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Predictors of Self-Efficacy for HIV Prevention Among Hispanic Women in South Florida

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Abstract

Self-efficacy is a critical element for HIV prevention, however little is known about the predictors of self-efficacy for HIV prevention among Hispanic women. In this cross-sectional study we assessed if age, living with a partner, employment status, HIV knowledge, self-esteem, and intimate partner violence (IPV) predicted self-efficacy for HIV prevention in 548 Hispanic women in South Florida who participated in a randomized controlled trial (SEPA). The majority of Hispanic women reported high levels of self-efficacy for HIV prevention. Women who were older, living with a partner, with less HIV knowledge, and a history of IPV reported significantly lower levels of self-efficacy for HIV prevention. HIV knowledge was the most important predictor of self-efficacy for HIV prevention. Employment was not a significant predictor of self-efficacy for HIV prevention. Predictors identified in the study can be used to identify high-risk Hispanic women who are in need of HIV prevention interventions.

Keywords

AIDS; Hispanic women; HIV; self-efficacy for HIV prevention

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Conflict of Interest Statement

The authors report no financial interests or potential conflicts of interest with grantors or other entities whose products or services are related to topics covered in this manuscript that could be construed as a conflict of interest.

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In the United States, the incidence of HIV is increasing more rapidly among racial and ethnic minorities, who represent more than 72% of new HIV cases and 65% of those currently living with HIV (Kaiser Family Foundation, 2009). For Hispanics, HIV rates are 3.5 times higher than Caucasians (Centers for Disease Control and Prevention [CDC], 2008a). Minority women are the most affected by the epidemic (CDC, 2008b). The state of Florida mirrors these national statistics and currently ranks third in the nation for the highest number of reported AIDS cases (Florida Department of Health, 2007). Hispanics comprise about 20% of Florida's total adult population, and they account for 21% of all people living with HIV and 17% of AIDS cases. Miami-Dade and Broward counties have the highest numbers of AIDS cases statewide. These two counties reported a combined total of 1,758 cases in 2007, or 46% of the statewide total. Moreover, Florida reported a higher number of women living with HIV (31%) than the national average (26%) (Florida Department of Health, 2007).

Self-efficacy for HIV prevention is a critical prevention measure. Strong levels of self-efficacy for HIV prevention influence personal change toward HIV prevention behaviors (Coleman & Ball, 2009). Although several studies have shown the relation between self-efficacy for HIV prevention and behavior changes (Bandura, 1990; Lauby, Semaan, O'Connell, Person, & Vogel, 2001), few have identified predictors of self-efficacy for HIV prevention among Hispanic women.

Self-Efficacy for HIV Prevention

HIV prevention for Hispanic women is challenging due to high-risk sexual partners, cultural barriers in discussing sexual matters, and traditional gender roles such as *machismo* and *marianismo*. *Machismo* is related to the idea that men are superior to women and have social domination and privilege over females in economic, judicial, political, cultural, and psychological spheres. Macho men expect an affectionate, submissive, and faithful woman, who plays a passive and dependent role in the sexual sphere and who can work inside and outside of the home if necessary. Also, machismo has been described as a protective factor in which a man is expected to treat women with respect, take responsibility for the well-being of the family, sacrifice his own needs, work hard to provide for his loved ones, and pride himself on being a good husband, father, and son (Cianelli et al., 2012). *Marianismo* is considered the feminine complement of *machismo*; the submission of women to men is a significant component of *marianismo*. These roles produce a double standard wherein women are viewed either as good mothers and wives, or as bad women who are sexually available and knowledgeable. These issues make it difficult for women to discuss, negotiate, and persuade their partners to engage in safer sex practices (Cianelli, Ferrer, & McElmurry, 2008; Peragallo et al., 2005).

The adoption of HIV prevention behaviors involves a complex process for women. Self-efficacy for HIV prevention is a contributing element to decreasing barriers to HIV prevention. It enhances a woman's sense of personal power to exercise control over risky situations (Bandura, 1990). According to Bandura's socio-cognitive theory, an effective behavior change toward HIV prevention must incorporate a component to increase an individual's level of self-efficacy for HIV prevention. Bandura (1995) described self-efficacy for HIV prevention as a person's belief in his/her capacity to carry out necessary actions to perform a specific behavior for HIV prevention. When a person lacks a sense of self-efficacy, s/he handles situations ineffectively. This is true even when the person knows what to do and possesses the necessary abilities (Bandura, 1990).

Self-efficacy for HIV prevention is one of the strongest predictors for HIV prevention (Bandura, 1990; Bandura, 1995; Coleman & Ball, 2009; Peragallo et al., 2005). Strong

levels of self-efficacy for HIV prevention influence personal change toward HIV prevention behaviors (Coleman & Ball, 2009).

Predictors of Self-Efficacy for HIV prevention

Although several studies demonstrate the relationship between self-efficacy for HIV prevention and behavior changes, few have identified predictors of self-efficacy for HIV prevention among Hispanic women. Exploring predictors of self-efficacy for HIV prevention can contribute to Hispanic women's abilities to develop and carry out HIV prevention behaviors (Lauby et al., 2001). Researchers have found the following predictors of self-efficacy for HIV prevention in women: (a) age (Fernandez-Esquer, Atkinson, Dianmond, Useche, & Mendiola, 2004; Lauby et al., 2001), (b) living with a partner (Lauby et al., 2001), (c) employment status (Lauby et al., 2001), (d) HIV-related knowledge (Bandura, 1990; Bandura, 1995; Coleman & Ball, 2009; Villegas et al., 2011), (e) intimate partner violence (IPV) (Bandura, 1990; Bandura, 1995; Lerner & Kennedy, 2000; Swan & O'Connell, 2011), and (f) self-esteem (Bandura, 1990; Bandura, 1995; Gullette & Lyons, 2006). Studies have not yet explored the influence of all of these factors on self-efficacy for HIV prevention among Hispanic women. Consistent with the literature, we hypothesized that predictors of self-efficacy for HIV prevention described in the literature would influence self-efficacy for HIV prevention among Hispanic women.

Age

Younger women have higher levels of self-efficacy for HIV prevention. In comparison to older women, younger women tend to more consistently use prevention behaviors. Younger women are more likely to use condoms. They also communicate and negotiate more with their sexual partners (Lauby et al., 2001; Takahashi, Magalong, DeBell, & Fasudhani, 2006).

Living with a partner

Women who live with a partner have lower self-efficacy for HIV prevention. Perhaps this is due to being in a stable relationship. Women in these relationships may not consider HIV as a point of concern and, thus, do not engage in HIV prevention behavior (Lauby et al., 2001).

Employment status

A woman's economic situation plays a crucial role in her level of self-efficacy for HIV prevention. Unemployed women and those living in poverty had lower self-efficacy for HIV prevention. Additionally, women with limited economic resources and those who were completely dependent on their main sexual partners reported lower self-efficacy for HIV prevention. These women tended to prioritize their daily survival over long-term concerns like HIV prevention (Lauby et al., 2001).

HIV-related knowledge

An individual with HIV knowledge has specific information about the transmission, prevention, and consequences of HIV infection (Bandura, 1995). HIV-related knowledge is described as a pre-condition for building behavioral changes toward HIV prevention (Bandura, 1990; Bandura, 1995; Coleman & Ball, 2009). Studies have reported that higher levels of HIV knowledge were positively associated with self-efficacy for HIV prevention (Villegas et al., 2011).

Intimate partner violence (IPV)

IPV is defined as a person's self-report of experiencing an event of physical, psychological, economic, or sexual violence. Often, women suffering from IPV are not ready to develop

effective strategies for HIV prevention. Their low perceptions of self-efficacy impede their behavior change (Swan & O'Connell, 2011). In general, women who are in violent relationships with a partner are more vulnerable and unable to sustain day-to-day activities, reducing their perceptions of self-efficacy (Bandura, 1990; Bandura, 1995; Lerner & Kennedy, 2000).

Self-esteem

Rosenberg (1965) defined this concept as an individual's set of thoughts and feelings about his or her own worth and importance, that is, a positive or negative attitude toward oneself. Among Hispanic women, reports have indicated a positive relationship between self-esteem and self-efficacy for HIV prevention (Gullette & Lyons, 2006). Women who have lower self-esteem often feel discouraged and vulnerable and are unable to adequately perform daily activities. These factors reduce their perceptions of self-efficacy for HIV prevention (Bandura, 1990; Bandura, 1995; Gullette & Lyons, 2006).

Purpose

Self-efficacy is a critical element for HIV prevention (Bandura, 1990; Bandura, 1995); however, little is known about the predictors of self-efficacy for HIV prevention among Hispanic women. The purpose of this study was to assess if factors such as age, living with a partner, employment status, HIV-related knowledge, self-esteem, and IPV, were predictive factors for self-efficacy for HIV prevention among Hispanic women in Florida.

Methods

Design

We conducted a cross-sectional study that used baseline data from a randomized controlled trial of Salud, Educación, Prevención y Autocuidado (SEPA; translated as Health, Education, Prevention, and Self-care). The SEPA group intervention was designed for Hispanic women in the United States to reduce HIV risks ($n = 548$; Peragallo, Gonzalez-Guarda, McCabe, & Cianelli, in press). Bandura's (1995) socio-cognitive theory contributed to SEPA by providing guidance for building levels of self-efficacy through rehearsal, role modeling, and support for the specific new preventive HIV behavior.

Sample and Setting

A sample of Latina women from South Florida was selected. To participate in the study the women had to (a) self-identify as Hispanic women, (b) fall within the age group of 18 to 50 years, and (c) have been sexually active in the previous 3 months of initial eligibility screening. The researchers recruited participants from communities in Broward County and Miami Dade County, Florida. The researchers posted flyers and made presentations at a community-based organization (CBO) that provided social services (e.g., health education, application for food stamps, cash assistance and Medicaid, assistance with immigration applications, parole, residency, and citizenship) to Hispanics and immigrants. The researchers also used other community-based settings (e.g., libraries, community clinics, churches) to recruit. Additionally, the women in the study were encouraged to tell their families and friends (e.g., snowball sampling; participants enrolled in SEPA referred other subjects to the study). The researchers initially conducted assessments at the aforementioned CBO. When study enrollment increased and the demands of the study began to strain the resources of the CBO, the researchers secured a nearby office to continue assessments.

Procedures

Personnel for the study were bilingual females who researchers trained to follow a standardized research protocol. The study's personnel administered standardized health and behavior measures through face-to-face interviews. For these measures, participants selected their language of preference, English or Spanish. The study's personnel collected baseline data from January 2008 to April 2010.

Prior to beginning recruitment, the University of Miami and the Miami-Dade County Health Departments Institutional Review Boards approved the study. Candidates interested in participating in SEPA provided study personnel with their names and phone numbers. A centralized scheduler contacted the candidates to screen for eligibility. Other candidates took a flyer that listed the study's information or called at their convenience. Once the centralized scheduler determined a candidate's eligibility, the candidate received a schedule for the assessment. Upon meeting with the candidates, assessors described the study's procedures, answered participants' questions, obtained informed consent, and completed the baseline assessment. Assessors collected assessments using a research management software system (Velos), which allowed assessors to document participants' responses to questions directly into the computer. Baseline assessments took approximately 3 hours to complete. Participants received a monetary incentive upon completion of the assessment to compensate for time, travel, and child care costs.

Variables of the Study

Demographics—We used a standardized demographic form created for all studies undertaken at the research center. Study personnel collected demographic information at the beginning of the assessments (Peragallo et al., 2005; Peragallo et al., in press). The demographic form included information regarding each participant's country of origin, age, number of years she had lived in the United States, number of children, years of education, relationship status, whether she lived with a partner, employment status, family income, religion, years of education, and health insurance status. For this article, a participant's age, living with a partner, and employment status were predictors in the multiple regression analysis. The variable age was listed as continuous; living with a partner (0 = *not living with partner*, 1 = *living with partner*) and employment status (0 = *not employed*, 1 = *employed*) were dichotomized.

HIV-related knowledge—We used the Heckman HIV knowledge scale to evaluate HIV-related knowledge (Heckman et al., 1995; Sikkema, Heckman, & Kelly, 1996). The scale has 12 items with a dichotomous response (*true/false*) that measures knowledge about HIV transmission, prevention, and consequences. The total score indicated the number of items answered correctly (1 point per each correct answer, total completed score = number correct, range = 0–12). A higher score indicated a higher level of HIV-related knowledge. This measure has been previously used in a population of Hispanic women in the United States (Peragallo et al., 2005), with a reported $\alpha = .75$. In our study, the scale had an internal consistency of $\alpha = .55$.

Intimate partner violence—Our study used a modified version of the Conflicts Tactic Scale (Straus & Douglas, 2004) to measure IPV, which it had been used in other studies among Hispanic population by Miner, Ferrer, Cianelli, Bernales, & Cabieses (2011) and Peragallo et al. (2005). The modified version of the Conflict Tactics Scales had 12 items to detect the presence of four specific types of IPV: physical, psychological, economic, and sexual. Items asked about women's self-reported IPV experiences in the previous 3 months (e.g., your partner *insulted you*, *beat you up*, *forced you to have sex*). For the multiple regression analysis, this variable was dummy coded into 0 = *no partner violence* and 1 = *any*

type of partner violence. Women who reported the presence of violence in at least one of the items, received one point in the dummy coding. This modified scale has been used in a Hispanic population in the United States (Peragallo et al., 2005) and for a study with a Chilean population (Cianelli et al., 2012); it has an internal consistency of $\alpha = 0.88$ (Peragallo et al., 2005). In our study, this scale had an internal consistency of $\alpha = .86$.

Self-esteem—We used the Rosenberg Self-Esteem Scale to measure self-esteem (Rosenberg, 1965), which is a popular instrument used in more than 53 countries to assess self-esteem (Martín-Albo, Núñez, Navarro, & Grijalvo, 2007). The measure uses a 10-item self-report scale to determine the individual's level of self-worth or self-esteem over the previous week. Participants responded using a 4-point Likert scale (1 point = *strongly disagree* to 4 points = *strongly agree*). Scores ranged from 10–40 points, with a higher score indicating more self-esteem. The measure has been used in the Hispanic population in the United States and in a Chilean population (Peragallo et al., 2005; Cianelli et al., 2012). It has an internal consistency of $\alpha = .81$ among Hispanic women (Peragallo et al., 2005). In our study, it had an internal consistency of $\alpha = .86$.

Self-efficacy and HIV prevention—We defined self-efficacy for HIV prevention as a woman's confidence in her capacity to carry out actions or behaviors necessary to prevent HIV (Bandura, 1990; Bandura, 1995). We used seven self-assessment items to measure a woman's level of confidence in her ability to practice HIV prevention behaviors (e.g., *how much do you agree or disagree with the statement: if I decide that it is best to use a condom, I can convince my partner to use it*, and *how much do you agree or disagree with the statement: it is difficult for me to tell my partner that I will not have sex with him if he does not use a condom*). The self-assessments were rated on a 4-point Likert scale response system ranging from 1 = *strongly disagree* to 4 = *strongly agree*. The total score was equal to the number of correct responses (range = 7–28) with a higher score representing a higher level of self-efficacy for HIV prevention. The seven self-assessment items were previously used in a Hispanic population in the United States (Peragallo et al., 2005) and in a Chilean population (Cianelli et al., 2012). The scale has a reliability of $\alpha = .68$ among Hispanic women (Peragallo et al., 2005). In our study, it had an internal consistency of $\alpha = .75$.

Statistical Analysis

We used PASW version 18.0 to analyze the data and relied on both descriptive statistics and simultaneous multiple regression. The simultaneous (standard) multiple regression analysis described the relationship between the outcome variable (self-efficacy for HIV prevention) and a set of independent variables or predictors. The independent continuous variables were age, HIV-related knowledge, and self-esteem. The independent dichotomous variables were living with a partner, employment status, and IPV. The descriptive statistics supported the use of multiple regression analyses. The variables included in the model met the assumptions for the test and required no transformations. In addition, statistical tests for collinearity assessed the quality of the linear relationships among the predictor variables. Both tolerance and variance inflation factor analysis were conducted; the analyses demonstrated no multi-collinearity among the predictors as tolerance ranged from .93 to .98 and a variance inflation factor ranged from 1.0 to 1.1.

Results

Demographics

The demographic characteristics of the participants are presented in Table 1. Most of the women were between ages 32 and 45 (mean = 38.5 ± 8.5 ; range = 18–49). Most (68%) had a moderately low family income of less than \$2,000 a month. One third of the women

reported being employed. Almost half indicated that they were married. More than two thirds of the participants lived with a spouse or partner. More than half of the women identified their religion as Catholic. The vast majority (almost two thirds) did not have health insurance coverage. A majority of the participants were born outside of the United States in Colombia (33.9%), Cuba (12.8%), and Peru (8.2%).

HIV-Related Knowledge

The mean score for HIV-related knowledge about HIV transmission, prevention, and consequences was 9.5 ± 1.8 (range = 4–12). More than 66% of the participants scored 10 points or more on this scale. Items that scored the lowest percentage of correct answers were: *Most of the people who carry the AIDS virus look and feel healthy* (49.3%) and *Vaseline and other oils should not be used to lubricate condoms* (60.4%). The items that the majority of the women answered correctly were those that dismissed the ideas that: *birth control pills protect against the AIDS virus* (98.7%) and *cleaning injection needles with water is enough to kill the AIDS virus* (98.4%).

Intimate Partner Violence

The majority of the women (63.9 %) indicated that they had suffered from IPV. Approximately 63% reported psychological violence and 18.3% noted economic violence. Furthermore, 9.9% of the women had experienced physical violence and 3.1% reported sexual violence (*i.e., being forced to have sex*) by a main partner during the previous 3 months.

Self-Esteem

The mean score for self-esteem among the participants was 24.5 ± 4.9 points (range = 7–30). More than 50% of the participants scored 26 points or higher on this scale. Items such as *I wish I could have more respect for myself* (41.8% agreed) and *I certainly feel useless at times* (26.1% agreed) reflected lower levels of self-esteem among participants. Items that reflected higher levels of self-esteem were *I feel that I'm a person of worth, at least of an equal basis with others* and *I feel that I have a number of good qualities*. Fewer than 2% of the participants disagreed with these statements.

Self-Efficacy for HIV Prevention

The mean score for self-efficacy for HIV prevention was 22.6 ± 4.1 points (range = 7–28). More than half of the participants scored 23 points or higher on this scale; the majority of the women reported high levels of self-efficacy for HIV prevention.

Predictors of Self-Efficacy for HIV Prevention

We used a simultaneous linear multiple regression analysis with six predictor variables to determine the correlates of self-efficacy for HIV prevention (Table 2). The six predictors entered simultaneously into the model included age, living with the partner, employment status, HIV knowledge, IPV, and self-esteem. After excluding 27 cases due to missing data, a total of 521 completed cases were used for the analysis.

The multiple regression analysis revealed that the omnibus test was statistically significant, $R^2 = .127$, $F(6, 514) = 12.41$, $p < .001$. The six explanatory variables together accounted for 12.7% of the variance in self-efficacy for HIV prevention. After controlling the other predictors in the model, younger age of participants was associated with higher levels of self-efficacy for HIV prevention ($b = -.04$, $p = .05$). Women who were not living with their partners ($b = -.95$, $p = .011$) and who did not report any IPV within the previous 3 months ($b = -1.2$, $p < .001$) had higher levels of self-efficacy for HIV prevention. Furthermore,

greater HIV knowledge ($b = .54, p < .001$) and higher self-esteem scores ($b = .11, p = .002$) were associated with higher levels of self-efficacy for HIV prevention. Employment status was not a significant predictor of self-efficacy for HIV prevention ($b = -.54, p = .126$).

HIV knowledge had a moderate effect on self-efficacy for HIV prevention ($\beta = .24$); this was the biggest effect on self-efficacy for HIV prevention, explaining 6.4% of the variance in self-efficacy for HIV prevention. After controlling for the effect of other predictors in the model, factors such as IPV ($\beta = -.15$), self-esteem ($\beta = .13$), and living with the partner ($\beta = -.11$) had moderate effects on self-efficacy for HIV prevention and explained respectively 2.7%, 1.2%, and 1.2% of the variance in self-efficacy for HIV prevention. Age had a small but meaningful effect on self-efficacy for HIV prevention and explained 0.8% of the variance after controlling for the effect of other predictors in the model. Employment status explained 0.4% of the variance; its effect was not significant.

Discussion

Self-Efficacy for HIV Prevention

More than half of women in this study reported high levels of self-efficacy for HIV prevention. This finding was important because the majority of the Hispanic women in our study felt confident that they could protect themselves from HIV if the need arose (Bandura, 1995; Lauby et al., 2001). Our study demonstrated that building high levels of self-efficacy for HIV prevention could encourage and facilitate decision-making related to HIV prevention. Other studies conducted among Hispanic women have obtained similar results regarding perceived self-efficacy for HIV prevention (Cianelli et al., 2012; Fernandez-Esquer et al., 2004; Villegas et al., 2011).

Predictors of Self-Efficacy for HIV Prevention

The predictor variables proposed by our study (age, living with a partner, HIV-related knowledge, IPV, and self-esteem), were significant predictors of self-efficacy for HIV prevention. The model successfully identified predictor variables. These variables have the potential to inform interventions aimed at increasing self-efficacy for HIV prevention.

Demographics

The relationship between age and self-efficacy for HIV prevention in our study was consistent with other findings that found higher levels of self-efficacy for HIV prevention in younger women (Lauby et al., 2001). Research by Lauby and colleagues (2001) suggested that this might be due to younger women having more access to education programs and prevention measures for HIV and being less fearful or ashamed of using these resources. Conversely, Takahashi and colleagues (2006) reported that participants in their study who were younger than 25 years tended to have low rates of self-efficacy for HIV prevention, especially in relation to refusing sex with someone they knew well. However, the authors reported that these participants had high levels of self-efficacy for HIV prevention related to talking about safer sex. Overall, these results reinforce the importance of including women of different ages in HIV prevention and the need to implement successful interventions that increase women's self-efficacy for HIV prevention.

The relationship between living with a partner and self-efficacy for HIV prevention was also consistent with the literature. Women living with a partner may view themselves as being in a secure, monogamous, and stable relationship. Consequently, they may not perceive a need to practice safe sex (Ferrer et al., 2007). Also, women living with partners may be afraid to suggest condom use because this could offend the partner and cause relationship problems. For these reasons, living with a partner has been associated with an increase in the risk for

acquiring HIV among Hispanic women (Mehrotra, Noar, Zimmerman, & Palmgreen, 2009). Therefore, living with a partner has not been found to increase self-efficacy for HIV prevention. This finding highlights the need to increase self-efficacy for HIV prevention among women who are living with partners because these women do not perceive themselves as being at risk. Women living with partners should receive facts about HIV and have discussions about its effect on women. Having women meet with a woman who has HIV infection and who was infected by her partner could be an ideal opportunity to foster these discussions.

Providing Hispanic women with HIV knowledge could increase their self-efficacy for HIV prevention. This would heighten awareness about HIV transmission and the consequences of infection and might reduce fears related to speaking about the topic. Role playing is an excellent technique that can be included in prevention programs to improve communication between partners. Women could role play amongst themselves to reduce fears of speaking about HIV infection and practice communication skills before having this discussion with their partners. Other studies have relied on these techniques and have demonstrated that they are effective options for increasing HIV knowledge and prevention among women (Cianelli et al., 2012; Peragallo et al., 2005; Peragallo et al., in press).

Employment status was not found to be a significant predictor of self-efficacy for HIV prevention. The types of employment these women had in terms of salaries, schedules, and tasks, would be relevant to explore, especially considering the economic dependency that some women have on their main partners (Cianelli et al., 2008). Further investigation into employment variables may reveal important findings about self-efficacy for HIV prevention.

HIV-Related Knowledge

HIV-related knowledge was the most important predictor of self-efficacy for HIV prevention in our study. This was congruent with Bandura's findings (1990, 1995), which demonstrated that having correct HIV knowledge was the first step in building self-efficacy for HIV prevention. Similar findings were reported by Villegas and colleagues (2011), who found a positive relationship between HIV knowledge and self-efficacy for HIV prevention among Chilean women. Also, Takahashi and colleagues (2006) reported that correct HIV-related knowledge had a statistically significant association with high levels of self-efficacy for HIV prevention in Asian and Pacific Islander Americans. These studies indicated that HIV education was an important element of any strategy aimed at improving self-efficacy for HIV prevention. Other studies have highlighted important determinants for HIV risk reduction behaviors, including (a) sharing knowledge about sexually transmitted infections, (b) reinforcing proper and consistent condom use, and (c) promoting abstinence and monogamous relationships (Farmer & Meston, 2006). These findings highlight the importance of including HIV information in prevention programs.

Intimate Partner Violence

Our study predicted that women who suffered IPV would have lower levels of self-efficacy for HIV prevention. This was consistent with the literature (Lerner & Kennedy, 2000; Swan & O'Connell, 2011). Interventions for HIV prevention should take into account that IPV negatively interferes with a woman's self-efficacy for HIV prevention and often causes women to inadequately use HIV prevention and health care resources (Miner et al., 2011).

Self-Esteem

We found that self-esteem was a significant predictor for self-efficacy for HIV prevention. This was consistent with other studies that have shown a correlation between high levels of self-esteem and self-efficacy for HIV prevention (Gullette & Lyons, 2006). This relationship

was congruent with Bandura's theory, which stated that important sources of self-efficacy for HIV prevention were the psychological responses and reactions to situations (including self-esteem) that impacted how a person felt about her or his personal abilities in a particular situation (Bandura, 1990; Bandura, 1995; Gullette & Lyons, 2006).

Conclusion

Recognizing the important association among our selected predictors and self-efficacy for HIV prevention can be applied to help women develop HIV prevention skills. This is especially relevant when considering the cultural context that puts women at higher risk for acquiring HIV (Lerner & Kennedy, 2000). The cultural context in which Hispanic women live underscores the importance of promoting communication strategies for HIV prevention (Lara, Cianelli, Ferrer, Bernales, & Villegas, 2008); it is particularly important in the Hispanic population where *machismo* and *marianismo* frequently inhibit communication between partners and promote traditional and rigid roles that could have an impact on the levels of self-efficacy for HIV prevention (Cianelli et al., 2008). Interventions for HIV prevention usually include self-efficacy for HIV prevention as a core element; however, identification of predictors for self-efficacy for HIV prevention should also be considered (Cianelli, Villegas, Gonzalez-Guarda, Kaelber, & Peragallo, 2010). Our results demonstrate that self-efficacy for HIV prevention is unique to certain behaviors and outcomes. More research is needed to study precursors to those attitudes.

Limitations

The limitations of our study include its cross-sectional design. Future studies should consider a longitudinal analysis of these variables in order to provide a richer picture. Hispanic women who participated in this study were from a low-income setting, which could affect the generalizability of findings to other socio-economic groups of Hispanic women. Also, the data collected for our study relied on women's self-reports, which could influence the outcomes of the study if the women had given the perceived desirable responses.

Implications for Future Research and Practice

The results of our study contributed to the literature by investigating the predictors of self-efficacy for HIV prevention. The findings support the idea that understanding the predictors of self-efficacy for HIV prevention is necessary in any prevention program that targets women at risk of acquiring HIV. Based on the outcomes of this study, it is clear that more research must be conducted to develop effective HIV prevention interventions that target this group of women and that incorporate self-efficacy for HIV prevention as an important element for behavior change. In addition, further research is needed to clarify relationships between the predictors of self-efficacy for HIV prevention, self-efficacy for HIV prevention, and HIV risk behaviors among Hispanic women.

Health care workers, especially nurses, must aim to help women increase their self-efficacy for HIV prevention. The results obtained in our research could be the basis for nurses to develop community-based interventions that target HIV prevention, which could increase women's self-efficacy for HIV prevention by providing them with correct HIV knowledge and skills that improve partner communication and negotiation.

Self-efficacy for HIV prevention is an important element to facilitate HIV prevention and reduce HIV risk behaviors. Our study contributed to the identification of predictors of self-efficacy for HIV prevention among Hispanic women who are at high risk for acquiring HIV. Having a knowledge of HIV emerged as the most important predictor of self-efficacy for

HIV prevention. This is consistent with socio-cognitive theory, which is used extensively to understand HIV prevention and related risk behaviors. In addition, the results of our study contributed to the identification of other predictors of self-efficacy for HIV prevention (age, living with the partner, IPV, and self-esteem) that need to be considered in the design of any HIV prevention intervention. Our findings provide valuable knowledge that can be used in the development of strategies and interventions that facilitate HIV awareness and prevention.

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Clinical Considerations

- Nurses play an important role in promoting and educating the public about HIV prevention.
- Health care workers, especially nurses in clinical settings, can help women increase self-efficacy for HIV prevention.
- Factors that are related to self-efficacy for HIV prevention, such as HIV knowledge and self-esteem, are important components of HIV education programs that target Hispanic women.

Table 1Characteristics of Hispanic Women in the Study ($N = 548$)

Variables	$M \pm SD$	n	%
Years in United States	11.4 \pm 10.3	--	--
Number of Children	1.6 \pm 1.4	--	--
Years of Education	13.4 \pm 3.5	--	--
Relationship Status ^a			
Single	--	89	16%
In a relationship, not married	--	141	26%
Married	--	248	45%
Divorced/Separated/Widowed	--	70	13%
Living with Partner	--	380	69%
Employed	--	180	33%
Family Income < \$2,000/month	--	375	68%
Religion	--		
Roman Catholic	--	332	61%
Non Catholic	--	217	39%
Health Insurance	--	206	38%

Note. Frequency (%) for positive answers shown for dichotomous variables.

^aRelationship statuses are mutually exclusive categories.

Table 2

Simultaneous Multiple Regression Analysis for Variables Predicting Self-Efficacy for HIV Prevention ($n = 521$)

Predictors	B	SE	β	p
Age	-.04	.020	-.08	.050 *
Living with partner	-.95	.37	-.11	.011 *
HIV-related knowledge	.54	.09	.24	.000 *
Intimate partner violence presence of IPV	-1.2	.35	-.15	.000 *
Self-esteem	.11	.04	.13	.002 *
Employment status (currently employed)	-.54	.36	-.06	.126

Note. IPV = intimate partner violence;

* $p < .05$