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Depression and Co-Occurring Health Determinants of Hispanic Men with HIV Infection in the U.S.-Mexico Border Region: A Pilot Study

Joseph P. De Santis, PhD, ARNP, ACRN, FAAN⁽¹⁾ [Associate Professor], Elias Provencio-Vasquez, PhD, RN, FAAN⁽²⁾ [Dean and Professor], Holly J. Mata, PhD, CHES⁽²⁾ [Research Assistant Professor], and Jacob Martinez, BSN, RN⁽¹⁾ [PhD Student]

⁽¹⁾University of Miami School of Nursing & Health Studies, Coral Gables, FL USA 33146

⁽²⁾University of Texas at El Paso School of Nursing, El Paso, TX USA 79968

Abstract

HIV infection among Hispanic men is a public health concern. Certain factors have been identified that may contribute to the high rates of HIV infection among Hispanic men such as migration, acculturation, poverty, and depression. Hispanic men with HIV infection are at risk for additional co-occurring health issues. Given limited research few studies have focused specifically on Hispanic men with HIV infection residing in a U.S.-Mexico border community. This pilot study surveyed participants ($n = 39$), to better understand co-occurrence of health determinants, especially depression among Hispanic men with HIV infection. The study's findings indicate that clinicians need to be aware that factors may influence depression among people with Hispanic men with HIV infection. Clinicians also need awareness of the impact of depression on adherence to HIV care and treatment among Hispanic men with HIV infection. More research is needed to explore the relationship of HIV-related stigma, HIV disclosure, social support, and depression among Hispanic men with HIV infection.

Keywords

Hispanics; Health determinants; HIV infection; Men

HIV infection among Hispanics is a public health concern. In the U.S., Hispanics comprise 16% of the total population, yet account for 21% ($n = 9,800$) of the new cases of HIV infection diagnosed each year. Compared to non-Hispanic Whites, HIV infection rates among Hispanics are three times higher. Mirroring the epidemiology of HIV transmission in the U.S., the majority of Hispanics with HIV infection are men, more specifically, men who have sex with men (MSM) (Centers for Disease Control and Prevention, 2014).

A few factors have been identified that may contribute to the high rates of HIV infection among Hispanic men. Migration has been identified as one of these factors. Hispanic men are more likely than women to migrate to the U.S. for economic opportunities. If men migrate without the family, social support is lost or decreased and loneliness may result. In an attempt to compensate for lost support, substances may be used, or unprotected sex with

commercial sex workers, multiple partners, or other men may occur, all which place these men at risk for HIV infection (Sanchez, 2012).

Acculturation is another factor that influences HIV risk among Hispanic men. Some literature suggests that low levels of acculturation increases risk for HIV infection because of inadequate transmission knowledge such as not knowing the importance of using condoms to reduce HIV risk, or the importance of HIV testing (Chen, Meyer, Bolinger & Page, 2012). Conversely, other researchers have suggested that more acculturated Hispanics engage in risky behaviors such as substance abuse and high risk sex (Vasquez, Gonzalez-Guarda & De Santis, 2011).

Poverty has also been linked to HIV risk among Hispanic men. It is estimated that Hispanics account for 25% of all people living in poverty in the U.S. In addition, about 33% of Hispanics in the U.S do not have health insurance. These issues may prevent access to care and HIV testing, prevention, and treatment (Loue, 2006).

Depression is the most common psychological condition among people living with HIV infection. HIV-infected individuals are more likely to be diagnosed with depression when compared to those not infected with HIV. Although the exact incidence is unknown, it has been estimated that up to 60% of people living with HIV infection will experience depression during the course of HIV infection (Sherr, Glucas, Harding, Sibley & Catalan, 2011). Psychosocial, biochemical and cognitive stressors have been identified that may be responsible for depression among people living with HIV infection (Vance, Sturzick & Childs, 2010).

Despite the body of literature that documents the risk factors that render Hispanic at an increased risk for HIV infection, fewer research studies have focused specifically on Hispanic men with HIV infection. A small body of literature is available on depression and related health determinants of Hispanic men with HIV infection. These issues include a history of childhood sexual abuse, high risk sex, and substance use.

Health Determinants among Hispanic Men with HIV Infection

Depression is a major health issue for Hispanic men with HIV infection. A small pilot study ($n = 46$) was conducted by De Santis and colleagues (2011). The sample in this study included both heterosexual Hispanic men and Hispanic MSM. The researchers reported that depression among Hispanic men with HIV infection was related to Hispanic stress, substance abuse, and adult physical violence.

A study of 301 Hispanic gay and bisexual men explored the relationship of disclosure of HIV status on depression. Those Hispanic men who concealed their HIV status from support systems had decreased social support, lower self-esteem, and higher rates of depression. The researchers concluded that disclosure of HIV status among Hispanic men is associated with less depression (Zea, Reisen, Poppen, Bianchi & Echeverry, 2005).

A third study that examined the relationship of HIV stigma, MSM stigma (stigma related to sexual orientation), and depression was conducted and enrolled 100 Hispanic and African-

American MSM with HIV. Participants who reported HIV stigma and stigma associated with sexual minority status were more likely to be depressed (Wohl et al., 2013).

In addition to depression, there are some related or co-occurring health determinates among Hispanic men with HIV infection. Some evidence suggested that significant numbers of Hispanic men have experienced childhood sexual abuse (CSA). In fact, one study reported that Hispanic MSM have the highest reported rates of CSA when compared to non-Hispanics (Arreola et al., 2005). Feldman (2010) suggested that the high rates of HIV infection among ethnic minority men such as Hispanic men may be related to CSA. MSM who experienced CSA may have more sexual partners during adulthood (Feldman, 2010).

At least three studies are available that document that HIV-infected Hispanic men engage in high risk sexual behaviors. These studies used unprotected anal intercourse (UAI) as a measure of high risk sexual behavior because UAI carries the highest risk for HIV transmission, with receptive UAI more risky than insertive UAI (CDC, 2014). One study enrolled 155 HIV-infected Hispanic gay and bisexual men. The researchers reported that over 50% of the sample had reported UAI in the previous 12 months. UAI was related to substance use during sexual activity. Predictors of receptive UAI included older age, lower Hispanic acculturation, and higher levels of depression (Poppen, et al., 2004). Using the same sample of men, Poppen and colleagues (2005) reported that UAI was most likely to occur when the HIV status of the partner was known, the sexual partner was a main partner, and the sexual partner was also HIV-infected.

A third study by Zea and colleagues (2009) investigated UAI among immigrant Hispanic MSM with HIV infection. The researchers were interested in knowing the relationship of UAI and relationship type, HIV status, and concern about other STIs. In this study, UAI was related to sex with a main partner, the same HIV status of both partners (sero-concordance), and a lack of concern about contracting other STIs.

A small number of studies are available that focus on substance use among Hispanic men with HIV infection. Forrester and colleagues (2008) reported high rates of cocaine and opiate use among a sample of 189 Hispanic men with HIV infection. De Santis and colleagues (2012) reported that about Hispanic men with HIV infection reported intoxication with alcohol or drugs, reported that their partners were intoxicated with alcohol and drugs, and that drugs and alcohol were used during sex.

As noted in this review of the literature, evidence is available that documents the co-occurrence of depression, CSA, high risk sexual behaviors, and substance use as health related issues of Hispanic men with HIV infection. Despite this evidence, a gap in the knowledge base remains. All of the available studies, with the exception of the study by De Santis and colleagues (2011), included samples that were comprised of only gay, bisexual, or Hispanic MSM and did not include heterosexual Hispanic men. The exclusion of heterosexual Hispanic men with HIV infection is theoretically sound given that the majority of Hispanic men with HIV infection are MSM (CDC, 2014); however, more research is needed with samples that include heterosexual Hispanic men. Therefore, this study is

warranted because its sample includes both Hispanic heterosexual men and Hispanic MSM with HIV infection.

Based on the identified gap in the research knowledge base, the purpose of this pilot study was two-fold: a) to describe the co-occurrence of depression, CSA, high risk sex, and substance use among a sample of Hispanic men with HIV infection; and b) to compare CSA, high risk sex, and substance use among depressed and non-depressed Hispanic men with HIV infection.

Method

Study Design

The data for this study were drawn from a larger method study called VIDA-II. The goal of VIDA-II was to collect data from Hispanic men residing along the US-Mexico border that would describe experiences with violence, sexual risk, and substance abuse. In addition, the study provided the researchers with an estimate of the feasibility of further research with this population of Hispanic men residing in a U.S.-Mexico border region.

The parent study that provided the data for this pilot study enrolled 103 Hispanic men. After collection of the data it was noted that 39 out of 103 participants (37.86%) were HIV-infected. Because relatively little research has been conducted with HIV-infected Hispanic men in this area, this study provides some information on a population that has not been investigated.

Participants and Procedures

Data were collected as part of a larger study, named Project VIDA-II that examined relationships between intimate partner violence, HIV risk, mental health and substance use among Hispanic men in the U.S. – Mexico border region. The project was approved by the University of Texas at El Paso Institutional Review Board.

Participants from the original study conducted in 2013–2014 were recruited from a variety of clinical and community settings, most of which provide services for people living with HIV infection. The original study enrolled 103 Hispanic men. Participants completed measures of intimate partner violence, sexual risk, mental health and substance use. For a more detailed description of the study recruitment and data collection procedures, see Mata, Provencio-Vasquez, Martinez, & De Santis (2014).

Data Collection

Data for the original study were collected in a border town in Texas. The El Paso area has a population of about 800,000 residents and is a unique area in the U.S. because over 80% of the population is Hispanic. El Paso borders Ciudad Juarez, Mexico, a city of about 1.6 million. About 60,000 people cross the U.S.-Mexico border each day in this area for employment, healthcare, etc. The El Paso-Ciudad Juarez area, termed La Frontera or the Borderplex, is a medically underserved area. Communicable diseases like HIV infection and tuberculosis are two public health issues in this area (City of El Paso, 2012).

Participants provided written informed consent and were interviewed by trained graduate student research assistants. The structured interviews were conducted in person in Spanish or English, as participants preferred. After completion of all data, it was realized that a number of the participants ($n = 39$) reported living with HIV infection. Because little has been written about HIV-infected Hispanic men, the authors believed it was important to look at this subgroup of the larger sample. Therefore, data reported here reflect demographic characteristics and co-occurring health determinants among a subset of Hispanic men enrolled in the original study residing the U.S.-Mexico border area ($n = 39$) living with HIV infection.

Measures

In addition to demographic characteristics, current depressive symptoms were assessed using the Centers for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a 20-item scale with possible score ranges from 0–60. Higher scores indicate higher levels of depressive symptoms. A score of 16 or above is often considered clinically significant for depression.

Experiences of childhood abuse were assessed using the Violence Assessment (Peragallo et al., 2005). Three “yes or no” questions asked participants to report physical, psychological, or sexual abuse before the age of 18.

Sexual risk was assessed using the Partner Table (Peragallo et al., 2005). This measure asked participants to report various sexual risk behaviors and substance use that occurred with the most recent sexual experience. Two “yes or no” questions were used to assess sexual risk. The first question asked participants if they had at least one sexual partner in the previous 3 months. The second question asked if condoms were used during sexual encounters during the same time period.

Substance use was assessed also by using the Partner Table (Peragallo et al., 2005). Two “yes or no” questions were used to assess substance use. The first question asked if participants had used alcohol in the previous 3 months. The second question asked if participants had used drugs in the past 3 months.

Results

Co-Occurring Health Determinants

Descriptive analyses were conducted with SPSS Version 20. There were a few demographic findings that are unique to this study. The majority of the participants ($n = 31$; 79%) in this pilot study had at least a high school diploma. Reflective of the general demographics of the El Paso-Ciudad Juarez area, 17 participants (44%) were foreign-born with the majority of these men born in Mexico ($n = 15$; 39%). Given that the study site is unique in terms of the ethnic composition of this area, the largest majority of the participants ($n = 19$; 49%) reported that Spanish was their preferred language. Only a small number of participants ($n = 6$; 15%) were employed. The majority were not in a primary relationship ($n = 29$; 74%). One of the most unique findings in the study is the sexual orientation of the participants with HIV

infection. The majority of the men with HIV infection in this sample reported a heterosexual orientation ($n = 32$; 82%).

In terms of co-occurring health determinants, over half of the participants (56%; $n = 22$) were at risk for clinical depression. A large number of the participants reported experiencing some type of childhood abuse ($n = 33$; 66%). The two most common forms of childhood abuse were psychological abuse ($n = 15$; 39%) and physical abuse ($n = 12$; 31%). Six participants (15%) reported childhood sexual abuse.

Participants provided information on current sexual risk behavior. One half of the participants (51%; $n = 20$) reported at least one sexual partner within the previous 3 months. Of those that were sexually active within this time period, 90% ($n = 18$) reported condom use.

Participants answered questions about drug and alcohol use during a period of 3 months before data collection. A little more than 25% ($n = 10$) of the participants reported drug use. Almost half (43.6%; $n = 17$) reported alcohol use.

A Comparison of Selected Health Determinates and Depression

Because over half of the participants ($n = 22$; 56%) were at risk for depression (i.e. total CES-D = 16), it was important to compare the co-occurring health determinant of those participants that were at risk for depression ($n = 22$; 56.4%) to those not at risk for depression ($n = 17$; 43.6%). The co-occurring health determinants included condom use, alcohol use, drug use, and abuse that occurred during childhood that included physical, psychological, and sexual abuse. Although there were differences in the number of depressed men versus non-depressed men who reported each of the co-occurring health determinants, only one statistically significant difference was noted. The only statistically significant difference was noted in drug use in the past 30 days, ($X^2(1, N = 39) = 4.439, p = .035$). For a more complete comparison of the co-occurring health determinants by depression, refer to Table 2.

Discussion

The purpose of this pilot study was to describe demographic characteristics and selected health determinants among a sample of Hispanic men living with HIV infection along the U.S.-Mexico border. This pilot study had a small sample size ($n = 39$), but the results provide some important information regarding Hispanic men with HIV infection. The results of this study provide some implications for clinicians, as well as directions for future research with Hispanic men with HIV infection.

There were a few unique findings concerning the study's demographics that may have an influence on the study's findings. As shown in Table 1, the majority of the men in this sample were not in any type of relationship, were unemployed, lacked health insurance and about one-third had less than a high school education. These findings are supported by previous research that noted that HIV infection was associated with poverty, low levels of education and low socioeconomic status (SES) among the general population of people

living with HIV infection (Centers for Disease Control and Prevention, 2011). Poverty has also been linked to poor mental health outcomes among gay and bisexual Hispanic men (Diaz, Ayala, Bein, Henne & Marin, 2001). The present study's findings combined with previous research indicate that clinicians need to be aware of the role that socioeconomic factors such as poverty, low education, and low SES plays on both HIV risk and outcomes such as depression among people living with HIV infection.

The majority of the sample ($n = 22$; 56%) met criteria for depressive symptoms. The findings from this study support previous research that noted the relationship of HIV infection and depression among Hispanic men with HIV infection (De Santis et al., 2011; Wohl et al., 2013; Zea et al., 2005). The high rates of depression found in this study could be attributed to social factors encountered by the study's participants such as poverty, low education, and low SES. This is supported by the work of Dang and colleagues (2012) who conducted a qualitative study of Hispanic immigrants with HIV infection. The researchers reported that depression was probably rooted in HIV-related stigma that resulted from family and community rejection. In addition, stigma was fueled by feelings of secrecy and shame. Although the current study did not assess HIV-related stigma, clinicians need to be aware of the influence of HIV-related stigma and stigma associated with sexual minority status may have on the mental health of Hispanic men living with HIV infection (Wohl et al., 2013).

Another possible explanation for depression can be provided by the demographic variable of relationship status. Nearly three-quarters of the participants were single and not currently in a relationship. Although it cannot be assumed that because the majority of the men were single that they did not have access to social support, the lack of a primary relationship may contribute to depression among these Hispanic men with HIV infection. No studies are available to document the role of social support and depression among Hispanic men with HIV infection; however, a study that examined the relationship of social support, depression and medication adherence among MSM with HIV infection reported that higher levels of social support were related to lower levels of depression and greater adherence to medication regimens to treat HIV infection (Woodward & Pantalone, 2012).

The number participants reporting abuse during childhood, especially CSA, is supported by previous research (Arreola et al., 2005; Arreola et al., 2009; Welles et al., 2009). In fact, compared to other MSM, Hispanic MSM have a 2.6 greater risk of CSA (Welles et al., 2009). CSA may influence depression risk. In addition, Hispanic men who have experienced CSA may be more likely to engage in high risk sexual behaviors during adulthood (Feldman, 2010; Welles et al., 2009). Clinicians need awareness of the relationship of CSA, depression, and high risk sexual behaviors to adequately screen Hispanic men for these health determinants.

An encouraging finding from this study is the number of sexually active men who did use condoms during the previous 3 months. Previous research has noted that Hispanic men with HIV infection engage in high risk sexual behaviors (Bianchi et al., 2006; Popen et al., 2004; Zea et al., 2005). Lack of condom use among HIV-infected men presents a public health concern for the sexual partners of these men, and although most of the men reported using condoms, 10% of the men who were sexually active did not. Of course, the HIV status

of the partners of the participants cannot be assumed, but condom use is important to decrease STI risk as well as the risk of acquisition of other strains of HIV infection. Clinicians providing care to members of this population must continue to educate these men about sexual risk reduction and the importance of condom use to prevent the transmission of HIV infection to others, and to protect HIV-infected men against other infections.

Implications for Practice

This study's results provide some implications for practice, and notes some potential links to social services that may benefit Hispanic men with HIV infection. It is important to note that any linkage to care and subsequent HIV care and treatment provided to Hispanic men with HIV infection needs to be provided in the client's preferred language. This is essential because previous research has noted that a lack of Spanish-speaking providers is a barrier to care and treatment (Morales-Aleman & Sutton, 2014). Hispanic men with HIV infection experiencing immigration issues that may result in deportation need extra assurance by social service providers that immigration status will not affect HIV care and treatment (Morales-Aleman & Sutton, 2014).

In terms of practice, it is important that social services providers conduct thorough psychosocial assessments at each client encounter. These assessments should include screening for depression, substance use/abuse, and high risk sexual behaviors. Clients who report any of these should be counseled to help the client address these issues do not interfere with HIV care and treatment. It is important to screen for depression and substance use/abuse because these have been associated with poor linkage to HIV care and treatment (Bhatia, Hartmen, Kaller, Graham & Giordano, 2011). Some evidence suggests that treating depression among clients with HIV infection increases the likelihood of adherence to antiretroviral therapy (Kong, Nahata, Laconde, Seiber & Balkrishan, 2012). Therefore, psychosocial assessments by social services providers are essential in assisting Hispanic men with HIV infection to decrease co-occurring health issues associated with HIV infection.

Hispanic men with HIV infection may need social services providers to assist them with linkage to other services in addition to treatment for depression. Some of these men may need substance abuse counseling and treatment. Second, some Hispanic men with HIV infection may need assistance with funding for HIV care and treatment, especially these men who do not have health insurance, or men with immigration issues that impede coverage for HIV care and treatment. Lastly, social services providers are vital in referring Hispanic men with HIV infection to any social services programs such as Medicare, disability, job training or employment assistance.

Directions for future research

The results of this study provide some directions for future research with Hispanic men with HIV infection. First, this study needs to be replicated with a larger sample. Second, there are a few variables that need to be included in this study. A future study needs to include data on participants' viral load, CD4+ counts, and adherence to HIV medications. This information

would provide information on disease progression and if viral suppression is being achieved with HIV medications. Given that depression predicts adherence to HIV medications in the general population of people living with HIV infection (Tedaldi et al., 2012), it would be important to know how depression influences adherence among Hispanic men.

A second variable that needs to be included in future research with this population is stigma. Stigma has been shown to be related to depression (Wohl et al., 2013), but relatively little is known about how stigma influences the mental health of Hispanic men with HIV infection (Molina & Ramirez-Valles, 2013), particularly heterosexual Hispanic men with HIV infection.

It was not known if the participants in this study had disclosed their HIV status to family members or other support systems. This is an important variable to include in future research with HIV-infected Hispanic men because disclosure has been linked to increased social support and decreased risk of depression (Dang et al., 2012). Knowing how many people were aware of each participant's HIV status would allow an estimate of how much social support was potentially available. The relationship of available support and risk of depression could then be estimated among a larger sample of Hispanic men.

Limitations

In addition to the small sample size, this study has a few limitations that must be noted. First, unequal numbers of heterosexual men and MSM make comparisons among the two groups of HIV infected men impossible. A larger sample with equal numbers of both men would allow researchers to test if sexual orientation plays a role in depression among HIV-infected Hispanic men.

Data for this study were obtained in a community-based clinic that provides care to people with HIV infection. All participants were enrolled in care and were receiving care at this facility. The results of the study could be strengthened if researchers could locate and enroll Hispanic men with HIV infection who were not receiving HIV care. This would allow an estimation of the relationship of care engagement and depression.

Conclusions

Despite the identified limitations, this pilot study that examined the selected health determinants of Hispanic men with HIV infection makes a contribution to the literature. The results of this study indicate that Hispanic men with HIV infection are at risk for depression, as well as co-occurring psychosocial health issues such as alcohol/drug use and abuse, childhood abuse, and sexual risk behaviors. A number of differences were found among the selected health determinants when compared by risk for depression, but only drug use in the previous 3 months was significant. However, the small sample size requires cautious interpretation of the study's findings. More work is needed to study the complex relationship of depression and other health determinants among Hispanic men with HIV infection.

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References

- Arreola SG, Neilands TB, Diaz R. Childhood sexual abuse and the sociocultural context of sexual risk among adult Latino gay and bisexual men. *American Journal of Public Health*. 2009; 99(S2):S432–S438. DOI: 10.2105/AJPH.2008.138925 [PubMed: 19372522]
- Arreola SG, Neilands TB, Pollack LM, Paul JP, Catania JA. Higher prevalence of childhood sexual abuse among Latino men who have sex with men than non-Latino men who have sex with men: Data from the Urban Men's Health Study. *Child Abuse & Neglect*. 2005; 29(3):285–290. [PubMed: 15820544]
- Bhatia R, Hartman C, Kallen MA, Graham J, Giordano TP. Persons newly diagnosed with HIV infection are at high risk for depression and poor linkage to care: Results from the STEPS Study. *AIDS and Behavior*. 2011; 15(6):1161–1170. DOI: 10.1007/s10461-010-9778-9 [PubMed: 20711651]
- Bianchi FT, Reisen CA, Zea MC, Poppen PJ, Echeverry JJ. A comparison of HIV-related factors among seropositive Brazilian, South American, and Puerto Rican gay men in the United States. *Hispanic Journal of Behavioral Sciences*. 2006; 28(3):450–463. DOI: 10.1177/0739986306291127
- Centers for Disease Control and Prevention [CDC]. Characteristics associated with HIV infection among heterosexuals in urban areas with higher AIDS prevalence—24 cities, United States, 2006–2007. *MMWR*. 2011; 60(31):1045–1049. [PubMed: 21832975]
- Centers for Disease Control and Prevention [CDC]. HIV/AIDS among Hispanics/Latinos. 2013. Retrieved March 26, 2014 from www.cdc.gov/hiv/risk/raciaethnic/hispanicslatinos/index.html
- Chen NE, Meyer JP, Bolinger R, Page KR. HIV testing behaviors among Latinos in Baltimore City. *Journal of Immigrant and Minority Health*. 2012; 14(4):540–551. DOI: 10.1007/S10903-012-9573-y [PubMed: 22262410]
- Dang B, Giordano T, Kim J. Sociocultural and structural barriers to care among undocumented Latino immigrants with HIV infection. *Journal of Immigrant and Minority Health*. 2012; 19(1):124–13. DOI: 10.1007/S10903-011-9542.x [PubMed: 22012476]
- De Santis JP, Gonzalez-Guarda RM, Vasquez EP. Psychosocial and cultural correlates of depression among Hispanic men with HIV infection: A pilot study. *Journal of Psychosocial & Mental Health Nursing*. 2011; 19(10):860–869. DOI: 10.1111/j.1365-2850.2011.01865.x
- Diaz RM, Ayala G, Bein E, Henne J, Marin BV. The impact of homophobia, poverty, and racism on the mental health of gay and bisexual Latino men: Findings from 3 US cities. *American Journal of Public Health*. 2001; 91(6):927–932. [PubMed: 11392936]
- City of El Paso. Border Issues: One People, One Community. 2012. Retrived from: www.elpasotexas.gov/development_services/ComPlan/Ch.05-BorderIssues-pages23to38.pdf
- Feldman MB. A critical literature review to identify possible causes of higher rates of HIV infection among young Black and Latino men who have sex with men. *Journal of the National Medical Association*. 2010; 102(12):1206–1221. [PubMed: 21287902]
- Forrester JE, Tucker KL, Skinner S, Terrin N. Drug use and weight loss in HIV-infected Hispanic men. *AIDS Care*. 2008; 20(7):868–875. DOI: 10.1080/09540120701767174 [PubMed: 18608065]
- Kong MC, Milap MC, Lacombe VA, Seiber EE, Balkrishan R. Association between race, depression, and ART adherence in a low income population with HIV infection. *Journal of General Internal Medicine*. 2012; 27(9):1159–1164. DOI: 10.1007/s11606-012-2043-3 [PubMed: 22528619]
- Loue S. Preventing HIV: Eliminating disparities among Hispanics in the U.S. *Journal of Immigrant and Minority Health*. 2006; 8(4):313–318. [PubMed: 16944327]

- Mata H, Provencio-Vasquez E, Martinez J, DeSantis J. HIV risk knowledge among Hispanic adults in a U.S. – Mexico border community: Opportunities for sexual health promotion and education. *California Journal of Health Promotion*. 2014; 12(1):88–94.
- Molina Y, Ramirez-Valles J. HIV/AIDS stigma: Measurement and relationships to psycho-behavioral factors in Latino gay/bisexual men and transgender women. *AIDS Care*. 2013; 25(12):1559–1568. DOI: 10.1080/09540121.2013.793268 [PubMed: 23668809]
- Morales-Aleman MM, Sutton MY. Hispanics/Latinos and the HIV continuum of care in the Southern USA: A qualitative review of the literature, 2002–2013. *AIDS Care*. 2014; 26(12):1592–1604. DOI: 10.1080/09540121.2014.936817 [PubMed: 25027357]
- Peragallo N, DeForge B, O'Campo P, Lee SM, Kim YJ, Cianelli R, Ferrer L. A randomized clinical trial of an HIV-risk-reduction intervention among low-income Latino women. *Nursing Research*. 2005; 54(4):108–118. [PubMed: 15778652]
- Poppen PJ, Reisen CA, Zea MC, Bianchi FT, Echeverry JJ. Predictors of unprotected anal intercourse among HIV-positive Latino gay and bisexual men. *AIDS and Behavior*. 2004; 8(4):379–389. [PubMed: 15690111]
- Poppen PJ, Reisen CA, Zea MC, Bianchi FT, Echeverry JJ. Serostatus disclosure, seroconcordance, partner relationship, and unprotected anal intercourse among HIV-positive Latino men who have sex with men. *AIDS Prevention & Education*. 2005; 17(3):227–237.
- Radloff LS. The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*. 1977; 1(5):385–401.
- Sanchez MA, Hernandez MT, Hanson JE, Vera A, Magis-Rodriguez C, Ruiz JD, Lemp GF. The effect of migration on HIV high risk behaviors among Mexican migrants. *Journal of Acquired Immune Deficiency Syndromes*. 2012; 61:610–617. [PubMed: 23018375]
- Sherr L, Glucas C, Harding R, Sibley E, Catalan J. HIV and depression: A systematic review of interventions. *Psychology of Health & Medicine*. 2011; 16(5):493–527.
- Tedaldi EM, van den Berg-Wolf M, Richardson J, Patel P, Durham M, Hammer J. ... the SUN Study Investigators. Sadness in the SUN: Using computerized screening to analyze correlates of depression and adherence in HIV-infected adults in the United States. *AIDS Patient Care and STDs*. 2012; 26(12):718–729. DOI: 10.1089/apc.2012.0132 [PubMed: 23199190]
- Vance DF, Struzick T, Childs G. Challenges of depression and suicidal ideation associated with aging with HIV/AIDS: Implications for social work. *Journal of Gerontological Social Work*. 2010; 52(2):159–175. [PubMed: 20094935]
- Vasquez EP, Gonzalez-Guarda RM, De Santis JP. Acculturation, depression, self-esteem, and substance among Hispanic men. *Issues in Mental Health Nursing*. 2011; 32(2):90–97. DOI: 10.3109/0812840.2010.S28169 [PubMed: 21247274]
- Welles SL, Baker AC, Miner MH, Brennan DJ, Jacoby S, Rosser BRS. History of childhood sexual abuse and unsafe anal intercourse in a 6-city study of HIV-positive men who have sex with men. *American Journal of Public Health*. 2009; 99(6):1079–1086. DOI: 10.2105/AJPH.2007.133280 [PubMed: 19372529]
- Wohl AR, Galven FH, Carlos JA, Myers HF, Garland W, Witt MD, George S. A comparison of MSM stigma, HIV stigma, and depression in HIV-positive Latino and African-American men who have sex with men (MSM). *AIDS and Behavior*. 2013; 17(4):1454–1464. DOI: 10.1007/S10461-012-0385-9 [PubMed: 23247362]
- Woodward EN, Pantalone DW. The role of social support and negative affect in medication adherence for HIV-infected men who have sex with men. *Journal of the Association of Nurses in AIDS Care*. 2012; 23(5):388–396. [PubMed: 22209470]
- Zea MC, Reisen CA, Poppen PJ, Bianchi FT. Unprotected anal intercourse among immigrant Latino men who have sex with men: The role of characteristics of the person and the sexual encounter. *AIDS and Behavior*. 2009; 13(4):700–715. [PubMed: 19030982]
- Zea MC, Reisen CA, Poppen PJ, Bianchi FT, Echeverry JJ. Disclosure of HIV status and psychological well-being among Latino gay and bisexual men. *AIDS & Behavior*. 2005; 9(1):15–26. [PubMed: 15812610]

Table 1**Participant Characteristics and Selected Health Determinants**

Variable	<i>N</i> = 39 <i>M</i> (<i>SD</i>) or Frequency (%)
Participant Demographics	
Age	41.44 (11.16)
High school education or equivalent	31 (79%)
Country of Origin	
United States	22 (56%)
Mexico	15 (39%)
Other	2 (5%)
Language spoken “almost always”	
English	12 (31%)
Spanish	19 (49%)
No preference	8 (20%)
Single or not in a relationship	29 (74%)
Currently Employed	6 (15%)
Sexual orientation	
Heterosexual	32 (82%)
Gay or Bisexual (MSM)	7 (18%)
Selected Health Determinants	
CES-D score	16.95 (10.74)
At clinical risk for depression CES-D ≥ 16	22 (56.4%)
No health insurance coverage of any type	27 (69%)
Reported any type of childhood abuse	33 (66%)
Childhood sexual abuse	6 (15%)
Childhood physical abuse	12 (31%)
Childhood psychological abuse	15 (39%)
Had at least 1 sexual partner in past 3 months	20 (51%)
Used condoms in past 3 months* *(among men who had at least 1 partner)	18 (90%)
Drug and Alcohol Use in the Past 3 months	
Drug use in the past 3 months	
Yes	10 (25.6%)
No	29 (74.4%)
Alcohol use in the past 3 months	
Yes	17 (43.6%)
No	22 (56.4%)

Table 2

A Comparison of Co-Occurring Health Determinants of Hispanic Men with HIV Infection by Depression ($N=39$)

Variable value	Number depressed	Number not depressed	χ^2 statistic ($df = 1$)	p
Childhood Physical Abuse	7	5	.345	.557
Childhood psychological abuse	10	5	2.309	.129
Childhood sexual abuse	4	2	.672	.412
Condom use in last 3 months	10	13	1.367	.242
Alcohol use in the last 3 months	10	7	.686	.408
Drug use in the last 3 months	8	2	4.439	.035