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A Pilot Intervention to Promote Safer Sex in Heterosexual Puerto Rican Couples

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Abstract

Although the sexual transmission of HIV occurs in the context of an intimate relationship, preventive interventions with couples are scarce, particularly those designed for Hispanics. In this article, we present the effect of a pilot intervention directed to prevent HIV/AIDS in heterosexual couples in Puerto Rico. The intervention was theory-based and consisted of five three-hour group sessions. Primary goals included increasing male condom use and the practice of mutual masturbation as a safer sex method, and promoting favorable attitudes toward these behaviors. Twenty-six couples participated in this study. Fifteen were randomly assigned to the intervention group and eleven to a control group. Retention rates at post-intervention and follow-up were 82% for the whole sample. Results showed that there was a significant increase in the use of male condoms with main partners in the intervention group when compared with the control group. Couples in the intervention group also had better scores on secondary outcomes, such as attitudes toward condom use and mutual masturbation, HIV information, sexual decision-making, and social support. We found that these effects persisted over the three month follow up. A significant effect was also observed for the practice of mutual masturbation, but not for sexual negotiation. These results showed that promoting male condom use in dyadic interventions among heterosexual couples in Puerto Rico is feasible. Our findings suggest that because vaginal penetration has been constructed as the sexual script endpoint among many Hispanic couples, promoting other non-penetrative practices, such as mutual masturbation, may be difficult.

Keywords

heterosexual couples; Puerto Rican; Hispanics; male condom; mutual masturbation

The HIV/AIDS pandemic has had a significant impact in the Puerto Rican community. Through January 31, 2014 a total of 45,788 cases of HIV/AIDS have been reported on the Island, 74% of which were among men and 26% among women (Puerto Rico Health

Department, 2014). The main mode of infection for men is injection drug use (49%). For women, it is heterosexual contact (65%). In 2011, Puerto Rico ranked 8th in the rate of HIV when compared with other U.S. states and other territories (Centers for Disease Control and Prevention, 2013). Considering that 65% of women with HIV/AIDS on the Island were infected by their sexual partner, prevention interventions for this population are urgently needed. In the USA in 2009, the rate of HIV diagnosis for Hispanic males was 2.5 times higher than for non-Hispanic males and 4.5 times higher among Hispanic than among non-Hispanic women (Prejean et al., 2011). In 2009, Hispanics accounted for 20% of new HIV cases in the United States (Prejean et al., 2011). Hispanics report higher levels of risk behaviors, including injection drug use and unprotected sex compared to other racial and ethnic groups (Rhodes, Yee, & Hergenrather, 2006; Smith, 2003).

Most interventions implemented with Hispanics have focused on women only (Harvey et al., 2004). These interventions assume that women have the power to negotiate and enact safer sex practices with men (Campbell, 1995). They emphasize the provision of information and the development of skills for the use and negotiation of male condoms (Exner, Dworkin, Hoffman, & Ehrhardt, 2003). However, sexually transmitted diseases, including HIV, do not occur in a vacuum, but in the context of an intimate relationship with another person. Thus, there is a need to develop and evaluate HIV/AIDS prevention interventions with this population (DiClemente, 2000; Harvey et al., 2004). Indeed, researchers have highlighted the need to conduct culturally sensitive interventions with Hispanic couples that incorporate a broad understanding of the ways that Hispanic culture can both protect and put people at risk of HIV/AIDS and other sexually transmitted infections (Gómez & VanOss Marín, 1996; Marín, 2003).

Nonetheless, a systematic literature review found that HIV preventive interventions targeted toward couples have been scarce (Burton, Darbes, & Operario, 2010; El-Bassel et al., 2010), and few have focused on Hispanic couples (Herbst et al., 2007; Pequegnat & Bray, 2012). Of these, the majority of studies have been conducted in African countries where heterosexual intercourse is the main mode of infection (World Health Organization, 2011). In general, these interventions have focused on exploring the sexual history and risk factors of heterosexual couples (Deschamps, Pape, Hafner, & Johnson, 1996; Padian, 1990); the effects of HIV testing and counseling on the sexual practices of discordant and concordant couples (Allen et al., 2003; Allen et al., 1992; Roth et al., 2001); the practices of contraception and reproductive behaviors among concordant and discordant couples (Mark et al., 2007; Van Devanter, Cleary, Moore, Thacker, & O'Brien, 1998); and issues related to stigma and coping with HIV diagnosis (Beckerman, 2002; Van Der Straten, Vernon, Knight, Gomez, & Padian, 1998).

More generally, there has been a growing interest in research with couples in recent years. This research includes the development and testing of preventive interventions; issues related to recruitment and retention (Hernández-Hernández & Pérez-Jiménez, 2010; McMahon, Tortu, Torres, Pouget, & Hamid, 2003; Witte et al., 2004); and the proposal and testing of theoretical frameworks that can take into consideration relationship dynamics in prevention (Harman & Amico, 2009; Karney et al., 2010). Most of these studies have focused in promoting safer sex through the promotion of condom use, couples'

communication, sexual negotiation skills, and in increasing adherence to HIV medications (El-Bassel et al., 2010). One of the first couples' interventions in the USA, comprised of Hispanic and other minority racial and ethnic groups, was resulted in both short- and long-term reductions in the number of unprotected sexual acts and increasing the proportion of protected sexual acts (El-Bassel et al., 2001; El-Bassel et al., 2003, 2005; Witte et al., 2006). The first known intervention designed exclusively for Hispanic couples focused on increasing condom use for disease and pregnancy prevention using a group format (Harvey et al., 2004). This intervention did not result in a significant treatment effect. In both groups (experimental and control), condom use increased and unprotected sexual acts decreased. The authors concluded that further research with Hispanic couples was needed to compare the effectiveness of interventions aimed at couples versus those aimed at individual men and women. More recently, an intervention for Hispanic adolescent couples was implemented in Los Angeles (Koniak-Griffin et al., 2008). This six-session group intervention included sessions in which men and women met separately to deal with sensitive issues like sexuality, gender roles, and intimate partner violence. Some of the themes addressed in the intervention included: (a) HIV awareness; (b) vulnerability to HIV infection; (c) attitudes toward safer sex; (d) condom use; and (e) sexual negotiation. The intervention resulted in a significant reduction in unprotected sex and increased intentions to use condoms. These outcomes were strongest for female participants.

To address the lack of published studies targeting Hispanic couples, we designed and implemented *Encuentro* (Spanish translation for "gender encounter for HIV/STD prevention"), a couples-based group intervention to prevent HIV/AIDS. This was the first known intervention implemented in Puerto Rico that targeted couples. The intervention had two further characteristics that made it different from the studies previously described. First, our intervention promoted mutual masturbation, in addition to male condom use, as a safer sex method. To date, most HIV/AIDS prevention interventions have focused primarily on the promotion of condom use as the safer sex method. However, many barriers to successful condom use enactment in heterosexual couples have been described, including male partner reluctance, lack of sexual negotiation skills, lack of risk perception, cultural norms against the use of condoms (Lotfi, Ramezani Tehrani, Yaghmaei, & Hajizadeh, 2012; Ngunjiri et al., 2012). We believe that couples in steady relationships should have other options for practicing safer sex in addition to condom use. Mutual masturbation could be a feasible option because it is a pleasurable sexual practice that can reduce the risk of infection, while promoting closeness among partners. A recent study that investigated the viability of non-penetrative sex among Puerto Ricans found that 47% of those with steady sex partners and 41% of those with non-steady partners engaged in mutual masturbation (Norman, 2010).

The intervention was guided by the Relationship Oriented Information-Motivation-Behavioral Skills Model (RELO-IMB) of HIV risk behavior change (Fisher, Fisher, & Shuper, 2009; Harman & Amico, 2009). The model proposes that relationship-oriented information, motivation, and behavioral skills are critical determinants of risk and preventive behaviors within couples (Misovich, Fisher, & Fisher, 1997). According to its proponents, some components of this model are situated within the individual, while others are intertwined between the partners of the couple (Harman & Amico, 2009). It has been

found that this model is a better predictor of behavior than other behavior change models when the theoretical constructs are organized at the dyadic level (Harman & Amico, 2009). This is consistent with a recently proposed framework for incorporating dyads in HIV prevention that recognizes the need to consider the existence and influence of individual-level and relationship-level variables when working with couples (Karney et al., 2010). There is some evidence to support the utility of the original Information-Motivation-Behavioral Skill (IMB) model with Hispanics. For example, the model has been used as framework for an efficacious HIV/STD intervention for Hispanic college students (Gracia Jones, Patsdaughter, Jorda, Hamilton, & Malow, 2008), as well as a culturally tailored diabetes self-care intervention for Puerto Ricans with type 2 diabetes (Osborn et al., 2010).

Description of the Experimental Intervention

In Table 1, we present a description of the intervention. The experimental intervention consisted of five three-hour sessions. In sessions 1 and 5, couples met in mixed-gender groups. In sessions 2–4, they met separately by gender. All sessions were facilitated by a one facilitator and one co-facilitator. Mixed-gender sessions were facilitated by mixed-gender facilitators, while single-gender sessions were facilitated by same-gender facilitators. At the end of each session, couples gathered to share experiences, and to receive a homework assignment that would be discussed at the beginning of the next session. In Table 2, we present a brief description of the homework assignments and their objectives. All intervention sessions were delivered in Spanish.

The intervention was guided by the IMB model. The *information* component of the IMB model was addressed in session 1. The objectives of this session were to: (a) provide basic and accurate information about HIV transmission and prevention, and (b) emphasize the advantages of using the male condom and practicing mutual masturbation as safer sex practices. During this session, participants also received a general overview of the study and the remaining sessions. Special emphasis was placed on information regarding advantages of using condoms for the mutual protection of the couple, and on the practice and pleasure generated by safer sex practices such as mutual masturbation. Avoidance of unprotected vaginal and anal sex was emphasized.

The *motivation* component was addressed in sessions 2–5, while the *behavioral skills* component was addressed in sessions 3 and 4. Session 2 was focused on the ways that masculinity and femininity are socially constructed and how they relate to risk behaviors. The objectives of this session were to: (a) reflect on social norms regarding how men and women are expected to behave; (b) analyze the relationship between these social norms and the expression of sexuality in Latino/a men and women, particularly with regard to high-risk behaviors; and (c) discuss how cultural traditions related to sexuality and gender affect a couple's relationship and their HIV preventive behavior. In sessions 3 and 4, we worked to promote positive attitudes toward mutual masturbation and male condom use. The objectives of session 3 were to: (a) demystify ideas about mutual masturbation; (b) promote positive attitudes toward the practice of mutual masturbation as a safer sex practice; and (c) promote the acquisition of skills to practice this behavior. Session 4 focused on: (a) promoting a sense of self-efficacy toward the negotiation and use of male condoms; (b)

acquiring the skills for using male condoms and negotiating male condoms, and (c) identifying conflict management strategies when a partner refused to practice safer sex. Finally, during the last session, we: (a) discussed relationship and cultural factors that can facilitate or impede the practice of safer sex; and (b) identified the ways that participants can seek support from other persons to engage and maintain safer sex practices.

In this article, we describe our IMB model-based pilot intervention for Puerto Rican couples and present the evidence of its impact on two primary outcomes (male condom use and practice of mutual masturbation as a safer sex method), and six secondary outcomes (knowledge about HIV/AIDS, sexual decision making, attitudes towards mutual masturbation, attitudes toward male condom use, social support for the practice of safer sex, and self-efficacy for the negotiation of safer sex).

Method

Research Design Overview

We used an experimental design to conduct this study. Participants in the control group received four 3-hour intervention sessions to promote effective parenting skills. Those in the intervention group received the HIV/AIDS prevention intervention. Participants in both groups completed a self-administered baseline assessment at the beginning of the first session. A post-intervention assessment was completed at the end of the final session, and at 3-month follow-up.

Participants

The participants of this study consisted of 26 Puerto Rican heterosexual couples (52 participants) in a steady relationship, defined as those couples involved in a romantic relationship for the last six months prior to recruitment. To be eligible, participants had to meet the following inclusion criteria: (a) be between 21 and 45 years of age; (b) self-identity as heterosexual; (c) be sexually active during the last three months; (d) be HIV-negative; (e) be involved in a romantic relationship for the last six months; (f) abstinent from illegal drug use for the last six months; (g) be able to read and write; (h) have a commitment to attend all intervention sessions; (i) not participating in any other HIV/AIDS prevention intervention; and (j) having a partner willing to participate. Participants' consent was obtained before filling out the screening instrument. Couples who met the eligibility criteria were randomized to either the experimental or the control group. Fifteen couples were randomized to the intervention group and eleven to the control group.

In Table 3 we show the demographics of study participants. The mean age of participants was 32 years (range 23–45) for those in the intervention group, and 33 (range 24–43) for those in the control group. Most participants were legally married, had a university degree, and were working in a full-time job. Two-thirds had a monthly income of \$3,000 or less. The vast majority perceived themselves to be at low or no-risk of HIV infection. Most participants (71%) had been tested for HIV. The most common reasons for obtaining an HIV test were personal curiosity (33.3%), physician recommendation (33.3%), and employment (13.9%). There were no significant differences between the two groups on these dimensions.

The study was implemented at the Río Piedras Campus of the University of Puerto Rico, and was approved by the university's Institutional Review Board (#9900-028).

To recruit couples, we placed advertisements in two of the main newspapers in Puerto Rico. A total of 351 persons called in response to the advertisements. The majority of these calls were made by women (97%). Because of time limitations, we only screened the first 115 couples, 101 of whom met eligibility criteria. Of these, 86 were included in the study. Reasons for excluding other couples included telephones that were out of service (in most cases cell phones), cell phones message inboxes that were full making it impossible to leave a message, cell phones not activated, and wrong telephone numbers. We planned to have two cohorts of 40 couples, but finished implementing only one because study funding ended. Couples were sequentially assigned an even or an odd number. Those couples with even numbers were assigned to the control group and those with odd numbers were assigned to the intervention group. In all, 26 couples attended the intervention, 15 in the intervention group and 11 in the control group. Those couples who did not attend the first session were contacted to follow-up. Reasons for not attending included having a child in the hospital, the partners changed his/her mind and decided not to participate, living too far from the Metropolitan area of San Juan, and having difficulties with the time that the first session was scheduled. Retention rates at post-intervention and follow-up was 82% for the entire sample; 73% (n=11 couples) for the intervention group and 91% (n=10 couples) for the control group. These retention rates compare with those reported in other studies with couples (El-Bassel et al., 2003; Harvey et al., 2004; Koniak-Griffin, Lesser, Takayanagi, & Cumberland, 2011).

Assessment

We adapted for use in Spanish, a previously published questionnaire that assessed the three components of the IMB Model (Misovich, Fisher, & Fisher, 1998). The Spanish version used in this study also had been used in a previous study conducted by the PI and colleagues (Pérez-Jiménez, Varas-Díaz, Serrano-García, Cintrón-Bou, & Cabrera-Aponte, 2004). The questionnaire consisted of nine Likert type scales, a section on demographics (27 multiple choice questions), a section on sexual behavior (21 multiple choice questions), and a section on recruitment and retention (12 multiple choice questions and four open-ended questions).

Demographics—The demographic section of the questionnaire consisted of 27 close-ended questions. The following variables were included in the analysis conducted for this paper: age, sex, education, marital status (e.g. legally married, divorced, single, widow, and living together), length and type of relationship with steady partner (e.g. main or secondary partner), employment status (e.g. full-time job, part-time job, unemployed), income, HIV risk perception (e.g. high-risk, medium-risk, low-risk, and no-risk), and HIV testing.

Information—To measure information we used two Likert type scales. The first scale was the *Basic HIV/AIDS Information Scale*, which consisted of 15 items with scores ranging from 15–75 (Cronbach's Alpha = .62). A higher score indicated greater knowledge about HIV/AIDS prevention and transmission. Sexual decision-making information was assessed by the *Sexual Decision-Making Scale*, which consisted of 6 items (Cronbach's Alpha = .72).

Scores ranged from 6–30. A higher score indicated that the person makes well-informed decisions about safer sex practices (e.g., safer sex is influenced by objective measures rather than subjective measures such as the look of a person).

Motivation—To measure motivation, we used four scales. The *Attitudes toward Male Condom Use Scale* is a 16-item scale (Cronbach's Alpha = .70). Scores in this scale range from 16–80 with higher scores indicating more positive attitudes toward male condom use. The *Attitudes toward Mutual Masturbation Scale* is composed of 21 items (reliability coefficient = .81). Scores in this scale range from 21–105, with higher scores reflecting more positive attitudes toward mutual masturbation. The *Social Support toward Male Condom Use Scale* consisted of 11 items that ranged from 11–55 (Cronbach's Alpha = .93). A higher score indicated that the person had more social support to use condoms. Finally, we administered the *Social Support toward Mutual Masturbation Scale* a 9-item scale (Cronbach's Alpha = .94), with scores ranging from 9–45. A higher score indicates greater perceived social support to practice this behavior.

Behavior skills—To measure behavior skills, we used the *Self-efficacy toward the Negotiation of Safer Sex Scale*. This is an 8-item scale with a reliability coefficient of .87. Scores ranged from 8–40, with higher scores reflecting greater self-efficacy to practice safer sex. The scale included five items related to the negotiation of male condom use and three items related to the negotiation of mutual masturbation.

Sexual behavior—We asked for the frequency of condom use and the practice of mutual masturbation during the last three months. Frequency of condom use was operationalized with a five point Likert scale ranging from 0 (never) to 4 (always), and the practice of mutual masturbation with an ordinal item ranging from every day, several times a week, several times a month, at least once a month, and never.

Analysis

We hypothesized that participants in the HIV/STD intervention, compared to those in the control group, would: 1) report a greater increase in male condom use and the practice of mutual masturbation from baseline to follow-up; and 2) develop more positive attitudes toward male condom use and the practice of mutual masturbation from baseline to follow-up.

Because data in this study come from repeated measures of pairs of people who can influence each other, it was important for analyses to account for the correlations over time and within pairs. Mixed model analyses were used to account for these correlations (West, Welch, & Galecki, 2007). Analyses were run with the MIXED command in SPSS, starting with a full factorial model of intervention group (experimental versus control), time (baseline, posttest, 3-month follow-up), and sex, and all the interactions among them. The covariance model was modeled as a compound symmetry form because it provided a better fit than alternatives. Then models of each of the dependent measures were fit, tested, revised by dropping non-significant higher order interactions and refit and retested. Checks were

also conducted to ensure there were no violations of the assumption of normality of the residuals.

Results

Model Development

In analysis of the full factorial model on each of the eight dependent measures, there were no significant three-way interactions of group, time, and gender. So the three-way interaction was dropped from the model. Further, in examination of the two-way interactions, only the group $\times$ time interaction was significant. All other two-way interactions (gender by group, and gender by time) also were dropped from the models. Thus, the model for the reported analyses used the following predictors: group, time, gender, and group by time. Following the recommendation of Maxwell and Delaney (2004), the test of the interaction of group by time is presented. When this interaction was significant, the main effects of group and time are not reported. Since gender was not part of an interaction, this variable will be presented for each analysis. In all analyses, the Satterthwaite adjusted degrees of freedom was used.

Results for Individual Measures

Use of male condoms with main partner—As seen in Table 4, there was no significant effect of gender on condom use [$F(1, 38.3)=0.07, p=.790$]. There was a significant interaction of group with time, [$F(2, 70.8)=14.95, p<.001$]. As can be seen in Table 4, male condom use increased over time in the experimental group (for both genders) over both time periods (from Baseline to Post-test to Follow-up), but not in the control group.

Mutual masturbation with main partner—There was no significant main effect of gender on mutual masturbation, [$F(1, 47.3)=0.50, p=.483$]. The only significant effect was the interaction of group and time [$F(2, 84.0)=3.40, p=.038$]. This was the only measure in which high scores indicated less of the behavior. As seen in Table 4, scores on mutual masturbation increased in the experimental group from baseline to both follow-up times indicating that mutual masturbation decreased after the intervention. This trend did not hold in the control group.

Information about HIV/AIDS—Table 5 shows that there was no significant effect of gender on knowledge of HIV/AIDS, [$F(1, 48.8)=2.62, p=.112$]. There was a significant interaction between intervention group and time, [$F(2, 83.4)=5.26, p=.007$]. As can be seen in Table 5, knowledge increased for all participants over time, but was most evident among intervention participants.

Sexual decision-making—There was no significant interaction between intervention group and time for sexual decision making, [$F(2, 85.4)=1.266, p=.287$]. There also was no main effect by intervention group, [$F(1, 47.0)=3.67, p=.062$], gender [$F(1, 47.4)=9.69, p=.003$] or time [$F(2, 85.4)=6.53, p=.002$].

Attitudes toward mutual masturbation—There was no significant main effect for gender on attitudes toward mutual masturbation, [$F(1, 45.0)=0.36, p=.553$]. There was a significant interaction of group with time, [$F(2, 80.0)=3.87, p=.025$]. As can be seen in Table 5, scores increased more over time in the intervention group than in the control group.

Attitudes toward use of condoms—There was no significant effect of gender on attitudes toward condom use, [$F(1, 47.6)=2.65, p=.110$]. There was a statistically significant interaction between intervention and time, [$F(2, 81.3)=3.37, p=.039$]. As can be seen in Table 5, scores increased more over time in the intervention group than in the control group.

Social support for condom use and mutual masturbation—There was no significant effect of gender on perceived social support for condom use and mutual masturbation, [$F(1, 46.1)=0.21, p=.650$]. There was a significant interaction of group and time, [$F(2, 88.5)=8.93, p<.001$]. Scores on this scale increased more from baseline to follow up in the intervention group than in the control group.

Sexual negotiation—There were no significant main or interaction effects for this outcome.

Discussion

Our couples-based HIV/AIDS intervention resulted in more positive attitudes toward male condom use and increased male condom use compared to the couples-based parenting control intervention. The significant difference between the two groups in the use of male condoms, as well as the increases observed in safer sex knowledge and positive condom use attitudes among intervention participants, suggested that changing condom use behavior among Puerto Rican heterosexual couples is possible through a couples-level intervention. These intervention effects remained present at 3-month follow up further suggesting short-term sustainability. Whether these changes could be sustained for longer time periods warrants further research. Nonetheless, it was encouraging that our intervention resulted in increased condom use among the HIV intervention couples condition.

The finding of no impact of the intervention on the practice of mutual masturbation may reflect the value given to genital penetration in Western societies where penetrative vaginal sex is often considered the sexual script endpoint in heterosexual relations (Seal & Ehrhardt, 2004). Our study involved couples in a steady relationship who were sexually active, had a low perception of HIV risk, and who may have been unwilling to increase non-penetrative sexual behavior. In addition, we believe that the perception of their partner's HIV status may have affected the adoption of this practice. Knowing or perceiving that one's partner is not infected with HIV may discourage the adoption of safer sex practices, particularly those not associated with penetration. Whether the intervention increased mutual masturbation among couples during foreplay is unknown, since we only assessed this behavior as an endpoint of a sexual interaction.

Finding that most participants had a low-risk perception for HIV exposure was not a surprise. This is consistent with studies that reveal that people who are involved in a

romantic relationship, particularly men, have a low perception of risk (Maharaj & Cleland, 2005; Prata, Morris, Mazive, Vahidnia, & Stehr, 2006). Yet, most participants had been tested for HIV, although we did not assess if the testing occurred while they were with their current partner. Other studies that have found that participants with low HIV-risk perception feel less motivated to get tested than those who perceive themselves as more vulnerable (Kellerman et al., 2002). Perhaps more couples are beginning to recognize the possibility of sexual infidelity within committed relationships and, thus, are more open to the possibility that they may be exposed to an STD. Growing awareness that most women are infected with HIV by a primary sexual partner may also increase test-seeking behavior. HIV testing is also becoming a routine part of pre-natal care.

To our knowledge, this pilot study is the first group-based HIV prevention intervention designed exclusively for adult Puerto Rican heterosexual couples on the Island. It is also one of the few interventions that have promoted mutual masturbation as a safer sex method. The study sheds new light on an understudied population. Applying our intervention to couples in a relationship was shown to be a viable strategy. Future applications of this intervention may consider the addition of post-intervention booster sessions in order to re-enforce safer sex practices over time. Some prevention efforts have been shown to be efficacious in changing short-term behavior, but have not shown long-term maintenance of these changes (Fogarty et al., 2001; Slonim-Nevo, Auslander, Ozawa, & Jung, 1996). It also will be important to include long-term follow-up assessments to evaluate whether short-term behavioral changes are sustained over longer time periods. Finally, individual and couples' level intervention approaches are likely to be strengthened by intervention efforts targeted at the broader societal level. Such interventions would aim to create social norms and policies that legitimize the use of condoms as a way of maintaining healthier relationships and developing healthier families.

This study also has important implications for practitioners. Those who are working with at-risk couples should explore sexual negotiation and enactment among couples from a gender-powered perspective within a cultural empowerment model that builds upon culture as enabler (Seal, Wagner-Raphael, & Ehrhardt, 2000). That is, intervention is more likely to succeed if it works with naturally existing gender roles to promote sexual health than if it tries to fundamentally change cultural norms. For example, man as the "provider and protector" could be re-framed to man as the initiator and user of condoms (Seal & Ehrhardt, 2004; Seal et al., 2000). They must also create opportunities and space for safe discussion about these issues between partners. Skilled couple facilitation around sexual health can promote this space and safety. Finally, they must be open and comfortable as a practitioner with suggesting multiple routes to sexual safety and sexual harm reduction that can still be pleasurable and exciting. If practitioners, themselves, are uncomfortable with open sexuality discussion, then it is likely that their clients will be as well.

This study had limitations. The study was a pilot trial with a small sample size and possible selection biases given the mode of recruitment and assignment. Further, all measures were in response to written scales, without specific measures of sexual behavior or biomarkers of sexual health outcomes. Thus positive responses could be influenced by perceived social desirability and a desire to report risk reduction over time, especially in the intervention

group. The study also was limited to a relatively homogenous subsample of educated Puerto Ricans in San Juan. Future evaluations of this intervention should be expanded to a larger randomized control trial with a sample that includes at-risk Puerto Rican couples living on the Island, as well as those living in the U.S. Latinos are not a homogeneous ethnic group and their cultural background has different expressions depending on the country of origin. Such differences should be taken into consideration when designing larger prevention intervention trials. Finally, we did not collect data about the reasons dropped out of the intervention. Results should be interpreted carefully because we are not sure if there were structural reasons for the drop outs or if these couples left the intervention because they did not like it.

Nonetheless, our study demonstrated that is it feasible to recruit and enroll Puerto Rican couples into a group HIV prevention intervention program. Our study further suggested that this type of intervention can benefit these couples by promoting positive condom use attitudes and behavior.

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Table 1

Description of Experimental Intervention

Session #	Construct addressed	Type of session	Modality
1	Basic information about HIV/AIDS	Group	Didactic-interactive
2	Social construction of gender roles	Gender-specific	Didactic-interactive
3	Skills for the practice and negotiation of mutual masturbation	Gender-specific	Didactic-interactive; Skill training
4	Skills for the use and negotiation of condoms	Gender-specific	Skill training; Role playing
5	Barriers and facilitators of safer sex	Group	Didactic-interactive; Skill training

Table 2

Description of Homework

Session #	Homework	Objective
1	No homework	
2	We gave to every member of the couple a list with 20 items about male and female gender roles. They were asked to indicate individually what they thought was the opinion of their partner about the item. Then, they were asked to meet to discuss their answers. If they didn't agree, they had to discuss their differences in opinion.	Clarify the notions about gender roles and how they relate to sexual behavior.
3	We gave them a form to complete with questions about mutual masturbation (MM). They were asked to complete the form individually and then meet to discuss their answers. The form included questions about whether they were willing to practice MM, barriers to practicing MM, how he or she would propose practicing MM to their partner, and what they would do if their partner refused to practice MM.	Strengthen skills to practice MM.
4	We asked the couple to negotiate and use a male condom in one of their sexual encounters. We asked them to complete a form with some questions, including: Who took the initiative to enact condom use? How difficult or easy it was to negotiate the use of a condom? How they overcame any difficulties?	Strengthen skills to negotiate and use male condoms.
5	No homework	

Table 3

Baseline Characteristics of Participants by Group and Sex (N=52)

Characteristic	Experimental (n=30)		Control (n=22)	
	Men	Women	Men	Women
	(N=15)	(N=15)	(N=11)	(N=11)
Because the results are presented separately for both genders, the sample sizes are also presented separately: 15, 15, 11, 11.				
Demographic				
Age (mean)	32.6	31.7	36.4	32.4
Marital Status				
Single	13.3	13.3	.0	.0
Married	60.0	60.0	81.8	81.8
Living together	20.0	26.7	18.2	18.2
Divorced	6.7	.0	.0	.0
Education				
High school diploma or equivalent	26.6	6.7	27.3	27.3
Two years of college	13.3	13.3	9.1	27.3
Bachelor degree	33.3	46.7	36.4	45.5
Master degree	20.0	26.7	9.1	.0
Other	6.7	6.7	18.2	.0
Employment status				
Employed full-time	93.3	66.7	100.0	54.5
Employed part-time	.0	20.0	.0	18.2
Unemployed	6.7	13.3	.0	27.3
Monthly Income				
<\$2,000	46.7	33.3	36.4	30.0
\$2,001–\$3,000	20.0	20.0	27.3	40.0
\$3,001–\$4,000	20.0	13.4	9.1	10.0
\$4,001–\$5,000	13.4	33.3	27.3	20.0
Religion				
Catholic	64.3	33.3	63.6	81.8
Protestant	35.7	46.7	18.2	9.1
Other	.0	6.7	18.2	9.1
HIV Risk Perception				
High-Risk	.0	.0	.0	9.1
Medium-Risk	.0	6.7	9.1	9.1
Low-Risk	66.7	53.3	27.3	27.3
No-Risk	33.3	40.0	63.6	54.5
Ever tested for HIV	66.7	73.3	81.8	63.6
Never or almost never used a condom during vaginal sex in past 3 months	92.9	85.7	90.9	81.8
Never used a condom during anal sex in past 3 months	75.0	100.0	100.0	75.0

Characteristic	Experimental (n=30)		Control (n=22)	
	Men	Women	Men	Women
	(N=15)	(N=15)	(N=11)	(N=11)
Sex with main partner under the influence of alcohol				
Sometimes	46.7	33.3	36.4	45.5
Never	53.3	66.7	63.6	54.5

Table 4

Means and 95% Confidence Interval of Primary Outcomes by Condition, Time and Sex

	Males						Females					
	Baseline			Post-test			Follow-up			Baseline		
	M	95% CI		M	95% CI		M	95% CI		M	95% CI	
	Male condom use						Male condom use					
Experimental	1.51	1.1–1.9	2.24	1.8–2.6	2.36	2.0–2.7	1.56	1.2–1.9	2.29	1.9–2.7	2.41	2.0–2.8
Control	1.43	1.0–1.8	1.22	.8–1.6	1.12	.7–1.5	1.48	1.1–1.9	1.27	.9–1.7	1.17	.8–1.6
	Practice of mutual masturbation						Practice of mutual masturbation					
Experimental	2.18	1.7–2.6	2.83	2.3–3.3	2.46	1.9–3.0	2.35	1.9–2.8	3.01	2.5–3.5	2.63	2.1–3.1
Control	2.60	2.1–3.1	2.34	1.8–2.9	2.43	1.9–3.0	2.77	2.2–3.3	2.51	2.0–3.0	2.60	2.0–3.1

Table 5

Means and 95% Confidence Interval of Secondary Outcomes by Condition, Time and Sex

	Males						Females					
	Baseline			Post-test			Baseline			Post-test		
	M	95% CI	M	95% CI	M	95% CI	M	95% CI	M	95% CI	M	95% CI
	Information about HIV/AIDS						Information about HIV/AIDS					
Experimental	60.4	57.9–62.9	64.7	62.0–67.4	66.6	63.9–69.3	62.7	60.2–65.2	67.0	64.3–69.7	68.9	63.9–69.3
Control	59.6	56.8–62.4	61.3	58.4–64.1	61.1	58.2–63.9	61.9	59.1–64.7	63.6	60.7–66.4	63.4	60.5–66.2
	Sexual decision-making						Sexual decision-making					
Experimental	20.75	19.0–22.5	24.04	22.1–26.0	23.27	21.3–25.2	23.58	21.8–25.3	26.87	24.9–28.8	26.10	24.2–28.0
Control	20.22	18.2–22.2	21.87	19.8–23.9	20.67	18.6–22.7	23.05	21.1–25.0	24.71	22.7–26.7	23.51	21.5–25.5
	Attitudes toward mutual masturbation						Attitudes toward mutual masturbation					
Experimental	86.58	83.1–90.1	92.40	88.6–96.1	92.24	88.4–96.0	85.42	81.9–88.9	91.23	87.5–95.0	91.07	87.3–94.8
Control	87.68	83.7–91.6	87.84	83.8–91.8	88.99	85.0–93.0	86.51	82.6–90.4	86.67	82.7–90.7	87.82	83.8–91.8
	Attitudes toward male condom use						Attitudes toward male condom use					
Experimental	47.99	43.5–52.4	55.27	50.6–59.9	55.12	50.4–59.8	52.14	47.7–56.6	59.42	54.7–64.1	59.27	54.6–63.9
Control	45.06	40.1–50.0	46.91	41.9–51.9	47.76	42.7–52.8	49.21	44.2–54.2	51.06	46.0–56.1	51.91	46.9–56.9
	Social support						Social support					
Experimental	28.96	23.2–34.7	47.81	41.3–54.3	44.75	38.1–51.4	27.77	22.0–33.5	46.62	40.1–53.1	43.57	37.1–50.0
Control	27.41	20.9–33.9	24.99	18.2–31.8	23.14	16.3–29.9	26.23	19.7–32.8	23.81	17.0–30.6	21.96	15.1–28.8
	Sexual negotiation						Sexual negotiation					
Experimental	32.61	29.5–35.7	34.22	30.9–37.5	35.26	31.9–38.6	33.66	30.5–36.8	35.28	32.0–38.6	36.31	33.0–39.6
Control	33.75	30.3–37.2	34.86	31.3–38.4	33.21	29.7–36.7	34.80	31.3–38.3	35.92	32.4–39.4	34.27	30.7–37.8