# HIV Risk Knowledge among Hispanic Adults in a U.S. – Mexico Border Community: Opportunities for Sexual Health Promotion and Education

Holly Mata[1], Elias Provencio-Vasquez[1], Jacob Martinez[1], and Joseph De Santis[2]

[1]*University of Texas at El Paso*
[2]*University of Miami*

**Abstract**

**Background and Purpose:** Hispanics experience a disproportionate burden of chronic disease, including HIV/AIDS. Community-level data regarding HIV risk and transmission are vital to effectively respond to health disparities in unique, high-risk populations. This study described HIV risk behavior knowledge among Hispanics in El Paso, Texas, in order to contribute to culturally and linguistically appropriate services for clinical and community settings in this U.S.-Mexico border community. Specifically, this project highlights misconceptions and gaps in HIV risk knowledge in two Mexican-American adult samples: (1) 103 men recruited primarily through agencies providing HIV-related medical and social services, and (2) 98 women recruited primarily through events hosted at a local community center. **Methods:** Data were gathered through structured interviews with participants as part of a larger study of HIV risk factors. **Results:** Less than 20% of men and 5% of women answered all 12 knowledge items correctly. **Conclusion**: This study builds on previous research identifying gaps in HIV knowledge by prioritizing two different at-risk populations in a U.S.- Mexico border community, where sociodemographic factors such as poverty, stigma, and limited access to healthcare services may contribute to increased HIV risk.


*Keywords: Hispanic health; HIV/AIDS; health equity*

## Introduction

A wide variety of social, contextual, environmental, and individual factors contribute to racial/ethnic health disparities. Hispanics experience a disproportionate burden of chronic disease, including HIV/AIDS. In 2009, Hispanics accounted for 20% of new HIV infections in the U.S., and the infection rate among Hispanics was three times higher than for non-Hispanic whites (NHW's). While Hispanic men who have sex with men (MSM) are particularly at risk, Hispanic women have four times the rate of HIV infection compared to their NHW counterparts (CDC, 2011a). Most new HIV infections in Hispanic men and women occur through sexual contact with men; lack of awareness of sexual partner risk factors likely contributes to increased risk (CDC, 2011a).

Recent research highlights the lack of information about the diversity of the Hispanic experience in the U.S. in terms of HIV risk and knowledge (De Santis, Provencio-Vasquez, McCabe, & Rodriguez, 2012; Peragallo, Gonzalez-Guarda, McCabe, & Cianelli, 2012). Underreporting of sexual risk behaviors due to cultural factors or a lack of risk knowledge is common. Studies have emphasized the importance of clinicians and other community health practitioners providing culturally and linguistically appropriate HIV risk reduction programs to reduce sexual health disparities (Lanier & Sutton, 2013; Rios-Ellis et al., 2008). Although the factors that contribute to HIV risk are complex and multifaceted, individual factors such as general knowledge about HIV and other STI risk can and should be addressed by clinicians and practitioners, including physicians, nurses, and health education specialists and *promotores* (community health workers [CHWs]).

Hispanic health is of vital importance to public health and health equity nationwide, but is especially salient in the U.S. – Mexico border

region where the majority of the population is predominantly Mexican/Mexican American. Community-level data are vital to effective health promotion efforts and contribute to our ability to respond to health disparities (Mata & Davis, 2012).

In an attempt to address this knowledge gap, this study was conducted along the U.S. Mexico border in the world's largest binational metropolitan area. El Paso, Texas is a diverse and dynamic city with approximately 800,000 people, most of whom are Hispanic (predominantly of Mexican origin). Data reported here were collected as part of a larger study of violence, sexual risk behaviors, and substance use in Hispanics.

The purpose of this cross-sectional descriptive study was to describe HIV risk behavior knowledge among Hispanics in order to contribute to culturally and linguistically appropriate services in clinical, community center, and social service settings. This project highlights misconceptions and gaps in HIV risk knowledge in two samples of predominantly Mexican/Mexican American adults: a) 103 men recruited primarily from a clinic providing comprehensive services to people with HIV/AIDS and an agency providing social services to people living with HIV; and b) 98 women recruited primarily from a neighborhood community center.

## Methods

### Procedures and Participant Characteristics

The project was approved by the University of Texas at El Paso Institutional Review Board. Participants ($N$ = 201, 103 men and 98 women) were recruited from a large Federally Qualified Health Center whose clinics include a comprehensive HIV treatment center, and a non-profit community agency serving people with HIV. Men were recruited from these sites and in turn from participant social networks. Female participants were recruited through a local community center and through flyers and snowball (referral) sampling. Adults over the age of 18 who self-identified as Hispanic/Latino were eligible to participate in the study. Reflecting neighborhood and community demographics, many of the participants had incomes below the federal poverty level and most of the participants had no health insurance.

**Table 1**

Participant characteristics of the sample by gender

| **Participant Characteristics** | Men ($n$=103) % or $M$($SD$) | Women ($n$=98) % or $M$($SD$) |
|---|---|---|
| Age | 34.5 *(14.90)* | 36.51 *(12.38)* |
| Country of Origin | | |
| United States | 71% | 40% |
| Mexico | 26% | 58% |
| Other | 3% | 2% |
| Years living in U.S. | 27.2 *(13.23)* | 17.8 *(14.5)* |
| Years of Education | 13.4 *(3.23)* | 11.1 *(3.85)* |
| Currently Employed | 43% | 36% |
| Total monthly household income all sources* | | |
| Less than $999 | 45% | 31% |
| Between $1,000-$1999 | 30% | 26% |
| Between $2,000-$2,999 | 13% | 16% |
| Between $3,000-$3,999 | 6% | 5% |
| More than $4,000 | 7% | 3% |
| Relationship Status | | |
| Married or in a relationship | 39% | 60% |
| Language spoken “almost always” | | |
| English | 47% | 26% |
| Spanish | 40% | 74% |
| Sexual orientation | | |
| Heterosexual | 49% | 99% |
| Gay or bisexual | 51% | 1% |
| **Selected Health Determinants** | | |
| Living with HIV | 38% | 7% |
| No health insurance coverage of any type | 70% | 75% |
| No regular doctor or healthcare provider | 52% | 54% |

*after taxes

Men were almost evenly divided by sexual orientation, whereas all but one of the women were heterosexual. More than a third of the men reported that they had tested antibody-positive for HIV, as did 7% of the women. This is not surprising given that many of the men who participated were recruited for the study through agencies providing services for people living with HIV, while most of the women were referred to the study through a local community center. A detailed description of the sample is available in Table 1.

Participants provided written informed consent prior to the interview, which consisted of individual face-to-face structured interviews that used standardized instruments including the HIV Risk Knowledge Scale (Sikkema et al., 1996). Participants completed the approximately 90 minute interview in their preferred language, either English or Spanish.

**Table 2**

| Items on the HIV Knowledge Questionnaire |
|---|
| Birth control pills protect against the AIDS virus (F) |
| If a man pulls out right before orgasm condoms don't need to be used to protect against the AIDS virus (F) |
| Most people who have the AIDS virus look sick (F) |
| Vaseline and other oils should not be used to lubricate condoms (T) |
| Latex is the best material a condom can be made of for protection against the AIDS virus (T) |
| Cleaning injection needles with water is enough to kill the AIDS virus (F) |
| Most people who carry the AIDS virus look and feel healthy (T) |
| Hand lotion is not a good lubricant to use with a condom (T) |
| A woman is not likely to get the AIDS virus from having sex with a man unless he is bisexual (F) |
| Condoms cause men physical pain (F) |
| If you're seeing a man and he agrees not to have sex with other people, it is not important to use a condom (F) |
| Always leave some room or "slack" in the tip of the condom when putting it on (T) |

**Measures**

**HIV risk knowledge** was assessed using the HIV knowledge scale (Sikkema et al., 1996). Respondents answered 12 questions with options of "true" "false" or "don't know". Items in the HIV knowledge questionnaire are included in Table 2. Items were then summed with higher scores indicating higher number of correct responses. Incorrect or "don't know" responses were coded as incorrect. This scale has been widely used in diverse populations for almost two decades and has recently been used in gender-specific research and interventions to reduce HIV risk among Hispanics (De Santis et al., 2012; Peragallo et al., 2012). Reliability for this scale in our sample was less than in prior studies, $\alpha = .62$ compared with $\alpha = .74$.

**Analyses**

Many of the male participants learned of the study and responded through a clinic or agency providing services to people with HIV, or from someone in their social network, while most of the women responded through a local community center. Because of this we separated the data and analyses by gender rather than combine them and examine differences by gender. Thus, this study provides descriptive data that are helpful in developing tailored health promotion programs for the two populations represented in our sample, and that may be helpful to health educators working with similar populations in similar settings.

## Results

Among men, the average number of correct responses was 9.48 (*SD* = 2.34). Only 19.4% of the men answered all 12 questions correctly. Among women, the average number of correct responses was 7.94 (*SD* = 2.58), and the number of correct responses ranged from 1-12. Only 5% of the women answered all 12 questions correctly. Figure 1 shows the correct number of responses for each item among men while Figure 2 shows the correct number of responses for each item among women.

**Figure 1**

HIV Risk Behavior Knowledge: Percent correct on individual items (Men)

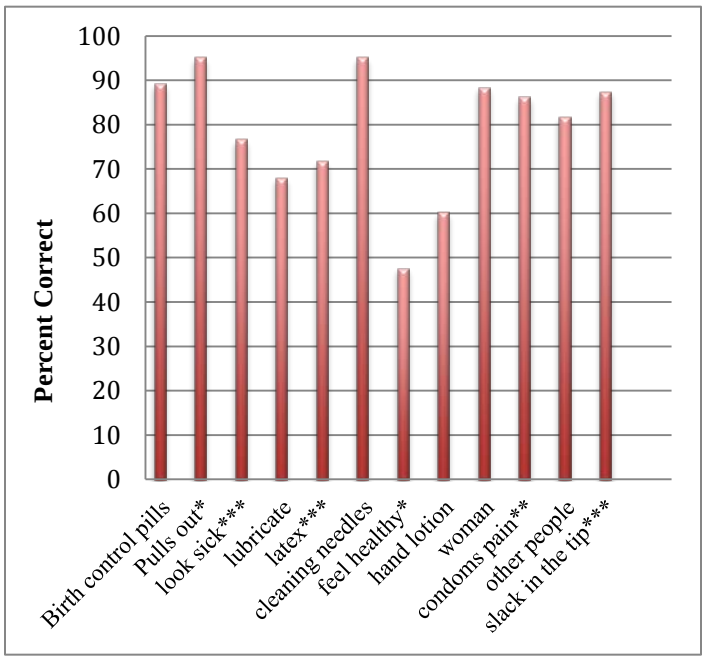
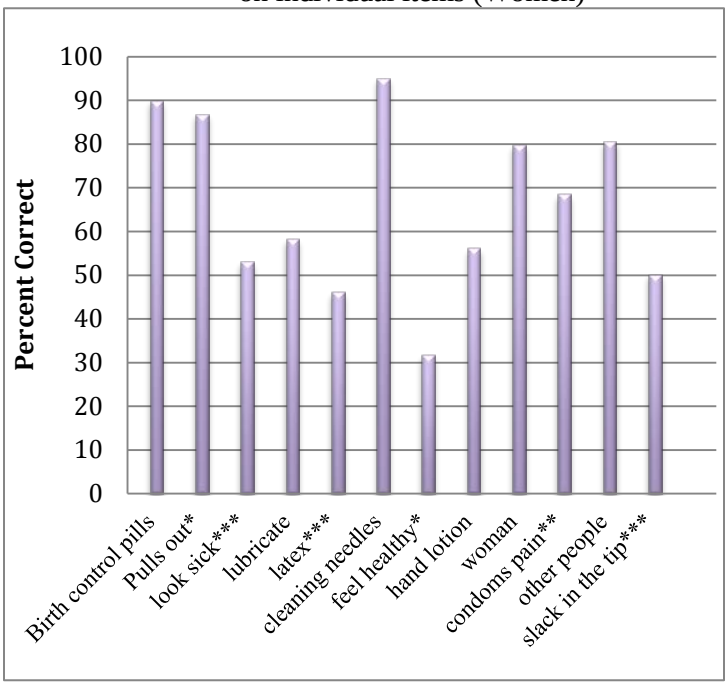



**Figure 2**

HIV Risk Behavior Knowledge: Percent correct on individual items (Women)




As shown in Figures 1 and 2, several misconceptions among the participants suggest the need for gender-specific and culturally relevant interventions. Almost half (47%) of the women responded incorrectly to *Most people who have the AIDS virus look sick* and 52% of men and 68% of women responded incorrectly to *Most people who carry the AIDS virus look and feel healthy*. This type of misconception may reinforce common cultural barriers to discussing and negotiating sexual health in general and condom use in particular. For example, if one believes that their partner is healthy based on appearance it may enable a false sense of security and may result in high-risk sexual behaviors that place the person at risk for HIV and STI's.

Regarding condom use, both men and women reported common misconceptions congruent with past research in Hispanic populations (De Santis et al., 2012; Peragallo et al., 2012). These include *Vaseline and other oils should not be used to lubricate condoms* (32% of men and 41.8% of women responded incorrectly), *Latex is the best material a condom can be made of for protection against the AIDS virus* (51.4% of women responded incorrectly), *Hand lotion is not a good lubricant to use with a condom* (39.8% of men and 68.4% of women responded incorrectly), and *Always leave some room or slack in the tip of a condom when putting it on* (50% of women responded incorrectly). Most striking – and possibly most indicative of gender, culture, and power dimensions related to negotiating safer sex – was that almost a third (32%) of women responded incorrectly to *Condoms cause men physical pain*. This is congruent with previous studies suggesting that increasing confidence in negotiating condom use among women is an important aspect of minimizing HIV/STI risk (Peragallo et al., 2012).

**Discussion and Implications for Practice**

Our results provide specific information regarding misconceptions and gaps in HIV risk knowledge that can be addressed in a variety of settings. Locally, contributions to community efforts at multiple levels to reduce HIV risk can be achieved by sharing results with clinic and

health department personnel, health education specialists, and CHWs, as well as community based organizations providing health education programs. Of note, women were less likely than men to respond correctly to items related to appearance/health of people with HIV and safe condom use, reinforcing the need for gender-specific health promotion and education approaches.

**Dissemination and Outreach**

These data have resulted in our research team requesting and receiving funding and dedicated staff time to conduct a needs assessment of local health clinics. The needs assessment helps us understand the context in which clinic staff discuss and screen for sexual health and HIV/STI risk, and enables us to develop health promotion materials tailored to practitioner preferences and the knowledge base of the priority populations. Project staff includes a BSN with a background in sexual health promotion and health education, an MPH with experience in mobilizing community coalitions to promote HIV/STI education and screening, and a doctorally prepared Certified Health Education Specialist with experience in community engagement and health equity policy advocacy.

**Limitations**

The small sample sizes and non-probability sampling method limits the generalizability of the study findings. However, information from the study has been useful to public health professionals and healthcare providers within our community, and may be useful to clinicians providing healthcare services and health education to similar populations. The low reliability of the scale suggests participants may be more knowledgeable in some areas (e.g., safe condom use) but less so in others (e.g., health and appearance of people with HIV).

**Opportunities for Health Promotion and Education**

HIV knowledge gaps and misconceptions can be addressed by a diverse range of practitioners including medical/nursing professionals**,** social workers**,** health education specialists**,** and CHWs. Collaborative, team-based approaches are imperative to address health disparities such as HIV among Hispanics, and promote health equity in our communities. Culturally and linguistically appropriate services are essential. For example, 40% of the men and 74% of the women indicated that they speak Spanish "almost always", underscoring the need for community-specific approaches. Health reform – especially Medicaid expansion in participating states – will provide new opportunities to engage previously underserved populations, increasing access to primary and preventive care (National Health Law Program, 2012). Practitioners in a variety of settings will have both opportunity and responsibility to assess HIV risk knowledge as part of general and sexual health screening and care.

Efforts to address disparities in HIV/AIDS and other STI risk require data-driven practice and policy. Effective health education is an important strategy for clinicians in diverse practice settings to address individual risk knowledge and behavior. Although these results are not necessarily generalizable to all other Hispanic populations, gaps in HIV risk behavior knowledge likely exist in other community-based populations, and discussions about risk knowledge should be part of clinical and community-based services. We hope to promote these discussions through our work with clinical and community partners, and look forward to sharing our results with our colleagues in nursing and public health.

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Author Information

*Holly Mata, PhD, CHES
Postdoctoral Research Fellow at the Hispanic Health Disparities Research Center and School of Nursing
The University of Texas at El Paso
500 W. University Ave., El Paso, TX USA 79968
Phone: (915) 747-8289
Fax: (915) 747-8290
Email: mata.holly@gmail.com

Elias Provencio-Vasquez, PhD, RN, FAAN, FAANP
Dean of the School of Nursing and Principal Investigator of the Hispanic Health Disparities Research Center
The University of Texas at El Paso

Jacob Martinez, BSN

Research Assistant and
Community Health Educator
Hispanic Health Disparities
Research Center
The University of Texas at El
Paso

Joseph De Santis, PhD, ARNP,
ACRN
Associate Professor
University of Miami School of
Nursing and Health Studies

* corresponding author