Feminization of the HIV Epidemic in the United States: Major Research Findings and Future Research Needs

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ABSTRACT *This article describes several HIV prevention interventions that have demonstrated efficacy in reducing women's risk of HIV and identifies key research questions to be addressed in the area of HIV prevention for women. The article is organized in a question-and-answer format for clarity of presentation. This format is particularly useful in the latter half, which focuses on specific questions that have emerged from past and ongoing research among women. Some of these research questions include the following: (a) How can researchers develop effective strategies that can prevent women from relapsing to risky sexual practices? (b) What are effective HIV prevention approaches for Latina women? (c) How can interventions be tailored to the needs of women living with HIV? (d) How can we improve the efficacy and cost effectiveness of comprehensive HIV prevention strategies for reducing HIV and other blood-borne and sexually transmitted infections among women?*

KEYWORDS *HIV/AIDS and STDs, Women at risk, Prevention interventions for women.*

INTRODUCTION

Acquired immunodeficiency syndrome (AIDS), first reported in women in 1981,¹ had by 1998 become the fifth leading cause of death for women aged 25 to 44 years, and the third leading cause of death for African American women in this age group.² Centers for Disease Control surveillance data illustrated how this gender shift of the HIV epidemic highlighted women's vulnerability. The cumulative percentage of all female AIDS cases increased from 6.7% in 1986³ to 18% in 1999.⁴ By 1999, women accounted for 23% of new AIDS diagnoses and 32% of newly reported HIV diagnoses.^{4,5} Initially, the HIV epidemic in women centered on injection drug-using women; however, by 1995, heterosexual transmission surpassed injection drug use as the most common mode of transmission among women.⁶ Historically, ethnic minority women have been disproportionately affected by HIV. This disparity continues today: currently, African American and Latina women account for three quarters of the AIDS cases among women.⁴ Importantly, younger women are disproportionately at risk, reflected by estimates that 26% to 50% of all persons who acquire HIV heterosexually do so when they are teenagers or in their early 20s.⁷ The diversity of the epidemic among women is also evident as the

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epidemic becomes more pronounced among women in rural communities.⁸ Using a question-and-answer format, the following discussion reviews recent research findings and their implications in light of the “feminization” of the HIV epidemic in the United States today.

What Major Research Findings Have Been Established in HIV Prevention Research for Women?

In their landmark study, Padian and colleagues discovered that as the receptive sexual partner in heterosexual intercourse, women are at greater risk than men for acquiring HIV.⁹ The study documented that the risk of acquiring HIV from a single act of intercourse is at least 8-fold greater from men to women than from women to men. Moreover, this study highlighted women’s sexual vulnerability to HIV. This and other social and behavioral research on HIV prevention for women was useful in characterizing women’s sexual risk, particularly in identifying important HIV-related individual-level factors, such as having a limited education,¹⁰ having a lower income,¹¹ harboring personal attitudes and beliefs that were not supportive of safer sex,^{12,13} having a low perceived risk of HIV infection,¹⁴ consuming alcohol,^{15–17} and abusing drugs such as crack cocaine.¹⁸

However, the models that guided the initial HIV prevention research among women had an individualistic conceptualization and assumed that women had greater control of safer sex practices. Contextual factors, such as power differentials and gender roles, were given little attention. Dr. Hortensia Amaro and other researchers catapulted awareness of how gender, women’s social status, and women’s roles were crucial to understanding women’s risk of HIV.¹⁹ Subsequently, gender-specific theories, such as the theory of gender and power,²⁰ frameworks highlighting women’s social networks,²¹ and models illustrating the influence of power on women’s HIV risk-reduction strategies²² were developed to better understand women’s vulnerability to HIV. In addition, important new questions emerged regarding female-controlled prevention methods, such as the female condom and microbicides.²³

The greater emphasis on gender and power dynamics was also evident in observational research designed to understand correlates of sexual risk among women. Studies that demonstrated women’s risk of HIV infection in the context of relational factors were pivotal, such as research on women’s sexual negotiation and communication skills,^{13,24} partner abuse,^{25–29} and relationship commitment.³⁰ Several studies reported that women’s HIV risk was increased if they were in an ongoing or steady relationship relative to a casual, transient, or new relationship.³¹ Researchers began to design and implement HIV prevention interventions that were tailored to women’s HIV risks and needs, such as strategies for enhancing communication skills, fostering coping skills, and raising women’s awareness of the impact of abuse on HIV risk.^{32–38} These studies represented a significant advance in the field of HIV prevention, as they demonstrated efficacious methods of reducing women’s sexual risk of HIV, and importantly, recognition of the diversity of women at risk for HIV.

Today, the field of HIV prevention research recognizes that female adolescents are at risk for infection at an earlier age than are heterosexual men, perhaps because adolescents may acquire the infection from older male sexual partners.³⁹ Additional efforts have also been made to address the cultural considerations of African American and Latina women.^{33,40} Despite the advances in HIV prevention for women,

however, many questions remain as yet unanswered, particularly in light of the continuing incidence of HIV infections in diverse and vulnerable populations.

How Well Have We Answered Key Questions About Risk And Risk Reduction for Women?

The focus on relational and partner-related factors has been fundamental to understanding factors that enhance women's vulnerability to HIV. However, other relational factors that may increase women's HIV risk, such as concurrent partnering and marriage rates, need further examination. A concurrent partnership is a sexual partnership in which one or more of the members have other sexual partners, with repeated sexual activity with at least the original partner.^{41,42} Concurrent partnerships have been associated with transmission of chlamydia,⁴³ gonorrhea,⁴⁴ syphilis,⁴⁵ and HIV.⁴⁶ These relationships are much more prevalent among males, particularly African American males, than among females.^{41,42} Other factors, such as marriage rates, have been identified as influencing women's HIV risk. Compared to people who are married, for example, people who are not married are more likely to have more than one sexual partner and thus be at greater risk of acquiring HIV.⁴⁷ According to US census data, men are significantly more likely to have never been married than women.⁴⁸ Moreover, the proportion of unmarried adults is marked by significant racial distinctions. Among US residents older than 15 years in 1998, 46% of African American men compared to 29% of white men reported having never been married; and 22% of white women compared with 41% of African American women reported never having been married.

In light of the continuing changes seen in the HIV/AIDS epidemic, it is more important than ever to understand why ethnic minority women now account for three quarters of women living with HIV.⁴ Several researchers have suggested that contextual factors may be more prevalent or salient to ethnic minority women and increase their sexual risk of HIV. Evidence indicates that the social and economic contexts of life differ dramatically for ethnic minority women compared to white women in regard to income, education, housing, neighborhood quality, political power, morbidity, and mortality.⁴¹ Social context is clearly an important influence on sexual behavior.^{49,50} Several authors have postulated that African American women's risk of HIV may be a function of the limited pool of eligible African American males.^{51,52} Researchers hypothesized that African American females who believe that it is difficult to find an eligible African American male may be more tolerant of objectionable behavior from African American males and less insistent on condom use during sex. Others have postulated that Latina women may be at greater risk of HIV as a result of conservative cultural norms regarding women.¹⁹ However, oppression and experiences of racial discrimination, which have been associated with ethnic minority women's risk of other conditions,⁵³ may also influence women's HIV-associated sexual behaviors.⁵⁴

In addition to research on cultural factors and women's HIV risk, studies are needed to examine how structural factors, such as the feminization of poverty,⁴⁹ the nature and organization of women's work, exposure to stereotypical images of women in the media, and the influence of faith-based organizations in fostering unachievable norms for women, may exacerbate women's risk of HIV. A more comprehensive approach to understanding women's risk for HIV needs to take into account the diversity of women, the influence of culture and role expectations, and larger social influences.

Research on the effectiveness of HIV sexual risk reduction among women has shown that group-level HIV prevention programs are effective in reducing women's sexual risk of HIV,^{32,33,36} as are community-level interventions.^{38,55} A recent HIV prevention program yielded unprecedented results in reducing women's self-reports of HIV-related sexual behaviors as well as their incidence of sexually transmitted infections.⁵⁶ Other innovative approaches include dyadic HIV prevention interventions⁵⁷ and, in an effort to address adolescent females, mother-daughter HIV prevention programs.⁵⁸ Effective HIV prevention programs have focused on increasing women's use of the female condom, thereby allowing women more control over their sexual health.⁵⁹ Brief HIV prevention programs have also demonstrated efficacy in increasing the proportion of condom-protected intercourse occasions.³⁷ In general, these HIV prevention strategies have sought to enhance women's attitudes, intentions, skills, normative perceptions, or other mediators associated with HIV sexual risk reduction. Researchers today are also addressing whether, how, and to what extent modifying changes in social structures or policies might affect risk behaviors and reduce HIV risk among women.⁶⁰

Structural interventions include promoting changes in laws, policies, and operational procedures that influence risk behavior, whereas environmental interventions are those that impact on living conditions, resources, or social opportunities related to risk or safety.⁶⁰ One of the best-known examples of a structural intervention for women is the Thailand government's 100% Condom Program instituted in brothels.⁶¹ This policy intervention requires that commercial sex workers and their clients always use condoms and mandates that brothel management enforce the policy. Condom use is monitored in brothels; sexually transmitted disease (STD) rates among workers are regularly monitored; and the Thai government sanctions brothel owners who fail to enforce the policy, including closure of their brothels for repeated violations. Implementation of this policy has increased levels of condom use to over 90% and resulted in a decrease of over 75% in rates of STDs diagnosed among commercial sex workers. Other HIV-related structural interventions for women include increasing access to employment training or educational programs, designing interventions to reduce gender stereotypes in the media, improved training of health care providers to detect signs of domestic violence, better enforcement of laws on sexual harassment, reducing HIV-related stigma, and enhancing partnerships between faith-based communities and HIV prevention efforts.

What Are Some of the Specific Remaining Research Needs for Women?

How Can We Sustain Intervention Efforts Over an Extended Time Period for Women Who Adopt HIV Preventive Practices? Progress has been made in developing effective HIV prevention programs for women. However, even the best efforts have been challenged by problems of relapse and the need to integrate relapse prevention into overall intervention programs.^{32,33,36} Strategies used in HIV prevention programs to prevent relapse to unsafe behaviors include: (1) discussing gender and relationship-based cues that may interfere with safer sex practices; (2) using cognitive restructuring and reframing methods, such as contracts regarding the adoption of safer sex practices; (2) providing relaxation training and stress management techniques, such as techniques to communicate with a partner who is not supportive of using condoms; (3) educating women about how to reinforce safer sex practices; and (4) using group booster sessions to promote group norms and

enhance social support among women for maintaining HIV prevention practices. While effective in the near term in reducing sexual risk taking, HIV prevention programs for women tend to lose effectiveness 3 to 6 months postintervention.^{32,33,36} This underscores the need for research to improve understanding of the factors associated with relapse, and to develop better and more sustainable methods to overcome them.

What Are the Challenges of Designing HIV Prevention Efforts for Latina Women?

According to the 2000 census, Latinos are now the largest ethnic minority group in the United States, comprising 12.5% of the population; in comparison, 12% of US residents are African Americans.^{62,63} Latinos living in the continental United States and its territories total more than 40 million, compared to 34 million African Americans. Relative to non-Hispanic white women, Latinas have disproportionately high rates of HIV/AIDS,⁵ yet HIV prevention interventions for this population are relatively rare. Such programs must account for intergenerational differences in assimilation, levels of acculturation, gender role dynamics, and diversity among Latinas.⁶⁴ By 2050, Latinos are expected to constitute 25% of the US population,^{65,66} which underscores the urgency of the need for culturally and gender-appropriate HIV prevention programs for this population.

What HIV Prevention Programs Are Available for Women Living With HIV?

Historically, the majority of interventions to reduce HIV-related sexual risk behaviors have been conducted among HIV-negative women at risk of acquiring HIV. Several studies have reported that about a third of women living with HIV practice unsafe sex.^{67,68} Secondary prevention interventions are designed to prevent the spread of HIV from HIV-positive individuals to HIV-negative individuals or to enhance the emotional adjustment of living with HIV.⁶⁹ There are compelling public health reasons for secondary prevention interventions.⁷⁰ First, an effective program can reduce the risk of disease progression among women living with HIV that may result from women's exposure to other strains of HIV or sexually transmitted diseases during unprotected sex. Second, an effective program can promote the quality of life among women living with HIV that may result from reducing stressors and depression, enhancing coping skills, and building stronger social networks. Third, an effective program can reduce risk of HIV transmission to seronegative sexual partners. And finally, an effective program can reduce risk of HIV transmission from mothers to their unborn children.

Most of the published secondary interventions have been tailored for gay males.⁶⁸ More recently, Kalichman et al. published a secondary prevention intervention involving HIV-positive men as well as HIV-positive women.⁶⁹ A promising randomized controlled trial of a secondary prevention program has been developed for women living with HIV as well. This program was guided by the theory of gender and power and used HIV-positive women to cofacilitate implementation of the intervention. The four-session intervention, known as WILLOW, was designed to enhance: (a) resiliency factors, such as gender pride and spiritual connectedness; (b) coping skills, including educating women about the use of relaxation techniques, fostering the development of social support networks, and educating women about the health process of positive self-talk; (c) communication skills and skills in refusing unsafe sexual advances; and (d) relationship and condom use skills.⁷⁰ While initial efforts are promising, additional research is needed to further address the needs of women living with HIV.

How Can HIV Prevention Programs for Women Become More Comprehensive? Strategies for expanding the comprehensiveness of current HIV-prevention interventions include combining these interventions with other services or programs that target heterosexual women.⁷¹ Developing more comprehensive HIV prevention programs for women means addressing other multiple risk factors that exacerbate women's risk of HIV, such as drug use, STDs, domestic violence, and unintended pregnancy. HIV-prevention interventions can be more comprehensive if, for example, they are combined with family planning programs, STD screening, substance abuse programs, or programs designed to reduce violence against women. Pendergast and colleagues conducted a meta-analysis of HIV-prevention interventions for clients in substance abuse treatment programs.⁷² The study found that women receiving substance abuse treatment also reduced their risk of HIV, and may have experienced positive effects on other conditions, including depression and victimization.⁷¹ Several studies conducted among women in domestic violence shelters have documented the heightened risk of HIV among women in these facilities^{73,74} and identified the need for integrating HIV prevention programs in domestic violence shelters.

Several researchers and clinicians have emphasized the need to have more integrated sexual health care services.⁷⁴⁻⁷⁸ The integration of services for HIV prevention, family planning, and sexually transmitted diseases, including viral hepatitis, provides a holistic approach to women's sexual health and has been associated with improvements in sexual health care services.⁷⁶⁻⁷⁸ A more comprehensive approach of providing HIV prevention services to women could improve public health efficiency and cost effectiveness while also protecting vulnerable populations from HIV and other infectious diseases associated with unsafe sexual activity.

What New and Emerging Issues Need Immediate Research Attention?

HIV prevention research, programs, and services have made considerable strides in addressing HIV risk among women, but new questions and issues continue to emerge as the epidemic shifts and affects new and vulnerable populations. Some of the more salient of these include the need to do the following:

1. Explore effective ways to design and implement social structural interventions to reduce women's risk of HIV
2. Explore how female-controlled methods, such as microbicides, can be used as HIV risk reduction agents
3. Explore how effective primary and secondary HIV-prevention interventions for women can be more widely disseminated to those women at greater risk
4. Explore effective ways of designing and translating HIV prevention programs for women internationally
5. Explore ways to design cost-effective HIV-prevention interventions for women that can reduce risky sexual practices, as well as biological outcomes such as sexually transmitted infections.

Creating a new and expanded agenda to reduce the continuing feminization of the HIV epidemic is a public health priority. While meta-analyses and reviews of HIV prevention programs have shown that such programs for women are effective, it is imperative to develop improved methods to enhance their long-term sustainability and durability. If one lesson has been learned from the HIV epidemic, it is

that it is dynamic and will change. For this reason, we need to be prepared to respond more effectively and efficiently to prevent its spread and consequent public health toll.

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