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HIV-Related Risk Behavior Among Hispanic Immigrant Men in a Population-Based Household Survey in Low-Income Neighborhoods of Northern California

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Objectives/Goal: **We compared risk behaviors and HIV testing between recent (in the U.S. <5 years) and established (in the U.S. >5 years) Hispanic immigrant men (N = 410).**

Study: **This study was a population-based, cross-sectional survey of HIV/sexually transmitted disease markers and risk behaviors in men age 18 to 35 years residing in low-income census block groups in 3 northern California counties.**

Results: **Recent immigrants were less likely to currently have a main sexual partner (45.3% vs. 67.2%, *P* <0.01)) and more likely to have ever used commercial sex workers (40.0% vs. 27.6%, *P* <0.01). Recent immigrants were less likely to receive medical care in the last 6 months (21.2% vs. 31.3%, *P* = 0.04) or had ever been HIV tested (26.0% vs. 43.3%, *P* <0.01). Established immigrants more likely reported unprotected sex, hallucinogen or ecstasy use.**

Conclusions: **Recent Hispanic immigrants have less stable sexual partnerships and less health-seeking behavior, including HIV testing. Established immigrants report HIV test rates comparable to the national average.**

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RECENT NATIONAL HIV SURVEILLANCE describes a worrisome trend among U.S. Hispanic populations. During 1999–2002, HIV reporting from 29 states showed a 26.2% increase among Hispanics in HIV infection, compared with 8.1% among non-Hispanic whites and no significant change among non-Hispanic blacks or Asians/Pacific Islanders.[1] U.S. Hispanics are more likely to present later in the course of HIV infection than non-Hispanic whites,[2] with lower CD_4 counts at enrollment[3] and more opportunistic infections.[3,4] In response, a recent Center for Disease Prevention and Control's (CDC) HIV prevention initiative[5] emphasizes greater access to HIV testing and integrating testing into routine medical care for Hispanics and other racial minority groups.

Translating this initiative into practice may be especially challenging among recent Hispanic immigrants to the United States. Globally, an epidemiologic relationship between mobility and HIV risk has emerged.[6,7] Historically, vulnerability to HIV among migrants has been more strongly linked to social conditions and access to care in the receiving country rather than HIV prevalence in the sending country.[8,9] A study of HIV surveillance data from 7 public sexually transmitted disease (STD) clinics in Los Angeles county[10] from 1993 to 1999 suggested most of the foreign-born HIV-infected patients were infected after immigration to the United States.

Labor migration by young men from Mexico and Central America to California may increase vulnerability to STDs and HIV.[11] The migration of single men without their families, linguistic isolation, commercial sex worker use, alcohol use, and undocumented legal status may contribute to this vulnerability. We evaluated HIV risk behavior and access to medical care and HIV testing among low-income Hispanic immigrant men, comparing recent immigrants with more established immigrants, in 3 northern California counties.

Methods

Analyses were performed on data obtained from the HEY Man (Health Evaluation in Young Men) Study, a population-based, cross-sectional survey of HIV infection, STDs, and associated risk behaviors in men age 18 to 35 years residing in low-income neighborhoods in 3 northern California counties. The study design followed a protocol similar to the Northern California Young

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Women's Survey.[12] The study protocol was approved by the human subjects committees of the University of California San Francisco and the State of California Health and Welfare Agency. Signed informed consent was provided by all interviewed men.

In brief, men, age 18 to 35 years, were recruited within a low-income target area defined as U.S. Census block groups with median household income below the 10th percentile for 3 San Francisco Bay area counties: Contra Costa, San Francisco, and San Mateo. Because the 2000 U.S. Census data were not available at the time of planning the survey, median household income levels were obtained for the year 2002 using commercially available estimates (Claritas, San Diego, CA). Block group boundaries used the 1990 U.S. Census. We later verified that the target areas were not substantially changed after the 2000 U.S. Census data were made available. First, we examined how much the overall boundaries of the target area changed from 1990 to 2000. These boundaries made only minor changes to the total target area and did not include or omit any new neighborhoods. Second, we examined how many actually sampled city blocks fell outside the 2000 target boundaries and found that none did. Within the target area, a simple random sample of city blocks was selected.

All households within the sampled city blocks were contacted by field staff to identify eligible male residents. Residents were eligible if they spent the previous night in the household and had no other residence, and were 18 to 35 years of age. Of 5585 households identified, 79.7% were successfully contacted (range 77.1% in San Francisco to 84.9% in Contra Costa). Of 1215 eligible men identified, 66.7% agreed to enroll in the study (range 64.1% in San Francisco to 72% in Contra Costa).

Field staff administered structured interviews in Spanish or English based on the subject's preference. Interviewers assessed demographic characteristics, geographic mobility, access to medical care and HIV testing, sexual risk behaviors, and substance use. All men provided urine for nucleic acid amplification testing for gonococcal and chlamydial infection and serum for syphilis (nontreponemal with corroborating treponemal serology) and HIV antibody testing.

Latino immigrants were defined as men who identified their ethnicity as "Latino or Hispanic" and were born outside of the United States. In the current report, we compare HIV risk-related behaviors and access to care and testing among recent (in the U.S. <5 years) versus established (in the U.S. >5 years) Latino immigrants. The 5-year cutoff was chosen based on data from the Harawa study.[10] In that study, the mean age at U.S. immigration for Mexican- and Central American-born STD clients was 20 years. The majority of HIV-infected immigrants in Los Angeles county during this study were infected in their 20s; the mean years in the United States for HIV-infected versus uninfected Latin American STD clients was 12 years versus 10.3 years. Given the difficulties of a longitudinal study in a U.S. immigrant population, the 5-year cut point was selected in an attempt to delineate behavioral and environmental risks in this first decade of U.S. migration.

Point prevalence estimates and 95% confidence intervals (CIs) were calculated to account for the 1-stage, cluster sample design. Probability weights were constructed using the relative probability of being included in the sample and were based on the sizes of the target populations by county as estimated in the 1990 census. Weighted analysis was conducted using Stata version 7.0 (Stata Corp., College Station, TX).

Results

Demographics, access to health care, HIV testing, and risk behaviors are summarized in Table 1. Latino immigrants com-

TABLE 1. Weight-Adjusted Demographic Characteristics and HIV Risk-Related Behavior Among Recent and Established Hispanic Immigrant Men in a Population-Based Household Survey of Low-Income Areas of Northern California, 2001–2003 (N = 410)

Variable	Total (n = 410) Median (IQR)	Recent Immigrants (n = 286) Median (IQR)	Established Immigrants (n = 124) Median (IQR)	*P* Value
Median age	26 (22–30)	26 (22–29)	27 (22–31)	0.04
Median monthly income	1200 (800–1600)	1200 (700–1500)	1375 (900–2000)	<0.01
	No. (%)	No. (%)	No. (%)	
Interview conducted in Spanish	359 (88.0%)	269 (94.6%)	89 (71.8%)	<0.01
Country of origin				
Mexico	322 (78.7%)	234 (81.9%)	88 (70.9%)	0.03
Central America	77 (18.4%)	45 (15.6%)	32 (25.3%)	
Other Latin America	11 (2.9%)	7 (2.6%)	4 (3.8%)	
Less than high school education	196 (47.8%)	150 (52.4%)	46 (36.4%)	0.02
Lived at address for ≥1 y	217 (53.6%)	131 (47.0%)	86 (70.0%)	<0.01
Currently live with children (n = 394)	108 (26.6%)	59 (21.0%)	49 (40.7%)	<0.01
Any medical insurance	109 (26.7%)	58 (20.7%)	51 (41.5%)	<0.01
Seen doctor in last 6 months	99 (24.1%)	60 (21.2%)	39 (31.3%)	0.04
Ever tested for HIV	125 (31.0%)	73 (26.0%)	52 (43.3%)	<0.01
Last HIV test in current county of residence (n = 125)	66 (53.9%)	25 (38.2%)	37 (77.2%)	<0.01
Any sex partner in last 6 months	289 (68.9%)	188 (64.1%)	101 (80.9%)	<0.01
Any main sex partner in last 6 months	215 (51.6%)	131 (45.3%)	84 (67.2%)	<0.01
Multiple sex partners in last 6 months	96 (22.3%)	66 (21.7%)	30 (23.8%)	0.66
Any unprotected sex in last 6 months	209 (49.8%)	130 (44.4%)	79 (63.0%)	<0.01
All sex partners in last 6 months of Hispanic ethnicity (n = 285)	224 (79.4%)	149 (81.3%)	75 (75.8%)	0.24
Ever paid someone for sex	150 (36.4%)	116 (40.0%)	34 (27.6%)	<0.01
Ever been paid for sex	5 (1.0%)	2 (0.5%)	3 (2.2%)	0.11
Ever ecstasy use	10 (2.5%)	2 (0.7%)	8 (7.0%)	<0.01
Ever hallucinogen use	14 (3.6%)	4 (1.4%)	10 (8.8%)	<0.01

IQR indicates interquartile range.

prised 51% (410 of 810) of men enrolled in the main HEYMan study. Mexicans composed the majority of recent (81.9%) and established (70.9%) Latin American immigrants. Recent immigrants were almost exclusively interviewed in Spanish (94.6% vs. 71.8% among established immigrants). Recent immigrants were less likely to have a high school education ($P = 0.02$) and earned a lower median monthly income ($P < 0.01$).

Although both groups of men were equally likely to be married or have dependent children, recent immigrants were less likely to be living with their children ($P < 0.01$). Recent immigrants were more geographically mobile, with 47.0% of recent immigrants having lived at their address for more than 1 year compared with 70.0% of established immigrants. ($P < 0.01$)

The majority of immigrant men (68.9%) were sexually active within the last 6 months, but a higher proportion of recent immigrants reported not having a main sex partner in the last 6 months ($P < 0.01$) and having ever used commercial sex workers (CSWs) ($P < 0.01$). Established immigrants compared with recent immigrants, however, were more likely to report any recent unprotected sex (63.0% vs. 44.4%, respectively, $P < 0.01$). Among men reporting a main sexual partner in the last 6 months (n = 215), there was no difference in always using condoms with this main partner between recent and established immigrants. (22.2% vs. 18.4%, $P = 0.41$) There was also no difference in always using condoms with a casual partner between recent and established immigrants. (50.0% vs. 41.4%, $P = 0.45$) Both recent and established immigrants reported 81.3% and 75.8%, respectively, of all sexual partners in the last 6 months being of Hispanic ethnicity. Both groups reported similar (2.9% vs. 3.7%) frequencies of gay or bisexual sexual identity. Only 1 man reported heterosexual identity and men who have sex with men (MSM) behavior.

Aside from more prevalent hallucinogen use ($P < 0.01$) and ecstasy use ($P < 0.01$) among established immigrants, drug-using behaviors were similar between both groups. The reported lifetime prevalence of injection drug use was <2% in both groups.

Recent immigrants were less likely to have obtained any medical care in the previous 6 months (21.2% vs. 31.3%, respectively, $P = 0.04$), to have any medical insurance (20.7% vs. 41.5%, $P < 0.01$), or to have ever had an HIV test (26.0% vs. 43.3%, $P < 0.01$). Among men who had been previously HIV-tested, recent immigrants were less likely to have been tested in their current county of residence ($P < 0.01$). Among men with symptoms of treatable sexually transmitted infections (n = 40) in the last 6 months, no difference was seen between recent and established immigrants in those seeking medical care for these symptoms. (34.6% vs. 23.1%, $P = 0.47$)

No cases of HIV infection or gonococcal infection were detected. Chlamydia was identified in 12 men (2.9%; 95% confidence interval [CI], 1.5–4.4%), 11 of who were recent immigrants and syphilis was identified in 3 men (0.6%; 95% CI, 0–1.4%), 2 of whom were established immigrants. Men with positive syphilis serology were referred for medical evaluation and treatment. Because physical examinations were not done by study physicians, the stage of syphilis diagnosis cannot be described.

Discussion

We found significant differences in risk behaviors and HIV-testing patterns between recent and established immigrants. Recent immigrants were more geographically mobile, less likely to have seen a physician in the last 6 months, less likely to have ever been HIV-tested, and more likely to have ever used CSWs.

Consistent with other reports among labor migrants,[13,14] many recent immigrants arrive without their main sex partner or dependents, are geographically mobile, and have high rates of CSW use. The high rate of CSW use among recent immigrants in our sample, 40.0%, compared with more established immigrants, 27.6%, is in the range of CSW use reported among male Mexican farm workers in northern California (30%)[15] and male Mexican migrant laborers working in the United States (44%).[16]

More episodes of unprotected sex were reported by established immigrant men compared with recent immigrants. This may reflect a larger portion of established immigrants reporting a main sex partner. Others have reported frequency of condom use among Mexican migrant laborers was less with regular sex partners compared with occasional sex partners.[16] Both groups reported low rates (3%) of gay or bisexual identified men compared with heterogeneous urban populations.[17] This may reflect low disclosure rates of MSM behavior among Hispanics or rural origin of study subjects.[18,19]

Among Mexican and Puerto Rican adults, greater time living in the United States was predictive of self-reported HIV risk.[20] We found longer residence in the United States was associated with ecstasy and hallucinogen use, but not with other illicit drug use as has been previously reported.[21]

Recent immigrants and those who chose to be interviewed in Spanish were less likely to have been ever HIV-tested. English proficiency emerges as a key measure in validated acculturation scales designed for use with Mexican Americans.[22] Although others report the effect of language in Mexican American women's health-seeking behavior disappears when adjusted for income, education, and insurance,[23] our findings suggest the contrary, speaking to the importance of language access in immigrant HIV testing. In comparison, the prevalence of HIV testing among established immigrants, 43.3%, approximates U.S. population surveys in which 45% of adults report ever having an HIV test.[24]

Two significant limitations of this analysis emerge. First, a full validated acculturation scale was not used, but time in the United States and language are elements of validated scales that were measured. Second, given confidentiality concerns, this study did not inquire about subject's legal status in the United States, a factor which may serve as a significant barrier to HIV testing in immigrant populations.[25]

Results of serologic and urine-based tests among this immigrant population found no cases of HIV infection or urogenital gonococcal infection, and low rates of chlamydia and syphilis infection consistent with prior reports among San Francisco immigrant day laborers.[26]

The current analysis documents different challenges to HIV testing and HIV risk reduction among low-income immigrant men related to time in the United States. Recent immigrants encounter institutional barriers of linguistic isolation, lack of health insurance, and regular medical care as well as risk behaviors related to high levels of CSW use. For established immigrants, HIV risk is associated with low condom use and possibly U.S.-acquired drug-using behaviors.

Prevention and testing programs should consider this risk spectrum when targeting low-income Hispanic men. Recent immigrants need frank dialogue on condom use with CSWs and improved institutional access to health services in Spanish. For this population, HIV prevention campaigns, counseling, and testing should occur predominantly in Spanish.

European HIV prevention programs tailored for migrants may serve as models for U.S. program development. Successful programs have commenced before HIV enters a migrant community, have informed general populations within migrant communities before beginning more targeted prevention, and have grounded HIV screening programs on a migrant's right to know his serostatus.[27]

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