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## **Women at Risk for HIV from a Primary Partner: Balancing Risk and Intimacy**

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Women are being devastated by the HIV/AIDS epidemic in the U.S. and all over the world, most infections occurring via heterosexual activity with a primary partner. Although a number of evaluations of behavioral risk-reduction interventions for women have been reported, many suffer from methodological problems that weaken confidence in their findings. It is clear that, despite statistically significant intervention effects, many women are unable to respond to even the most effective interventions that have been tested, a fact that might be attributable to failure to change behavior with primary partners. Achieving consistent condom use with primary partners can be highly challenging for women, for a variety of reasons. In the present paper, I review the literature regarding behavioral interventions for women. I also review data supporting the feasibility of alternative strategies that may be more effective than those usually recommended for women at risk for HIV infection by their primary male partner. The literature on woman-controlled technologies, such as the female condom and vaginal microbicides, is summarized. Alternative messages for condom negotiation and "negotiated safety" are also described. Because it is relevant to negotiated safety, and at the heart of the present topic, a review of the behavioral literature regarding serodiscordant heterosexual couples is also provided.

**Key words:** behavioral intervention, condoms, HIV prevention, Latina women, serodiscordant couples, sexual risk reduction, women.

Throughout the 20 years that HIV/AIDS has been apparent as a disease epidemic, prevention science has endeavored to develop interventions aimed at altering behaviors that put individuals at risk for infection or transmission of HIV. Approximately 90% of HIV infection that has occurred throughout the world has been the result of heterosexual transmission (Ehrhardt, 1992). At this time, it is estimated that 13.9 million people have died of HIV disease globally, 4.7 million of these women (UNAIDS, 1999). The United Nations estimates that, during 1998, 5.8 million people, 2.1 million of them women, became infected. In the U.S., of the 733,374 AIDS cases reported to the Centers for Disease Control and Prevention through December of 1999, 119,810

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were women (Centers for Disease Control, 1999). Although injection drug use remains the most frequent risk factor, accounting for 50,073 of these infections, heterosexual transmission runs a close second, accounting for 47,946 of them. Given recent trends, corresponding figures for HIV infection would yield much higher proportions of sexually infected women, as AIDS data trail years behind infection data. Recent advances in the treatment of HIV infection have lowered rates of AIDS diagnoses and death in the U.S. and other resource-rich countries. However, behavior change remains the only means of primary prevention and, for most of the world, the only strategy for mitigating the suffering brought about by AIDS.

Most women who become infected with HIV are infected by their primary male partners, both in this country (Carpenter et al., 1991; Marmor et al., 1990) and internationally (Allen et al., 1991; D'Souza, 1999; Newmann et al., 2000; United Nations Development Programme, 1993). Thus, it is the behavior of these partners, most often sexual behavior, that has introduced the virus into the dyad. Globally, sexual risk behavior of male partners is fueled by sexual double standards that sanction male infidelity and stigmatize it in women. Until the development of the female condom, the only viable method beyond sexual abstinence, the male condom, was under the control of the male partner and thus required his active participation in condom use decision making. This is often difficult for women to achieve, as condom requests can be attributed by men to female infidelity or disease, distrust of the male partner, or disregard for his pleasure (Neighbors, O'Leary, & Labouvie, 1999; 2000). Moreover, these problems are scarcely mitigated by the availability of the female condom, as partners can readily detect it.

These problems may be exacerbated when the woman's partner is abusive. Domestic violence is more prevalent in the low-income communities where HIV risk is elevated. Violent men often suffer sexual jealousy and are moved to violent acts by such jealousy, and women who know this may fear requesting condom use (Harlow, Quina, Morokoff, Rose, & Grimley, 1993; Kalichman, Williams, Cherry, Belcher, & Nachimson, 1998; Wingood & DiClemente, 1997). There is some evidence that violent men may react more negatively to condom requests (Neighbors, et al., 2000). Although most data are from the U.S., the problem is apparent all over the world: UNICEF recently called violence against women and girls a "global epidemic." In response to the plight of disempowered women in the face of the AIDS epidemic, research and advocacy has strongly emphasized the importance of the development of undetectable means of protection, such as topical vaginal microbicides (Gollub, 1995; Johansson, Maguire, & Phillips, 1999).

At present, in order to protect themselves, women need skills, particularly communication skills, and self-efficacy, or confidence in their possession of those skills (Bandura, 1997). Indeed, numerous researchers have reported relationships between self-efficacy and condom use among women (Catania et al., 1992; Corby & Wolitski, 1996; Peterson et al., 1992; Wingood & DiClemente, 1998). LoConte, O'Leary, and Labouvie (1997) found that stronger self-efficacy was associated with more condom use among women, but not men, highlighting the differential importance of negotiation skills for women. In light of the importance of skills and self-efficacy, it is not surprising that many of the effective behavioral interventions that have been designed for women have focused on the development of communication skills. However, even the possession and use of excellent negotiation skills does not ensure the cooperation of every male partner in condom use.

### **Review of Behavioral Intervention Studies for Women**

A number of behavioral risk-reduction interventions for adult women at heterosexual risk have been evaluated. Interventions tested to date have all but exclusively promoted the consistent use of male condoms as the desired risk-reduction strategy. It is important to note that women in many of these studies report very few sex partners; typically the majority of women report only one partner. For these women, the intent of intervention would have been for the woman to use condoms consistently with her primary partner. When researchers report statistically significant intervention effects, it is generally not possible to tell from the reports the degree to which the risk reduction was achieved with primary partners versus secondary (e.g., sex exchange) partners. Intervention effects are generally small enough that it is possible that most, or even all, of the behavior change was achieved with secondary partners by those women who had them. Thus, although none of these intervention studies are directly pertinent to the topic of this paper, many of them—particularly ones demonstrating null or unconvincing effects—may be indirectly so.

Reviewed here are studies comparing an intervention to a control/comparison condition with sexual behavior change and/or biological (e.g., STD) outcomes for adult women at significant heterosexual risk of HIV/STD infection. Studies including male participants will be described in cases where gender effects were tested. Interventions for commercial sex workers (CSWs) will not be reviewed here, as they have not been designed to address CSWs' condom use with primary partners; when assessed, behavior with primary partners has not changed in response to intervention (e.g., Walden, Mwangulube, & Makhumula-Nkhoma, 1999).

It is important to note, however, that women may have more than one primary partner. For example, in polygamous societies that have become urbanized, "minor wives" may need the support of more than one "husband" to meet survival needs. Similarly, women whose husbands are migrant laborers or truck drivers may establish relationships with other men while the husband is away. And clearly, married women in many cultures have secondary relationships ("affairs"). For the purposes of this review, a primary partner will be considered to be a partner in an ongoing relationship in which feelings of intimacy and attachment are present. ~~Studies including both men and women will be described only in cases where gender effects were tested.~~ In each case, methodological points relevant to study interpretability will be discussed.

#### *Single-Session and Videotape Interventions for At-Risk Women*

A number of researchers have evaluated brief, single-session informational risk-reduction interventions. Single-session interventions are advantageous in that they can capitalize on fleeting opportunities for intervention, for example by targeting patients in waiting rooms of STD treatment facilities. By virtue of their brevity, however, such interventions are limited in the amount of individualized skill-building they can provide.

Nyamathi and colleagues (Nyamathi, Flaskerud, Bennett, Leake, & Lewis, 1994; Nyamathi, Leake, Flaskerud, Lewis, & Bennett, 1993) have evaluated brief sexual risk-reduction interventions for impoverished women in homeless shelters and drug treatment centers in southern California. These interventions were designed to address coping and distress as well as drug use and sexual risk (defined as multiple partners). In one large-scale study Nyamathi et al. (1993) compared a single-session "traditional" HIV risk-reduction intervention with a "specialized" intervention providing HIV education, risk-reduction skill building, and referral to other resources needed by the individual woman ( $N = 858$ ). Unfortunately, the treatment groups differed at baseline, with women in the traditional group exhibiting greater distress, better HIV knowledge, and less problem-focused coping. At a 2-week follow-up, significant improvements were apparent among participants in both treatment conditions for every behavioral and psychological variable measured except one (problem-focused coping). Significant treatment group by time interactions were obtained for knowledge, emotion-focused coping, and multiple sex partners. For these factors, improvements were greater for traditional intervention recipients. This finding was unexpected but may have been due to the more diffuse focus in the specialized intervention.

A subsequent study was designed specifically for Latina women (Nyamathi et al., 1994). The same two interventions were compared in

a quasi-experimental design. The 233 participants were randomized by site type, homeless shelter or drug recovery program. Again, baseline differences existed between the groups for a number of demographic variables and drug use. At the 2-week follow-up, no differences between groups in risk reduction were observed, although again women in both groups improved on all measures except problem-focused coping. Because in this study no treatment effect for sexual risk was observed, it fails to provide support for the effectiveness of behavioral intervention. Changes occurring in both treatment arms are impossible to explain and could be products of increased socially desirable responding or historical effects.

Patients seeking care for STD other than HIV are at increased biological risk for HIV. Further, STD diagnosis can be considered a proxy measure for unsafe sexual behavior (Aral & Wasserheit, 1995). For this reason, numerous researchers have targeted patients in ~~the~~ publicly funded STD clinics serving low-income communities (O'Donnell, San Doval, Duran, & O'Donnell, 1995). In one study, one-session videotaped interventions designed to differentially affect skills and self-efficacy among low-income African American women were compared (Maibach & Flora, 1993). Women ( $N = 138$ ) were randomly assigned to view one of three risk-reduction videotapes. One contained information only, one information plus modeling of condom negotiation, and the third provided the former two components but also created opportunity for cognitive rehearsal of the modeled behaviors by the participant. All three tapes contained a recommendation for condom use. Participants were assessed for changes in self-efficacy and a variety of behaviors 1 month later. As predicted by the investigators, self-efficacy rose the least in the information-only condition, and the most in the information plus modeling plus rehearsal condition. In terms of actual behavior change, the rehearsal group reported buying more condoms and talking more to friends about HIV than the information-only group; however, no differences emerged for actual reduction of risk (i.e., using condoms, reducing number of partners, or increasing number of partners using condoms).

It is generally believed that interventions for members of ethnic minority groups must be culturally tailored to be acceptable, credible, and effective. A study by Kalichman, Hunter, Murphy, and Tyler (1993) was designed to test this assertion experimentally. They sought to evaluate single-session videotaped interventions for African-American women recruited from housing developments in Chicago. One Public Health Service videotape provided HIV information delivered by two White men and one White woman. Another gave the same information but presented by African-American women, and the third was similar to

the second but with the addition of culturally relevant contextual information. A 2-week follow-up assessment was conducted by interviewers who were blind to participant treatment condition, with 72% of participants retained. Women who had viewed the culturally tailored tape reported greater concern about AIDS and were more likely at follow-up to have received an HIV antibody test, to have talked with friends about AIDS, and to request condoms. However, again no differences between groups were obtained for sexual risk reduction.

Surprisingly few researchers have explored the potential for health care providers to serve as sexual risk behavior change agents. In one study, however, peer educators were compared with health care providers for their effectiveness in delivering brief informational interventions (Quirk, Godkin, & Schwenzfeier, 1993). Participants were 214 young women seeking care in an inner-city health clinic. Both interventions were very brief; the provider intervention lasted at most 10 minutes. The interventions were evaluated with a series of Likert-scale items. At 1-month follow-up, no effects of either intervention were observed, although among a subset of intervention participants who were very sexually active, reports of the difficulty of requesting condom use decreased significantly, as did their self-reported frequency of vaginal intercourse. It should also be noted that the significance of these findings is limited by severe attrition, resulting in a follow-up retention rate of only 45%.

In another study a single-session intervention was delivered to low-income women and its effects were compared with those of an HIV informational session that controlled attention (Belcher et al., 1998). This intervention was theoretically driven and combined elements of motivational enhancement and skill-building. Although the sample size was relatively small ( $N = 74$ ), the randomization was successful, and excellent retention (92%) was achieved at the 3-month follow-up. At this time point, women receiving the intervention reported significantly greater increases in condom use (from 22% to 66%) relative to comparison condition participants (27% to 43%) and fewer unprotected intercourse occasions in the prior 90 days (from 26 to 8 vs. 25 to 17). Confidence in the effectiveness of this intervention is strengthened by the high retention rate and relevance of the sample.

A brief intervention for college women was evaluated by Bryan, Aiken, and West (1996). Students ( $N = 198$ ) received individual 45-minute interventions. The experimental intervention was a condom promotion session based on several health behavior theories and emphasizing STD control rather than HIV prevention per se; the attention control focused on stress management. The experimental intervention produced improvements in several posited mediators, including

condom attitudes, self-efficacy, and condom use intentions. At 6 months postintervention, a significant effect for condom use at last intercourse was obtained among sexually active students.

*Multiple-Session Skill-Building Interventions for At-Risk Women*

Included in this section are interventions designed to build skills and self-efficacy in condom use, sexual negotiation, self-control, and problem-solving. Although such interventions are more costly on a per capita basis, they may have more power to enable behavior change and thus may be cost-effective if delivered to women who are at very high risk for HIV infection (Pinkerton, Holtgrave, DiFranceisco, Stevenson, & Kelly, 1998; Pinkerton, Holtgrave, Turk, Hackl, & DiFranceisco, 1998).

A small-group cognitive-behavioral intervention was delivered to women receiving methadone maintenance by Schilling and colleagues (El-Bassel & Schilling, 1992; Schilling, El-Bassel, Schinke, Gordon, & Nichols, 1991). The five-session intervention provided training in condom use and negotiation skills and was compared with a single-session informational control. Participants were Latina (64%) and African-American (36%) women ( $N = 91$ ). At 2 weeks postintervention, intervention participants reported significant increases in condom use, measured on a 4-point Likert scale. Number of risk encounters was not assessed and number of sex partners did not change. Although no differences between groups were found in a behavioral assessment of assertiveness/social skills at posttest, intervention participants did perceive themselves as better able to control their HIV risk. Frequency of condom use remained significantly higher among intervention participants than controls at a 15-month follow-up of 62 remaining participants (El-Bassel & Schilling, 1992). However, other intervention effects lost significance and, surprisingly, skills intervention participants endorsed stronger belief in the role of "luck" in HIV prevention. The 32% attrition rate obtained at the follow-up limits confidence in these findings because retained participants differed from those lost to follow-up in their lower likelihood of injecting drugs at baseline.

Continuing their program of research among drug-using women, El-Bassel, Ivanoff, Shilling, Gilbert, Borne, and Chen Duan-Rung (1995) delivered a skill-building supportive intervention to 145 women incarcerated in a correctional facility. Women responded to posted notices or were referred by jail staff. Participants were randomized to receive either three 2-hour HIV informational sessions or to a very intensive intervention consisting of 16, 2-hour skills-building sessions. The latter intervention also focused on building nondrug using social support networks. Both interventions were delivered to small groups of women.



The report provided follow-up data for 1-month postintervention. At that time point, retention was 70%. Logistic regression analyses were performed with the dependent variable dichotomized into maintaining or improving safer sex practices versus getting worse or remaining unsafe. Treatment condition did not contribute significantly to this variable but a marginally significant trend emerged when controls were added for marital status and number of sessions attended—although the rationale for this latter control was not given. The intensive intervention group increased their positive coping skills. This effect was also marginally significant. Surprisingly though, the intensive intervention was not more effective than information alone on increasing women's self-efficacy to achieve condom use. In discussing this finding, the authors pointed out that it may take longer follow-up for women's experiences to produce self-efficacy enhancement.

Another, more recent study also targeted drug-using women (Eldridge et al., 1997). Participants ( $N = 117$ ) in this study were women entering court-ordered inpatient treatment for chemical dependence; most were heavy users of alcohol and crack cocaine. Known HIV-seropositive women were excluded from analysis. Eldridge et al. obtained a participation rate of 69%. All patients in the facility received 3 hours of HIV education. This intervention comprised the control condition. Participants in the behavioral skills training (BST) condition received an additional four sessions providing skill-building for sexual negotiation and condom use. A randomized block design was used to avoid contamination between the treatment conditions. Self-administered questionnaires assessing risk behavior and a variety of possible intervention mediators were augmented by behavioral skills assessments at baseline, postintervention and at a 2-month follow-up. Retention at the follow-up assessment point was only 49%. However, among the remaining participants, women receiving BST exhibited significantly improved prevention attitudes and more positive expected partner reactions relative to control participants, evidenced in significant group by time interactions. In addition, BST participants exhibited improved skills for sexual communication and condom use. With respect to sexual behavior, improvement was observed in both groups over time in number of partners, frequency of risk acts, and number of drugs used. However, no differences between treatment groups emerged for these variables. A significant treatment effect was obtained only for proportion of intercourse acts during which a condom was used (from 36% to 50%). The severe attrition suffered in this trial lends little confidence in its findings.

Kelly and colleagues evaluated a five-session intervention designed to enhance HIV awareness and provide ample opportunity for skill

building (Kelly et al., 1994). In this study, 197 inner-city women attending a primary care clinic who met stringent risk criteria were randomized to receive either this intervention or an attention control focusing on other health promotion issues. Risk behavior was evaluated at baseline and at a 3-month follow-up. Many participants were not available at follow-up, with retention rates of 54% and 44% in the intervention and control conditions, respectively. This attrition was handled via imputation of missing data, using follow-up data for study completers similar in age, education, and STD history. It is not clear from the report, however, how treatment condition of completers compared with those of the participants lost to follow-up whose data theirs replaced. Results indicated that the intervention was effective in significantly reducing the number of unprotected intercourse episodes (from 14 to 11.7 in the intervention group), and percentage of occasions on which condoms were used (from 26% to 56% in the intervention group), although not in reducing number of sex partners in the previous three months (from 2.3 to 1.7 in the intervention group). Behavioral skill assessments were conducted in this study; the intervention produced a significant effect on two indices of communication requiring self-control (postponing sex until condom obtained and refusing sex without a condom) but not on two indices of assertively negotiating condom use. This study provides suggestive evidence that women can respond effectively to intensive cognitive-behavioral skill-building interventions.

In a similar study, a four-session intervention against a health promotion attention control and a no-intervention control was tested among 206 unmarried, pregnant inner-city women (Hobfoll, Jackson, Lavin, Britton, & Shepherd, 1994). The intervention included modeling and practice for negotiation skill-building, as well as cognitive imagining of negative (AIDS) and positive (prevention) outcomes to build motivation. Again, some statistically significant effects were obtained, although it should be noted that analyses were conducted only for participants who completed at least three of four intervention sessions, rather than employing an intention-to-treat approach. Frequency of condom and spermicide use, assessed together with a 4-point scale, changed significantly among treated women postintervention, from 2.93 at baseline to 3.86 at follow-up. The treatment group showed significantly greater improvement than the no-intervention group at an immediate postintervention assessment, it did not differ from the attention control at this time point, and specific tests of intervention effects at the 3-month mark are not reported. However, an ANCOVA in which baseline level was used as the covariate produced a nonsignificant

treatment group by time (postintervention to follow-up) interaction, suggesting maintenance of change. Number of intercourse events did not change significantly, and number of unprotected events was not reported (but in theory should have been reduced if condom use increased). Redemption of condom coupons increased significantly in both the AIDS prevention and health promotion groups but did not differentiate the groups. In summary, although these results suggest modest intervention effects for condom/spermicide use, the failure to perform an intention-to-treat analysis represents a serious limitation to study interpretability.

In another randomized trial DiClemente and Wingood (1995) targeted young African-American women, comparing a theoretically derived social skills intervention with a control for demand (one session of HIV education) and a delayed-treatment control. Women ( $N = 128$ ) responded to recruitment materials and street outreach. Those reporting the recent use of crack cocaine or injection drugs were excluded. The peer-led social skills intervention comprised five 2-hour sessions that included ethnic and gender pride, risk-sensitization, and building skills for assertive sexual communication, condom use, and sexual self-control through cognitive rehearsal. The primary outcome measure was consistent condom use. Differences between treatment groups were identified at baseline. These included duration of relationship with partner and income, and were adjusted in outcome analyses. At the 3-month follow-up, attrition of 28% was largely accounted for by relocation out of the community but was very low in the social skills condition (9%) and especially high (42%) in the delayed-treatment condition. Results indicated that the social skills intervention was associated with significant increases in consistent condom use (from 35% to 47% of participants) relative to the delayed-treatment control (22% to 29%). In addition, social skills participants demonstrated significantly improved coping and self-control skills and communication skills, and reported improved partner normative beliefs regarding condoms. Although the significance levels for differences between the social skills intervention and the attention control condition were not reported, analyses indicated that the latter did not differ significantly from the delayed-treatment condition. Again, methodological problems with this study limit its interpretability.

Carey and colleagues (1997) conducted another intervention study targeting low-income women, using a different intervention approach. This intervention provided, in addition to the types of skill-building as in many of the studies described earlier, a motivational enhancement component drawn from substance use intervention research. Women were randomized to receive this four-session intervention or to a wait-

list control. Risk behavior and mediators were assessed at baseline, 3 weeks postintervention, and at a 3-month follow-up. Although some women did not attend any intervention sessions, they were not excluded from analyses on this basis. However, analysis was restricted to participants who had undergone at least one postintervention assessment. This criterion produced a loss of 10 experimental and 11 control participants (out of totals of 53 and 49, respectively). Data missing from one of the two postintervention assessments were imputed based on baseline and single postintervention data. Results indicated that, compared with control women, those receiving the intervention reported increased risk sensitization, stronger intentions to practice safer sex, more communication with partners (3-week time point only), and lower frequency of unprotected vaginal intercourse. This last effect was significant only at the 3-week time point. The authors presented effect-size data, based on mediator, as well as risk variables, at the 3-week assessment point, for their own study and for previous studies of women. These data indicate the improved effectiveness of the intervention approach incorporating motivational enhancement.

In a later study, Carey et al. (2000) attempted to replicate the earlier study using a stronger design with 102 low-income women. Comparison women received an attention control health promotion intervention rather than no intervention, a change that would be likely to increase the equivalence of socially desirable responding across treatment conditions. Interestingly, the intervention, when tested against this control, failed to demonstrate an effect on behavior. Subsequent analyses involved subsetting to participants based on their level of behavioral intentions and knowledge. The finding of null results in connection with a stronger design casts doubt on the ~~validity~~ <sup>legitimacy</sup> of the results reported in the earlier manuscript.

Individuals with severe and persistent mental illness (SMI) are a group that has been severely affected by HIV (McKinnon, Carey, & Cournos, 1997). In a recent study, Weinhardt, Carey, Carey, and Verdecias (1998) evaluated an intervention specifically designed for women with SMI. Twenty women receiving outpatient mental health care were randomized either to a 10-session intervention focusing on training assertiveness skills or to a wait-list control condition. The interventions were conducted daily during 2 consecutive weeks and combined risk feedback, HIV information, and extensive communication skill-building for assertive condom request negotiation. Behavioral skills assessments for sexual assertiveness were conducted. Assessments were administered at baseline and immediately, 2 months and 4 months postintervention. Women who had received the intervention were found to have significantly better sexual assertion skills

at all follow-up time points, and improved knowledge at the posttest and 2-month time points. They also reported more instances of protected intercourse at the 2-month, but not the 4-month assessments; no significant differences were obtained for frequency of unprotected intercourse. However, the differences were in the expected direction and approached significance ( $p < .06$ ) at the 2-month point.

Null results were reported for a seven-session intervention delivered to STD clinic patients (O'Leary et al., 1998). In this study, 472 participants (195 of whom were women) were randomized to receive either an intensive 7-session intervention or a brief HIV information control. A 90-minute interview assessing risk behavior and several <sup>(\*) caps</sup> Social Cognitive Theory condom-related mediators was conducted at baseline and 3 months after the intervention. Substantial attrition (28%) occurred. Unfortunately, retention was greater in the control condition (83%) than the intervention condition (70%). Differential attrition showing this pattern is suggestive that intervention nonresponders may have self-selected out of the follow-up. However, this issue is moot. Although participants in both conditions reported improved self-efficacy and outcome beliefs, as well as reduced risk, after the intervention, no differences between the groups were apparent for any of these factors. It is thus impossible to know which of several possibilities accounts for the changes observed over time: (a) Participants were engaging in socially desirable responding due to experimental demand, (b) even the brief informational intervention was effective in changing behavior, or (c) the lengthy interview was reactive and actually changed behavior. No interaction between gender and treatment condition was found for any outcome, suggesting that women and men responded similarly to the interventions.

In a large, recent study Fogarty et al. (in press) tested the effectiveness of behavioral intervention separately for HIV-seronegative ( $n = 1,289$ ) and seropositive ( $n = 322$ ) women. This is an important study, as it is the first to report sexual behavior change results for seropositive women. HIV-infected women are likely to have very different motivations and barriers than their seronegative counterparts. The intervention was based on the Transtheoretical ("stages-of-change") model (e.g., Grimley, Prochaska, Velicer, Blais, & DiClemente, 1994). All participants received standard reproductive health care services, and "enhanced" participants were also given case management services, which were individually tailored and included support group drop-in sessions. Assessments focused on movement along stages for condom use with main partner; condom use with non-main partner, and contraceptive use. Results indicated that HIV-seropositive women progressed significantly along the stages of change for condom use with main partner. However, data are

not provided on whether significant increases in <sup>actual</sup> condom use were achieved. Interpreting main partner outcomes for seropositive women would be helped by knowledge of the partner's serostatus, as HIV-positive seroconcordant couples may see no need for condom use. Similarly, HIV-seronegative women reported movement along the stages of change for condom use with main partner, but the authors did not indicate whether significant increases in condom use occurred.

### *Community-Level Intervention*

Most of the interventions described in this article were delivered to small groups or individuals. HIV prevention specialists are increasingly interested in community-level and structural/policy interventions to help women reduce their HIV risk (O'Leary & Martins, 2000; Sumartojo, 2000). Some investigators have evaluated multifaceted interventions delivered to communities. One quasi-experimental intervention was targeted to first-year students on an inner-city college campus (O'Leary, Jemmott, Goodhart, & Gebelt, 1996). Another college campus received surveys only and served as a control. The intervention included classroom workshops, residence hall programs, panel discussions, and a variety of mass-media risk-reduction messages. Sexual behavior in response to the intervention was assessed via linked, anonymous mailed surveys at the beginning and end of the academic year. Eighty-seven percent of students responding in the fall also responded in the spring. A series of manipulation checks established greater exposure to intervention elements on the intervention campus. Analysis of behavior change indicated that, although men significantly reduced their frequency of unprotected sex acts, women did not. In fact, women on the intervention campus experienced a significant *decline* in their self-efficacy to have safe sex. Results of this study suggest that it is easier for men than women to respond to relatively low-intensity, nonindividualized interventions.

Sikkema and colleagues (2000) evaluated a multisite peer-led community intervention. Such interventions represent a potentially cost-effective way to reach larger numbers of individuals and may be particularly empowering for women. In this study, interventions were delivered to women living in 18 low-income housing developments in five U.S. cities. Housing developments were randomized in matched pairs, either to receive the intervention or to receive packets with HIV informational brochures, free condoms, and order forms to obtain additional condoms. The interventions included small-group workshops and community events, delivered by resident-nominated opinion leaders. Assessment of HIV risk behavior was conducted in all housing developments at baseline and 1 year. Of the 1,265 women surveyed at baseline, 690 were available

despite a significant  
increase in their  
perceived  
vulnerability  
to HIV.

at follow-up and, thus, constituted a longitudinal cohort of women. The proportion of these women reporting any unprotected intercourse in the previous 2 months changed from 50% at baseline to 38% at follow-up for intervention women. Corresponding figures for control women were 50% and 46%. Percentage of intercourse occasions for which a condom was used also increased among intervention women. Both of these treatment effects were significant. Corroborating these results were significant effects on having a condom at home or on her person, and scores on an AIDS knowledge measure. The authors acknowledged the possibility of bias in the longitudinal sample, causing uncertainty regarding generalizability of findings. Nonetheless, this community-level intervention is promising for such approaches, possibly superior to individual and small-group intervention in terms of cost-effectiveness, sustainability, and generalization of empowerment to other community issues.

Another community-level intervention for inner-city women was reported recently (Lauby, Smith, Stark, Person, & Adams, 2000). The design was a nonrandomized quasi-experimental study with intervention and control communities in two geographic areas. Sexually active women of reproductive age (15-34 years) were targeted. Intervention communities conducted numerous activities, including the development and distribution of HIV prevention materials; the mobilization of a peer network of community volunteers and a network of supportive community organizations and businesses; and the delivery of prevention messages through individual contacts and small-group activities. Cross-sectional assessments in a variety of community sites were conducted annually for 3 years to evaluate changes over time in HIV risk. Analyses used community as the unit of treatment assignment.

When data were analyzed at the end of the study, significant changes over time were observed for the item "Attempting to get partner to use a condom", which increased 11% more in the intervention communities, and "Never talking with main partner about condoms," which decreased 13% more. A statistically marginal effect (in the expected direction) was obtained for "Never using condoms" ( $p = .054$ ), but no differences were found for "Condom used at most recent sex" or "Consistent condom use." Thus, the changes that were observed in connection with this intervention cannot be considered sufficient to have significantly reduced HIV risk. It should be noted that this cross-sectional study lacked within-subject sensitivity employed in the Sikkema study.

#### *Studies Comparing Theoretical Approaches to Intervention*

As this review makes apparent, most intervention studies have compared a single intervention with multiple components with some sort of

control condition. If the intervention proves superior to the control in changing risk behavior, it is difficult to know which intervention components might have been necessary, or sufficient. In two studies (Kalichman, Rompa, & Coley, 1996; St. Lawrence, Wilson, Eldridge, Brasfield, & O'Bannon, in press), women have actually been randomly assigned to different active intervention arms to compare more focused intervention strategies for effectiveness.

Most of the interventions described earlier included skill-building in communication to enhance women's ability to negotiate condom use with partners. Another skill domain with relevance to sexual risk behavior is self-control or self-management. Skills can be developed for identifying and managing antecedents of risk behavior so that difficult situations can be avoided, which may obviate the need for negotiating with a male partner. Thus, negotiation and self-control are separable skill domains that may affect behavior change differently. A study by Kalichman, Rompa, and Coley (1996) compared these approaches in a factorial design: 87 women were randomly assigned to receive either communication skills training, self-management skills training, a combination of the two, or an educational/risk sensitization control. The design controlled both for attention—all interventions were delivered in four sessions of the same length—and demand, as each contained a recommendation for condom use. Measures included sexual risk behavior and mediating behaviors such as actually communicating with partners and avoiding antecedents such as use of drugs or alcohol prior to sex. Assessments were conducted at baseline, postintervention, and at 3 months postintervention. Twenty-eight percent of participants dropped out after a single intervention session and did not undergo follow-up assessment in an intention-to-treat analysis. Results at the 3-month follow-up provided partial support for study hypotheses. Women who had received the communication skills training reported more conversations with partners about condoms and more frequent refusal of unprotected sex (although the greatest frequency was obtained in the educational control condition). Regarding sexual risk behavior, women receiving the combined skills intervention reported the fewest unprotected intercourse acts. However, no differences emerged for proportion of protected acts, suggesting that avoidance of sex accounts for the former finding. This suggests that both sets of skills must be in place for women to be successful in reducing their HIV risk.

*and colleagues*  
In another recent study, St. Lawrence *et al.* (1997; St. Lawrence, Wilson, Eldridge, Brasfield, & O'Bannon, 2000) compared interventions driven by three different theoretical orientations delivered to low-income, African-American women in Mississippi. The theories were *\*? caps Social*



Learning Theory (SLT), Social Cognitive Theory (SCT), and the Theory of Gender and Power (TGP). A wait-list control was also included. In developing and delivering the Gender and Power intervention, care was taken to foster discussion but not to provide modeling or practice (i.e., skill-building techniques were avoided). Although the SLT intervention provided modeling of skills, only the SCT intervention prompted participants to practice the skills themselves. Each of the interventions was delivered in six 90-120 minute sessions. For ethical reasons, the wait-list participants were given an intervention following the first postintervention assessment, so that subsequent comparisons are for the three intervention groups. Strengths of this study included a large sample ( $N = 363$ ) and very low attrition even at a year postintervention. In this study, 18% of women assigned to one of the intervention arms failed to attend the first session and were dropped from the study. As predicted, both of the skill-building interventions produced greater increases in communication and condom use skills, relative to the other two conditions. Percentage of intercourse occasions during which condoms were used was greater at the immediate postintervention time point for all intervention conditions relative to the control (which increased from 37% to 44%). Women in the intervention conditions did not differ, but condom use gains were maintained at 6 months (54%) and 1 year (49%). It is of considerable interest that a nonskills-based intervention, based on the TGP, was equally effective in changing behavior, although presumably via different mechanisms. It is possible, however, that discussion in the TGP groups included reports of previously successful risk-reduction strategies women had used, which could be considered similar to modeling. A secondary analysis conducted at 6 and 12 months revealed that women who had formed a new relationship since the intervention were significantly more likely to be using condoms (68%) than those who had not. This result highlights the relative difficulty that women may experience attempting to initiate condom use in an ongoing relationship, and indicates the importance of collecting partner-specific sex behavior data in intervention trials.

#### *Studies Evaluated With Biological Outcomes*

All of the intervention studies described previously were evaluated via self-reported sexual behavior. Unfortunately, self-reports can suffer limitations in reliability due to memory inaccuracy and a desire to "please" the investigators. Although underreporting of stigmatized behaviors is a widespread phenomenon (Smith, Adler, & Tschann, 1998), in the context of an intervention trial, it can be particularly problematic (see O'Leary, DiClemente, & Aral, 1997, for a discussion). This is because demand to report behavior change may be greater among

those who received the intervention (or the more intensive intervention, or the one focusing more directly on the dependent variable being assessed). This differential demand can produce spurious positive intervention effects. Thus, recent studies have often assessed the incidence of other STDs, reasoning that the behavior changes that reduce the likelihood of HIV infection (e.g., condom use) also reduce the likelihood of infection by other sexually transmitted pathogens. Thus, STD incidence constitutes an objective index of behavior change.

Most studies in which biological STD outcomes have been assessed, have been conducted, wholly or primarily, in publicly funded STD clinics. Patients seeking care in these clinics tend to have high rates of reinfection, providing statistical power to detect effects, and these clinics routinely perform diagnostic tests for STD of the sort needed for outcome evaluation. In one early study, three brief interventions were delivered to 903 male and female patients in public STD clinics (Cohen, Dent, MacKinnon, & Hahn, 1992). In this study, all patients in the clinic waiting room on a given day were randomized to receive one of the three interventions, followed by a psychosocial assessment, or to undergo assessment only. The three interventions were (a) Condom skills, which provided a brief condom use demonstration; (b) Social influences, which provided the condom, assertion of condom popularity (normative information), and eroticization of condoms; and (c) Distribution of condoms, also accompanied by the condom demonstration. Outcomes included postintervention condom attitudes and behavioral intentions, and STD (re)infection in the subsequent 6-9 months, identified through tracking clinic records. Women who had received the condom distribution reported significantly stronger intentions to use condoms than control women, but, although male participants receiving condom skills were reinfected significantly less than control men, women demonstrated no such effect. Further, behavioral intention and attitudes failed to correlate with STD diagnoses, a common finding in HIV/STD behavioral research (see O'Leary, DiClemente, & Aral, 1997). Results of this study appear to suggest that very brief interventions that do not provide individualized skill building may be ineffective for women, even at intensity levels that enable behavior change in men. In another, later study, similar results were obtained (Boyer, Barrett, Peterman, & Bolan, 1997). Participants ( $N = 399$ ) were randomly assigned to receive four 1-hour, individual counseling sessions based on behavioral theory or to receive standard STD counseling (about 15 minutes). Participants were assessed at 3 and 5 months following the intervention. Unfortunately, retention was poor, with 65% returning at 3 months, and 60% at 5 months. Although STD incidence did not differ

significantly between the intervention and control groups, a self-reported behavior effect was obtained for men, but not for women.

In a similar study, Branson, Peterman, Cannon, Ransom, and Zaidi (1998) compared a standard 20-minute posttest counseling session with an enhanced, four-session intervention with a booster session. The interventions were delivered to randomly assigned groups of STD patients in waiting rooms. Patients who tested negative for HIV were included in the study. The total sample of 964 represented a 59% study acceptance rate. Analyses were performed for the 72% of participants who attended at least one follow-up visit. Neither men nor women exhibited an effect of treatment condition, either on self-reported behavior or on STD incidence during a 12-month follow-up period. As with other studies obtaining changes over time, but not between comparison conditions, these results are difficult to interpret.

Two national multisite studies evaluating behavioral interventions for high-risk men and women and employing STD incidence to evaluate them have been completed recently (Kamb et al., 1998; The NIMH Multisite HIV Prevention Trial Group, 1998a). These studies are important because of their size, their cross-site consistency of effects, and their use of biological STD data to supplement self-reported reductions in risk behavior.

In project RESPECT, Kamb et al. (1998) randomly assigned STD patients in five inner-city sites to receive one of three individual interventions delivered by clinic staff. Entry criteria included age over 14 years, unprotected intercourse within the previous month, willingness to receive an HIV antibody test, and seronegative test result. Altogether, 5,758 patients, 2,476 of them female, were enrolled. This number represents 44% of those eligible. Participants in the \*Education condition received two brief informational messages; those in HIV Prevention Counseling condition were given two counseling sessions aimed at enhancing risk awareness and negotiating a behavior change step; a third condition, Enhanced Counseling, provided four sessions driven by the Theory of Reasoned Action. Participants received interviews regarding their risk behavior at baseline and 3, 6, 9, and 12 months following the intervention. They also received biological screening for three STDs, syphilis, chlamydia, gonorrhea, and HIV at each assessment point. Although attrition by the 12-month assessment was high (34%), 86% of participants completed at least one follow-up. Results for self-reported behavior indicated significantly higher levels of consistent condom use among those in the Enhanced and HIV Prevention conditions compared to the Educational one at 3-month point; by 6 months Enhanced and HIV Prevention participants had had significantly fewer STDs than their Educational

counterparts. Neither the behavioral nor biological effects were significant at 12 months. Results were similar for men and women.

The NIMH Multisite HIV Prevention Trial Group (1998<sup>a</sup>) tested a seven-session intervention against a one-session HIV informational control at seven inner-city sites ( $N = 3,706$ , 2,011 of them women). Participants were men and women recruited in STD clinics, and women meeting stringent risk criteria recruited from health service organizations. The small-group intervention provided HIV information, risk sensitization, and skill-building for condom use, negotiation, and self-control. The single-session comparison condition provided information on HIV prevention, and thus controlled experimental demand but not attention. Interviews concerning risk behavior, the Social Cognitive Theory mediators that formed the basis for the intervention, and STD symptoms were conducted at baseline and at 3, 6, and 12 months postintervention. For participants recruited in STD clinics, data on STD during the follow-up period was extracted from clinic charts. At the 12-month assessment point, all participants gave urine samples for the detection of chlamydia and gonorrhea. Results indicated that consistent condom use/abstinence (i.e., negligible or no risk) was reported by significantly more intervention than control participants at all follow-up points. Although effects for overall STD based on chart review did not significantly distinguish groups, half as many intervention men as controls were diagnosed with gonorrhea. This difference was statistically significant. In addition, self-reported symptoms, which were correlated with chart diagnoses, were significantly less frequent among intervention participants than controls. Point prevalences (at 12 months) of chlamydia and gonorrhea were not significantly different between groups. A nonsignificant gender by treatment group interaction suggests that the intervention was not differentially effective for men and women. Further, the Social Cognitive Theory factors, self-efficacy and relevant outcome expectancies, were shown to partly (but not completely) mediate the intervention effect (The NIMH Multisite HIV Prevention Trial Group, 1998b).

Another single-site study obtaining significant STD effects with fewer methodological limitations has recently been reported (Shain et al., 1998). In this study, over 500 women, all of minority ethnicity (Mexican-American and African-American) were randomly assigned to receive a small group cognitive behavioral intervention delivered in four sessions for a total of 12-16 hours, or to a standard STD counseling control. Participants were followed for 1 year and were assessed for chlamydia and gonorrhea at each assessment point. Retention was excellent, 89%, at the 1-year follow-up time point. Incidence of infection

was significantly lower among those receiving the more intensive intervention compared to controls both at 6 months (11% vs. 17%) and 12 months (17% vs. 27%). This excellent study provides particularly compelling evidence for the effectiveness of behavioral intervention in reducing sexually transmitted disease, and by extension, sexually transmitted HIV infection.

### *Summary of Intervention Studies*

Taken together, these studies are, at best, moderately encouraging in their promise for AIDS prevention among women at risk. The issue of whether changes observed were with main versus secondary partners cannot be answered at this time. For many of the studies reviewed here, significant intervention effects on sexual risk behavior were not obtained. Indeed, of the 30 studies reviewed above, 12 (40%) obtained no significant effects for sexual behavior change (giving benefit of the doubt to the indeterminate results reported by Fogarty et al., in press). A very similar percentage was reported in an earlier review with broader review inclusion criteria (Ickovics & Yoshikawa, 1998). Of 51 studies reviewed by these investigators, 19 (37%) yielded nonsignificant results for behavior change. Particularly in light of strong publication bias against null results (Dickersin, 1997), the difficulty with which significant intervention effects are obtained is troubling. Even of these apparently effective intervention trials, many suffer from "fatal flaws," such as severe attrition or no-intervention controls, and cannot be interpreted with much confidence. In many of the studies, ~~there were~~ very small sample sizes. *were used* In very few studies reviewed here were follow-up periods longer than 2-4 months used, and even those interventions that demonstrated effectiveness at early postintervention assessment points tended to lose effectiveness at the later ones.

It also seems clear that some interventions—particularly more intensive ones that devote time to skill-building—can be sufficiently effective to achieve significant effects. However, even in these studies many women do not change, and, as mentioned earlier, it is not clear how much of observed change occurred with primary partners. In these studies, the effectiveness of the interventions for women with different types of partners has not been evaluated. The majority of participants in most of these studies reported having only one partner at each assessment point, although data were not collected on whether that partner was the same person at different time points. Interestingly, St. Lawrence et al. (in press) recently obtained a significant effect for two intervention types relative to a wait-list control group of young African-American women. Secondary analyses of intervention recipients conducted at 6

and 12 months revealed that women who had formed a new relationship since completing the intervention were significantly more likely to be using condoms than those whose partners had not changed. Thus, new and possibly secondary partners may be more readily convinced to use condoms; many investigators have found that condom use is more likely with secondary than main partners generally (reviewed in Miso-vich, Fisher, & Fisher, 1997). As mentioned above, many—probably most—women around the world who have become infected have been infected by a primary partner. In most cultures (although to varying degrees), male infidelity is sanctioned, whereas female infidelity is stig-matized and punished. At the same time, women encounter many diffi-culties in trying to negotiate consistent condom use with primary partners. Condoms can be taken as indications of female infidelity or disease, and the male partner may correctly perceive that he is himself not at risk of infection from his primary partner. Further, couples in sta-ble relationships may wish to conceive children.

### **Alternative Strategies for Women at Risk**

#### *Woman-Controlled Prevention Technologies*

Because some women are unable to persuade their male partners to use male condoms, research and advocacy efforts have centered on the development and deployment of prevention technologies that are under the control of women themselves. At this time, we have two types of female-controlled technology: female condoms and vaginal microbicides.

*Female condom.* The female condom, a polyurethane sheath with inner and outer plastic rings, has now been available for several years. Several researchers have reported correlates of female condom acceptability and use. Use appears to be more common with primary partners than with casual ones (Kalichman, Williams, & Nachimson, 1999; Macaluso, Demand, Artz, & Hook, 2000; Sly et al., 1997; Witte, El-Bassel, Wada, Gray, & Wallace, 1999). This may be because the female condom is visible to the partner (although surreptitious use is possible under some condi-tions) and, thus, usually requires his agreement. It may be that partners who agree to use the device are generally those least at risk. In some studies, men have been found to prefer female to male condoms (e.g., Elif-son, Sterk, & German, 1998), but not in others (Musaba, Morrison, Sunkutu, Spruty, & Chomba, 1996). Some researchers indicate that, although initial experimentation with the female condom is high, accept-ability and use tend to decrease over time (Kalichman et al., 1999; Mus-aba et al., 1996; Padian, Quan, Gould, & Glass, 1998).

In summary, the female condom holds some promise as a prevention

technology to protect women. However, because it is detectable by the male partner, men who are prone to react negatively to male condoms—perceiving them as indicating female infidelity, for example—are likely to object to female condoms as well. The female condom is also costly, although studies are underway to determine whether, and under what conditions, they can be washed and reused.

*Vaginal microbicides.* A number of agents have been shown to kill bacteria and viruses that are sexually transmitted (Elias & Coggins, 1996; Louv, Austin, Alexander, Stagnos, & Cheeks, 1988). The first of these to receive attention was nonoxynol-9, a commonly used spermicidal lubricant that is effective against HIV *in vitro*. However, early *in vivo* studies of its effectiveness against HIV yielded mixed results (reviewed in Irwin, Scarlett, & Moseley, 1998). Of some concern were findings indicating deleterious effects of N-9, which could occur if sensitive vaginal tissue became inflamed by the harsh agent. This could produce lesions that might actually facilitate entry of HIV into the woman's blood stream.

*The issue of hierarchical messages.* During this period of uncertainty, a debate transpired over the issue of "hierarchical messages" in which women would be apprised that, were they unable to persuade their partner to use barrier protection (notably, in cases of domestic violence, rape, and other severe forms of coercion), that spermicide use by itself *might* confer some protection. Indeed, New York State AIDS Institute promoted the use of this type of hierarchical message (AIDS Institute, 1992). Some, however, expressed concerns about providing hierarchical messages to women when we know very little about how complex messages are cognitively processed. The key issue here is whether some women receiving the hierarchical message and electing to use the spermicide would have been able to use condoms had they received a message recommending condoms only. Ideally the condom-only intervention would include condom use negotiation skill-building, as both the male and female condom require negotiation and cooperation on the part of the male partner. Although one might hope that careful provision of comparisons of levels of protection provided by different prevention technologies would result in each woman selecting the most effective possible method for her, there is reason to question this assumption. Much of the literature on decision-making—for example, the work of Amos Tversky, Dan Kahneman and others—suggests that humans use simpler heuristics rather than complex cost-benefit analyses. One of these heuristics, which may be relevant here, is called "elimination by aspects" (Tversky, 1972). In this process, the decision-maker identifies one value of one dimension that is salient and important, and then subsets to only options in which

this condition is met. In the case of purchasing an automobile, for example, the person might subset to convertibles, or high-gas mileage cars. In the safer-sex decision situation, this might take the form of eliminating all options that require negotiation (i. e., the known-effective methods) then deciding among the remaining ones. This would be particularly likely if the woman lacked negotiation skills.

Indeed, data exist that suggest that hierarchical messages may be problematic. In a study by Miller, Murphy, Clarke, and Moore (1998), women were randomly assigned either to receive a male-condom message, a hierarchical message, or a no-message control condition. Women receiving the hierarchical message were significantly less likely to perceive male condoms as effective (45% vs. 64% and 70%) and were less willing to consider using male condoms (36% vs. 60% and 52%). One solution to this problem, employed in some studies, is to stage the message hierarchy, beginning with a negotiation skill-building intervention and the recommendation of male or female condom use, and to provide the other options only to women who cannot respond to the first message.

For the moment, this issue is moot. Results from a large randomized controlled trial of nonoxynol-9 have indicated *increased* incidence of HIV infection in the treatment arm (van Damme, 2000). However, a number of other candidate vaginal agents, working through a variety of mechanisms, are currently under study (see Elias & Coggins, 1996; Moore, in press; Pauwels & De Clercq, 1996, for reviews). Acceptability studies conducted so far indicate that vaginal preparations are more likely to be acceptable if they are not messy and easy to insert (Hammett et al., 1998), do not cause itching (Moon et al., 2000), and do not prevent pregnancy (Stein, 1993).

It is not yet clear how powerful a prevention tool vaginal microbicides will eventually prove to be. Considerable research is underway to assess the efficacy, effectiveness, and feasibility of this approach, and we must await the results of these trials.

*Other alternatives.* In the meantime, our group has been investigating strategies other than the "traditional" HIV prevention messages to assess their feasibility and potential for effectiveness for women who are at risk for HIV infection due to the sexual risk behavior of their primary partners. Two other types of approaches, tested by our group in parallel programs of research, will be described here. The first involves the identification and evaluation of condom request messages that may elicit more positive attributions and reactions from men—particularly men with the potential for violence—than the standard HIV message. In the second line of research, conducted with Latina women in the northeast U.S., the feasibility of a strategy in which couples are both



tested for HIV/STD and then agree to use condoms with secondary sexual partners is being investigated.

### *Condom Request Messages*

*Testing acceptability to men in the U.S.* As described earlier, condom request messages that are based on HIV prevention have the potential to inadvertently signify the possibility that the female requestor has been unfaithful, an attribution frequently found to trigger domestic violence in male partners (e.g., Mullen, 1996; Murphy, Meyer, & O'Leary, 1994). Thus, we have attempted to identify alternative messages that do not have this potential. These ideas were incorporated into the intervention evaluated in the NIMH Multisite Trial (1998a), which is one of two studies to date that has demonstrated a significant sexual behavior change effect at 12 months with acceptable retention and a comparison condition controlling for demand. In this intervention, one session (of seven) was devoted to the topic of alternative strategies. Women developed skills for de-escalating negative partner reactions, using antibody testing in order to become pregnant safely, and identifying condom messages involving contraception and other nonillness reasons for the request. However, data were not collected concerning actual use of these strategies, and systematic evaluation of the alternative messages was not conducted until recently (Neighbors et al., 2000).<sup>1</sup> In this study, 84 male inmates in a county jail were interviewed regarding their domestic violence history and attributions and reactions to a series of hypothetical condom requests from their main female partner. These request scenarios were designed to elicit either positive or negative reactions, compared to the standard HIV risk-reduction messages. Scenarios were written to suggest attributions on the basis of the message content or contextual factors described in the scenarios. These were identified by our prior experiences delivering HIV risk-reduction interventions to at-risk men and women, as well as by the literature on domestic violence and attributions in conflict situations (Holtzworth-Munroe & Hutchinson, 1993). We further hypothesized that the differential effectiveness of these messages would be greater among men who reported domestic violence in their relationships. The messages suggested by the scenarios that were hypothesized to elicit negative reactions were as follows: (a) "she's unfaithful," (b) "she doesn't trust me," (c) "she's being emotionally cold," (d) "she's trying to control me," and (e) "she's being argumentative." The positive scenarios were: (a) "she wishes to avoid pregnancy," (b) "she has persistent yeast infections," (c) "she is sensitive/allergic to my sperm," and (4) "she is concerned about her children's welfare." Finally, a message conveying concern about HIV was included. For each

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scenario, men described what their attributions and reactions would be, and then rated the valence of the request (how "good" or "bad" the request would be), how much the request would anger or please him, whether he would be likely to use coercive tactics, and how likely he would be to use the condom. The first three of these were combined to form a single evaluative response scale. Violence directed toward the man's primary partner during the year prior to incarceration was assessed with the modified Conflict Tactics Scale. It should be noted that most men had been incarcerated for less than a year ( $M = 7$  months), alleviating concerns about retrospective recall inaccuracy.

Factor analyses were conducted on the evaluative response measures for the 10 scenarios yielded two factors reflecting our a priori hypotheses, except that the HIV message loaded on the positive factor. As a group, the positive messages evoked more positive evaluative responses, fewer coercive reactions and greater likelihood of condom use. However, contrary to our hypotheses, none of these reactions varied as a function of violence history. Within the positive and negative subgroups, analyses were conducted to identify differential effects. Because HIV prevention is the "standard" message used in intervention work, we compared this scenario with the other four positive messages to test whether any of these might elicit more positive reactions. The "persistent yeast infections" message elicited significantly more positive evaluative reactions, fewer coercive tactics, and greater likelihood of use than HIV, the "sperm sensitivity" message produced more positive evaluations, and contraception yielded a greater likelihood of condom use. Again, contrary to hypotheses, domestic violence history did not interact with message type. Among the negative messages, suspecting female infidelity was associated with the most negative evaluative reactions, most likely use of coercion, and least likely use of condoms. In this instance, coercive responses were more likely among violent men than among nonviolent men. Interestingly, female suspicion of male infidelity elicited the most positive reactions among the "negative" group.

The results of this study suggest that more effective and favorable messages than the traditional HIV-related one can be used to request condom use of male partners. Contraception, for couples who do not wish to conceive children, may be particularly useful. The yeast infection message was associated with greater likelihood of condom use, but this may not be a viable long-term strategy. Indeed, several men commented that they simply would avoid sex until the infection passed—a response associated with low risk of HIV/STD infection but one that would not be likely to be effective in the long term. Contrary to our predictions, violence history was associated with differences in male responses to the scenarios in

only one instance, coercive reaction to female infidelity. This is not due to insufficient representation of violent men; an astonishing 37% of our respondents scored in the "severely violent" range on the Conflict Tactics Scale. However, other data collected in this study regarding generic condom requests from a primary partner indicated that, in the absence of a specific attribution, severely violent men reported more negative reactions (Neighbors et al., 1999). Further, some of the results concerning differences between violent and nonviolent men approached significance, leaving unresolved the issue of whether tailoring request messages based on relationship violence history is necessary. It is important that we continue in our efforts to clarify this issue, as well as to identify more effective strategies for negotiating sexual protection.

*Women in Zimbabwe.* In another study, an individually-tailored intervention focusing on condom request approaches was delivered to seronegative women in Zimbabwe, a country devastated by AIDS (O'Leary, Sakutukwa, Loeb, Moore, & Padian, 2000). In order to develop the most effective negotiation intervention, elicitation interviews were conducted with men and women in Harare and in a rural village. For men who reported that they used condoms, their personal reasons for use were elicited. Women using condoms were asked how they had convinced their partner to use them. These data were then used to create suggestions for condom use negotiation strategies, which formed the basis for an individualized one-on-one intervention for women who had tested seronegative for HIV. Women were given several examples, but were encouraged to generate strategies that they felt would be effective with their own partners. Examples of negotiation strategies are: "The sisters at the clinic believe that all Zimbabweans should use condoms to save our people from HIV"; "Remember \_\_\_\_ who died of AIDS. I don't want our children to be orphans"; and "I know that women entice you all the time, and I just don't want to have to worry." The resulting intervention was delivered to 296 HIV-seronegative women in a primary care setting by trained counselors. Consistent condom use was defined as use during more than 75% of intercourse acts. At enrollment, only 2% of women were categorized as consistent condom users. This increased to 48% following enhanced pretest counseling and condom distribution, to 68% 1 month after the partner negotiation intervention and condom distribution, to 70% 2 months after a booster session. These changes were statistically significant using chi-square test of trend ( $\chi^2 = 365.6, p < .001$ ). These results must be viewed with caution given the absence of a comparison group (a function of the study design: The condom intervention was designed to meet above-described ethical responsibilities in a microbicide accept-

ability trial). It would be very useful to evaluate this intervention in a randomized trial, although the ethics of no-treatment control groups in countries like Zimbabwe is questionable.

What messages were used by these women? Review of open-ended data on this issue revealed several themes. Many women used the knowledge of their new HIV-negative test results: "I joined a study for women. I was tested and found negative so we should use condoms and remain free from disease." Some used reasons having to do with general reproductive health, avoiding the issue of infidelity: "At the study I went to they found I had dirt in my uterus [possibly an STD] so how about if we use condoms to prevent diseases." "I said could we use condoms. I have been found that I am about to develop cancer so was told to use condoms." (This participant may have had cervical dysplasia). Another common strategy avoided the issue of infidelity by alluding to nonsexual forms of transmission: "I told him ways of getting HIV like razor blades, and needles, not just sleeping with other women, so could we please use condoms and see if they are compatible with you?" In traditionally polygamous families, it was not necessary to skirt the issue of multiple sex partners: "Condoms are being encouraged to prevent diseases. Especially for us because we are two wives you never know who has the disease and we will all end up sick." This was true even in urban varieties of polygamy: "I have been found HIV negative. You sometimes have sex with other girlfriends, and I don't know if you have it. So it is better to use condoms so that I can stay and look after the children when you are dead. We can't both die." Indeed, many women pointed to people they had known who died or left their children orphans to AIDS: "First I told him of my love for him. Then I persuaded him like a small child, 'If we are to raise our family without the disease we should be wearing condoms.' Then I gave an example of children orphaned, and he saw that the children were suffering."

If these results can be replicated in a randomized trial, they dispute the hopelessness that many express regarding women's ability to protect themselves from HIV. The women in our study were strong and inventive and most had loving relationships. It is important that, even as we pursue other strategies and technologies, we continue to work to identify ways for women to protect themselves with the male condom, as it is still the most effective prevention tool we have.

#### *HIV Prevention for Latinas: What Doesn't Work? What Might?*

Latinos, particularly those from Puerto Rico and other Caribbean locations and living in the northeast U.S., have been very disproportionately affected by the HIV/AIDS epidemic (see Fernandez, 1995).

Cultural gender roles include a double-standard regarding marital fidelity; Latino men are also more likely than non-Latinos to report same-gender sexual contact (Billy, Tanfer, Grady, & Klepinger, 1993). We initiated a program of research following an evaluation of an ineffective risk-reduction intervention for 60 Puerto Rican women recruited from community based organizations in northern New Jersey in 1992-1993 (Suarez-Al-Adam, Raffaelli, & O'Leary, 2000). The intervention was ineffective in that women in a health promotion attention control group reported reductions in sexual risk behavior that did not differ significantly from similar reductions reported by the intervention participants. Thus, it was impossible to tell whether socially desirable responding was responsible for the reported changes, or whether the lengthy condom-factor and behavioral interview used to evaluate the intervention had reactive effects on actual behavior. In order to better understand the reasons for our findings, we conducted in-depth interviews with 46 of the women who had participated in the intervention trial and convened a series of four focus groups of 8-12 women who had participated in the prior study.

*Individual interviews.* The purpose of the individual interview study (Suarez-Al-Adam et al., 2000) was to explore possible effects of partner abuse on women's ability to respond to the intervention. Because this study was conducted after the completion of the intervention trial, some attrition was suffered, leaving an *n* of 46. Quantitative methods were employed to assess physical and emotional abuse and "hypermasculinity" (*"machismo"*), and qualitative interviews elicited descriptions of their condom conversations with partners, as well as of instances of physical abuse. Results failed to support a role for abuse in women's inability to use condoms, although those who rated their partners higher in hypermasculinity were less likely to bring the issue up in conversation.

*Focus group findings.* The focus groups were conducted in Spanish by Latina research staff. In the focus groups, it was immediately clear that the women were motivated by the intervention to use condoms but that their male partners "won't listen to us." They implored the research team to "talk to them." We thus issued invitations (through the women) to attend a focus group for pay. When the group convened the following week, every woman reported that her partner would not be willing to attend. At the suggestion of one participant, we gave the women HIV informational videotapes to show their partners at home. This strategy was much more effective: All of the men viewed the videos with their partners, and all but one of these reacted positively (the negative reaction was to leave the house angrily and return drunk). Although infor-

mational materials are unlikely to change behavior in isolation, this finding indicates the feasibility of take-home videos—with more effective content—as a venue for reaching men in stable relationships while capitalizing on women's generally greater concern about health (Leventhal, Nerenz, & Strauss, 1982) and better access to preventive health care (Cleary, Mechanic, & Greenley, 1982).

Discussion in the focus groups included the issue of men's greater tendency toward extramarital sex. The women acknowledged that this was common in their community and that this behavior was likely to be putting women at risk, often without their knowledge. In the course of this discussion, one participant commented that even if men used condoms with secondary partners, disease would be prevented. The other women agreed. This strategy would avoid the necessity for condom use within the couple, assuming that the pair were not serodiscordant. In response to this comment, some women expressed the belief that it would be less difficult to convince a partner to be tested for HIV and other STDs than it would be to persuade them to use condoms consistently. However, some of the women expressed doubt that they could count on their partners to follow through with a promise of consistent condom use with secondary partners.

Thus, the focus group findings suggested the potential utility of an innovative intervention for women who perceive themselves at risk for HIV/STD on the basis of their primary partner's sexual behavior. The intervention would use take-home videos to achieve its aims of joint HIV/STD testing and treatment, followed by consistent condom use with secondary partners. This intervention might be advantageous in its avoidance of the need for consistent condom use by main partners, and, if it were effective, it would potentially provide a solution for many at-risk women. Research with gay men has demonstrated the adoption of such "negotiated safety" strategies among this population in Australia (Kippax, in press; Kippax et al., 1997). However, such an intervention has never been evaluated and should be empirically compared with the most effective intervention possible that would promote consistent condom use by the couple. Further, there might be cultural differences in men's willingness to adopt either strategy.

#### *Quantitative Feasibility Study*

In order to test the feasibility of these ideas with a larger group of women, a quantitative study was conducted (O'Leary, Suarez-Al-Adam, et al., 1997). Latina women receiving care in family planning and prenatal clinics in New York City and northern New Jersey ( $N = 353$ ) pro-

vided anonymous interviews regarding their behaviors, their beliefs regarding their male partners' behaviors, domestic violence, and self-efficacy to persuade partners to use condoms with themselves and with other partners. Women reported their country of origin as Puerto Rico (41%), Dominican Republic (26%), South America (20%), Mexico (10%), and Central America (4%). Only a third had been born on the U.S. mainland, and their mean level of Anglo acculturation was low (2.5 on a scale from 1 to 5). Their average monthly income was \$431.

Many women reported knowing or suspecting that their partner had had sex with someone else in the previous 3 months (20%) or year (35%). However, most women reported that they had only had one partner (average number in last 3 months = 1.1) ~~in last year = 1.3~~. Fourteen percent reported that they had suffered severe domestic violence in the previous year. Interestingly, women's self-efficacy to ask their partners to use condoms with them, which averaged 6.8 of a possible 10, was significantly lower than their efficacy to ask them to use condoms with others, which averaged 8.2 ( $p < .0001$ ). Examination of responses reflecting certainty (10 of 10) corroborates that the two behaviors are perceived very differently: Only 48% were certain they could request that their partners use condoms with them, whereas 70% were certain they could request that they use condoms with others. Their perceived efficacy to persuade their partners to be tested for HIV with them was 7.9. When asked whether they would trust their partner to comply with agreements to use condoms with others, however, overall efficacy was moderate at 7.0, with considerable variability: Only 42% of women were completely confident, and 30% rated their confidence at or below the midpoint. Women who reported that their partners were severely violent were significantly less efficacious to convince their partners to use condoms with themselves. These women also reported less trust that their partners would adhere to the secondary partner request. Thus, neither solution—condom use in the dyad or condom use with secondary partners—may be feasible for every couple in a troubled relationship.

Taken together, these results suggest that the ideal intervention for women at risk due to their partners' behavior might be to offer support for both options—consistent condom use with her, or a negotiated agreement that her partner use condoms with others—and encourage each woman to choose the strategy that she believes would be most effective for her. This approach assumes that women's variable levels of trust in their partners is accurate and that their self-efficacy to negotiate with these partners is consonant with their actual abilities and with their beliefs regarding their partners' receptiveness to these requests. These strategies should not be recommended until empirical research has

compared these intervention approaches. Outcomes of negotiated safety agreements among gay men is currently under study (Kippax, in press; Kippax et al., 1997).

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*Dyadic Testing Outcomes and Negotiated Safety: The Case of Serodiscordant Couples*

If a couple tests and learns that they are both seronegative, negotiated safety agreements may permit them safely to eschew condom use with each other. Cases of dual seropositivity are more complex, as reinfection with drug-resistant strains (e.g., if the members of the couple are differentially adherent to medications) remains a possibility. However, when the couple is serodiscordant, consistent use of condoms during sex must be urged to prevent transmission to the uninfected partner. In this regard, it is of interest to review, briefly, the literature on serodiscordant heterosexual couples. Data on transmission to the uninfected partner, sexual behavior among known-serodiscordant couples, and determinants of sexual behavior, are reviewed next.

*HIV transmission to the uninfected partner in serodiscordant heterosexual couples.* In many countries with high HIV prevalences, serodiscordant couples are numerous, constituting 20% of tested couples in a study in Zambia (McKenna et al., 1997), 42% of couples in a Kenyan sample (Mwatha et al., 1998) and 7% in a Uganda study (Baryarama, Josephine, Alwano-Edyego, & Marum, 1998). However, it should be noted that, with the exception of participants who are tested in the context of research, most individuals living in resource-poor epicenters are unaware of their own and the partner's serostatus because antibody testing is not available.

A number of researchers have assessed rates of transmission from infected to uninfected partners. In these studies, couples were aware of their discordant status. In a 7-year study conducted in rural Uganda, Carpenter, Kamali, Ruberantwari, Malamba, and Whitworth (1999) determined that men were twice as likely as women to bring HIV into the marriage and transmitted the virus to their female spouses twice as quickly. Even when couples know their serodiscordant status and have access to condoms, significant seroconversion occurs. In a longitudinal study in Zambia, Hira et al. (1997) followed serodiscordant couples for an average of 17.6 months, and provided condoms and spermicide. Of 110 couples, transmission occurred in 14 (13%). However, condom use was found to be protective in this study, indicating that nonuse was responsible for the seroconversions. Of the 110 couples, only 37 reported using condoms at every intercourse. In Nairobi, data from 65 serodiscordant couples (38 male index; 27 female) indicated that within 9 months



of follow-up, seroconversion occurred in nine individuals (Moss et al., 1991). Following testing, the frequency of sex per month decreased from 9.9 to 4.5 episodes, and condom use increased from less than 5% to 54%.

In a U.S. study following serodiscordant couples for 10 years, counseling initially appeared to be quite promising (Padian, O'Brien, Glass, & Francis, 1993). At this time point, data from 144 couples were available. Following counseling, consistent condom use increased from 49% to 88% at the first follow-up, and remained very high for the next seven 6-month follow-ups. No seroconversion occurred during 193 couple-years of follow-up. Several years later, a total of 442 couples had been followed over time, with 3,000 couple-months of data collected (Padian, Shiboski, Glass, & Vittinghoff, 1997). Of the seronegative women, 19% became infected; of the men, 2% became infected. Twenty-four percent of couples in this study never used condoms. STD history was found to be a powerful predictor of seroconversion in this study.

In another U.S.-based study, Skurnick, Abrams, Kennedy, Valentine, and Cordell (1998) followed 131 discordant couples in New Jersey. Prior to learning their test results, 93% were having unprotected intercourse. This percentage was greatly reduced, to 16%, at the time of enrollment in the study, but had increased to 26% at a 6-month follow-up. No seroconversion was observed in this study.

A counseling intervention for serodiscordant couples was tested in Kigali, Rwanda (Allen et al., 1992). Condoms were made available to the participants. Among the 60 serodiscordant couples identified, condom use increased from 4% to 57% after one year. During follow-up, 2 of the 23 seronegative men and 6 of the 30 seronegative women seroconverted (rates of 4 and 9 per 100 person-years).

In a recent multisite study, the efficacy of health education with that of antibody testing and counseling in Kenya, Tanzania, and Trinidad were compared (The Voluntary HIV-1 Counseling and Testing Efficacy Study Group, 2000). Both individuals and couples were tested. Couple members were first counseled individually and then encouraged to come together to share their results in the presence of a counselor. All participants received an unlimited supply of free condoms. A total of 586 couples enrolled in the study, approximately 20% of whom were discordant. Two findings from this study are noteworthy. First, greater decreases in unprotected intercourse were observed in connection with secondary partners than with main partners. Secondly, couples in which one or both members were infected with HIV were more likely to reduce unprotected intercourse with each other than were couples who both tested seronegative. Among males in couples where one or both partners was infected, the percent reporting unprotected sex decreased from

81% at baseline to 40% at the second follow-up, whereas the corresponding percentages of men in seroconcordant negative relationships were 76% at baseline and 60% at follow-up. Among women in couples where at least one member was found to be infected, percentages reporting unprotected sex with their partners were 92% at baseline and 30% at follow-up. The corresponding percentages of women in concordant negative relationships were 76% at baseline and 64% at follow-up.

In summary, the utility of antibody testing in reducing HIV transmission among serodiscordant couples is mixed. Some couples change their behavior in response to learning their discordant status, but many do not. If effective interventions are to be developed for those couples not reached by standard testing and counseling, we must understand the determinants of risk behavior among these couples.

*Factors influencing risk behavior of serodiscordant couples.* A small number of studies of correlates of risk have been reported to date. Data from an ongoing intervention trial (Van der Straten, Gomez, & Padian, 1998) indicated that 69% of a serodiscordant couples sample had practiced unprotected intercourse in the previous 6 months. These investigators tested the hypothesis that this high level of risk behavior might be related to knowledge of treatment advances or postexposure prophylaxis, as several investigators have indicated a relaxation of safe sex standards among gay men. However, knowledge of these developments was unrelated to sexual risk behavior in this sample.

One notable finding in this (admittedly limited) literature is that psychological distress (Kennedy et al., 1993; Skurnick et al., 1998) and, among female partners of hemophiliacs, poor emotional adaptation (Parsons et al., 1998) are associated with riskier behavior. Excessive use of alcohol and other drugs was associated with sexual risk in two studies (Kennedy et al., 1993; Skurnick et al., 1998). Among female members of discordant couples, ~~riskier~~ sex was related to perceived ~~lack of~~ *safer* freedom to discuss safer sex with her partner (Moore et al., 1995), a history of frank sexual communication and varied sexual behavior (Moore & Padian, 1993), and higher self-efficacy to communicate about safer sex (Parsons et al., 1998). Interestingly, in one study that had both male and female index (seropositive) cases, women's ability to engage in safe sex was not related to which member of the pair (herself or her partner) was infected (Moore et al., 1995). Similarly, in a different study, gender of the infected partner failed to predict level of sexual risk (Van der Straten, Gomez, Saul, & Padian, 1998).

*Summary of serodiscordant couples literature.* Data from the studies just reviewed are somewhat discouraging for the utility of antibody testing in preventing transmission between members of couples, although it

is very much a "half-empty or half-full" situation. Clearly, many couples do protect the uninfected partner effectively, but in virtually every study a significant number of couples do not—despite being fully aware of the risks and with access to condoms. Gender of infected partner appears to make little difference to protective behavior in these studies.

These results indicate the potential utility of intervention strategies to reduce transmission risk among heterosexual serodiscordant couples. First, mental health services should be available and utilized by any person whose situation taxes their coping abilities. Increasing awareness of depression, its symptoms, and modes of treatment might be an important aspect of interventions for serodiscordant couples. Motivational enhancement to reduce drug use might also be important in couples where drug problems exist. Additionally, desensitization of sexual communication and increasing self-efficacy through practice, possibly in the context of a couples intervention, would appear to be a fruitful approach. Interventions for serodiscordant couples represent an important opportunity to mitigate the impact of the HIV epidemic and would also provide venues for addressing other important issues, such as relationship quality and violence, utilization of medical care for the infected member, and encouraging the uninfected partner to provide assistance in maintaining adherence to treatment regimens.

The fact that many known-serodiscordant couples engage in unprotected sex indicates that our understanding of the meaning of sex in intimate relationships remains incomplete. A number of issues in need of further understanding are discussed below.

### Discussion

#### *State of the Behavioral Intervention Science for Women*

It is difficult to estimate the success of prevention interventions to date in reducing women's risk with their primary partners. Although successful interventions for women have been reported, the near-universal failure of researchers conducting these studies to assess (or to report) partner-specific behavior creates uncertainty regarding effects with primary partners. It is important that we improve our intervention research in order to better elucidate this issue. It is also vital that we test the effectiveness of a variety of strategies, including testing and counseling and negotiated safety agreements, to determine whether, and for whom, they are effective. Interventions with couples, particularly ones that involve HIV antibody testing and counseling—possibly tailored to the joint serostatus of the couple—must be evaluated in rigorous research. It is also important that we conduct careful, culturally

sensitive research in countries where the HIV epidemic is predominantly heterosexual and ravaging populations, such as in sub-Saharan Africa. We are not entitled to complacency simply because we have developed interventions that are capable of producing statistically significant change in general populations, when many individuals receiving them are not able to respond to them.

Although contextual issues have not received in-depth consideration in this review (see Amaro, 1995; O'Leary and Martins, 2000; Pequegnat & Stover, 1999, for consideration of these), it is important to note here the devastating life circumstances and conditions faced by women at risk for HIV infection. In many domestic studies, the potent predictive risk of sexual abuse in childhood (e.g., Cohen et al., 2000), likely mediated by drug and alcohol use, depression, revictimization, and disabled sexual assertiveness has been demonstrated (Browning & Laumann, 1997). Drug addiction potentiates women's risk for HIV both through needle-sharing and through the need to trade sex for drugs or money to buy them. Domestic violence is very prevalent in low-income neighborhoods in the U.S., as well as globally, and intersects with the HIV epidemic in several ways (Koenig & Moore, in press). Poverty is associated with HIV risk domestically and internationally, and sexism and disempowerment of women are a universal potentiator of risk for HIV infection from male partners (Gupta & Weiss, 1993).

#### *Self-Exposure to HIV Risk as a Rational Decision*

In light of the current context of women's risk, it is clear that many women who may wish to protect themselves from HIV are not able to do so. At the same time, however, it is difficult to avoid consideration of the possibility that many women may perceive engaging in unprotected intercourse as the most advantageous option available (see Sobo, 1993). Several of my colleagues share the experience of hearing about women in the U.S. who intentionally tried to become infected so that they would be eligible to receive social services—including housing and food—allocated for PWAs. The desire to have children with a particular man, the perceived need to avoid rejection by a man one loves, and fear of violence or even death should one request condoms are all fairly obvious examples. In many cultures, women are dependent on their husbands to be able to stay alive, raise their children, and keep their children—for example, in some sub-Saharan African cultures, divorced women are not only highly stigmatized and without means of income, but the husband's family, further, holds inviolable custody rights to her children (O'Leary et al., 2000).

These issues are significant, and addressing them will require tremendous effort and political will. But, in addition, we have more

research to accomplish on deeper psychological processes: properties of the attachment, desire to please, the perceived emotional need of the other, and the link between sexual love and submission that may drive many women's sexual behavior.

### *Public Health Versus Feminist Empowerment*

It is widely recognized that women will not be free of risk from the ravages of AIDS unless or until empowerment of women is achieved. Internationally (and, as "welfare reform" goes into effect, domestically), economic development must be a crucial component of efforts to enable women to exist independently of male partners. Feminist "consciousness raising" similar to what has occurred in the western world, to increase women's sense of self-worth and value, and hence their conditions, is widely wished-for. Interestingly, though, there are often tensions and trade-offs between the exigencies of the HIV epidemic, on the one hand, and the wish to empower women, on the other. In presenting some of the ideas described in this article, it has become apparent that this author weighs in on the side of public health urgency, even if at the risk of *disempowering* women. In an ideal world, every woman would be able to request condom use assertively rather than through the use of deceptive attributions, to reject partners who are not maritally faithful, and to freely choose any course of action that would keep her from harm. Some of the strategies suggested here—giving duplicitous reasons for condom use requests, tolerating marital infidelity, research and advocacy surrounding vaginal microbicides, whose goal is also duplicitous—compromise our feminist ~~goals~~ <sup>ideals</sup>. The assumption that underlies these strategies is that feminist empowerment will take more time than we can afford in the face of the ravaging epidemic of HIV infection, disease, and death. This assumption may be incorrect, however, and the tensions and trade-offs between public health urgency and fundamental values held by many of us are important issues for further discussion and study. Nevertheless, the urgency of the HIV epidemic and the extreme importance of primary prevention via behavior change in controlling it, requires that we move swiftly to test possibly effective intervention strategies and disseminate those found to be the most effective in rigorous evaluations.

### **Conclusions**

The approach to prevention that has pervaded our work in HIV has been overly simplistic. Consistent condom use, abstinence, and even monogamy may be unrealistic options for many individuals. A "magic bullet" for HIV prevention does not exist, and different solutions will be

optimal for different people. We have really only begun to scratch the surface in our study of HIV prevention for women. Critical factors to explore in future research include gender and power, sexuality, and structural factors affecting risk behavior. A focus on emotional, sexual, and communication processes occurring within primary, committed relationships is long overdue. Men have a special responsibility to protect their families, and research regarding their motivations and drives will also be necessary.

HIV has been in our lives for 20 years. As horrifying as it has been to watch it claim the lives of millions of women, children, and men, we must not lose hope. Let me encourage readers whose research is not yet directly in this arena to consider ways that it might shed light on behavior related to this disease. Until there is an effective vaccine, behavior is the only problem, and the only solution.

sexuality

### References

- AIDS Institute, New York State Department of Health. (1992). *Sexually transmitted HIV infection and women: Methods of personal protection*. Albany, NY: New York State Department of Health.
- Allen, S., Tice, J., Van de Perre, P., Serufilira, A., Hudes, E., Nsengumuremyi, F., Bogaerts, J., Lindan, C., & Hulley, S. (1992). Effect of serotesting with counselling on condom use and seroconversion among HIV discordant couples in Africa. *British Medical Journal*, 304, 1605-1609.
- Allen, S., Van de Perre, P., Serufilira, A., Lepage, P., Carael, M., DeClercq, A., Tice, J., Black, D., Nsengumuremyi, F., Ziegler, J., Levy, J., & Hulley, S. (1991). Human Immunodeficiency Virus and malaria in a representative sample of childbearing women in Kigali, Rwanda. *Journal of Infectious Diseases*, 164, 67-71.
- Amaro, H. (1995). Love, sex, and power: Considering women's realities in HIV prevention. *American Psychologist*, 50, 437-447.
- Aral S. O., & Wasserheit, J. N. (1995). Interactions among HIV, other sexually transmitted diseases, socioeconomic status, and poverty in women. In A. O'Leary & L. S. Jemcott (Eds.), *Women at risk: Issues in the primary prevention of AIDS* (pp. 13-41). New York: Plenum.
- Bandura A. (1997). *Self-Efficacy: The exercise of control*, New York: W. H. Freeman.
- Baryarama, F., Josephine, J. K., Alwano-Edyego, M. G., & Marum, E. (1998). New relationships and HIV discordance rates among couples requesting HIV counselling and testing in Uganda. *International Conference on AIDS*, 12, 370-371. (Abstract No. 23149)
- Belcher L., Kalichman S., Topping M., Smith S., Emshoff J., Norris F., & Nurss, J. (1998). A randomized trial of a brief HIV risk reduction counseling intervention for women. *Journal of Consulting and Clinical Psychology*, 66, 856-861.
- Billy, J. O. G., Tanfer, K., Grady, W. R., & Klepinger, D. H. (1993). The sexual behavior of men in the United States. *Family Planning Perspectives*, 25, 52-60.
- Boyer, C. B., Barrett, D. C., Peterman, T. A., Bolan, G. (1997). STD and HIV risk in heterosexual adults attending a public STD clinic: Evaluation of a randomized controlled behavioral risk-reduction intervention trial. *AIDS*, 11, 359-367.
- Branson, B. M., Peterman, T. A., Cannon, R. O., Ransom, R., & Zaidi, A. A. (1998). Group counseling to prevent sexually transmitted disease and HIV: A randomized controlled trial. *Sexually Transmitted Diseases*, 25, 553-560.
- Browning, C., & Laumann, E. (1997). Sexual contact between children and adults: A

life course perspective. *American Sociological Review*, 62, 540-560.

Bryan, A. D., Aiken, L. S., & West, S. G. (1996). Increasing condom use: Evaluation of a theory-based intervention to prevent sexually transmitted diseases in young women. *Health Psychology*, 15, 371-382.

Carey, M. P., Braaten, L. S., Maisto, S. A., Gleason, J. R., Forsyth, A. D., Durant, L. E., & Jaworski, B. (2000). Using information, motivational enhancement, and skills training to reduce the risk of HIV infection for low-income urban women: A second randomized trial. *Health Psychology*, 19, 3-11.

Carey, M. P., Maisto, S. A., Kalichman, S. C., Forsyth, A. D., Wright, E. M., & Johnson, B. T. (1997). Enhancing motivation to reduce the risk of HIV infection for economically disadvantaged urban women. *Journal of Consulting and Clinical Psychology*, 65, 531-541.

Carpenter, L. M., Kamali, A., Ruberantwari, A., Malamba, S. S., & Whitworth, J. A. (1999). Rates of HIV-1 transmission within marriage in rural Uganda in relation to the serostatus of the partners. *AIDS*, 13, 1083-1089.

Carpenter, C. J., Mayer, K. H., Stein, M. D., Leibman, B. D., Fisher, A., & Fiore, T. (1991). Human immunodeficiency virus infection in North American women: Experience with 200 cases and a review of the literature. *Medicine*, 70, 307-325.

Catania, J. A., Coates, T. J., Kegeles, S., Thompson-Fullilove, M., Peterson, J. Marin, B., Siegel, D., & Hulley, S. al. (1992). Condom use in multi-ethnic neighborhoods of San Francisco: The population-based AMEN (AIDS in multi-ethnic neighborhoods) study. *American Journal of Public Health*, 82, 284-287.

Centers for Disease Control. (1999). *HIV/AIDS Surveillance Report*, 11(2).

Cleary, P. D., Mechanic, D., & Greenley, J. R. (1982). Sex differences in medical care utilization: An empirical investigation. *Journal of Health and Social Behavior*, 23, 106-119.

Cohen D. A., Dent C., MacKinnon D., & Hahn G. (1992). Condoms for men, not women: Results of brief promotion programs. *Sexually Transmitted Diseases*, 19, 245-251.

Cohen, M., Deamant, C., Barkan, S., Richardson, J., Young, M., Holman, S., Anastos, K., Cohen, J., & Melnick, S. (2000). Domestic violence and childhood sexual abuse in HIV-infected women and women at risk for HIV. *American Journal of Public Health*, 90, 560-565.

Corby, N. H., & Wolitski, R. J. (1996). Condom use with main and other sex partners among high-risk women: Intervention outcomes and correlates of reduced risk. *Drugs and Society*, 9, 75-96.

D'Souza, B. (1999, October). *Is marriage a risk?* Paper presented at the Fifth International Congress on AIDS in Asia and the Pacific, Kuala Lumpur, Malaysia.

Dickersin, K. (1997). How important is publication bias? A synthesis of available data. *AIDS Education & Prevention*, 9(Suppl. 1), 15-21.

DiClemente, R. J., & Wingood, G. M. (1995). A randomized controlled trial of a community-based HIV sexual risk reduction intervention for young adult African-American females. *Journal of the American Medical Association*, 274, 1271-1276.

Ehrhardt, A. A. (1992). Trends in sexual behavior and the HIV pandemic. *American Journal of Public Health*, 82, 1459-1461.

El-Bassel, N., Ivanoff, A., Schilling, R. F., Gilbert, L., Borne, D., & Chen D.-R. (1995). Preventing AIDS in drug-abusing incarcerated women through skills building and social support: Preliminary outcomes. *Social Work Research*, 19, 131-141.

El-Bassel, N., & Schilling, R. F. (1992). 15-month follow-up of women methadone patients taught skills to reduce heterosexual HIV transmission. *Public Health Reports*, 107, 500-504.

Eldridge, G. D., St. Lawrence, J. S., Little, C. E., Shelby, M. C., Brasfield, T.L., Service, J. W., & Sly, K. (1997). Evaluation of an HIV risk reduction intervention for women entering inpatient substance abuse treatment. *AIDS Education and Prevention*, 9(A), 62-76.

Elias C. J., & Coggins, C. (1996). Female-controlled methods to prevent sexual transmission of HIV. *AIDS*, 10(Suppl. 3), S43-S51.

Elifson, K. W., Sterk, C. E., & German, D. (1998). Safer sex: The use of male and

female condoms among women who use drugs. *International Conference on AIDS*, 12, 216. (Abstract No. 14170)

Fernandez, M. I. (1995). Latinas and AIDS: Challenges to HIV prevention efforts. In A. O'Leary & J. L. Jemmott (Eds.), *Women at risk: Issues in the primary prevention of AIDS* (pp. 159-174). New York: Plenum.

Fogarty, L. A., Heilig, C., Armstrong, K., Cabral, R., Galavotti, C., Gielen, A. C., & Green, B. M. (in press). Long-term effectiveness of a peer-based intervention promoting condom and contraceptive use among HIV-positive and at-risk women. *Public Health Reports*.

Gollub, E. L. (1995). Women-centered prevention techniques and technologies. In A. O'Leary & L. S. Jemmott (Eds.), *Women at risk: Issues in the primary prevention of AIDS* (pp. 43-82). New York: Plenum.

Gupta, G. R., & Weiss E. (1993). Women's lives and sex: Implications for AIDS prevention. *Culture, Medicine & Psychiatry*, 17, 399-412.

Grimley, D., Prochaska, J. O., Velicer, W. F., Blais, L. M., & DiClemente, C. C. (1994). The transtheoretical model of change. In T. M. Brinthaup & R. P. Lipka (Eds.), *Changing the self: Philosophies, techniques, and experiences. SUNY series studying the self* (pp. 201-227). Albany, NY: State University of New York Press.

Hammett, T. M., Joanis, C. L., Mason, T. H., Seage, G. R., Robles, R. R., Feudo, R., & Mayer, K. H. (1998). Acceptability of formulations and application methods for vaginal microbicides among drug-involved women: Results of product trials in three cities. *International Conference on AIDS*, 12, 621-622. (Abstract No. 33150)

Harlow, L. L., Quina, K., Morokoff, P. J., Rose, J. S., & Grimley, D. M. (1993). HIV risk in women: A multifaceted model. *Journal of Applied Biobehavioral Research*, 1, 3-38.

Hira, S. K., Feldblum, P. J., Kamanga, J., Mukelabai, G., Weir, S. S., & Thomas, J. C. (1997). Condom and nonoxynol-9 use and the incidence of HIV infection in serodiscordant couples in Zambia. *International Journal of STD and AIDS*, 8, 243-250.

Hobfoll, S. E., Jackson, A. P., Lavin, J., Britton, P. J., & Shepherd, J. B. (1994). Reducing inner-city women's AIDS risk activities: A study of single, pregnant women. *Health Psychology*, 13, 397-403.

Holtzworth-Munroe, A., & Hutchinson, G. (1993). Attributing negative intent to wife behavior: The attributions of maritally violent versus nonviolent men. *Journal of Abnormal Psychology*, 102, 206-211.

Ickovics, J. R., & Yoshikawa H. (1998). Preventive interventions to reduce heterosexual HIV risk for women: Current perspectives, future directions. *AIDS*, 12, S197-S208.

Irwin, K., Scarlett, M., & Moseley, R. (1998). The urgent need for new HIV/STD prevention options for women. *Journal of Women's Health*, 7, 1081-1086.

Johansson, E. D., Maguire, R. A., & Phillips D. M. (1999). Pushing the frontiers of science—the Population Council's Microbicide Basic Science Network on vaginal microbicide research. *International Journal of Gynaecology & Obstetrics*, 67(Suppl. 2), S117-124.

Kalichman, S. C., Kelly, J. A., Hunter, T. L., Murphy, D. A., & Tyler, R. (1993). Culturally-tailored HIV-AIDS risk-reduction messages targeted to African-American urban women: Impact on risk sensitization and risk reduction. *Journal of Consulting and Clinical Psychology*, 61, 291-295.

Kalichman, S. C., Rompa, D., & Coley, B. (1996). Experimental component analysis of a behavioral HIV-AIDS prevention intervention for inner-city women. *Journal of Consulting and Clinical Psychology*, 64, 687-693.

Kalichman, S. C., Williams, E. A., Cherry, C., Belcher, L., & Nachimson, D. (1998). Sexual coercion, domestic violence, and negotiating condom use among low-income African American women. *Journal of Women's Health*, 7, 371-378.

Kalichman, S. C., Williams, E. A., & Nachimson, D. (1999). Brief behavioral skills building intervention for female controlled methods of STD-HIV prevention: Outcomes of a randomized clinical field trial. *International Journal of STD & AIDS*, 10, 174-181.

Kamb, M. L., Fishbein, M., Douglas, J. M., Jr., Rhodes, F., Rogers, J., Bolan, G., Zenilman, J., Hoxworth, T., Malotte, K., Iatesta, M., Kent, C., Lentz, A., Graziano, S., Byers, R.

wrong  
order



- H., & Peterman, T. A. (1998). Efficacy of risk-reduction counseling to prevent human immunodeficiency virus and sexually transmitted diseases: A randomized controlled trial. *Journal of the American Medical Association*, 280, 1161-1167.
- Kelly, J. A., Murphy, D. A., Washington, C. D., Wilson, T. S., Koob, J. J., Davis, D. R., Ledezma, G., & Davantes, B. (1994). The effects of HIV/AIDS intervention groups for high-risk women in urban clinics. *American Journal of Public Health*, 84, 1918-1922.
- Kennedy, C. A., Skurnick, J., Wan, J. Y., Quattrone, G., Sheffet, A., Quinones, M., Want, W., & Louria, D. B. (1993). Psychological distress, drug and alcohol use as correlates of condom use in HIV-serodiscordant heterosexual couples. *AIDS*, 7, 1493-1499.
- Kippax, S. (in press). Negotiated safety agreements among gay men. In A. O'Leary (Ed.), *Beyond condoms: Alternative strategies for HIV prevention*. New York: Kluwer Academic/Plenum.
- Kippax, S., Noble, J., Prestage, G., Crawford, J. M., Campbell, D., Baxter, D., & Cooper, D. (1997). Sexual negotiation in the AIDS era: Negotiated safety revisited. *AIDS*, 11, 191-197.
- Koenig, L. J., & Moore, J. (in press). Women, Violence, and HIV: A Critical Evaluation with Implications for HIV Services. *Maternal and Child Health Journal*.
- Lauby, J. L., Smith, P. J., Stark, M., Person, B., & Abrams, J. (2000). A community-level HIV prevention intervention for inner-city women: Results of the women and infants demonstration projects. *American Journal of Public Health*, 90, 216-222.
- Leventhal, H., Nerenz, D., & Strauss, A. (1982). Self-regulation and the mechanisms for symptom appraisal. In D. Mechanic (Ed.), *Monograph series in psychosocial epidemiology 3: Symptoms, illness behavior, and help-seeking* (pp. 55-86). New York: Neale Watson.
- LoConte, J., O'Leary, A., & Labouvie, E. (1997). Psychosocial correlates of HIV-related sexual behavior in an inner-city STD clinic. *Psychology and Health*, 12, 589-601.
- Louv, W. C., Austin, H., Alexander, W. J., Stagnos, S., & Cheeks, J. (1988). A clinical trial of nonoxynol 9 for preventing gonococcal and chlamydial infections. *Journal of Infectious Disease*, 158, 518-523.
- Macaluso, M., Demand, M. J., Artz, L. M., & Hook, E. W. (2000). Partner type and condom use. *AIDS*, 14, 537-546.
- Maibach, E., & Flora, J. (1993). Symbolic modeling and cognitive rehearsal: Using video to promote AIDS prevention self-efficacy. *Communication Research*, 20, 517-545.
- Marmor, M., Krasinski, K., Sanchez, M., Cohen, H., Dubin, N., Weiss, L., Manning, A., Bebenroth, D., Saphier, N., Harrison, C., & Ribble, D. J. (1990). Sex, drugs, and HIV infection in a New York City hospital outpatient population. *Journal of Acquired Immunodeficiency Syndromes*, 3, 307-318.
- McKenna, S. L., Muyinda, G. K., Roth, D., Mwali, M., Ng'andu, N., Myrick, A., Luo, C., Priddy, F. H., Hall, V. M., von Lieven, A. A., Sabatino, J. R., Mark, K., & Allen, S. A. (1997). Rapid HIV testing and counseling for voluntary testing centers in Africa. *AIDS*, 11(Suppl. 1), S103-110.
- McKinnon, K., Carey, M. P., & Cournos, F. (1997). Research on HIV, AIDS, and severe mental illness: Recommendations from the NIMH national conference. *Clinical Psychology Review*, 17, 327-331.
- Miller, L., Murphy, S. T., Clarke, L., & Moore, J. (1998). Increasing options or condom substitution? Impact of hierarchical messages on women's evaluations of HIV prevention methods. *International Conference on AIDS*, 12, 684. (Abstract No. 33479)
- Misovich, S. J., Fisher, J. D., & Fisher, W. A. (1997). Close relationships and elevated HIV risk behavior: Evidence and possible underlying psychological processes. *Review of General Psychology*, 1, 72-107.
- Moon, M. W., Mbizvo, M. T., Heiman, J. E., Chirenje, Z. M., Khumalo-Sakutukwa, G., Mwale, M., Nyamapfeni, P., & Padian, N. S. (2000). Evaluation of the feasibility and acceptability of vaginal microbicides for the prevention of HIV/STI in Zimbabwe. *National Academies of Practice Forum*, 2, 135-139.
- Moore, J. (in press). Woman-controlled prevention technologies. In A. O'Leary (Ed.),

*Beyond condoms: Alternative approaches to HIV prevention.* New York: Kluwer Academic/Plenum.

Moore, J., VanDevanter, N., Padian, N., Skurnick, J., Janowski, M., Bromberg, J., Cordell, J., & O'Brien, T. R. (1995, February). *Women's safer sex communications with male partners: A study of HIV-discordant couples.* Paper presented at the HIV Infection in Women Conference, Washington, DC.

Moore, L., & Padian, N. S. (1993). The social context of sexual risk taking in a cohort of heterosexuals. *International Conference on AIDS*, 9, 863. (Abstract No. PO-D15-3873)

Moss, G., Clemetson, D., D'Costa, L. J., Maitha, G. M., Reilly, M., Ndinya-Achola, J. O., Plummer, F. A., & Kreiss, J. K. (1991). Despite safer sex practices after counselling, seroconversion is high among HIV serodiscordant couples in Nairobi, Kenya. *International Conference on AIDS*, 7, 325. (Abstract No. W.D.3119)

Mullen, P. E. (1996). Editorial: Jealousy and the emergence of violent and intimidating behaviours. *Criminal Behaviour & Mental Health*, 6, 199-205.

Murphy, C. M., Meyer, S. L., & O'Leary, K. D. (1994). Dependency characteristics of partner assaultive men. *Journal of Abnormal Psychology*, 103, 729-735.

Musaba, E., Morrison, C. S., Sunkutu, M. R., Spruty, A., & Chomba, A. B. (1996). Long-term use and acceptability of the female condom among couples at high-risk of HIV in Zambia. *International Conference on AIDS*, 11, 238. (Abstract No. Th.C.430)

Mwatha, A. K., Keilly, M., Nduati, R. W., Mbori-Ngacha, D. A., Bwayo, J., Kreiss, J. C., & John, G. C. (1998). Serodiscordance of HIV-1 among pregnant women in Nairobi, Kenya. *International Conference on AIDS*, 12, 371. (Abstract No. 23153)

NIMH Multisite HIV Prevention Trial Group. (1998a). The NIMH Multisite HIV prevention trial: Reducing sexual HIV risk behavior. *Science*, 280, 1889-1894.

NIMH Multisite HIV Prevention Trial Group. (1998b, June). *Social cognitive mediators of behavioral intervention effects on HIV/STD risk.* Paper presented at the 12th World AIDS Conference, Geneva.

Neighbors, C. J., O'Leary, A., & Labouvie, E. (1999). Domestically violent and nonviolent male inmates' evaluations and responses to their partner's requests for condom use: Testing a Social-Information Processing model. *Health Psychology*, 18, 427-531.

Neighbors, C. J., O'Leary, A., & Labouvie, E. (2000). *Responses of male inmates to primary partner requests for condom use: Effects of attributions, message content, and domestic violence history.* Manuscript submitted for publication.

Nelson, K. E., Rungruengthanakit, K., Margolick, J., Suriyanon, V., Niyomthai, S., de Boer, M. S., Kawichai, S., Robison, V., Celentano, D. D., Nagachinta, T., & Duerr, A. (1999). High rates of transmission of subtype E human immunodeficiency virus type 1 among heterosexual couples in Northern Thailand: role of sexually transmitted diseases and immune compromise. *Journal of Infectious Diseases*, 180, 337-343.

Newman, S., Sarin, P., Kumarasamy, N., Amalraj, E., Rogers, M., Madhivanan, M., Flanigan, T., Cu-Uvin, S., McGarvey, S., Mayer, K., & Solomon, S. (2000). Marriage, monogamy, and HIV: A profile of HIV-infected women in south India. *International Journal of STD & AIDS*, 11, 250-253.

Nyamathi, A. M., Flaskerud, J., Bennett, C., Leake, B., & Lewis, C. (1994). Evaluation of two AIDS education programs for impoverished women. *AIDS Education and Prevention*, 6, 296-309.

Nyamathi, A. M., Leake, B. L., Flaskerud, J., Lewis, C., & Bennett, C. (1993). Outcomes of specialized and traditional AIDS counseling programs for impoverished women of color. *Research in Nursing and Health*, 16, 11-21.

O'Donnell L. N., San Doval A., Duran R., & O'Donnell C. (1995). Video-based sexually transmitted disease patient education: Its impact on condom acquisition. *American Journal of Public Health*, 85, 817-822.

O'Leary, A., Ambrose, T., Raffaelli, M., Maibach, E., Jemmott, L. S., Jemmott, J. B., Labouvie, E., & Celentano, D. (1998). Effects of an AIDS risk reduction program on sexual risk behavior of low-income STD patients. *AIDS Education and Prevention*, 10, 483-492.

2001

O'Leary, A., DiClemente, R. J., & Aral, S. O. (1997). Reflections on the design and reporting of STD/HIV behavioral intervention research. *AIDS Education and Prevention*, 9(A), 1-14.

O'Leary, A., El-Bassel, N., & Witte, S. (in press). Women at risk due to main partner's behavior. In A. O'Leary (Ed.), *Beyond condoms: Alternative strategies for HIV prevention*. New York: Kluwer Academic/Plenum.

O'Leary, A., Jemmott, L. S., Goodhart F., & Gebelt J. (1996). Effects of an institutional AIDS prevention intervention: Moderation by gender. *AIDS Education and Prevention*, 8, 49-61.

O'Leary, A., & Martins, P. (2000). Structural factors affecting women's HIV risk: A life-course example. *AIDS*, 14(Suppl. 1), 68-72.

O'Leary, A., Sakutukwa, G., Loeb, L., Padian, N., & Moore, J. S. (2000, July). Development of a male condom intervention for HIV-seronegative Zimbabwean women. *International AIDS Conference*, 13, 113. (Abstract No. WePpC1394)

O'Leary, A., Suarez-Al-Adam, M., Fernandez, I. M., Neighbors, C. J., Allende-Ramos, C., & Ambrose, T. K. (1997, August). HIV risk reduction programs for Latinas: What doesn't work? What might? In A. O'Leary (Chair), *HIV Prevention for Latina women: Problems and Solutions*. Symposium conducted at the American Psychological Association Annual Conference, Chicago.

O'Leary, A., & Wingood, G. (2000). Interventions for sexually active, heterosexual women. In J. L. Peterson & R. J. DiClemente (Eds.), *Handbook of HIV prevention* (pp. 179-200). New York: Kluwer Academic/Plenum.

Padian, N. S., O'Brien, T. R., Glass, S., & Francis, D. P. (1993). Prevention of heterosexual transmission of Human Immunodeficiency Virus through couple counseling. *Journal of Acquired Immune Deficiency Syndromes*, 6, 1043-1048.

Padian, N. S., Shiboski, S. C., Glass, S. O., & Vittinghoff, E. (1997). Heterosexual transmission of Human Immunodeficiency Virus (HIV) in Northern California: Results from a ten-year study. *American Journal of Epidemiology*, 148, 350-357.

Padian, N., Quan, J., Gould, H., & Glass, S. (1998). Choice of female-controlled methods of barrier contraceptives among young women and their male partners in northern California diminishes over time. *International Conference on AIDS*, 12, 616. (Abstract No. 33126)

Parsons, J. T., Huszti, H. C., Crudder, S. O., Gage, B., Jarvis, D., Mendoza, J., Parish, K. L., & the Hemophilia Behavioral Intervention Evaluation Projects Adult Study Group (1998). Determinants of HIV risk reduction behaviors among female partners of men with hemophilia and HIV infection. *AIDS and Behavior*, 2, 1-12.

Pauwels, R., & De Clercq, E. (1996). Development of vaginal microbicides for the prevention of heterosexual transmission of HIV. *Journal of Acquired Immunodeficiency Syndromes and Human Retrovirology*, 11, 211-221.

Pequegnat, W., & Stover, E. (1999). Considering women's contextual and cultural issues in HIV/STD prevention research. *Cultural Diversity and Ethnic Minority Psychology*, 5, 287-291.

Peterson, J. L., Grinstead, O. A., Golden, E., Catania, J. A., Kegeles, S., & Coates, T. J. (1992). Correlates of HIV risk behaviors in Black and White San Francisco heterosexuals: The population-based AIDS in Multiethnic Neighborhoods (AMEN) study. *Ethnicity & Disease*, 2, 361-370.

Pinkerton, S. D., Holtgrave, D. R., DiFranceisco, W. J., Stevenson, L. Y., & Kelly, J. A. (1998). Cost-effectiveness of a community-level HIV risk reduction intervention. *American Journal of Public Health*, 88, 1239-1242.

Pinkerton, S. D., Holtgrave, D. R., Turk, M. E., Hackl, K. L., DiFranceisco, W. J. (1998). The cost of delivering a cognitive-behavioral HIV risk reduction intervention: A multisite comparison. NIMH Multisite AIDS Prevention Trial. *International Conference on AIDS*, 12, 1038. (Abstract No. 60215)

Quirk, M. E., Godkin, M. A., & Schwenzfeier, E. (1993). Evaluation of two AIDS pre-

Unpublished ms.  
Colombia  
Univ.

vention interventions for inner-city adolescent women. *American Journal of Preventive Medicine*, 9, 21-26.

Schilling, R. F., El-Bassel, N., Schinke, S. P., Gordon, K., & Nichols, S. (1991). Building skills of recovering women drug users to reduce heterosexual AIDS transmission. *Public Health Reports*, 106, 297-304.

Shain, R. N., Piper, J. M., Newton, E. R., Purdue, S. T., Ramos, R., Champion, J. D., & Guerra, F. A. (1998). A randomized, controlled trial of a behavioral intervention to prevent sexually transmitted disease among minority women. *New England Journal of Medicine*, 340, 93-100.

Sikkema K. J., Kelly, J. S., Winnett, R. A., Solomon, L. J., Cargill, V. A., Roffman, R. A., McAuliffe, T. L., Heckman, T. G., Anderson, E. A., Wagstaff, D. A., Norman, A. D., Perry, M. J., Crumble, D. A., & Mercer, M. B. (2000). Outcomes of a randomized community-level HIV prevention intervention for women living in 18 low-income housing developments. *American Journal of Public Health*, 90, 57-63.

Skurnick, J. H., Abrams, J., Kennedy, C. A., Valentine, S. N., & Cordell, J. R. (1998). Maintenance of safe sex behavior by HIV-serodiscordant heterosexual couples. *AIDS Education and Prevention*, 10, 493-505.

Skurnick, J. H., Bromberg, J., Kennedy, C., Sheffet, A., & Louria, D. B. (1995, February). *Couples' practice of safe sex after knowledge of HIV discordance: A woman's report from the Heterosexual Transmission Study (HATS)*. Paper presented at the HIV Infection in Women Conference, Washington, DC.

Sly, D. F., Quadagno, D., Harrison, D. F., Eberstein, I., Riehman, K., & Bailey, M. (1997). Factors associated with the use of the female condom. *Family Planning Perspectives*, 29, 181-184.

Smith L. B., Adler, N., & Tschann J. M. (1998). Underreporting sensitive behaviors: The case of young women's willingness to report abortion. *Health Psychology*, 18, 37-43.

Sobo, E. J. (1993). Inner city women and AIDS: The psycho-social benefits of unsafe sex. *Culture, Medicine and Psychiatry*, 17, 455-485.

Stein, Z. (1993). HIV Prevention: An update on the status of methods women can use. *American Journal of Public Health*, 83, 1379-1382.

St. Lawrence, J. S., Eldridge, G. D., Shelby, M. C., Little, C. E., Brasfield, T. L., & O'Bannon, R. E. (1997). HIV risk reduction for incarcerated women: A comparison of brief interventions based on two theoretical models. *Journal of Consulting & Clinical Psychology*, 65, 504-509.

St. Lawrence, J. S., Wilson, T. E., Eldridge, G. D., Brasfield, T. L., & O'Bannon, R. E. (in press). Evaluation of community-based interventions to reduce low income, African American women's risk of sexually-transmitted diseases: A randomized controlled trial of three theoretical models. *American Journal of Community Psychology*.

Suarez-Al-Adam, M., Raffaelli, M., & O'Leary, A. (2000). Influence of abuse and partner hypermasculinity on the sexual behavior of Latinas: Results from an HIV preventive intervention study. *AIDS Education and Prevention*, 12, 263-274.

Sumartojo, E. (2000). Structural factors in HIV prevention: Concepts, examples, and implications for research. *AIDS*, 14, s3-s10.

Tversky, A. (1972). Elimination by aspects: A theory of choice. *Psychological Review*, 79, 281-299.

UNAIDS. (1999). *HIV/AIDS: The global epidemic*. Paper presented at the Joint United Nations Program on HIV/AIDS and WHO, Geneva.

United Nations Development Programme. (1993). *Silence, susceptibility, and the HIV epidemic*. New York: Author.

Van Damme, L. (2000, July). *Advances in topical microbicides*. Plenary presentation at the International Conference on AIDS, Durban, South Africa.

Van der Straten, A., Gomez, C. A., Saul, J., & Padian, N. (1998). Awareness of PEP and viral suppressive therapy have little effect on sexual risk behavior in heterosexual HIV-discordant couples. *International Conference on AIDS*, 12, 211-212. (Abstract No. 14146)

The Voluntary HIV-1 Counseling and Testing Efficacy Study Group. (2000). Sustained risk reduction in individuals and couples receiving voluntary HIV-1 counseling and testing in three developing countries: The Voluntary HIV-1 Counseling and Testing Efficacy Study. *The Lancet*, 356, 86-87.

Walden, V. M., Mwangulube, K., & Makhumula-Nkhoma, P. (1999). Measuring the impact of a behavior change intervention for commercial sex workers and their potential clients in Malawi. *Health Education Research*, 14, 545-554.

Weinhardt, L. S., Carey, M. P., Carey, K. B., & Verdecias N. (1998). Increasing assertiveness skills to reduce HIV risk among women living with a severe and persistent mental illness. *Journal of Consulting and Clinical Psychology*, 66, 680-684.

Wingood, G. M., & DiClemente, R. J. (1997). Consequences of having a physically abusive partner on condom use and sexual negotiation of young adult African-American women. *American Journal of Public Health*, 87, 1016-1018.

Wingood, G. M., & DiClemente, R. J. (1998). Partner influences and gender-related factors associated with noncondom use among young adult African-American women. *American Journal of Community Psychology*, 26, 29-53.

Witte, S. S., El-Bassel, N., Wada, T., Gray, O., & Wallace, J. (1999). Acceptability of female condom use among women exchanging street sex in New York City. *International Journal of STD & AIDS*, 10, 162-168.

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## PSYCHOSOCIAL CORRELATES OF HIV-RELATED SEXUAL BEHAVIOR IN AN INNER CITY STD CLINIC

JOHN S. LO CONTE, ANN O'LEARY and ERICH LABOUVIE

*Rutgers University*

*(Received in final form 24 April, 1996)*

Inner city African Americans suffer a disproportionate share of sexually transmitted disease (STD), including HIV infection. For effective interventions to be planned, variables critical to sexual behavior in this population must be identified. This study introduced and tested a self-report measure of sexual impulse control for its relevance to the risky sexual practices of 83 inner city men and women from three New Jersey public STD clinics. Social cognitive factors, largely derived from Bandura's social cognitive theory (SCT), were also assessed for their influence upon risky inner city sexual practices. Results indicated that difficulty controlling sexual impulse was the variable most strongly linked with unprotected sexual intercourse among the entire sample. However, self-efficacy to negotiate condom use played a significant role in women's sexual behavior but not in men's. Among female STD patients, higher self efficacy to negotiate condom use was linked with less unprotected intercourse.

**KEY WORDS:** Social cognitive theory; sexual-impulse control; inner city; sexual behavior; African Americans; STD patients.

Inner city African Americans account for a disproportionate share of sexually transmitted diseases (STDs) in the United States. Compared with the national average, inner city African Americans suffer a five fold risk of syphilis, a three fold risk of pelvic inflammatory disease, a three fold risk of Herpes Simplex Virus type 2 (HSV-2), and a disproportionately high risk of resistant strain gonorrhea (Aral and Holmes, 1991).

STDs impart an increased risk for HIV infection (Aral and Wasserheit, 1995; Cameron *et al.*, 1989; Greenblatt *et al.*, 1988) due to the cervical and urethral ulcerations that they produce, and they also serve as a proxy index of unprotected intercourse. HIV seroprevalence rates from U.S. urban STD clinics have varied between 4%–10% (Beidas and LoConte, 1989; Erickson, *et al.*, 1989; Weisfuse *et al.*, 1989). Again, African Americans suffer a disproportionate share of HIV infection. Although they represent only 12% of the U.S. population, African Americans experience over 60% of heterosexually transmitted cases of HIV, over 33% of all new AIDS cases reported in the U.S., and over 30% of the 361,509 cumulative AIDS cases reported by December 1993 in the U.S. (CDC, 1994).

Despite an increased HIV and STD risk among inner city African Americans, few studies have attempted to conceptualize the attitudes and behaviors underlying sexual risk-taking in this population, although there are notable exceptions (Jemmott and Jemmott, 1990; 1992; Jemmott, Jemmott and Hacker, 1993; Jemmott, Jemmott and Fong, 1992; Solomon and DeJong, 1986; 1989).

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## Structural Factors and Women's HIV Risk: A Hypothetical Case Study

The life history of June with key events and possible structural intervention factors that could have made a difference. Success at each stage obviates necessity for next stage.

### Life event (chronological)

### Possible structural prevention factor

CHILDHOOD SEXUAL ABUSE

COMMUNITY, SOCIETAL, SCHOOL-BASED CSA AWARENESS FOR PREVENTION

MANDATORY REPORTING/DUTY TO WARN

MANDATORY TREATMENT FOR OFFENDERS

AFFORDABLE MENTAL HEALTH SERVICES FOR VICTIM, FAMILY

REGULATION OF PORNOGRAPHIC MATERIALS TO EXCLUDE PEDOPHILIA

SEXUALIZATION OF ATTACHMENT

AFFORDABLE MENTAL HEALTH CARE

SEXUAL REVICTIMIZATION

MANDATORY TREATMENT OF OFFENDERS, HUMANE PROCEDURES FOR REPORTING AND LITIGATING RAPE

DRUG ADDICTION

INTERDICTION OF DRUG IMPORTS

DECRIMINALIZATION OF DRUG USE; CRIMINALIZATION OF DRUG USE

AFFORDABLE, CONVENIENT HUMANE DRUG TREATMENT

UNEMPLOYMENT

WORKPLACE DRUG TREATMENT

FULL EMPLOYMENT POLICY

SEX TRADING

DECRIMINALIZATION AND  
REGULATION OF SEX WORK

CSW ORGANIZING FOR UNIFIED  
CONDOM USE REQUESTS

INCARCERATION

PROGRAMS IN CORRECTIONAL  
FACILITIES: HIVP; DRUG  
TREATMENT; JOB TRAINING

# **WHY USE STD INCIDENCE TO EVALUATE BEHAVIORAL INTERVENTIONS?**

**1. Self-report outcomes are vulnerable to bias, particularly in intervention studies, in which differential pressure for socially desirable responding can produce artefactual positive intervention effects. STD effects are objective indices of behavior change.**

Treatment group participants wish to report behavior change because they received attention and assistance from nice people who, with other investigators, wish to see them change their behavior. Participant who did not change behavior fears disappointing nice people; feels ashamed.

Control group participants feel less pressure of these sorts and reports less behavior change.

Possible result: Treatment group reports more behavior change than control group despite no actual difference. Intervention erroneously deemed effective.

**2. What we want to influence is disease, not behavior that is irrelevant to disease.**

**3. Behavior changes that can be effective in preventing disease may be difficult to assess and may not be captured by behavioral measures typically used in intervention evaluation.**

Examples: partner selection strategies; joint testing and negotiated safety (concordant partners); joint testing and taking serostatus into account in deciding "direction" of behavior (e.g. insertive vs. receptive).

**Possible reasons for obtaining behavior change, but not biological, outcome in an intervention study:**

- a. Behavior change result is artefactual, as described above.
- b. Those intervention recipients who changed their behavior were those at lowest risk for contracting or transmitting an STD.
- c. The study possessed insufficient statistical power to detect a biological effect due to low incidence of STD.

**Possible reasons for obtaining biological, but not behavior change, outcome in an intervention study:**

- a. Few individuals receiving the intervention changed their behavior, but those who did were "core transmitters"/ "core infectees"
- b. Intervention participants did not increase condom use, frequency of sex, or number of partners.

However, they *did* make other behavior changes affecting disease incidence.

Examples: selects partners thought to be at lower risk due to other behavioral characteristics (e.g., not sex workers or drug addicts), history taking, known antibody status); uses condoms only with partners deemed to be risky.



**4. We should be testing interventions among populations at highest risk, and these will be populations with the highest STD morbidity. If so, we'll have sufficient statistical power to test incidence outcomes.**

**5. Our participants benefit when we identify STD and refer them to treatment.**

However, other issues related to human subjects and informed consent (e.g., reporting requirements) must be considered.

**6. Technical advances in STD assessment have resulted in more sensitive tests, and have made the process less expensive, more convenient, and less invasive, than was the case in the past.**

Examples: urine-based lcr; pcr tests for bacterial pathogens; saliva or finger prick blood samples for detection of viral antibodies.

## **How to use STD incidence to evaluate a behavioral intervention**

1. Assess STD immediately post-intervention in all study arms.

Bacterial STD (typically detect pathogen):

- chlamydia
- gonorrhea
- trichomonas
- syphilis

Viral STD (typically detect antibody):

- human immunodeficiency virus (HIV)
- genital herpes simplex (HSV-2)
- genital human papillomavirus (HPV, relevant strains)
- hepatitis B (HBV)
- HTLV-I; II

2. Treat all bacterial STD. Viral STD is not curable.

3. Assess all STD again at follow-up assessment points. Any bacterial infection counts as incident. Any viral infection *other than those detected at immediate post-intervention assessment* counts as incident.
4. Dichotomize aggregate into yes/no for incident infection at each follow-up point. Provide treatment for bacterial STD.
5. Incident infections at different follow-up points can be summed to give a continuous outcome.

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**The NIMH Multisite HIV  
Prevention Trial: Reducing HIV  
Sexual Risk Behavior**

The National Institute of Mental Health (NIMH) Multisite HIV  
Prevention Trial Group\*

to be published by Plenum, Series on "HIV prevention - mental health"

Beyond Condoms: Alternative Approaches to HIV Prevention  
Ann O'Leary, Ph.D., Editor

Since HIV was first identified and shown to be sexually transmitted, consistent use of latex condoms has been the standard prevention message given to individuals at risk of becoming infected with the virus or transmitting it to others. It is not surprising, given medicine's past successes in identifying single "magic bullets" to solve health problems, and given the high level of prevention effectiveness demonstrated by consistent and correct use of condoms, that alternative strategies have seldom been sought. At the same time, consistent condom use is difficult for many individuals to achieve, and the prospect of a lifetime of this regimen is daunting to most of us. In the developing world, condom availability and affordability is often limited. Condoms prevent pregnancy. Finally, while condoms, when properly used, are very effective in preventing HIV transmission, they are not 100% effective: they do sometimes break.

Careful review of the HIV prevention literature suggests that, while behavioral intervention focusing on consistent condom use can produce significant behavior change, the majority of participants in studies do not achieve full behavior change, and many exhibit no change at all. Specific difficulties exist for women at risk due to the behavior of primary male partners (O'Leary, in press; O'Leary and Wingood, in press), couples wishing to reproduce; persons with severe sexual self-control deficits (Kalichman, Greenberg, & Abel, 1997), and individuals in impoverished developing countries who cannot access or afford condoms.

A growing view in HIV prevention is that the one-size-fits-all approach may not be the most effective public health strategy. Rather, different approaches or combinations of approaches may be optimal for different individuals in different life circumstances. The proposed volume would bring together several alternative approaches, reviewing effectiveness and feasibility data and making specific suggestions for needed research.

Following is a list of proposed chapters and authors (authors who have agreed to write are bolded), with brief descriptions of the issue each addresses:

1. Introduction

**Ann O'Leary, Ph.D.**

Centers for Disease Control and Prevention  
National Center for HIV, STD, and TB Prevention  
Division of HIV/AIDS Prevention: Intervention Research and Support  
Behavioral Intervention Research Branch

2. Negotiated safety agreements among MSM

**Susan Kippax, Ph.D.**

Mcquarie University  
National Center in HIV Social Research  
School of Behavioral Sciences



Sydney, Australia

*Kippax and colleagues have been studying agreements made by men who have sex with men in primary relationships to be tested for HIV antibody and, if found to be seroconcordant, agreeing to use condom with others but not with each other. They are conducting research to identify the types of agreements men make, their actual behavior, and seroincidence among men with different agreements.*

3. Women at risk due to main partner's behavior

**Ann O'Leary, Ph.D.**

Centers for Disease Control and Prevention

*I have been conducting qualitative and quantitative research addressing this topic among Latina women. Ideas such as the use of take-home videos to reach male partners and negotiated safety agreements have been evaluated for feasibility. Other research with male inmates has tested condom request messages other than the "standard" for effectiveness and interaction with violence history. A research agenda will be proposed.*

4. Structural and policy interventions to reduce the spread of HIV

Michael Merson, M.D.

Director, Center for Intervention Research on AIDS

Dean, School of Public Health

Yale University School of Medicine

*Dr. Merson, former head of the World Health Organization's Global Program on AIDS, will discuss structural and policy responses to HIV that have been effective in other countries, and will propose changes that could be made domestically.*

5. Female-controlled prevention technologies

**Janet S. Moore, Ph.D.**

Centers for Disease Control and Prevention

National Center for HIV, STD, and TB Prevention

Division of HIV/AIDS Prevention: Epidemiology and Surveillance

*This chapter will provide a review on the state of the art of the development and evaluation of such technologies, including the female condom and vaginal microbicides.*

6. Specific serotonin reuptake inhibitors for dystonic sexual self control deficits

John M. Bradford, M.D.

The Royal Ottawa Hospital  
1145 Carling Avenue  
Ottawa, Ontario  
Canada

*Recent research with male paraphilics and sex offenders suggests the efficacy of pharmacologic treatment of these conditions via the effects of these drugs on libido and sexual function. In these times of HIV and other STDs, many individuals seek assistance in controlling sexual behavior; research will be proposed to evaluate the usefulness of SSRIs in HIV prevention.*

#### 7. STD treatment as prevention in the developing world

**Sevgi O. Aral, Ph.D.**

Centers for Disease Control and Prevention  
National Center for HIV, STD, and TB Prevention  
Division of STD Prevention

*STDs are important cofactors in HIV transmission. This chapter will review the evidence for the effectiveness of STD treatment as a prevention strategy in developing countries.*

#### 8. “Grey area” behaviors

**Richard J. Wolitski, M.A.**

Centers for Disease Control and Prevention  
National Center for HIV, STD, and TB Prevention  
Division of HIV/AIDS Prevention: Intervention Research and Support  
Behavioral Intervention Research Branch

*This paper will review evidence for the prevalence of behavioral preventive strategies among MSM and other populations. Relative risks accruing to some of these strategies—e.g., taking known serostatus into account in deciding about “direction” of intercourse; oral versus anal sex—are known, while others, such as withdrawing prior to ejaculation and partner selection strategies, are not. Again, a research agenda will be offered.*

#### 9. Sexual abstinence and delay of onset of sexual activity

**John B. Jemmott, III, Ph.D.**

Department of Psychology  
Princeton University  
Princeton, NJ

*Abstinence messages as a strategy to avoid HIV infection, particularly among adolescents, is the subject of much debate but not very much evidence for efficacy. John Jemmott and colleagues have recently conducted work addressing this issue and will review data regarding this issue.*

10. HIV treatment advances as prevention

Seth C. Kalichman, Ph.D.  
Center for AIDS Intervention Research (CAIR)  
Medical College of Wisconsin  
Milwaukee, WI

*This chapter will review the evidence for viral load-reducing effects of protease inhibitors and cocktails in reducing the likelihood of HIV transmission. Post-exposure prophylaxis will also be discussed.*

11. Evaluating the comparative cost effectiveness of alternative strategies

**David Holtgrave, Ph.D.**  
Centers for Disease Control and Prevention  
National Center for HIV, STD, and TB Prevention  
Division of HIV/AIDS Prevention: Intervention Research and Support  
Behavioral Intervention Research Branch

12. Future directions for research     O'Leary

Amie Brown Bag  
on Zimbabwe

HIV prevalence - 30% (highest in world)  
Less visible in the city

Study - assessing acceptability of female condom;  
 vaginal microbicide among women not using  
 male condoms @ least 50% of occasions after  
 2 sessions targeting male condoms.

Ann did elicitation interviews to develop  
 male condom session.

- their beliefs are accurate
- they perceive risk
- wanted to know why multiple partners
- ? - prevention strategies

Did 9 interviews, translated from Shona,  
 7 & 2, urban & rural.

### Findings

Polygamy is still traditional in villages,  
 girlfriends take the place of subsequent wives  
 in the city. There are feelings of financial  
 obligation for them & their children - multiple  
 parts. prestigious because of suggestion of wealth.

Polygamists still go to hookers. That's  
 mostly in city, but people come & go. Won't  
 use condoms with wives, but may c  
 girlfriends.

Lobola - bride price - makes women feel they have to do what the men say. (or lose their patrimony)  
In the country, more active steps around self-protection, self-support.

One ♀ got her husband to use most of the time.

High school students use condoms because impregnating someone under 18 is statutory rape.

One study staff member suggested prevention programs at funerals.

Uganda had leadership that promoted testing. Zimbabwe could.

Developed scripts: (Interviewees liked them)

Mugabe

1. Don't want our children to use their parents.
2. You're so attractive, I'm sure ♀ will entice you, and I don't want to worry.
3. The sisters in the clinic say to use condoms to prevent HIV.  
→ refer to women's centers, NGOs to reduce economic dependency.