

“Talk About Testing”: Using a Video for Heterosexual Couples  
to Increase Male Partner Testing and Safer Sex

Allison C. Morrill, JD, PhD, Paul Mitchell, MS, Julie Nannicelli, MPH

New England Research Institutes

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Contact for correspondence and requests for reprints:

Allison C. Morrill, JD, PhD  
Capacities  
PO Box 92  
Watertown, MA 02471  
(617) 744-1765 phone & fax  
[a.morrill@capacities.org](mailto:a.morrill@capacities.org)

### **Abstract**

A rigorous scientific evaluation found that Talk About Testing does help women protect themselves. Two hundred seventy-four women who had a steady male partner and engaged in unprotected sex were given either the video or a pamphlet. Six weeks later, women who received the video had much greater knowledge about HIV, and more of their partners had been tested. Also, women who viewed the video had less unprotected sex.

Women in the research gave Talk About Testing high marks. When asked to rate how helpful it was on a scale from 1 to 5, over half gave it the top rating: a "5."

## Background

According to the United Nations Joint Programme on HIV (1997), 12.1 million women have been infected with HIV, representing 41% of all HIV infections. Moreover, the rate of contracting HIV is increasing far more rapidly in women than in men. In the United States, the percent of women newly diagnosed with AIDS has increased every year from 6% in 1981-2 to 22% in 1997-8 (CDC, 1998). Heterosexual intercourse is the primary mode of HIV transmission globally, accounting for more than 70% of infections (CDC, 1997). In the United States, each year heterosexual transmission represents a higher proportion of new AIDS diagnoses than the preceding year (Office of Technology Assessment, 1995), and it has become the most common way for women in the U.S. to contract HIV. It accounts for 39% of all AIDS cases among women, compared to just 4% of cases among men, and nearly twice as many women as men with AIDS contracted the virus in this manner (40,744 vs. 21,855, respectively) (CDC, 1998). Male-to-female transmission is eight times more efficient than female-to-male transmission (Padian et al., 1997).

A variety of types of interventions have been used to reduce the risk of heterosexual transmission of HIV: informational, condom skills, relational skills, HIV counseling and testing, individual risk counseling, and community interventions (OTA, 1995). HIV counseling and testing (HIV C&T) has been a cornerstone of prevention efforts in the U.S. In spite of broad scale efforts, evidence of the effectiveness of HIV C&T in promoting safer sexual partners and practices for women testing HIV-negative is equivocal (Ickovics et al., 1994; Morrill et al., 1996; Ickovics et al., 1998). Wolitski et al. (1997), reviewing studies of HIV C&T, found that just over half provided positive evidence of the ability of HIV C&T to motivate the adoption of risk-reducing practices; the other half showed no positive impact. In Wolitski et al.'s own study of behavioral change after HIV C&T, approximately half the participants adopted risk-reduction sexual practices. Findings from the study documented a significant decrease in HIV seroconversion only for the group in which both partners had received HIV C&T.

Numerous factors limit the effectiveness of HIV counseling as a preventive intervention. While knowledge about HIV has not been found to be related to sexual risk behaviors among

women (Nyamathi et al., 1993; Sikkema et al., 1995), it is an important and necessary precursor to behavioral change. Without understanding how HIV is transmitted, prevention cannot easily occur. Despite a pervasive belief that knowledge is high among at risk populations in the United States, recent studies indicate that misperceptions about HIV transmission and prevention are still common among African American and Hispanic women (Sikkema et al., 1995).

Counseling messages are complex enough when addressed to an autonomous individual; when applied to a couple, they have additional implications that may be unclear. Two examples are shown below in italics.

- (a) Testing is the only way to know whether an individual has HIV, *and even if your test result is negative after having unprotected intercourse many times with the same partner, partner testing is the only way to know whether your partner has HIV.*
- (b) In order to establish the absence of HIV, six months of condom use for all acts of intercourse is necessary before testing, *even in a mutually monogamous relationship.*

Incomplete understanding of these messages or their implications could allow a woman to believe that the main message does not apply to her. For instance, a woman may believe that mutual monogamy may substitute for condom use even though the absence of HIV has not been established for both partners. Or, if a woman has engaged in unprotected intercourse before testing, she may believe that her test also reveals her partner's serostatus – a concept I refer to as “partner testing by proxy,” assuming that if her male partner did have HIV, she would have already contracted it. If she interprets a negative test result as indicating that the man does not have HIV, then testing for the man would be thought to be unnecessary, and condoms would be seen as unnecessary if both partners were monogamous. Moreover, even if the woman does not hold such beliefs, her partner might.

A major obstacle to practicing safer sex is negative feelings towards condoms. Men are more likely to cite sexual sensation being compromised as a result of condom use, while women are more likely to state that they do not know why they didn't use a condom. (Jadack, 1997). Positive attitudes towards condoms have been shown to predict condom use among women (Catania, Coates, Kegeles, Fullilore, Peterson, Marin, Siegel, & Hulley, 1992; Gielen et al., 1994; Raj & Pollack, 1995; Sikkema et al., 1997). Specifically, beliefs that condom use can be enjoyable were associated with increased condom use among ethnically diverse urban women.

Conversely, beliefs that condoms are "unnatural" for sex, disrupt the pleasure of sex for men, or represent casual sex or an unfaithful partner are also associated with reduced condom use (Wingood & DiClemente, 1997; Worth, 1989). Condom use may be stigmatized because it is perceived as a tool for casual sex.

Safer sex skills and communication skills are also important for engaging in behavioral change. Women perceiving they could refuse unsafe sex with their partners (Sikkema et al., 1995) and women who have previously communicated about condom use or HIV testing with their partners (Catania et al., 1992; Heckman et al., 1996) were more likely to have engaged in condom use with their partners.

Researchers have found that even when a woman perceives some risk that her partner may have HIV, many are reluctant to discuss the possibility with him and to ask him to get tested for HIV and/or use condoms (Worth, 1989). This is especially true in the context of an ongoing relationship in which the partners are interdependent and perceive the relationship as founded upon mutual trust. Indeed, many women report adverse consequences to themselves or the relationship when they broach the subject. Finally, even when the woman does suggest partner testing or condom use, her partner may simply not cooperate. Prevention efforts for women have been widely criticized for failure to adequately and realistically address the relationship context in which sexual risk behavior is embedded (Amaro, 1995; Wermuth, Ham & Robbins, 1992; Worth, 1989).

Numerous studies indicate that low income ethnic minority women who are at high risk for HIV due to their or their partners' behaviors are more likely to engage in condom use and get tested for HIV (Fleisher et al., 1994; Heckman et al., 1995; Wagstaff et al., 1995). Conversely, women in monogamous relationships report lower risk perceptions and are less likely to engage in safer sex practice.

Achieving goals of condom use and partner testing for women requires the cooperation of the male partner. Many women feel unable to control their economic situation, to remain abstinent, maintain a mutually monogamous relationship, or consistently use condoms (Mays & Cochran 1988; DiClemente, 1998). Condoms may be under control of the male due to male condoms being a male-controlled barrier method, and to sanctioned male control of the sexual

relationship (Amaro, 1995; DuGuerny & Sjoberg, 1993). African American and Hispanic women both cite perceptions of male partner control of condoms and female powerlessness over safer sex as reasons they do not practice safer sex (Gornemann & Amaro, unpublished; Wingood & DiClemente., 1995). Fleisher et al. (1994) found male partner willingness predicted condom use among African American and Hispanic women of childbearing age.

The desire to prevent pregnancy has been found to affect condom use for prevention of STDs/HIV. Some low-income, urban, African American and Hispanic women are more concerned with pregnancy prevention than STD/HIV prevention. Those who use condoms for contraception are more likely to use them consistently (Fleisher et al., 1994) and some Hispanic women find it easier to talk with their partner about contraception than about STD protection (Deren, Shedlin, & Beardsley, 1996). Conversely, women who feel they are effectively preventing pregnancy without condoms are less likely to use them (MMWR, 1996). These findings suggest that for some couples condoms may be more effectively promoted for contraception.

This research tests the effectiveness of a video among women who are sexually active with a steady male partner and do not always use condoms. The video is designed to improve HIV-related knowledge, attitudes, intent and behavior.

## **Method**

### **Sample and Recruitment**

Participation in the study was restricted to women, age 18 or over, who had a spouse or a steady male partner (defined as a partner with whom the woman expected to be in a relationship for at least a year), engaged in unprotected intercourse within the previous six weeks, and had access to a VCR. Women who had tested positive for HIV were excluded. Recruitment occurred through several means, including (1) a grass-roots urban community organization providing outreach to persons of color, by person-to-person solicitation, (2) advertisements in small free newspapers in the Greater Boston area and in the Village Voice, and (3) HIV counseling and testing sites in several cities in Massachusetts, Connecticut, and Maine, where counselors distributed fliers to women at the time of testing.

## **Procedures**

Respondents were initially interviewed in person at HIV testing sites. Because of changes in patterns of HIV testing and slow recruitment, eligibility criteria were expanded and new sites added. After the first 24 participants were recruited in person, all other interviews were conducted by telephone.

Recruitment information invited sexually active adult women with a steady male partner to call a toll-free number and leave their name and call-back information. An interviewer would then call the woman and explain the research, and request permission to ask several screening questions. If a woman screened eligible and wished to participate, informed consent was obtained by telephone, and the baseline interview was conducted immediately. Following the baseline interview, each respondent was randomly assigned to the intervention or control condition. A packet was mailed the same day including: a copy of the consent form, payment (\$25 money order), a release form for tracking information (if referred through an agency), a static cling label with the interviewer's phone number and the week of the planned follow-up interview, a change-of-address notice card, and either the video (intervention group) or pamphlet (control group). The follow-up interview was conducted by telephone an average of eight weeks after the baseline. Interviewers remained blinded to the respondent's condition until the latter part of the interview; just before asking questions about the video or pamphlet, the interviewer opened an envelope disclosing the respondent's assigned condition. Interviewers did not see the video until the entire project was over.

## **Measures**

### **Knowledge**

Knowledge was measured using a list of 16 true-false questions. The questions were constructed for use in this study from the content outline for the video. The content outline was devised through extensive preliminary research. Sample statements include: "You can test negative for HIV and your partner could still have HIV – even after you've had unprotected intercourse many times." "If you've had unprotected intercourse in the month before an HIV test, you could still have HIV even if your test result is negative," and "If only one member of a couple is getting tested, they must practice safer sex for 6 weeks or more before the test, to be

sure that a negative result is reliable.” A score was created by summing the number of questions answered correctly.

### Attitudes

Attitudes toward condoms were measured by a series of three statements: “I don’t like using condoms with [my partner],” “I am willing to use condoms always if [my partner] agrees,” “If it were completely up to me, I would choose to always use condoms always with [my partner].” Respondents indicated their opinion on a 5-point Likert-type scale from 1= “strongly disagree” to 5= “strongly agree.” A summary score was constructed by reversing the score on the first item, and averaging the three responses.

Self-efficacy for refusing sex was measured using a single item: “If [my partner] wants to have sex and I don’t want to, he can usually get his way,” using the same five answer choices.

### Intent

Respondents were asked “How likely is it that in the coming six months you will ask [your partner] to always use a condom” and “How likely is it that in the coming six months you will ask [your partner] to get tested for HIV.” Answer choices were: 1= “Definitely not,” 2= “Probably not,” 3= “Maybe/unsure,” 4= “Probably yes,” and 5= “Definitely yes.”

### Behavior

Respondents reported, with regard to each sexual partner in the past month: how many times they had vaginal intercourse, how many of those times a male or female condom was used, how many times they had anal intercourse, and how many of those times a condom was used. Answers with respect to vaginal and anal intercourse were combined. A ratio of percent condom use (among those who had any intercourse) was constructed. To construct a measure of condom use using a consistent denominator, respondents also reported how many times a condom was used out of the last three acts of vaginal intercourse, no matter how long ago those acts were. Respondents also reported whether their partner tested for HIV since the baseline interview.

Communication with partner was measured at follow-up only. Respondents reported whether they had discussed a list of eleven HIV-related topics with their main partner at any time since the previous interview. Topics included, for example, whether a particular sexual practice

is risky, how either partner feels about condoms, and sexual history. The score was the total number of topics discussed. In addition, respondents reported whether or not since the previous interview they had asked their partner to test for HIV, or to always use a condom.

### Process data

We asked women in the intervention condition who watched the video whether they had done anything differently because of the video. If a woman reported that her partner had watched the video, we asked whether he had done anything differently because of the video. We also asked about exposure to other sources of information about HIV during the study period. When respondents reported that they or their partner had tested for HIV, we asked why. When respondents reported that they had not asked their partner to use condoms or test for HIV, we asked them why.

### Analyses

The primary analysis used an intent-to-treat model for the two treatment groups, video versus control. Because some participants assigned to the intervention group may not have watched the video, and others assigned to the control group may have read the pamphlet or been exposed to other sources of information about HIV risk and prevention, additional analyses were performed comparing subjects by exposure to information (irrespective of treatment group). Exposure was a trichotomous variable, defined as: (1) no exposure to any sources of HIV information (including the video under investigation), (2) partial exposure: the participant viewed some, but not all, of the video or reported exposure to other sources, or both, or (3) full exposure: the participant viewed the entire video at least once, and may or may not have been exposed to other sources of information as well. A post hoc analysis was also done to investigate whether or not respondents' main partners who watched at least some of the video experienced attitudinal and/or behavioral changes.

Sociodemographic characteristics were compared across treatment groups using the chi-squared test and Student's t-test for categorical and continuous items, respectively. Age was found to differ by treatment group ( $p=0.016$ ), and all subsequent analyses were adjusted by age. No differences were found for similar comparisons of sociodemographic characteristics by exposure.

The primary endpoints were defined as the number of incidents of unprotected intercourse in the past 30 days, and the partner having tested for HIV between the baseline and follow-up interviews. Secondary outcomes included additional behavioral measures (communication with partner regarding HIV-related topics, asking the partner to use condoms and to test for HIV), HIV knowledge (number of correct responses to 16 true/false statements), participant and partner attitudes toward condoms (6-point agreement scales), and intentions to ask partner to always use a condom and to get tested for HIV (5-point agreement scales). All outcomes were measured both at baseline and follow-up, except for the secondary behavioral outcomes, which were asked at follow-up only.

Continuous outcomes were analyzed using analysis of covariance (ANCOVA), with the follow-up measure as the dependent variable, and the baseline measure ( $df=1$ ), treatment condition ( $df=1$ ), and age ( $df=1$ ) as independent variables. Comparisons for categorical outcomes measured at follow-up only were accomplished with logistic regression, adjusted for age. Analyses involving exposure to the video and other sources of information were similar, except adjustment for age was unnecessary. Comparisons across exposure groups were limited to two: no exposure versus partial exposure, and no exposure versus full exposure. Dunnett's test for multiple comparisons against a single control group was used to determine significance (ref: Primer of Applied Regression and Analysis of Variance, Glantz and Slinker, McGraw-Hill 1990).

A comparison of the initial 24 participants whose baseline interview was conducted in person with those interviewed by telephone was made using Fisher's exact test. While several sociodemographic characteristics were found to be different between the two groups (race, education, employment, and income), there were no differences by treatment group. Furthermore, a treatment-by-interview mode interaction term added to the ANCOVA model failed to be significant for any of the outcomes, and was subsequently dropped. All data were analyzed using SAS (SAS, Version 8.0, SAS Institute, Inc., Cary NC).

## **Results**

A total of 274 women enrolled in the study. Respondents' sociodemographic characteristics are set forth in Table 1. The sample was diverse in ethnicity and socio-economic

status. Average age was \_\_. Having a steady male partner was required for eligibility, 6% of the participants did not characterize the relationship as “committed.” Twenty-six percent of the respondents were married, 68% had a committed relationship, and 6% had a regular male partner.

### Sexual behavior at baseline

Sexual behavior and risk at baseline are set forth in Table 2. A few participants (8%) were pregnant or trying to get pregnant. More than a quarter (27%) were unable to get pregnant. Among the remaining participants, another 18% used no birth control, 23% used condoms for birth control, and 31% used other forms of birth control (7% overlap represents those using both condoms and another form of birth control).

Most (83%) of the women had tested for HIV, and 64% of the main partners had tested. The two most common reasons women gave for testing were to know one’s status or for peace of mind, and because of the women’s own risk behavior. Five women (2%) reported having a partner (not necessarily their main partner) with HIV. Although 40% identified high risk or probable risk factors, just as many (41%) were uncertain about their partners’ risk factors. Only 17% reported that their partners “definitely [did] not” have any of the listed risk factors for HIV.

Although having unprotected intercourse within the last six weeks was an eligibility criterion, 14% of the respondents had not been sexually active within the past month. Of the 237 who were sexually active, 10% had more than one partner in the past month. Those who were sexually active engaged in an average of 12 acts of intercourse. Sixty-two percent never used condoms and 6% always used condoms; on average, condoms were used for 20.5% of all acts of intercourse.

### Follow-up interviews

A total of 260 women completed the follow-up interview (95% retention rate) at an average of eight weeks after baseline. Those who completed the follow-up were more likely to have annual incomes below \$20,000 than those who did not (78% vs. 20%,  $p < 0.001$ ), but were otherwise not significantly different sociodemographically, nor by treatment group assignment.

At follow-up, all but two of the respondents had a primary male partner. Those without a primary partner answered questions about their most recent male partner. For eight respondents their answers did not pertain to the same person who was their main partner at baseline.

Of the 119 women who received the video and completed the follow-up interview, 91% had seen at least some of the video, and 79% watched the entire video (Table 3). When women who had seen the video were asked directly whether they had done anything differently because of the video, 56% reported having made a change. A fairly typical report from one participant was that the video motivated her to “use condoms, be selective and stay with one partner.” The most commonly mentioned consequence was committing oneself to using condoms and practicing safer sex. HIV testing for one's partner was also mentioned frequently. A sizeable minority of participants' partners (31%) viewed the video.

Comparisons by condition (Intent-to-treat analyses)

Comparing the participants in the intervention and control groups using the intent-to-treat model (Table 4), those who received the video answered more of the knowledge questions correctly ( $p < 0.0001$ ). There were no differences in attitudes or intent. On average, women who received the video reported having discussed more HIV-related topics with their partners than those in the control group ( $p = 0.041$ ). A number of participants relayed that the video influenced them to communicate better about HIV, not only with their partners but also with their friends and family. For example, participants reported that “it made me want to talk about HIV with people in my life” and “[it influenced me] to talk more about sexual partners and sexual activities with my partner.”

Although they discussed more HIV-related topics, women in the intervention condition were not more likely to have asked their partner to always use a condom or to get tested. Among women who did not ask their partner to use a condom, the most common reason cited was a belief that the relationship was monogamous and therefore their risk was minimal (e.g., “We don't need to because we are in a monogamous relationship,” “I didn't feel it was necessary because he hasn't been with anybody else,” “As far as I know he hasn't done anything” “It's pretty safe with him. I feel confident that he's not having other partners.”). A smaller number of women cited their dislike of condoms, use of other birth control, or desire to get pregnant. In

terms of sexual conduct, the two conditions did not differ in the amount of unprotected intercourse.

Among women who did not ask their partner to test, by far the most common reason cited was a belief that their risk was minimal (“There is no risk,” “Just didn’t feel the need to” and “It never came up”). Many women cited a monogamous relationship; others didn’t ask because their partner had previously tested negative. Nevertheless, women in the intervention group were twice as likely as women the control group to report that their partner tested for HIV between baseline and follow-up (16% vs. 8%, OR=2.19,  $p=0.056$ ). A number of women stated that their partner had been motivated to get tested by seeing the video. In post-hoc comparisons of partner testing according to whether the partner had seen the video, more partners who saw the video were tested for HIV between baseline and follow-up (19% vs. 9%,  $p=0.06$ ).

#### Comparisons by exposure (dose-response analyses)

The second set of analyses compared participants who watched the entire video to those who had no exposure to the video, control pamphlet, or other HIV-related materials (the “dose-response” model, Table 5). As in the previous analyses, those who watched the entire video answered more of the knowledge questions correctly than those in the unexposed group ( $p<0.0001$ ), and they discussed more HIV-related topics with their partners between baseline and follow-up (mean=5.2 vs. 3.1,  $p=0.001$ ). In addition, women who were exposed to the video or other materials reported greater intent to ask their partner to test for HIV ( $p=0.004$ ). There were no differences in attitudes. A number of women reported that the video helped them to ask their partners to test: It “motivated me to get my boyfriend to go to the doctor and get tested, which I would not have done otherwise.” It “gave me the courage to ask [my partner] after 3 years...to get tested.” In spite of such reports, women in the intervention condition were not significantly more likely to have actually asked their partners to test ( $p=0.067$ ) or always use condoms ( $p=0.093$ ), although in both measures there was a trend in that direction.

In terms of sexual conduct, women who had seen the entire video reported fewer acts of unprotected intercourse in the last month (mean=6.9 vs. 9.9,  $p=0.034$ ). Some respondents reported that the video influenced their partner in favor of condom use: “Before we saw the video he would have been upset if I wanted to use a condom to the point of not having sex. So I

guess it helped him be willing to use a condom.” However, post-hoc comparison of sexual conduct according to partner viewing of the video did not substantiate that view, either in terms of the partner’s attitude toward condoms or in terms of amount of unprotected intercourse. On the other hand, among the women who reported their partner watched the video, 19% reported that their partner tested for HIV, compared to only 9% when the partner had not watched the video (Fisher’s exact  $p=0.07$ ).

### Discussion

In this study, receiving a video was effective in increasing HIV-related knowledge and couple communications about HIV-related topics. However, the intervention did not significantly affect unprotected intercourse and fell just short of significant effects on partner testing. According to the transtheoretical model (Prochaska, Norcross & DiClemente, 1994), behavior change occurs in several *stages* over time: pre-contemplation, contemplation, planning, action. Each stage is a step *toward* action. Thus, it is not surprising that simply giving the video to individuals who may or may not already exhibit an interest in the topic did not, in itself, prove to be a very effective intervention when measured in terms of the behavioral outcome. In addition, six weeks may be too short a time for individuals to make a transition to action, especially action the requires both members of a couple to cooperate. Still, the video does seem to have served the function of an “ice-breaker” by facilitating discussion of HIV-related topics between partners.

One factor that may have interfered with the randomized trial is that during the study period participants in both conditions were exposed to sources of information other than the video. Also, an intent-to-treat analysis tests the effects of *giving* the video to participants. However, for some recipients participation in research is not sufficient reason to actually *view* the video. Thus, *exposure* to materials designed to reduce unprotected intercourse and increase partner testing did not coincide with condition. When we divided the sample according to their exposure to the video and other materials, we found that exposure improved not only knowledge and communication, but also intent and risk behavior. In terms of knowledge and number of acts of unprotected intercourse, this effect is attributable to viewing the entire video. Percent condom use, a secondary risk index, was apparently affected more by other sources of information.

It is at first surprising to see that intervention effects on partner testing disappear in analyses by exposure. However, this is probably because ‘exposure’ refers to the *woman’s* exposure to the video and other materials. In light of the finding that 17% of the partners who reportedly saw the video got tested, it is quite possible that the difference in partner testing disappearance in the intent-to-treat analyses was really due to the *partner’s* exposure to the video.

These findings also suggest that the intervention can be even more effective in moving people along through the stages if we can build in ways to get the recipient to view the video. One way to accomplish this is to direct the intervention toward individuals who are apparently already sufficiently motivated to use them. Indeed, this is consistent with the initial intended use of the video by HIV testing counselors giving it to women when they test for HIV – a circumstance in which women are probably already contemplating action to reduce their risk, and, thus, are especially likely to be motivated to view the video and share it with their male partner.

Although a video alone could be a tremendously cost-effective, standardized intervention, it is more realistically a useful tool in the prevention educator’s arsenal. Especially for people who are not already motivated, a more extensive intervention may be warranted. Individuals may be more likely to benefit if the video is viewed in a group setting, in the context of a discussion. Another approach might be to distribute the video in conjunction with motivational interviewing, or have a client watch the video as part of a counseling session.

The possibility that male partners who viewed the video were more likely to get tested suggests that addressing any of these methods to get men to view the video may hold substantial promise for reducing transmission of HIV if it means that more men get tested or test more often. It is even conceivable that women respond to the video differently than men – for example, women may respond by reducing unprotected intercourse and men respond by testing for HIV. If true, this would provide all the more reason to make sure that both partners view the video, whether together or separately. In short, the promise of video as an intervention may best be realized if it is used as part of a larger intervention for sexually active heterosexual couples.

### **Appendix of Research Sites**

Brightwood Health Center, Springfield, MA

Community of Color, Roxbury, MA

Hill Health Center, New Haven, CT

Mason Square Neighborhood Health Center, Springfield, MA

Planned Parenthood of Connecticut, Meriden, CT

Portland Public Health Department, Portland, ME

Psychological Center, Lawrence, MA

Southwest Community Health Center, Bridgeport, CT

Uphams Corner Health Center, Dorchester, MA

Upper Hudson Planned Parenthood, Albany, NY

## References

- Amaro, H. (June 1995). "Love, Sex, And Power: Considering Women's Realities In HIV Prevention." American Psychologist, 50(6); 437-447.
- Bracken MB, Bracken M, Landry AB Jr. (1977). "Participant Education By Videotape After Myocardial Infarction: An Empirical Evaluation." Archives of Physical Medical Rehabilitation, 58(5); 213-219.
- Centers for Disease Control. (1998). HIV/AIDS Surveillance Report (year end edition 1997). Atlanta, GA: Centers for Disease Control.
- Centers for Disease Control and Prevention. (March 10, 1995) "HIV Counseling and Testing - United States, 1993." MMWR Morb Mortal Wkly Rep, 44(9); 169-174.
- Cohen J. (1988). Statistical Power Analysis for the Behavioral Sciences, 2nd Edition. Mahwah, NJ: Lawrence Erlbaum.
- DiClemente (1998).
- Freda MC, Damus K, Andersen HF, Brustman LE, Merkatz IR. (1990). "A PROPP For The Bronx: Preterm Birth Prevention Education In The Inner City." Obstetrics and Gynecology, 76(1 Suppl); 93S-96S.
- Gagliano ME. (1988). "A Literature Review On The Efficacy Of Video In Participant Education." Journal of Medical Education 63(10); 785-792.
- Hearst N, Hulley SB. (1988). "Preventing the Heterosexual Spread of AIDS: Are We Giving our Patients the Best Advice?" JAMA, 259;2428-2432.
- Holtgrave, et al (1997). AIDs Education & Prevention
- Hosmer DW, Lemeshow S. (1989). Applied Logistic Regression. New York: John Wiley and Sons.
- Ickovics JR, Morrill AC, Beren SE, Walsh U, Rodin J. (1994). "Limited Effects of HIV Counseling and Testing for Women: A Prospective Study of Behavioral and Psychological Consequences." JAMA, 272(6); 443-448.
- Ickovics JR, Druley JA, Grigorenko EL, Morrill AC, Beren SE, Rodin J (1998). Long-Term Effects of HIV Counseling and Testing for Women: Behavioral and Psychological Consequences Are Limited at 18 Months Post-Test. Health Psychology, 17(5); 395-402.
- Jadack, (1997)
- Kleinbaum DG, Kupper LL, Morgenstern H. (1982). Epidemiologic Research: Principles and Quantitative Methods. New York: Van Nostrand Reinhold.
- Morrill AC. (1994). "Women and Heterosexual Relationships: An Interpersonal Model of HIV Risk." Unpublished Doctoral Dissertation, Boston College.
- Morrill AC, Ickovics JR, Golubchikov VV, Beren SE, Rodin J. (1996). "Safer Sex: Social and Psychological Predictors of Behavioral Maintenance and Change Among Heterosexual Women." Journal of Consulting and Clinical Psychology, 64(4):819-828.

- Newmedia. (June 1995). "CD-ROM Market Stays Hot." 28.
- Nichols PM. (1995). "An Upward Trend in Home Video." New York Times, August 4, 1995.
- Nunnally JC, Bernstein IH. (1994). Psychometric Theory, 3rd Edition. New York: McGraw-Hill.
- Office of Technology Assessment (OTA). "The Effectiveness of AIDS Prevention Efforts. HIV Prevention: State-of-the Science." American Psychological Association, Washington, D.C.
- Padian NS, Shiboski SC, Glass SO, Vittinghoff E. (1997) "Heterosexual Transmission Of Human Immunodeficiency Virus (HIV) in Northern California: Results from a 10-year study." Am J Epidemiol, 146; 350-7.
- Prochaska JO, Norcross JC, DiClemente CC. (1994) Changing for Good. New York: William Morrow.
- Reiss IL, Leik R. (1989). "Evaluating Strategies To Avoid AIDS: Numbers of Partners Vs. Use of Condoms." The Journal of Sex Research, 26;411-433.
- Sikkema (1997). "Concepts, Goals & Techniques of Counseling: Review & Implications for HIV Counseling & Testing." AIDS Education and Prevention.
- Solomon MZ, Dejong W. (1989). "Preventing AIDS And Other STDS Through Condom Promotion: A Participant Education Intervention." American Journal of Public Health, 79(4); 453-458.
- Wermuth L, Ham J, Robbins R (1992). Women Don't Wear Condoms: AIDS Risk Among Sexual Partners of IV Drug Users. In Huber & Schneider (Eds), The Social Context Of AIDS. Newbury Park, CA: Sage.
- Wingood GM, DiClemente RJ. (1996). "HIV Sexual Risk Reduction Interventions for Women: A Review." American Journal of Preventive Medicine, 12(3):209-217.
- Wolitski (1997) [find article], AIDS.
- Worth D. (1989). "Sexual Decision-Making and AIDS: Why Condom Promotion Among Vulnerable Women is Likely to Fail." Studies in Family Planning, 20:297-307.
- World Health Organization Global Programme on AIDS. (1992). "The Current Global Situation of the HIV/AIDS Pandemic." Geneva: Author.

Table 1. Sociodemographic characteristics for respondents at (N=274).

Characteristic	Sample
Age	
Under 30	89 (32%)
30-39	106 (39%)
40-49	57 (21%)
50 and over	21 (8%)
Refused	1 (0%)
Race/ethnicity <sup>1</sup>	
White	101 (37%)
African-American	129 (47%)
Latina/Hispanic	52 (19%)
Native American	17 (6%)
Other	55 (20%)
Education	
High school or less	109 (40%)
Some college	94 (34%)
College degree	44 (16%)
Graduate school or beyond	27 (10%)
Employment	
Full-time employment	124 (45%)
Part-time employment	59 (22%)
Other	91 (33%)
Annual household income	
Below \$10,000	81 (30%)
\$10,000 - \$19,999	72 (26%)
\$20,000 - \$29,999	55 (20%)
\$30,000 - \$39,999	36 (13%)
\$40,000 or more	25 (9%)
Refused/Don't know	5 (2%)
Number of Children	
None	94 (35%)
One	60 (22%)
Two	53 (19%)
Three or more	67 (24%)
Relationship	
Not married, not committed	17 (6%)
In a committed relationship	186 (68%)
Married	71 (26%)
Mean years together (SD)	5.1 (6.2)

<sup>1</sup>Total exceeds 100% because respondents could select more than one category.

Table 2. Sexual behavior and risk at baseline (N=274).

Characteristic	Sample
Birth control	
Pregnant or trying	21 (8%)
Not able to get pregnant	73 (27%)
Condoms alone	44 (16%)
Condoms with other	20 (7%)
Other than condoms	66 (24%)
None	50 (18%)
Tested for HIV (HIV-)	228 (83%)
Reasons for testing <sup>1</sup>	
To know or for peace of mind	47 (21%)
Own risk	51 (22%)
Other or past Partner's risk	35 (15%)
Routine health	39 (17%)
Required	5 (2%)
Partner tested	174 (64%)
Partner risk	
No known risk	48 (17%)
Uncertain risk	112 (41%)
Moderate risk	73 (27%)
High risk	36 (13%)
HIV+	5 (2%)
Sexually active last month	237 (86%)
Mean # of partners last month (SD) <sup>2</sup>	1.1 (0.5)
Mean # acts of intercourse last month (SD) <sup>2</sup>	12.0 (10.2)
Mean # acts of protected intercourse last month (SD) <sup>2</sup>	2.7 (6.9)
Mean % condom use for intercourse last month (SD) <sup>2</sup>	20.5 (32.1)

<sup>1</sup> Restricted to participants tested for HIV (n=228). Not all reasons showed; could select more than one.

<sup>2</sup> Restricted to respondents that were sexually active in the past month (n=237).

Table 3. Use of and response to materials, among respondents in the video group (N=119).

Characteristic	Sample
Viewed at least some of the video	119 (91%)
Motivated/encouraged to do something differently	67 (56%)
Overall rating of video <sup>1</sup>	4.2 ( $\pm$ 0.9)
Viewed the entire video	104 (79%)
Viewed some parts more than once	48 (37%)
Partner viewed at least some of the video	41 (31%)
Shared with partner	38 (29%)

<sup>1</sup>From a 5-point scale, with 1=*not at all helpful* and 5=*very helpful*. Mean  $\pm$  SD.

Table 4. Outcomes at follow-up by treatment condition (intent to treat, n=260).

Outcome	Condition		t	p
	Control (n=129)	Intervention (n=131)		
	Adj. Mean (se) <sup>1</sup>	Adj. Mean (se) <sup>1</sup>		
<i>Knowledge</i>				
Number of correct answers (0-16)	13.0 (0.2)	13.9 (0.2)	3.78	0.000
<i>Attitudes (1=Disagree strongly, to 6=Agree strongly)</i>				
Favorable toward condoms	3.3 (0.1)	3.3 (0.1)	0.28	0.783
Self-efficacy for refusing sex	4.4 (0.1)	4.6 (0.1)	0.90	0.371
<i>Intent (1=Definitely not, to 5=Definitely yes)</i>				
Intend to ask partner to always use condom	2.6 (0.1)	2.7 (0.1)	0.44	0.660
Intend to ask partner to get tested for HIV	2.8 (0.1)	3.0 (0.1)	0.86	0.388
<i>Behavior</i>				
Acts of unprotected intercourse in past month	8.5 (0.7)	7.2 (0.7)	-1.29	0.200
Percent condom use	26.4 (3.4)	27.2 (3.3)	0.16	0.873
<i>Since the previous interview...</i>				
Communication (0-11 HIV-related topics) <sup>2</sup>	4.0 (0.3)	4.9 (0.3)	2.06	0.041
	N (%)	N (%)	Odds Ratio	p <sup>3</sup>
Asked partner to always use a condom	30 (23.3)	37 (28.2)	1.28	0.389
Asked partner to get tested for HIV	32 (24.8)	39 (29.8)	1.19	0.540
Partner tested for HIV	10 (7.8)	21 (16.0)	2.19	0.056

<sup>1</sup> Mean (se) from analysis of covariance, adjusted for the baseline outcome measure.

<sup>2</sup> Mean (se) unadjusted; p-value from t-test.

<sup>3</sup> P-value and odds ratio from logistic regression, adjusted for age.

Table 5. Outcomes at follow-up by exposure to video (n=260).

Outcome	Exposure <sup>1</sup>			F	p <sup>2</sup>
	None (n=64)	Partial (n=92)	Full (n=104)		
	Adj. Mean (se)	Adj. Mean (se)	Adj. Mean (se)		
<i>Knowledge</i>					
Number of correct answers (0-16)	13.1 (0.2)	12.9 (0.2)	14.1 (0.2) *	12.14	0.000
<i>Attitudes (1=Disagree strongly, to 6=Agree strongly)</i>					
Favorable toward condoms	3.3 (0.1)	3.6 (0.1)	3.4 (0.1)	1.44	0.238
Self-efficacy for refusing sex	4.6 (0.2)	4.3 (0.2)	4.7 (0.2)	1.41	0.246
<i>Intent (1=Definitely not, to 5=Definitely yes)</i>					
Intend to ask partner to always use condom	2.5 (0.2)	2.7 (0.1)	2.7 (0.1)	0.77	0.466
Intend to ask partner to get tested for HIV	2.5 (0.2)	3.0 (0.1) *	3.1 (0.1) *	5.17	0.006
<i>Behavior</i>					
Acts of unprotected intercourse in past month	9.9 (0.9)	7.5 (0.8)	6.9 (0.7) *	3.43	0.034
Percent condom use	20.2 (4.6)	35.2 (4.1) *	24.5 (3.6)	3.41	0.035
<i>Since the previous interview...</i>					
Communication (0-11 topics discussed) <sup>3</sup>	3.1 (0.4)	4.5 (0.4) *	5.2 (0.4) *	6.70	0.002
	N (%)	N (%)	N (%)	$\chi^2$	p
Asked partner to always use a condom	11 (17.2)	30 (32.6)	26 (25.0)	4.75	0.093
Asked partner to get tested for HIV	11 (17.2)	25 (27.2)	35 (33.6)	5.41	0.067
Partner tested for HIV	4 (6.2)	12 (13.0)	15 (14.4)	2.69	0.260

<sup>1</sup> Exposure defined as none (did not view any of the video nor received information from any other sources), partial (viewed some, but not all, of the video and/or received information from other sources), and full (viewed the entire video at least once and may have received additional sources of information).

<sup>2</sup> Mean (se) from analysis of covariance, adjusted for the baseline outcome measure. Means with asterisk significantly different from no exposure group (p<0.05) by Dunnett's test.

<sup>3</sup> Mean (se) unadjusted; p-value from analysis of variance.