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Correlates of Cervical Cancer Screening Among Adult Latino Women: A 5-Year Follow-Up

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Abstract

Background—Latinas have the highest incidence rates of cervical cancer in the United States, and Latinas in the United States are less likely to utilize cervical cancer screening.

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Conflicts of interest: None declared.

Method—We used secondary data analysis of a non-clinical convenience sample (n=316 women at baseline; n=285 at five-year follow-up) to examine correlates of cervical cancer screening among adult Latina women. Univariate and multiple logistic regression models using Generalized Estimated Equations (GEE) algorithm were utilized to assess the influence of the independent variables.

Results—Women who reported their main healthcare source as community health clinics, women who were sexually active, and women who reported that a healthcare provider discussed HIV prevention with them were more likely to report having a cervical cancer screening (aOR=2.06; CI=1.20, 3.52).

Conclusion—The results suggest a need for continued efforts to ensure that medically underserved women (e.g., Latina women) receive counseling and education about the importance of preventive cancer screening.

Keywords

cervical cancer screening; drug and alcohol use; Latinas/Hispanics

Introduction

Background

In the United States, Latinas are disproportionately affected by cervical cancer (Corcoran, Dattalo, and Crowley, 2012; Martínez-Donate et al., 2013; McDougall et al., 2007). According to the Centers for Disease Control and Prevention (CDC), Latinas have the highest incidence rates of cervical cancer compared to other racial/ethnic groups (2016). The age adjusted incidence rate for cervical cancer among Latinas is 11.8 per 100,000, compared to 7.8 per 100,000 among non-Latina White women (Jemal et al., 2013; Martínez-Donate et al., 2013). Additionally, the mortality rate for cervical cancer among Latinas is 24.2 per 100,000 (McDougall et al., 2007), which is the highest in the United States after African Americans (CDC, 2015). The high incidence and mortality rates of cervical cancer among Latinas has been largely attributed to the low rates of cervical cancer screening within this population (Martínez-Donate et al., 2013, McDougall et al., 2007; Corcoran, Dattalo, and Crowley, 2012). CDC guidelines recommend that women should be screened regularly for potentially cancerous or pre-cancerous cells in the cervix, thereby increasing the likelihood of prevention and effective treatment (2016). However, Latinas have been found to have lower rates of recent cervical cancer screening (75%) than non-Latina White women (80%) (Jemal et al., 2013; Martínez-Donate et al., 2013). Furthermore, some studies have shown that approximately 18.9% of U.S. born Latinas and 16.8% of Latina immigrants have never had a cervical cancer screening (Owusu et al., 2005; Corcoran, Dattalo, and Crowley, 2012). Gaining an understanding of the factors associated with lack of screening among Latinas is imperative to reducing cervical cancer disparities in this population.

Factors Associated with Cervical Cancer Screening among Latinas

In addition to demographic characteristics (e.g., age, income, education, access to healthcare) that decrease a woman's likelihood of being screened for cervical cancer, unique

sociocultural factors impact screening among Latinas compared to other racial/ethnic groups (Calle et al., 1993; Chilton et al., 2005; Garbers and Chiasson, 2004; Leyden et al., 2005; Norman et al., 1991; Sung, Alema-Mensah, and Blumenthal, 2002). Some of these factors include a lack of trust in the healthcare system, fear of deportation, low self-perceived risk, failing to follow-up with abnormal cervical screen test results, stigma, and language barriers (Byrd, Chavez, and Wilson, 2007; Coronado et al., 2004; Gurman and Becker, 2008; Pinto, McKay, and Escobar, 2008; Sheppard, Zambrana, and O'Malley, 2004; Scarinci et al., 2003; Scarinci et al., 2010; Sheppard et al., 2008). Previous studies indicate that Latinas often do not seek preventive healthcare due to limited access to screening facilities in their communities and lack of knowledge about cancer susceptibility. They are also less likely to have a primary care physician (Soneji and Fukui, 2013). U.S. born Latinas with higher levels of acculturation are more likely to be screened than those who are foreign-born and are less acculturated (Shah et al., 2006). Lower screening rates among less acculturated Latinas could be attributed to language, economic, and cultural barriers faced by this population in accessing and utilizing healthcare services (Shah et al., 2006). For instance, existing research suggests that certain Latino cultural beliefs and social norms lead to lower cervical cancer screening rates (Suarez, 1994; Mann et al., 2014). These include traditional gender roles such as *marianismo*—encouraging women to abstain from pre-marital sex and remain obedient to men and sexually naïve—which may make Latinas less likely to discuss sexual health issues with their physicians, thereby decreasing cervical cancer screening (Ayala et al., 2009; Rhodes et al., 2009; Rothenberg, 1995; Royster et al., 2006). Additionally, cultural concerns about the invasiveness of the screening process and hesitations about questioning a physician's authority if they disagree with her professional opinion have been found to make Latinas less likely to request or engage in cervical cancer screening (Gloria and Peregoy, 1996; Koval, Riganti, and Foley, 2006; Rothenberg, 1995; Wilcher et al., 2003). *Fatalism* within Latino culture, the belief that one's fate is preordained by God, may also make Latinas feel that cervical cancer is not a preventable disease, thereby making them less likely to be screened (Arredondo, Pollak, and Costanzo, 2008).

Until recently, research on cervical cancer screening among Latinas has primarily focused on women of Mexican origin, limiting generalizability of findings to other Latino subgroups such as those from the Caribbean and South and Central America (Gregg et al., 2011; Gonzalez et al., 2012; Scarinci et al., 2003; Lawsins et al., 2011; Roman et al., 2014). Given the heterogeneity among Latino subgroups, studies exploring beliefs and attitudes of Latinas from diverse national origins are needed. Thus, the present study aims to: (1) describe factors associated with cervical cancer screening among Latinas of Central, South, and North American origin; and (2) examine the associations of these correlates of cervical cancer screening among Latinas over time.

Theoretical Framework

Theoretical foundations for the present study are grounded in the Health Belief Model (HBM). The HBM, is used to guide and attempt to explain and predict health-seeking behavior (i.e. cervical cancer screening) by focusing on individuals' attitudes and beliefs (Janz and Becker, 1984). The model is composed of five dimensions: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and self-efficacy.

According to the HBM, individuals that partake in health-related behaviors (1) do so to avoid illness or to get better and (2) believe that action will help to prevent or lessen illness.

The dimensions of the model reflect an individual's decision-making process when contemplating a health-related action. In the context of cervical cancer screening, the HBM has been used in previous studies to determine factors that predict screening, but few studies have employed the model among Latinas (De Peralta, Holaday, and McDonnel, 2014). We hypothesize that, in accordance with the model, increased perceived susceptibility, perceived severity, perceived benefits, and decreased perceived barriers among Latinas will lead to an increased uptake of cervical cancer screening.

Method

Procedures

Data for the present study is based on secondary analysis of a longitudinal study examining the intergenerational relationship between mothers' and daughters' substance use and risky sexual behaviors in Miami-Dade, Florida. The study was reviewed and approved by—and conducted in compliance with—the institutional review board of a large South Florida university. Each structured, face-to-face 1.5 hour interview was completed in the participant's preferred language (English or Spanish); most participants chose to be interviewed in Spanish. Data collection for the baseline began November 2004 and continued through August 2006 and the five-year follow-up data collection began on January 2013, concluding in April 2014.

Interviews were conducted by bilingual and bicultural Latinas, and most were conducted in participants' homes or at a location that participants perceived to be safe, private, and convenient.

Participant inclusion criteria for baseline were: (a) willing to participate as mother and daughter (b) being 18 years of age or older; (c) self-identifying as Latina; (c) consenting to be interviewed for at least 2–3 hours; and (d) living in Miami-Dade County, Florida. Inclusion criteria for follow-up were: (a) participating at baseline and (b) willingness to provide two telephone numbers to researchers for correspondence during participation.

At baseline (T0), a community-based, non-clinical convenience sample ($N=316$) of substance using and non-using participants were recruited via the snowball sampling (chain referral) method (McCracken et al., 1997). The sample was designed to include similar numbers of drug using and non-using mothers and daughters. Participants were recruited in the community using the following methods: word-of-mouth; posting flyers at health fairs, health clinics, drug court programs, and Alcoholics Anonymous and Narcotics Anonymous meeting sites; and through media outlets such as Spanish radio stations, television channels, and local newspapers. Most participants were recruited by radio announcements and word-of-mouth. A structured questionnaire guided the interview, including measures that have been used previously with similar populations. Five years after baseline (T0), a follow-up (T1) was conducted; the present study is based on the baseline and this five-year longitudinal assessment.

Measures

Measures used in the baseline had been tested with Latinas and were standardized, and the measures included in the follow up data collection phase were the same used during baseline.

Demographics—Demographic information for the present study was collected using three variables consisting of age, education, and personal income.

Age: Participants' age was calculated by date of birth indicated at T0.

Education: Education level was assessed in ordinal levels by asking participants: *What was the last grade completed in school?* and subsequently recoded (0= less than primary school to 5= postgraduate).

Income: Income was measured by a single question: *What was your income in the last twelve months (including child alimony and other assistantships)?*

Cervical cancer screening: Data of cervical cancer screening or Pap smear test was collected by using a single question from the Addiction Severity Index (ASI) questionnaire (McLellan et al., 1992): *Have you had a Pap smear or cervical cancer screening test in the last 12 months (yes/no)?*

Sexual activity: The following item was used to assess sexual activity: *Have you been sexually active in the last 12 months (yes/no)?*

Health insurance and primary source of healthcare: A single item adapted from the ASI measure was used to assess health insurance status: *Do you have health insurance (yes/no)?*

Primary source of healthcare: Participant response to the following question was used to measure primary source of healthcare: *What source of healthcare do you primarily use?* Possible responses were: (a) community health centers, (b) private physician, (c) emergency room, and (d) hospital.

Physician or healthcare provider visit: The following item from the health questionnaire section of the ASI was used to measure physician or healthcare provider visits: *Have you visited a physician or healthcare provider in the last 12 months (yes/no)?*

HIV prevention and safe sex information in the last 12 months: HIV prevention and safe sex variable was assessed by the following item: *Have your physician or healthcare provider talked to you about HIV prevention and safe sex (yes/no)?*

Drug use: The Drug Use Frequency scale (DUF; O'Farrell et al., 2003) was used to measure drug use in the past 12 months. Participants were considered to misuse drugs if they reported at least one of the following: (a) marijuana use at least 3 days a week; (b) cocaine use at least 2 times per week; (c) heroin use at least one time per week; (d) ecstasy use at least 3 times per month; or (e) nonmedical use of prescription medications (e.g., sedatives,

tranquilizers, sleeping pills, antidepressants), defined as use of prescription medication for a longer period of time than prescribed, in greater amounts than prescribed, or without doctor's authorization or prescription.

Alcohol Use: The Health Daily Living Form (HDL) was used to measure alcohol quantity and frequency in the 12 months prior to interview (Billings and Moos, 1983). A participant was considered to use alcohol if, "several times a month" or more often, the participant reported drinking at least one of the following amounts during a single occasion: (a) 4–5 glasses of wine or more; (b) 3–4 cans/bottles of beer or more; (c) 3–4 drinks or more with 4 oz. of alcohol in each drink; or (d) 5–7 drinks or more with 2 oz. of alcohol in each drink.

Data Analysis

Descriptive statistics were stratified by mother and daughter and were used to characterize the sample at baseline and follow-up. The unique dyadic sampling frame of the parent study provided the opportunity to present a richer examination of differences between these two groups (mothers and daughters) on known predictors of cervical cancer screening such as age, sexual activity, and access to healthcare. Summary statistics were compiled for all variables in terms of proportions (for categorical variables) and means and standard deviations (SD) for continuous variables. The dependent variable was dichotomous: "Ever had a cervical cancer screening test during the last 12 months (yes/no)." The five-year follow-up data was used in the univariate and multiple logistic regression models using Generalized Estimated Equations (GEE) algorithm, which assessed the influence of the independent variables (e.g., visiting a doctor in the last 12 months, having health insurance) on the cervical cancer screening rates reported by study participants. We explored the univariate and bivariate statistical models and present them to show whether statistical significance for each independent variable differed with and without being adjusted by other dependent variables in the model. Influences are expressed in crude and adjusted odds ratios (OR) and their 95% confidence intervals. Analyses were performed using the baseline and follow up data, and the statistical software SAS (SAS 9.3).

Results

Participants

At baseline, the average participant age was 52 years ($SD = 9.9$) among mothers, and 28 years ($SD = 9.16$) among daughters. The average age of the entire sample is 40 years ($SD = 15.5$). Fifty-four percent of daughters ($n = 87$) and 84% ($n = 134$) of mothers were foreign born. Overall, 70% were foreign born of Caribbean, Central American, or South American origin (See Table 3). Most of the 316 Latina women (158 mothers and 158 daughters) assessed at baseline reported income of less than \$15,000 per year (See Table 1). The average age of participants who had a cervical cancer screening during the last 12 months was 51.8 years ($SD = 9.8$, range of 33 to 75 years) for mothers, and 28.3 years ($SD = 9.5$, range of 18 to 55 years) for daughters. For those who reported no cervical cancer screening in the last 12 months, the average participant age was 52.5 years ($SD = 10.1$, range of 34 to 88 years) for mothers, and 27.0 years ($SD = 8.6$, range of 18 to 54 years) for daughters. About half the mothers reported their educational levels to be *high school level and some*

training after high school (50.8% for those with no cervical cancer screening and 52.2% for those with cervical screening). Also, 18.5% of mothers who reported having a cervical cancer screening in the last 12 months and 15.8% of daughters who had cervical cancer screening in the last 12 months reported *college or more* as their educational level.

Of the 285 Latina women (141 mothers and 144 daughters) assessed at the five-year follow-up (Table 1), most participants reported income of less than \$15,000 per year. The average age of participants who had a cervical cancer screening during the last 12 months was 57.7 years ($SD=9.6$) for mothers, and 33.2 years ($SD=9.5$) for daughters. For those who reported no cervical cancer screening in the last 12 months, the average participant age was 58.1 years ($SD=10.7$) for mothers and 33.4 years ($SD=8.1$) for daughters. Most of the mothers reported their educational levels to be at *high school and some training after high school* (56.3% for those with no cervical cancer screening and 41.6% for those with cervical screening). Also, 26% of mothers who reported having a cervical cancer screening in the last 12 months and 33% of daughters who had cervical cancer screening in the last 12 months reported *college or more* as their educational level.

Cervical cancer screening

Our findings indicate a higher percentage of women who reported cervical cancer screenings were sexually active (48.1% and 94.5% of the mothers and daughters, respectively). We found other significant characteristics, including that Latinas with health insurance reported higher rates of screening (66.2% of the mothers and 63.7% of the daughters). Using a private physician as a source of regular healthcare was associated with higher likelihood of having a cervical cancer screening (63.6% of the mothers and 67.0% of the daughters). Among participants who did not report any regular source of healthcare, nine (13.4%) mothers did not report cervical cancer screening and only one (1.1%) completed a cervical cancer screening in the last 12 months. Among the daughters who did not report any regular source of healthcare, 16 (27.6%) did not report cervical cancer screening and only seven (6.9%) had cervical screenings in the last 12 months (See other findings on Table 1). More than half of the mothers (67.2%) and almost half the daughters (47.2%) that reported no cervical cancer screening visited a doctor in the last 12 months; while 96.1% of the mothers and 92.3% of the daughters who had a cervical cancer screening visited a doctor in the last 12 months. Among women who had discussed HIV prevention and safer sex with a healthcare practitioner in the last 12 months, higher rates of cervical cancer screening (50.7% mothers and 56.3% daughters) were reported. Latinas who reported using drugs had lower rates of cervical cancer screening (24.7% mothers and 27.5% daughters).

Associations for Cervical Cancer Screening

In the univariate model, participants who reported annual income $\geq$ \$30,000 were more likely to report having a cervical cancer screening in the last 12 months compared to participants who reported income $<$ \$15,000. However, income was no longer significant after adjusting for all time varying factors at follow up. Table 2 summarizes the results from univariate and multiple GEE models predicting cervical cancer screening. In the univariate analysis, the participants who were sexually active, had health insurance, visited a doctor or healthcare provider, reported discussing HIV infection prevention and safe sex behaviors

with healthcare practitioners in the last 12 months, were more likely to have had cervical cancer screening. In the multiple GEE models, after adjusting for all the variables and accounting for the correlations among repeated measures on the dyadic sample, cervical cancer screening was more likely among participants who: were sexually active (aOR=2.06, 95% CI= 1.20–3.52), had visited doctor in the last 12 months (aOR=10.32, 95% CI=5.67–18.78), and who discussed HIV prevention and safe sex with doctors in last 12 months (aOR=1.79, 95% CI= 1.19–2.70). In addition, participants who use a community healthcare source for regular healthcare were more likely to report cervical screening compared to those who reported having private physicians as a regular healthcare source (aOR=2.03, 95% CI=1.13–3.66). No significant association was found with time during the follow-up, being a mother or daughter, age, education, personal income, having health insurance, and alcohol or illegal drug use status.

Limitations

Our findings should be interpreted in light of several limitations. First, we used a community based, non-clinical convenience sample from Miami-Dade County. The sample is largely composed of adult Latinas of Caribbean and South and Central American descent. Although efforts were undertaken to include participants from major Latina subgroups, some groups were underrepresented in Miami-Dade County (e.g., Latinas of Mexican and Puerto Rican origin). As a result, although our sample is representative of Latinas in South Florida, it is not representative of all Latinas in the United States. Second, all data were collected via self-report measures, which may lead to issues recalling behaviors and participant misrepresentation or error. For example, substance use behaviors are usually stigmatized among Latinas (Mora, 2002). Although social desirability may have occurred, interviewers were trained to ask questions in a non-judgmental manner and to build rapport with participants prior to the interviews. Additionally, to aid recollection, interviewers utilized interviewing mechanisms to assist in recall of past behaviors (e.g. asking for behaviors during the last 3 months and then asking about the last 12 months). Additionally, the bilingual and bicultural interviewers were trained using a manual to detect and address inconsistencies in participants' responses to help mitigate this limitation. Additionally, we do not report or discuss the degree of the impact of our model because the goal of this study is to evaluate the associations among cervical cancer screening and sociodemographic and healthcare related factors, the unadjusted and adjusted odds ratios are adequate to demonstrate such associations; additionally, because most of our independent variables are categorical, we report odds ratios.

The CDC guidelines recommend that women with a history of normal Pap test results should wait three years before the next cervical screening, or 5 years if the patient is 30 years of age or older (2016). For the purposes of our study, Pap smear testing was assessed for the past 12 months instead of over the 3 to 5 years. However, the U.S. Preventative Services Task Force has stated that physicians and patients can use annual Pap screening as opportunities to open discussion on other health issues and prevention (CDC, 2016).

Discussion and Policy Implications

The present study is the first to examine correlates of cervical cancer screening, over time, in a sample of U.S. and foreign born Latinas who are mostly of Cuban origin. Specifically, our findings reveal that women who sought health services at community clinics were more likely to have received cervical cancer screening compared to those who went to private doctors. These results suggest that programs aiming to increase cervical cancer screening among Latinas should target private physicians' offices to advocate for services such as the "healthy women one stop protocol," whereby women can have a cervical cancer screening as part of their annual physical exam. Because women are highly likely to come back to their primary healthcare provider for other screening and test results, emphasis on private healthcare professionals will allow for increased rates in follow-up for abnormal results. Additionally, being sexually active is more significant than the generational status of being a mother or a daughter in our study; these results suggest that as long as women are sexually active, they are more likely to be screened for cervical cancer. Particular attention should be directed toward women who believe they are not at risk for cervical cancer because they are no longer sexually active.

Unexpectedly, our results indicate that health insurance is not a significant factor in the multivariate regression. However, as we anticipated, women may have received cervical cancer screening through community clinics as part of family planning visits and sliding fees may have been available to them. These findings underscore the importance to policy initiatives that continue to support access to health insurance providers that allow access to preventive care and screenings among low-income communities.

Our findings also reveal that women who reported discussions with their healthcare provider about HIV prevention and safe sex were significantly more likely to report having a cervical cancer screening in the last year. In fact, when providers communicate about screening and sexual relationships, patients are more likely to maintain regularly scheduled cervical cancer screenings (Politi et al., 2008).

Additionally, these findings are supported by previous research indicating that substance users are disadvantaged in regard to receiving health care (Chitwood et al., 1998; French et al., 2002; McCoy et al., 2000). Many drug users report unmet health care needs (Chitwood et al., 1998; Metsch et al., 2002) and dissatisfaction with the care they do receive (Chitwood, Comerford, and McCoy, 2002).

Our results have important clinical and policy implications as they support extant research and suggest that healthcare provider counseling and appropriate access to health services can increase cervical cancer screening among this diverse group of Latinas. Additionally, although modest, the findings suggest that health professionals can increase the likelihood of Latina patients' cervical cancer screening through discussions with patients about their beliefs and other factors that hinder screening. Women frequently are not screened due to issues such as procrastination or believing they are not at risk (Lambert et al., 2015). Thus, it is imperative to develop screening protocols in private physicians' offices and women's health provider sites as well as educational programs for Latina women who forego

screening because they are asymptomatic. The disparity in cervical cancer screening among racial/ethnic minorities—particularly Latinas—demonstrates that receiving recommendations by health care providers for cervical cancer screening must be the standard of care. It is significant to highlight that, over time, and regardless of being a mother or a daughter, women were more likely to report cervical cancer screening if their doctors discussed cervical cancer screening with them. This result suggests that health practitioners would benefit from training in approaches to increase Latinas' cervical cancer screening whenever they discuss this prevention screening. The results from the present study underscore the need for continued efforts to train medical students and health practitioners as well as to continue promoting community campaigns that include health practitioners who educate and promote preventive behaviors among Latino women and advocate for funding to ensure that women have continuous access to affordable screening services, including having health insurance cover the costs of regular and systematic monitoring of high risk patients.

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Table 1

Characteristics of mother and daughter for Cervical Cancer Screening at Baseline[†] Characteristics of mother and daughter for Cervical Cancer Screening at the five-year follow-up[‡]

Cervical cancer screening	Mother		Daughter		Mother		Daughter	
	No (SD/%)	Yes (SD/%)	No (SD/%)	Yes (SD/%)	No (SD/%)	Yes (SD/%)	No (SD/%)	Yes (SD/%)
N[†]=316 and N[‡]=285	67	92	58	101	64	77	53	91
Age Mean (SD)	52.5 (10.1)	51.8 (9.8)	27.0 (8.6)	28.3 (9.5)	58.1 (10.7)	57.7 (9.6)	33.4 (8.1)	33.2 (9.5)
Education								
Less than high school	21 (31.3)	27 (29.4)	16 (27.6)	23 (22.8)	13 (20.3)	25 (32.5)	8 (15.1)	18 (19.8)
High school & some training	34 (50.8)	48 (52.2)	39 (67.2)	62 (61.4)	36 (56.3)	32 (41.6)	38 (71.7)	43 (47.3)
College or more	12 (17.9)	17 (18.5)	3 (5.2)	16 (15.8)	15 (23.4)	20 (26.0)	7 (13.2)	30 (33.0)
Personal Income								
<\$15,000	46 (68.7)	55 (59.8)	44 (75.9)	65 (64.4)	38 (59.4)	52 (67.5)	31 (58.5)	39 (42.9)
\$15,000-\$29,999	14 (20.9)	23 (25.0)	13 (22.4)	27 (26.7)	18 (28.1)	12 (15.6)	16 (30.2)	25 (27.5)
\$30,000	7 (10.5)	14 (15.2)	1 (1.7)	9 (8.9)	8 (12.5)	13 (16.9)	6 (11.3)	27 (29.7)
Sexually Active	35 (52.2)	62 (67.4)	51 (87.9)	95 (94.1)	30 (46.9)	37 (48.1)	48 (90.6)	86 (94.5)
Having Health Insurance	35 (52.2)	57 (62.0)	28 (48.3)	62 (61.4)	28 (43.8)	51 (66.2)	20 (37.7)	58 (63.7)
Healthcare Source								
Private	25 (37.3)	50 (54.4)	24 (41.4)	53 (52.5)	41 (64.1)	49 (63.6)	32 (60.4)	61 (67.0)
Community health	11 (16.4)	23 (25.0)	7 (12.1)	24 (23.8)	14 (21.9)	21 (27.3)	10 (18.9)	21 (23.1)
Hospital & Emergency room	22 (32.8)	18 (19.6)	11 (19.0)	17 (16.8)	8 (12.5)	7 (9.1)	9 (17.0)	9 (9.9)
Visited Doctor Last 12 months	42 (62.7)	87 (94.6)	29 (50.0)	93 (92.1)	43 (67.2)	74 (96.1)	25 (47.2)	84 (92.3)
Doctor Talk HIV Prevention	21 (31.3)	44 (47.8)	26 (44.8)	70 (69.3)	16 (25.0)	39 (50.7)	28 (52.8)	51 (56.0)
Drug User	24 (35.8)	36 (39.1)	31 (53.5)	61 (60.4)	18 (28.1)	19 (24.7)	20 (37.7)	25 (27.5)

Table 2

Logistic Regression Predicting Correlates of Cervical Cancer Screening Among Latinas

	Univariate Model		Multivariate Model	
	OR (95% CI)	<i>p</i>	aOR (95% CI)	<i>p</i>
Follow-up	0.81 (0.60, 1.09)	0.1726	0.78 (0.54, 1.13)	0.1893
Mother	0.71 (0.49, 1.04)	0.0764	0.90 (0.46, 1.76)	0.7607
Age	0.99 (0.98, 1.00)	0.1680	1.00 (0.97, 1.02)	0.7150
Education		0.0339		0.0552
Less than high school	Ref		Ref	
High school and some training	0.78 (0.49, 1.24)		0.63 (0.35, 1.15)	
College or higher	1.45 (0.81, 2.60)		1.15 (0.54, 2.47)	
Personal Income		0.0705		0.0800
<\$15,000	Ref		Ref	
\$15,000–\$29,999	1.11 (0.74, 1.66)		1.01 (0.62, 1.64)	
\$30,000	1.78 (1.07, 2.96)		2.11 (1.03, 4.32)	
Sexually Active	1.63 (1.19, 2.38)	0.0137	2.06 (1.20, 3.52)	0.0114
Having Health Insurance	1.93 (1.38, 2.70)	0.0002	1.51 (0.93, 2.44)	0.1017
Healthcare Source	0.1775		0.0204	
Private	Ref		Ref	
Community health	1.11 (0.71, 1.72)		2.03 (1.13, 3.66)	
Hospital and Emergency room	0.67 (0.41, 1.07)		0.90 (0.48, 1.70)	
Visited Doctors in Last 12 Months	8.67 (5.17, 14.56)	<.0001	10.32 (5.67, 18.78)	<.0001
Doctor Talk HIV Prevention	1.91 (1.36, 2.66)	0.0002	1.79 (1.19, 2.70)	0.0058
Drug User	0.99 (0.69, 1.42)	0.9492	0.78 (0.50, 1.22)	0.2839

Table 3

Participant Country of Birth (N=316)

Variable	Mean	Median	SD
Age	39.9	41.0	15.47
Mothers	52.1	51.0	9.92
Daughters	27.8	25.0	9.16

Nativity	n	%	Cumulative %
Foreign Born	221	69.5	
Mothers	134	84.3	
Daughters	87	54.7	

Country			
US	97	30.5	30.5
Argentina	3	.9	31.4
Bolivia	3	.9	32.4
Brazil	1	.3	32.7
Chile	2	.6	33.3
Colombia	45	14.2	47.5
Cuba	72	22.6	70.1
Dominican Republic	14	4.4	74.5
Ecuador	4	1.3	75.8
Guatemala	1	.3	76.1
Honduras	14	4.4	80.5
Mexico	8	2.5	83.0
Nicaragua	13	4.1	87.1
Panama	3	.9	88.1
Peru	17	5.3	93.4
Puerto Rico	12	3.8	97.2
Venezuela	9	2.8	100.0
Total	316	100.0	