrants to the United States constitute significant proportions of this clinic population. Thus, the gender and cultural diversity of the patient population make it an ideal sample with which to examine the characteristics of individuals who are sufficiently motivated to redeem the coupon at a local pharmacy. Specifically, we were interested in learning whether there were differences in condom acquisition that would suggest targeting interventions to special population groups. We were also interested in learning the risk profiles of clients who redeemed their coupons—that is, whether motivated clients were at a relatively high or low risk for acquiring an STD.

Methods

From December 1991 through December 1992, all men and women who attended one of the largest STD clinics in New York City were enrolled in a study designed to evaluate a video-based educational intervention to promote condom use. We report on a proportionate random sample of 691 black and Hispanic recipients of regular clinic services who served as the control group for a planned test of the intervention at the clinic.

The proportionate random sampling strategy was based on the gender and ethnic distributions of the patient population as determined from a review of clinic records. Typically, patients arrive before or during the first hour of clinic operation on any given day, and each patient is registered and assigned a number in the order of their arrival. For this study, on random days of clinic operation throughout the study period, all patients over age 18 were approached in consecutive order to fill predetermined gender and ethnic cells.

Table 1. Percentage of STD clinic patients with selected characteristics and percentage scoring above the mean on knowledge and attitude scales, by ethnicity and gender, New York City, 1992

Characteristic and scale	Blacks		Hispanics	
	Men (N=252)	Women (N=156)	Men (N=163)	Women (N=120)
Total	36.5	22.6	23.6	17.4
Characteristic				
High school graduate	65.5	64.1	48.5	42.5*
Speaks English at home	100.0	99.4	66.3	55.0*†
Married	6.3	9.6	22.1	16.7*
Has children under 18	46.4†	60.9	57.1§	73.3*†
Resided in U.S. <10 yrs.	13.6	10.2	26.6	25.5*
Has history of STD	66.8‡	50.0	58.3§	53.3†
Had prior STD clinic visit	59.0‡	52.7	55.5§	44.3*†
Has visited family planning clinic	11.5	47.4	1.2	31.7
Ever used condoms	94.8‡	90.9	82.2§	74.8*†
Sometimes/often uses condoms	61.8	61.0	54.1	39.3*
Uses noncondom birth control	23.4	23.1	25.2	28.3
Ever used condom with other method	16.2	19.7	14.3	26.4
Currently has main partner	94.8‡	89.1	70.2§	85.7†
≥2 partners in past month	43.3‡	16.0	31.3§	13.3*†
Scale				
STD and condom knowledge	51.5	45.1	46.5	38.2
Condom attitudes	29.3	45.7	39.9	51.1*
Risk perception	20.1	35.7	31.6	37.4†
Condom efficacy	42.4	40.0	34.6	42.2
Intentions to use condoms	32.6	28.5	28.9	27.8

*Difference significant by ethnicity among total sample at p<.01 or higher. †Difference significant by gender among total sample at p<.01 or higher. ‡Difference significant by gender among blacks at p<.01 or higher. §Difference significant by gender among Hispanics at p<.01 or higher.

Participants could enroll in the study only once. Of those who were eligible, 96.5% agreed to participate. All participants provided informed consent. Study procedures were approved by the New York City Department of Health.

While participants waited to be examined, they were interviewed in their choice of English or Spanish by one of three trained interviewers, two men and one woman. The interview questionnaire solicited social and demographic information on individuals' sexual practices, risk behaviors and STD history. In addition, participants responded to a brief survey on psychosocial factors, including knowledge and attitudes about HIV, STDs and condoms, intentions to use condoms, and perceptions of risk of acquiring an STD, including HIV.

While giving clients several condoms at the end of a visit is standard procedure for STD clinics run by the Health Department in New York City, preliminary research found that this was not always

done because of time pressures, heavy patient loads, inadequate supplies or uninformed staff. To assure consistency in condom distribution at the clinic site, the interviewers offered each participant a selection of three free condoms at the completion of the interview. All participants accepted these condoms. Clients were then given a coded coupon that could be redeemed for an additional three condoms of their choice at a private pharmacy several blocks from the clinic (within a 10-minute walk) at any time within the next two months. Coupon redemption at the pharmacy was used as a measure of condom acquisition.

We employed a stepwise regression to determine factors associated with whether a client would redeem the coupon. Using multiple logistic regression, we first identified predictors of condom acquisition from three separate sets of variables; we then entered the significant predictors into a full logistic regression model to assess the overall influence of these factors on condom acquisition.

Dichotomous background factors included gender, ethnicity, age (above the mean age versus below the mean age), education (high school graduate versus non-graduate), and acculturation score (above the mean value versus below the mean value). Acculturation was assessed using a summated scale of length of residence in the United States and language spoken at home.

The second set of dichotomous variables assessed participants' risk of contracting HIV and other STDs. These were whether a respondent currently had a primary sexual partner, the number of sexual partners in the previous month (≥2 ver-

sus one or none), consistency of condom use (sometimes or frequently versus rarely or never), whether they had ever been to an STD clinic before, and whether they had ever had an STD.

The third set of variables included a number of scales to measure knowledge and attitudes that may predict condom acquisition. The knowledge scale consisted of 17 items related to STD and HIV transmission and symptoms, and to correct condom use.* Scores were computed by tallying the responses as 1 if correct, -1 if incorrect, and 0 for no answer.

The attitudes scale consisted of 11 agree or disagree statements about problems with using condoms, with a high score indicating a positive attitude toward condoms† (Chronbach's reliability coefficient = 0.71). The risk perception scale was based on responses to three questions regarding how much risk the respondent thought they had for getting an STD; how much risk they thought they had for HIV infection; and how much risk they thought their sex partner(s) had for HIV infection. Each item was scored from 1 (low risk) to 3 (high risk) (Chronbach's reliability coefficient = 0.83).

We measured intentions to use condoms by responses to the following two questions: "The next time you have sex will you use a condom?" (yes or maybe versus no); and "as a result of your visit to the clinic today, which best describes how you will use condoms—I will never use condoms; I won't use condoms any more or less often; I will use condoms more often; or I will always use condoms."

Finally, we considered two measures of self-efficacy, one related specifically to condom acquisition (whether participants felt they could be successful in obtaining condoms) and the other to the broader concept of condom use (whether clients felt they could successfully negotiate condom use or refrain from unprotected sex). Our first measure proved not to be useful as a predictor, since there was little variation among participants.‡ We therefore turned to a more general measure of self-efficacy composed of two items—"I can get my main sex partner to use condoms," and "I

*Men can get AIDS and other VD/STDs by having sex with women; men who get VD will show or feel symptoms; women who get VD will show or feel symptoms; you can get VD by having penis to vagina (vaginal) sex; you can tell if your partner has VD by examining him or her; you can get VD by having anal sex; when men have anal sex with other men, they don't need to use condoms; some STDs make men and women sterile; a person can be infected with the AIDS virus and not look sick; you can get VD by having mouth to penis (oral) sex; you can get VD by having mouth to vagina (oral) sex; a woman

can have VD and not know it until she gets very sick; space should be left at the tip of a condom when it is put on the penis; the time to put on a condom is right before a man comes or ejaculates; when a man uses a condom, he should unroll it first and then slip it on; you can't get VD if you only have oral sex; and when women have anal sex with men, they don't need to use condoms.

†They include: condoms can be made sexy; condoms are too much trouble to use; condoms interfere with enjoying sex; I would rather not have sex than use a condom; using

a condom turns me off; condoms break too often to be really safe; it's easy to get condoms; I'm embarrassed to carry a condom with me, even if it's hidden; using condoms to prevent pregnancy is too much trouble; using condoms to keep from getting an STD or AIDS is too much trouble; and you don't feel as much when a condom is used.

‡For example, in response to the items that composed this scale, 99% of respondents reported that "condoms are easy to get" and only 1% of men and 10% of women agreed that they were "too embarrassed to buy condoms."

won't have sex if I don't have a condom" (Chronbach's reliability coefficient = 0.59).

We performed logistic regression analyses on psychosocial measures using dichotomized scales derived from respondents' scores to maximize the number of participants in each category. In addition to examining the influence of background, risk and psychosocial factors on predictors of condom acquisition for the whole sample, we conducted a logistic regression analysis using a subsample of women only. We excluded men from this analysis because they rarely attended family planning clinics and also knew little about their partners' use of contraceptive methods other than the condom. After controlling for age, we assessed whether any of the following contraceptive factors were associated with the likelihood that a woman would redeem her coupon—prior use of a family planning clinic, use of a method other than the condom, and experience with using a condom in conjunction with another contraceptive method.

Results

Table 1 presents some social and demographic characteristics of the sample of 691. Compared with blacks, Hispanics

were significantly less likely to have graduated from high school, to speak English at home, or to have lived in the United States for more than 10 years (chi-square analysis, $p < .0001$). (About 65% of Hispanics identified themselves as Puerto Rican, 22% as Dominican, and 12% as from other Central and South American countries. In addition, 23% of blacks indicated they were from the Caribbean or other areas outside the United States.) However, Hispanics were significantly more likely than blacks to be married ($p < .0001$) and to have children under age 18 ($p < .002$). Participants' mean age by race and gender categories (not shown) ranged from 27 to 31, but there were no significant differences in age at the time of the interview (t -test, $p = .462$).

About half (54%) of the study sample was diagnosed with an STD during their visit, while the remainder were seen for genitourinary complaints, follow-up treatment of a previous STD, counseling or screening. Black men were significantly more likely than Hispanic men to report having had a previous STD (67% compared with 58%), although there was little difference in rates between black and Hispanic women (50% and 53%, respectively). Overall, about half of the sample said they had previously been to an STD clinic; this proportion was highest among black men (59%), and lowest among Hispanic women (44%). The vast majority of blacks had ever used condoms (95% of men and 91% of women), with 61% of blacks saying they were currently using condoms "sometimes" or "often." Among Hispanics, in contrast, 82% of men and 75% of women had ever used condoms, and 54% of men and 39% of women said they were currently doing so "sometimes" or "often."

Women overall were more likely than men to say they currently had a main partner (88% versus 72%, $p < .0001$); similarly, blacks were slightly more likely than Hispanics to report they had a current main partner (79% versus 77%, nonsignificant difference). Compared with women, men were a little more than twice as likely to have had two or more sexual partners in the month before the interview (39% versus 15%, $p < .0001$). While this percentage did not vary by race among women, proportionately more black men than Hispanic men reported multiple partners (43% versus 31%, $p < .01$).

When participants were asked if they have sex with men, women or both, over 95% responded that they were exclusively heterosexual (not shown). While the

clinic does not provide services to a large gay community, this proportion may underrepresent the extent of homosexual encounters in this population, especially among those who are bisexual.

Overall, 41% of women and 8% of men reported that they had ever visited a family planning clinic. Hispanics were less likely than blacks to have made such a visit (32% of Hispanic women and 1% of men, versus 47% of black women and 12% of men). Although almost all the women were of reproductive age (90% were between ages 18 and 44), 43% said they usually used no contraceptive method, condoms included.

About 22% of participants redeemed the coupons they obtained at the clinic (not shown). Hispanic men were most likely to redeem their coupons (29%), followed by Hispanic women (23%), black men (21%) and black women (15%). As shown in Table 2, age and level of acculturation were associated with condom acquisition, but ethnicity, education and gender were not. Older participants were more likely to redeem their coupons, as were those who were less acculturated.

The behavioral risk factors that were positively associated with condom acquisition included currently having a main sexual partner and having had more than one sexual partner in the last month. Ever having had an STD was negatively associated with the probability that clients would redeem their coupons. However, self-reported frequency of condom use and having previously been to an STD clinic were not significant predictors of coupon redemption.

Participants' perceived risk of their chances of acquiring HIV and other STDs was the strongest psychosocial predictor of condom acquisition: Those who believed they were at higher risk were more likely to redeem their coupons. Holding positive attitudes toward condoms was also positively associated with their acquisition. However, neither knowledge nor self-efficacy were significant predictors of coupon redemption.

When we entered all of these significant predictors into a comprehensive analysis, more positive condom attitudes and an STD history dropped out as predictors in the full model, suggesting that their influence may be a function of the other factors.

In the subsample of women only, having ever made a family planning clinic visit did not significantly predict that women would redeem their condom coupons (not shown); however, women who cashed in their coupons were more

Table 2. Results of logistic regression analyses showing which variables predict whether STD clinic patients will redeem a coupon for condoms

Variable	Coef.	Z value
Background factors		
Gender	0.082	1.77
Ethnicity	-0.002	0.31
Age	0.144	3.07*
Education	-0.042	0.87
Acculturation	-0.207	3.81*
<i>Chi-square goodness of fit = 102.4 (p < .0001)</i>		
Risk factors		
Has main partner	0.306	6.57*
Had multiple partners in last month	0.228	5.34*
Uses condoms sometimes or often	0.072	1.69
STD history	-0.152	3.15*
Ever made STD clinic visit	-0.480	1.00
<i>Chi-square goodness of fit = 160.0 (p < .0001)</i>		
Knowledge and psychosocial factors		
Knowledge of STDs and condoms	-0.004	0.68
HIV/STD risk perception	0.350	6.54*
Intention to use condoms	0.124	1.90
Condom attitudes	0.156	2.78*
Condom efficacy	0.013	0.20
<i>Chi-square goodness of fit = 119.2 (p < .0001)</i>		
Significant predictors only		
Age	0.179	3.50
Acculturation	-0.213	4.28
Has main partner	0.158	2.90
Had multiple partners in last month	0.167	3.26
HIV/STD risk perception	0.224	3.50
<i>Chi-square goodness of fit = 165.1 (p < .0001)</i>		

*Significant at $p < .01$.

likely than those who did not to have used methods other than the condom (beta = 0.189, $p < .05$), and to have used another method in conjunction with a condom (beta = 2.59, $p < .01$).

Discussion and Conclusions

This study identifies the characteristics of men and women who are most likely to take the behavioral step of redeeming coupons for free condoms following a visit to an STD clinic. The information obtained through such an analysis provides an empirical base for designing community-based condom promotion programs, especially among the high-risk population of minority men and women who seek care at inner-city STD and family planning clinics.

Other studies have examined the influence of factors such as condom knowledge and attitudes on the outcome of self-reported use, yet few have used objective measures, such as condom acquisition.¹¹

“A key to encouraging safer sex practices is to find effective strategies for personalizing the risk that clients take when they practice unsafe sex.”

While the measure of coupon redemption may be an imperfect indicator of actual use, it has the advantage of linking information provided by patients during a clinic visit to their subsequent behavior in the community. We emphasize, however, that it is not a strict measure of use; condoms received are not necessarily condoms used, just as verifying that a condom had been used is not the same as objectively assessing that it had been used consistently or correctly. Yet as limited as the measure is, it provides insight into which clients are most likely to heed the advice to use condoms and which are not. The latter will most likely need the most intensive interventions before they adopt safer behaviors.

Interestingly, women in our sample were as likely to redeem their coupons as were men. Moreover, women who had used contraceptive methods other than the condom were more likely to get condoms than were those who had not; this finding emphasizes the importance of providing integrated contraceptive and disease prevention messages in both STD and family planning clinics. Since the gender of each client who redeemed a coupon was coded upon presentation at the pharmacy, we could confirm that very few peo-

ple in the sample (less than 5%) gave their coupon to someone of the opposite sex—that is, women did not give their coupons to male friends to redeem, or vice versa.

Similarly, when we controlled for clients' level of acculturation, there was no significant difference in rates of condom acquisition by ethnicity. Despite concerns that Hispanics might resist using condoms, their condom redemption rate was not significantly different from that of blacks. The background factor that most predicted condom acquisition was the extent of acculturation, not gender or ethnicity: Less acculturated participants were most likely to get free condoms at the pharmacy, in addition to the free condoms they were handed at the time of their clinic visit. This finding extends the research done by Marín and colleagues showing that more acculturated Hispanics were more likely than less acculturated Hispanics to engage in risky behaviors.¹² Our research not only

confirms this relationship among Hispanics, but suggests that acculturation has a similar influence on behavior among blacks. While English was the primary language for all blacks in our sample, more acculturated

blacks—that is, those who had lived in the United States for more than 10 years—were less likely to redeem their coupons than were blacks who had resided in the country for shorter periods.

Less acculturated men and women may be more likely to follow clinic workers' instructions to use condoms, or simply to redeem their coupons if they perceive a greater value in obtaining condoms for free, whether or not they themselves would use them. Our own qualitative research suggests that these less acculturated individuals may be more concerned with contracting HIV and other STDs now that they live in the United States.¹³ For example, as Hispanic men explained in interviews and focus groups, they felt women in the United States were more likely to be infected with an STD compared with women in their homelands, and so one needed to be more careful when having sex in this country. Although explaining the reasons for these differences by level of acculturation goes beyond the scope of this research, educational programs must address this source of diversity within high-risk populations. To do so, it is necessary to learn which program components should be highlighted

to reach a given population, and how these culturally specific programs can be designed to fit the heavy patient flow of busy STD and family planning clinics.

In addition to the role that acculturation played in influencing condom acquisition, the type of relationship clients were currently involved in also had an effect. Clients who had a main sexual partner were more likely to redeem their coupons than those who did not; similarly, participants who had had more than one partner in the past month were more likely to redeem their coupons. The combination of having both a main sex partner and other sex partners outside of that relationship may reinforce the need to use protection; condoms may be used to avoid “bringing home” an infection to a primary partner. Whether this is the case needs further exploration. Notably, men and women who reported having had a previous STD were less likely to redeem their coupons.

The influence of psychosocial factors and of knowledge about STDs and condoms on coupon redemption is particularly important, since these factors are more amenable to intervention than are the background and risk factors. While holding positive attitudes toward condoms was related to taking the behavioral step to obtain them, the strongest psychosocial predictor of coupon redemption was participants' perception of their personal risk for HIV and other STDs. Those who felt they were at greater risk were more likely to get the condoms. However, participants' knowledge, their ability to influence condom use or willingness to refrain from sex if condoms are not available, and even their intentions to use condoms in the future did not appear to predict condom acquisition.

The finding that clients' perception of risk is a major determinant of behavior is important, because it provides a focus for clinic-based educational interventions. Our data suggest that interventions should focus on increasing the personal perception of risk among high-risk men and women, rather than on transferring information or transmitting positive attitudes about condoms. Although participants in our study were interviewed while awaiting treatment at an STD clinic, a sizable proportion of them reported they were at low risk of infection with HIV or other STDs.¹⁴ Thus, a key to encouraging safer sex practices is to find effective strategies for personalizing the risk that clients take when they practice unsafe sex. Once risk perceptions are heightened, a focus on positive attitudes about using condoms

is likely to be most effective.

Although we assessed several psychological factors that predicted condom acquisition, others that were not examined, such as self-assertiveness or communication skills, need further exploration. Similarly, based on participants' responses, the study speaks mostly about condom acquisition among men and women who consider themselves heterosexual; it is not known whether or how predictors of condom acquisition differ among bisexual and homosexual groups.

In identifying those clients who did not redeem their coupons—approximately 80% of the sample—this study also reveals the characteristics of inner-city clinic clients who might resist using condoms, and who thus may be putting their own health, as well as that of others in their community, at risk. These traits included being a long-term U.S. resident, having ever had an STD, not currently practicing contraception, and not having a primary sex partner.

Many of the men and women with these characteristics have probably visited an STD or family planning clinic before. Yet, such contact with the clinic system may have had the opposite effect from what was intended—that is, many clients may have been reassured by their medical treatment and actually became less concerned about contracting another STD,

even HIV. For this group in particular, the opportunity provided by a clinic visit must be used to the greatest advantage. The personal risks these clients run by continuing to engage in unprotected sex need to be emphasized, preferably in the context of an educational intervention that demonstrates gender and culturally appropriate strategies for achieving condom use in different relationships.

References

1. J. A. Catania et al., "Prevalence of AIDS-Related Risk Factors and Condom Use in the United States," *Science*, **258**:1101–1106, 1992.
2. H. S. Weinstock et al., "Factors Associated with Condom Use in a High-Risk Heterosexual Population," *Sexually Transmitted Diseases*, **20**:14–20, 1993.
3. L. O'Donnell et al., "STD Prevention and the Challenge of Gender and Cultural Diversity: Knowledge, Attitudes and Risk Behaviors Among Black and Hispanic Inner-City STD Clinic Patients," *Sexually Transmitted Diseases*, **21**:137–148, 1994; A. Nyamathi and D. Shin, "Designing a Culturally Sensitive AIDS Educational Program for Black and Hispanic Women of Childbearing Age," *NAACOG'S Clinical Issues in Obstetric and Gynecologic Neonatal Nursing*, **1**:86–98, 1990; and K. Tanfer et al., "Condom Use Among U.S. Men, 1991," *Family Planning Perspectives*, **25**:61–66, 1993.
4. B. V. Marín, C. A. Gómez and J. M. Tschann, "Condom Use Among Hispanic Men with Secondary Female Sexual Partners," *Public Health Reports*, **108**:742–750, 1993.
5. B. V. Marín et al., "Acculturation and Gender Differences in Sexual Attitudes and Behaviors: Hispanic vs. Non-Hispanic White Unmarried Adults," *American Journal of Public Health*, **83**:1759–1761, 1993.
6. L. B. Potter and J. E. Anderson, "Patterns of Condom Use and Sexual Behavior Among Never-Married Women," *Sexually Transmitted Diseases*, **20**:201–208, 1993.
7. M. L. Frank, L. Bateman and A. N. Poindexter, "Planned Condom Use by Women with Norplant Implants," *Advances in Contraception*, **9**:227–232, 1993.
8. R. M. Malow et al., "Psychosocial Factors Associated with Condom Use Among African-American Drug Abusers in Treatment," *AIDS Education Preview*, **5**:244–253, 1993; J. H. Pleck, F. L. Sonenstein and L. Ku, "Changes in Adolescent Males' Use of and Attitudes Toward Condoms, 1988–1991," *Family Planning Perspectives*, **25**:106–110, 1993; and J. B. Jemmott et al., "Self-Efficacy, Hedonistic Expectancies, and Condom Use Intentions Among Inner-City Black Adolescent Women: A Social Cognitive Approach to AIDS Risk Behavior," *Journal of Adolescent Health*, **13**:512–519, 1992.
9. J. McCusker et al., "Use of Condoms by Heterosexually Active Drug Abusers Before and After AIDS Education," *Sexually Transmitted Diseases*, **20**:81–88, 1993; and W. R. Grady et al., "Condom Characteristics: The Perceptions and Preferences of Men in the United States," *Family Planning Perspectives*, **25**:67–73, 1993.
10. M. Z. Solomon and W. DeJong, "Preventing AIDS and Other STDs Through Condom Promotion: A Patient Education Intervention," *American Journal of Public Health*, **79**:453–458, 1989.
11. A. Gorter et al., "How Many People Actually Use Condoms? An Investigation of Motel Clients in Managua," *Social Science Medicine*, **36**:1645–1647, 1993.
12. B. V. Marín et al., 1993, op. cit. (see reference 5).
13. L. O'Donnell et al., "Reducing AIDS and Other STDs Among Inner-City Hispanics: The Use of Qualitative Research in the Development of Video-Based Patient Education," *AIDS Education and Prevention*, **6**:140–154, 1994.
14. L. O'Donnell et al., 1994, op. cit. (see reference 3).