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Conceptualisations of Masculinity and Self-Reported Medication Adherence among HIV-Positive Latino Men in Los Angeles, California, USA

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Abstract

HIV-positive Latino men have been found to have poorer medication adherence compared to Whites. This study sought to identify how cultural conceptualisations of masculinity are associated with self-reported medication adherence among Latino men. 208 HIV-positive men reported the number of doses of antiretroviral medication missed in the previous seven days (dichotomised at 100% adherence versus less). Conceptualisations of masculinity consisted of traditional *machismo* (e.g., power and aggressive attitudes, which are normally associated with negative stereotypes of *machismo*) and *caballerismo* (e.g., fairness, respect for elders and the importance of family). Multivariate logistic regression was used to identify factors associated with adherence. The mean adherence was 97% (SD 6.5%; range = 57%–100%). 100% adherence in the previous seven days was reported by 77% of the participants. *Caballerismo* was associated with a greater likelihood (OR: 1.77; 95% CI: 1.08–2.92; $p = 0.03$) and *machismo* with a lower likelihood (OR: 0.60; 95% CI: 0.38–0.95; $p = 0.03$) of medication adherence. In addition, higher medication side effects were found to be associated with a lower likelihood (OR: 0.59; 95% CI: 0.43–0.81; $p = 0.001$) of medication adherence. These findings reinforce the importance of identifying cultural factors which may affect medication adherence among HIV-positive Latino men resident in the USA.

Keywords

HIV; medication adherence; Latinos; masculinity; *machismo*

Introduction

Antiretroviral therapy (ART) has reduced mortality among people living with HIV, transforming HIV for many from a lethal illness into a chronic disease (Le Douce et al 2012). However, the benefits that can be reaped from ART require sustained high levels of

adherence to medication treatment regimens. Despite the benefits obtained from adherence to ART, adherence rates vary greatly.

In the Supplement to HIV and AIDS Surveillance Project, a national cross-sectional behavioural surveillance study of 5,887 people living with HIV, greater non-adherence to ART was reported by Latinos (i.e., Hispanics) and African Americans compared to those of other ethnicities (Sullivan et al. 2007). In the Multicenter AIDS Cohort Study of 1,102 men, Latinos were more than twice more likely than Whites not to report 100% adherence (Oh et al. 2009). Other research has confirmed poorer medication adherence of HIV-positive Latinos compared to Whites (Silverberg et al. 2009).

A wide array of characteristics of the patient, the doctor-patient relationship, the health care system, and treatment itself has been found to be associated with adherence (Ammassari et al. 2002; Atkinson and Petrozzino 2009; Murphy et al. 2000). For example, factors such as lower CD4 cell count (Margalho et al. 2011), higher viral load (Usitalo et al. 2013), health care-related policies or bureaucratic complexities (Murphy et al. 2000), greater pill burden (O'Connor et al. 2013) and higher medication side effects (Ammassari et al. 2001) have all been associated with non-adherence. Among Latinos, medication adherence has been associated with the quality of the patient-physician relationship and emotional or informational support (van Servellen and Lombardi 2005). Poorer adherence among Latinos has also been found among women, those with one or more sexual partners in the previous three months, those diagnosed with HIV for six or fewer years, those of poor health (Zuniga et al. 2012), and those using complementary and alternative medicine (Jernewall et al. 2005). Very limited attention has been given to the role that Latino cultural factors may play in medication adherence among HIV-positive Latinos.

A study of 17 HIV-positive Puerto Rican adults living in the USA examined the association between ART adherence and acculturation and bicultural self-efficacy (the ability to effectively navigate both cultures in which one lives) (Robbins et al. 2012). Higher adherence to ART was associated with greater acculturation to both US mainstream culture and Latino culture, as well as bicultural efficacy. A separate study of 66 Latino immigrant male and female immigrants in the southeastern USA also examined the association between acculturation and ART adherence (Vissman et al. 2013). In this case, acculturation scores did not significantly differ between the adherent and non-adherent participants.

We further examine the relationship between Latino cultural factors and ART adherence by focusing on cultural conceptualisations of masculinity, which may be associated with adherence. For example, subscribing to the “hegemonic masculinity” dominant in the USA may involve endorsing health-related beliefs and behaviours that deny weakness or vulnerability, convey a sense of being strong and in control, and deny any need for help or assistance (Courtenay 2000). Thus, experiencing illness in this context could lead a man to disregard his own health care needs as a means of reinforcing what it means to be a man. Accordingly, endorsing dominant conceptualisations of masculinity among men is associated with poorer health behaviours and greater health risks in comparison to men who have different beliefs. Knowing what specific beliefs of masculinity are held by a particular population can potentially provide insight into their health behaviours.

Among Latino men, research suggests that masculinity is multidimensional. In a sample of 154 men of Mexican heritage, conceptualisations of masculinity were found to be captured by two main factors: traditional *machismo* and *caballerismo* (Arciniega et al. 2008). Traditional forms of *machismo* consist of characteristics like power, aggression and hypermasculinity. *Caballerismo*, which can be translated as a kind of “chivalrous gentlemanliness,” consists of characteristics such as emotional connectedness, honour and nurturance. Traditional *machismo* was found to be associated with an individual’s number of arrests and number of fights; in contrast, *caballerismo* was not. *Caballerismo* was found to be associated with satisfaction with life, emotional connectedness with others and affiliation, whereas *machismo* was not. In another study (reported in the same article just cited) of 403 Mexican Americans, higher traditional *machismo* was associated with more arrests, more fights, more alcohol consumption, and greater use of wishful thinking as a coping style. Higher *caballerismo* was associated with greater problem-solving coping styles. In a study of 152 self-identified gay Mexican American men, the same measure of traditional *machismo* was found to be modestly correlated with internalised homonegativity (negative attitudes toward homosexuality) (Estrada et al. 2011).

Previous studies among Latino men have found that different conceptualisations of masculinity may influence health behaviours in distinct manners (Rivera-Ramos and Buki 2011; Sobralske 2006). For example, among Mexican American men, meeting family obligations is one important component of the definition of masculinity (Sobralske 2006). To be able to provide for one’s family, one must be able to work and earn a living. Experiencing illness can prevent one’s ability to meet family obligations. As a result, the desire to provide for one’s family for many Mexican American men can serve as the necessary motivator to seek medical care when threatened by an illness.

Other conceptualisations of masculinity among Latino men have been found to be associated with non-adherence to medical guidelines. Stereotypical beliefs of *machismo* have been found to be associated with a reluctance to screen for prostate cancer among Latino men, as screening would conflict with notions of control and invulnerability that are typically associated with *machismo* (Rivera-Ramos and Buki 2011). This reluctance to screen for prostate cancer may be further intensified by the fact that the exam involves a digital rectal examination, which may be negatively associated with homosexuality.

This present study sought to identify how Latino cultural conceptualisations of masculinity are associated with self-reported medication adherence among a sample of HIV-positive Latino men. We anticipated that *machismo* and *caballerismo* would have differing effects on medication adherence, with the more stereotypical negative conceptualisations of *machismo* being associated with poorer adherence and the more positive conceptualisations of *caballerismo* with better adherence.

Methods

Participants and Procedures

A convenience sample of 208 HIV-positive Latino men in Los Angeles, California, USA, on antiretroviral medications, was recruited through a promotional flier. Participants completed

a questionnaire using an audio computer-assisted self-interview (ACASI) and received \$30 in cash for the first study interview and \$30 for a second interview one month later (information for the present paper involved only the baseline data). The study protocol was approved by the Institutional Review Boards of Charles R. Drew University of Medicine and Science and the RAND Corporation.

Measures

Socio-demographic Characteristics—Information was collected on age, education, employment, housing arrangement, living situation, household income in the previous 12 months, relationship status, sexual orientation, residency status in the USA and time since HIV diagnosis (recalculated in months for the analysis).

Latino Cultural Conceptualisations of Masculinity—Latino cultural beliefs of masculinity were assessed using the Machismo Measure (Arciniega et al. 2008). This scale aims to measure two factors: traditional *machismo* and *caballerismo*, each consisting of ten items. Respondents were asked to indicate the extent to which they agreed with the beliefs of masculinity described by the items of both subscales using responses from 1 (“Strongly Disagree”) to 5 (“Strongly Agree”). Both the traditional *machismo* and *caballerismo* subscales had very good internal consistency reliabilities (both α 's = .82) and were weakly correlated with each other ($r = 0.12$; $p = 0.09$). Using Varimax rotation, a factor analysis of the entire 20 items of both subscales resulted in the exact same two factors that were obtained in the original study (Arciniega et al. 2008).

Acculturation—The Bidimensional Acculturation Scale for Hispanics (BAS) (Marin and Gamba 1996) was used to assess acculturation to both Hispanic (Latino) and non-Hispanic cultural domains. The BAS consists of 24 items measuring three language-related domains (language use, linguistic proficiency and electronic media use) for both Spanish and English. The Hispanic and non-Hispanic domain items had high internal consistencies (α 's = .89 and .96, respectively) and were negatively correlated with each other ($r = -0.50$; $p < 0.0001$).

Depression—Depression was measured using the depression module of the Patient Health Questionnaire (PHQ-9) (Kroenke, Spitzer, and Williams 2001). Participants were asked the extent to which they had experienced nine depression symptoms over the previous two weeks. The response options were from “0” (“not at all”) to “3” (“nearly every day”).

Alcohol Dependence—The Rapid Alcohol Problems Screen (RAPS4) (Cherpitel 2002) was used for determining alcohol dependence over the previous year. This consisted of remorse regarding drinking, amnesia, failure to perform responsibilities and taking a drink upon first getting up in the morning. An affirmative response to any of the four items was considered to be reflective of alcohol dependence.

Drug Use—Drug use was determined based on a positive response to use in the previous 30 days of heroin, crack cocaine, powder cocaine or amphetamines.

HIV-related Factors—Information was obtained on whether an individual had been diagnosed with AIDS, their most recent CD4 cell count and their most recent viral load test (one question each). Such self-reports of CD4 count and viral load have been shown to be valid (Kinsler et al. 2008).

Medication-related Factors—Pill burden was assessed by one question which asked how many doses of antiretroviral medications the individual was supposed to take every day. Medication side effects were determined through a question that asked how much side effects from antiretroviral medications had interfered with their day-to-day activities. This was assessed with a five-point scale with 1 referring to “no interference” and 5 to “a lot of interference.”

Barriers to Health Care—Barriers to health care were assessed using eight systems-level barrier items reported in Bogart et al. (2010) (e.g., “couldn’t get an appointment,” “couldn’t get through on the phone”). Individuals were asked the extent to which they had postponed going to the doctor in the previous six months due to each of these eight reasons. Subsequently, a dichotomous variable was created reflecting having had any health care barrier versus none.

Self-Reported Medication Adherence—Participants were asked the following questions: “How many doses of antiretroviral medications are you supposed to take every day?” (mentioned already above) and “Many patients find it difficult to take all their HIV medications exactly as prescribed. How many doses of your HIV medication did you miss in the last 7 days?” An adherence rate was calculated for each participant based on the number of doses taken of those prescribed for the previous seven days. The adherence rates were then dichotomised at 100% adherence versus less than 100% adherence (Simoni et al. 2006).

Although undetectable viral loads have been found for self-reported antiretroviral therapy adherence levels of 90% or greater (Arnsten et al. 2007), we chose a cutoff of 100% adherence versus less than 100% adherence because self-reports of adherence have been found to overestimate actual adherence (Berg, Wilson, and Arnsten 2012; Wagner 2002, 2006). For example, the number of missed doses is often underestimated due to poor recall (Wagner and Miller 2004) or a misunderstanding of the questions asked (Berg and Arnsten 2006). Using a higher cutoff of 100% for adherence allows for taking into consideration such overestimates due to self-reports.

Statistical Analysis

Descriptive statistics were obtained on all the variables. Chi-square and Fisher’s exact tests and bivariate logistic regressions were used to examine the associations between self-reported medication adherence and the other variables described above. Only those variables that were significant at the bivariate level with the self-reported medication adherence variable at $p < 0.20$ (Hosmer and Lemeshow 1989, 86) were entered into the multivariate logistic regression model predicting adherence.

Results

Participant Characteristics and Bivariate Associations with 100% Self-Reported Medication Adherence

The mean self-reported adherence was 97% (SD 6.5%; range = 57%–100%). Self-reported 100% adherence in the previous seven days was reported by 77% of the participants. The characteristics of the sample and the bivariate associations with 100% self-reported medication adherence are found in Table 1. The average score for traditional *machismo* was 1.79 (SD = 0.78) and for *caballerismo* 4.40 (SD = 0.71). In addition, a significant difference was found for *caballerismo* between the men who have sex with men (the gay and bisexual men combined) and all others (primarily heterosexual men) ($M = 4.30$, $SD = 0.77$ and $M = 4.73$, $SD = 0.36$, respectively; $p < 0.001$). No differences were found for traditional *machismo* between these two categories of men.

Self-reported 100% medication adherence in the previous seven days was found to be associated with the following variables on a bivariate level at $p < 0.20$: education ($n = 206$, $\chi^2 = 1.80$, $DF = 1$, $p = 0.18$), sexual orientation ($n = 206$, $\chi^2 = 2.92$, $DF = 1$, $p = 0.09$), time since HIV diagnosis (O.R. = 1.0, C.I. = 0.99–1.00, $p = 0.13$), depression (O.R. = 0.94, C.I. = 0.89–0.99, $p = 0.02$), alcohol dependence ($n = 195$, $\chi^2 = 4.20$, $DF = 1$, $p = 0.04$), medication side effects (O.R. = 0.607, C.I. = 0.466–0.791, $p < 0.001$), any barriers to health care ($n = 206$, $p = 0.050$, Fisher's exact test); *caballerismo* (O.R. = 1.77, C.I. = 1.17–2.69, $p = 0.01$), traditional *machismo* (O.R. = 0.68, C.I. = 0.46–1.02, $p = 0.06$) and the non-Latino domains of acculturation (O.R. = 0.66, C.I. = 0.45–0.97, $p = 0.04$).

Multivariate Logistic Regression of the Associations between Conceptualisations of Masculinity and 100% Self-Reported Medication Adherence

In the multivariate model, traditional *machismo* was associated with a lower likelihood (OR: 0.60; 95% CI: 0.38–0.95; $p = 0.03$) and *caballerismo* with a greater likelihood (OR: 1.77; 95% CI: 1.08–2.92; $p = 0.03$) of 100% self-reported medication adherence (Table 2). In addition, higher medication side effects were associated with a lower likelihood (OR: 0.59; 95% CI: 0.43–0.81; $p = 0.001$) of adherence. None of the other variables reached a $p < 0.05$ level of statistical significance.

Discussion

Our study is the first to examine the association between cultural conceptualisations of masculinity and self-reported medication adherence among HIV-positive Latino men. Of interest was the fact that both traditional *machismo* and *caballerismo* were significantly related to medication adherence in the multivariate model, even with the presence of variables which previously have been found to be associated with medication adherence among people living with HIV, such as depression (Kalichman and Grebler 2010); alcohol use (Broyles et al. 2011; Chandler 2011; Kalichman et al. 2012); time since diagnosis (van Servellen and Lombardi 2005), health care-related barriers (Murphy et al. 2000) and acculturation (Robbins et al. 2012). Only one other variable, higher medication side effects,

was found to be associated with a lower likelihood of medication adherence, consistent with previous research (Ammassari et al. 2001; Applebaum et al. 2009; Muchomba et al. 2012).

Traditional *machismo* was found to be associated with a lower likelihood of HIV medication adherence. Experiencing illness for someone who holds to such beliefs can raise questions about their own sense of manhood. The need to take medications, daily in the case of people living with HIV, can be a constant reminder of illness. For men who subscribe to traditional *machismo* beliefs, non-adherence to medications can become a way to exert control over their situation, as well as a denial of a perceived sense of weakness or vulnerability to being HIV-positive.

Our finding regarding traditional *machismo* is consistent with previous research that has found *machismo* to be positively correlated with a greater use of wishful thinking as a coping style (Arciniega et al. 2008). Being non-adherent with one's HIV medications could be reflective of acting as if one is not infected with HIV, when in fact the opposite is the case. In addition, traditional *machismo* has been found to be correlated with internalised homonegativity (negative attitudes toward homosexuality) (Estrada et al. 2011). Future research should explore the extent to which nonadherence to medications may also be associated with constructs such as internalised homonegativity.

Our finding regarding *caballerismo*'s association with a greater likelihood of HIV medication adherence may be at least partially explained by the fact that *caballerismo* has been found to be related to greater problem-solving coping (Arciniega 2008). Problem-focused coping involves defining a problem, weighing the pros and cons of the alternatives, and then taking action (Lazarus and Folkman 1984). The beneficial aspects of this form of coping are demonstrated by the fact that other research has found problem-focused coping to be associated with adherence to ART (Singh et al. 1999).

Given the positive association found in the present study between *caballerismo* and self-reported medication adherence, there is potential in examining the extent to which *caballerismo* may have other positive benefits in the lives of Latinos living with HIV. For example, if *caballerismo* was found to be associated with lower abuse of illicit substances, substance abuse treatment counsellors could incorporate aspects of *caballerismo* in their programmes to decrease drug use among this population.

Incorporating aspects of *caballerismo* into medication adherence programmes geared to HIV-positive Latino men may be beneficial for those who already have beliefs strongly consistent with *caballerismo*. However, for men who may have beliefs incorporating both *caballerismo* and traditional *machismo* elements, programmes could potentially be designed that could strengthen their *caballerismo* beliefs. One approach for doing this can be through the use of "experience-taking." Experience-taking is defined as the process of spontaneously assuming the identity of a character of a narrative and incorporating the beliefs and traits of that person as one's own (Kaufman and Libby 2012). Experience-taking has been found to lead to the internalisation of a character's perspectives, emotions and thoughts and also result in behavioural change consistent with the internalised beliefs (Kaufman and Libby 2012). Using narratives in this manner that incorporate concepts of *caballerismo* could result

in strengthening those beliefs and associated behaviours concerning masculinity among Latino men. Future research should identify other ways that concepts related to *caballerismo* could be incorporated into interventions to increase adherence. In addition, integrating important key messages into ART adherence interventions for Latino men that portray ART adherence as masculine could be useful and is worthwhile of further research.

The sample consisted overwhelmingly of men who have sex with men. In addition, a significant difference was found for *caballerismo* between the men who have sex with men and all others (primarily heterosexual men). No differences were found for traditional *machismo* between these two categories of men. Future research can examine further whether the effects on medication adherence of *caballerismo* and traditional *machismo* may vary between Latino gay/bisexual men and heterosexual men.

The participants in this study were obtained through a convenience sample. Thus, the findings may not be generalisable to other Latino men living with HIV. In addition, there are limitations attendant to the use of self-report measures for assessing medication adherence. There is a tendency for the self-reports of adherence measures to be positively skewed and be affected by question misinterpretation and poor recall of the events reported (Berg and Arnsten 2006). Nevertheless, previous research has demonstrated the validity of self-report for measuring medication adherence (Wagner 2002; Berg and Arnsten 2006). This is especially the case when (1) questions are introduced with a comment that acknowledges the difficulties involved in being compliant to medications and thus “normalising” nonadherence and (2) adherence questions are answered via a self-administered computer interview rather than through a face-to-face interview (Berg and Arnsten 2006). Both of these techniques were used in the present study.

An additional limitation was the fact that measures like self-reported viral load may be difficult to recall. Nevertheless, in a study of 114 HIV-positive individuals in Los Angeles which measured the reliability of self-reported viral load when compared to a “gold standard” of electronic data, the level of agreement between both measures was found to be 77% (Kinsler et al. 2008). Thus although the rate of agreement between self-reported viral load and electronic data appears to be good, a significant percentage of individuals nevertheless appears to report inaccurate information when asked about their viral loads, suggesting that some caution should be taken with such measures.

Finally, an additional study limitation is related to the fact that only Latinos were involved in the study and no non-Latinos were included. Future research should examine the extent to which the masculinity constructs measured in this study are also reported among HIV-positive individuals of other minority ethnic populations and their potential associations with self-reported medication adherence.

Conclusions

These findings reinforce the importance of identifying cultural factors, such as conceptualisations of masculinity, which may affect medication adherence among HIV-positive Latinos. Research suggests that men experience strong social pressures to conform

to male-defined norms, in particular to the hegemonic masculine ideal that is the norm in a particular setting (Courtenay 2000). Yet men can also play a role in reconstructing masculinity norms that work best for them. For this, they may be able to find support from alternative conceptualisations of masculinity available to them from within their own cultures. This paper described two sets of masculinity norms endorsed by Latino men living with HIV that are associated with very distinct medication adherence behaviours. Interventions for medication adherence should be developed for Latino HIV-positive men that incorporate the positive aspects of Latino cultural conceptualisations of masculinity, such as those exemplified by *caballerismo*.

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Table 1

Characteristics of the sample [M (SD) or n (%)] of Latino men with HIV^a and bivariate associations with 100% self-reported medication adherence

Variable	M (SD) or n (%)	100% self- reported medication adherence ^k	Less than 100% self-reported medication adherence ^k	P
Age^b	45 (9.36)	45 (9.47)	44 (8.82)	0.653
Education				
Less than high school	100 (48%)	80 (51%)	19 (40%)	0.180
Other	108 (52%)	78 (49%)	29 (60%)	
Employment Status				
Working full-time	28 (14%)	22 (14%)	5 (10%)	0.539 ^l
Working part-time	46 (22%)	35 (22%)	10 (21%)	
Unemployed and looking for work	49 (24%)	36 (23%)	13 (27%)	
Disabled and not working	58 (28%)	45 (29%)	13 (27%)	
Other	27 (13%)	20 (13%)	7 (15%)	
Housing Status				
Renting home or apartment	112 (54%)	87 (55%)	24 (50%)	0.352 ^m
Living in home or apartment owned by you or someone else in household	33 (16%)	24 (15%)	8 (17%)	
Residential drug, alcohol or other treatment facility	2 (1%)	2 (1%)	0 (0%)	
Public subsidised housing	33 (16%)	22 (14%)	11 (23%)	
Other	28 (14%)	23 (15%)	5 (10%)	
Living Situation				
Alone	91 (44%)	68 (43%)	22 (46%)	0.732
Other	117 (56%)	90 (57%)	26 (54%)	
Household Income in Previous 12 Months^c				
Less than \$5,000	67 (34%)	48 (32%)	19 (40%)	0.274 ⁿ
\$5,000 – \$11,999	72 (36%)	56 (37%)	16 (34%)	
\$12,000 – \$15,999	21 (11%)	14 (9%)	5 (11%)	
\$16,000 – \$24,999	16 (8%)	12 (8%)	4 (9%)	
\$25,000 – \$34,999	16 (8%)	13 (9%)	3 (6%)	
\$35,000 and greater	8 (4%)	8 (5%)	0 (0%)	
Relationship Status				
Married or in a committed relationship	69 (33%)	53 (34%)	16 (33%)	0.978
Not married or in a relationship	139 (67%)	105 (66%)	32 (67%)	
Sexual Orientation				
Gay	127 (61%)	91 (58%)	35 (73%)	

Variable	M (SD) or n (%)	100% self- reported medication adherence ^k	Less than 100% self-reported medication adherence ^k	P
Bisexual	31 (15%)	25 (16%)	6 (13%)	0.087 ^o
Straight or heterosexual	45 (22%)	38 (24%)	6 (13%)	
Not sure or in transition	2 (1%)	2 (1%)	0 (0%)	
Something else	3 (1%)	2 (1%)	1 (2%)	
Residency Status				
Undocumented Status	103 (50%)	78 (49%)	23 (48%)	0.860
Other	105 (51%)	80 (51%)	25 (52%)	
Time Since HIV Diagnosis^d (months)	124.7 (83.0)	120.9 (83.8)	142.1 (77.3)	0.125
Depression	14.28 (5.62)	13.70 (5.38)	15.92 (5.94)	0.019
Alcohol Dependence^e	47 (24%)	29 (20%)	16 (34%)	0.041
Any Drug Use^f	11 (5%)	10 (6%)	1 (2%)	0.462
AIDS Diagnosis^b	119 (58%)	90 (57%)	29 (62%)	0.563
Have Detectable Viral Load^g	49 (26%)	37 (25%)	12 (29%)	0.674
Viral Load^h	114189.6 (387578.5)	145734.6 (442198.9)	16049.7 (41372.4)	0.485
CD4ⁱ	493.1 (237.0)	505.8 (238.5)	458.1 (233.3)	0.288
Pill Burden^j	1.8 (1.4)	1.73 (1.5)	1.98 (1.0)	0.301
Medication Side Effects^b	1.9 (1.2)	1.75 (1.07)	2.50 (1.37)	< 0.001
Any Barriers to Health Care^b	20 (10%)	11 (7%)	8 (17%)	0.050
Caballerismo	4.40 (0.71)	4.48 (0.62)	4.14 (0.93)	0.007
Traditional Machismo	1.79 (0.78)	1.73 (0.72)	1.98 (0.92)	0.062
Acculturation				
Hispanic domains	3.57 (0.52)	3.57 (0.52)	3.57 (0.56)	0.970
Non-Hispanic domains	2.46 (0.85)	2.40 (0.86)	2.70 (0.80)	0.035

^a The percentages do not always add up to 100% due to rounding;

^b n = 207;

^c n = 200;

^d n = 204;

^e n = 197;

^f n = 205;

$g_n = 188$;

$h_n = 37$;

$i_n = 166$;

$j_n = 206$;

^k All sample sizes for the bivariate tests were reduced by two (except for drug use, viral load, pill burden, side effects and any barriers to health care) because of two missing values for adherence;

^l *P* value was based on employment defined as part time or full time vs. other;

^m *P* value was based on housing status defined as stable housing vs. other;

ⁿ *P* value was based on income defined as less than \$5,000 vs. \$5,000 or more;

^o *P* value was based on sexual orientation defined as straight or heterosexual vs. other.

Table 2Multivariate logistic regression predicting 100% self-reported medication adherence^{a,b}

Variable	Odds Ratio (95% Confidence Intervals)	P
Education		
Less than high school	1.21 (0.54–2.75)	0.64
Sexual Orientation		
Heterosexual	1.40 (0.47–4.18)	0.55
Time Since HIV Diagnosis (months)	1.00 (0.99–1.00)	0.30
Depression	0.98 (0.91–1.04)	0.47
Alcohol Dependence		
Yes	0.52 (0.22–1.23)	0.14
Medication Side Effects	0.59 (0.43–0.81)	0.001
<i>Caballerismo</i>	1.77 (1.08–2.92)	0.03
Traditional <i>Machismo</i>	0.60 (0.38–0.95)	0.03
Acculturation (non-Hispanic domains)	0.73 (0.45–1.20)	0.22
Any Barriers to Health Care	0.53 (0.15–1.90)	0.33

^a208 observations read; 192 observations used.^b Only the variables from Table 1 that were significant at the bivariate level with the outcome adherence variable at $p < 0.20$ were entered into the multivariate model.