

HIV INFECTION AND RISK BEHAVIOR OF HISPANIC FARM WORKERS AT THE WEST TEXAS-MEXICO BORDER

This study investigated the risk behaviors and HIV infection rate in a sample of 210 migrant and seasonal farm workers (MSFW) working in the border city of El Paso, Texas and nearby communities. Surveys and structured interviews collected data on sexual behavior, drug use, condom use, and other potential risk behaviors associated with HIV infection. In addition, all subjects were tested for HIV exposure by using commercial kits. The MSFW participants were all Hispanic and comprised 156 males and 54 females. Only a small minority of the subjects reported engaging in same-sex (1.4%) or bisexual relations (2.8%). Most reported vaginal intercourse (94.7%), while 9% of males and 7.4% of females also reported anal intercourse. Forty-eight percent of the sample reported having sexual activity under the influence of alcohol (44%) and/or other drugs (14%). In this study, only 3.8% admitted to intravenous drug use. Furthermore, most reported that they never used any barrier method during vaginal (71.7%), anal (72.0%), or oral intercourse (87.5%). Only one subject, a male with multiple sex and needle-sharing partners was HIV positive. Although a low level (.47%) of HIV infection was detected in the MSFW population tested, this rate is much higher than that reported for the rest of the county (.0099%) and indicates that this population is at a higher risk of HIV infection. (*Ethn Dis.* 2005;15 [suppl 5]:S5-92-S5-96)

Key Words: AIDS, Hispanic, HIV, Migrant Workers, Risk Behavior

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INTRODUCTION

Factors such as low socioeconomic status and poor education level create barriers to healthcare access for migrant and seasonal farm workers (MSFW). Additionally, low condom use, poor knowledge about safe sex practices, and high-risk behaviors are some of the factors associated with a high rate of sexually transmitted diseases in this population.¹⁻³ Although the exact population of MSFW is unknown, most of this population is Hispanic ($\approx 70\%$) and most is of Mexican origin.⁴⁻⁶ Previous studies have indicated a high level of sexually transmitted diseases (STDs) in the MSFW population and that HIV prevalence varies significantly by location, with the highest rates apparently found in the eastern United States.^{1,5}

Some MSFW travel long distances and are generally away from their families for prolonged periods of time. During these periods, MSFWs sometimes procure the services of prostitutes, which often leads to STD transmission because of low condom use.^{7,8} Male MSFW also reported higher numbers of sex partners in comparison to women and were more likely to use prostitutes.^{7,9} In fact, the use of prostitutes by this population may be as high as 40%.^{5,9} Migrants are also more likely to engage in high-risk sexual behavior while in this country, which increases their risk for HIV infection.³

Previous studies have revealed that urban Latino migrant day laborers are a population at risk for infection with STDs. In a recent analysis of Latino immigrants and urban day laborers in San Francisco, Calif, this population was shown to have a high incidence of

STDs such as syphilis (.4%), gonorrhea (.5%), and chlamydia (3.5%).¹⁰ Since levels of STD transmission are directly correlated with HIV, a percentage of those tested were likely also HIV positive.¹⁰ In a study of 198 migrant workers in rural South Carolina, a large proportion of those tested were positive for HIV (13%) and syphilis (16%). In that study, 46% of the workers indicated they never used condoms during sexual intercourse.¹¹ In another study involving 176 Mexican farm workers in northern California, two were exposed to syphilis, but none was HIV positive.¹² A recent study of MSFW in South Florida, a region with one of the highest HIV rates in the country, revealed that women were 4.44 times more likely to acquire HIV than men. This study also revealed that MSFW had a high level of lifetime sexually transmitted infections (15.6%), frequently used prostitutes (33%), and infrequently used condoms (66% of the sample had not used condoms in the past 12 months).¹ Although the rates of infection are affected by location, Hispanics are disproportionately affected by the HIV pandemic. In fact, the national incidence of AIDS among Latinos is more than three times that of non-Latino Whites.¹³

El Paso, Texas and Ciudad Juarez, Chihuahua, Mexico form one of the largest border communities in the world with >2,042,298 inhabitants.¹⁴ The number of AIDS/HIV-positive cases in El Paso County has been relatively consistent for the past five years, with an average of 83 cases per year.¹⁴ In 2004, 71 new cases were reported, with a cumulative total of 1424 (up to March 2005) since 1983.¹⁶ The immediate border region between

Texas and Mexico, which encompasses 15 counties, reported 237 new AIDS cases in 2001, of which 100 were from El Paso County.^{15,16}

Although the local community is >70% Hispanic, most MSFW (>90%) are Hispanic and of Mexican origin. Past studies have revealed that immigrants born in Mexico and those living in agricultural labor camps are at a high risk for contracting AIDS.¹⁷ For this reason, we have attempted to determine the relative level of HIV infection in the local MSFW population and the potential risk factors that may lead to higher rates of infection in the future.

MATERIAL AND METHODS

During 2003 and 2004 trained bilingual and bicultural personnel interviewed MSFWs at worksites and public venues in El Paso County and in the nearby southern New Mexico region. Some participants were interviewed while waiting for buses to transport them to worksites at the El Paso Migrant Center, Region 19, Migrant Parent Program. Additional interviews were conducted in San Elizario (onion crops), La Union (chili crops), and La Mesa (pecan crops), which are adjacent to El Paso County. The criteria for participation were self-identification as Hispanic and being employed as a farm worker. Assurances of anonymity and confidentiality were emphasized to overcome reluctance of participants to reveal sensitive information. This survey included 199 Texans and 11 New Mexicans.

Each participant received an explanation of the purpose of the survey and was asked for verbal consent before the face-to-face interview and sample collection. After written consent was obtained, structured interviews were completed at the time of recruitment. Also, oral fluid samples were collected from the participants and sent to a laboratory for HIV type 1 (HIV-1)

antibody testing. The test employed was the OraSure Rapid HIV-1 Antibody Test, which is 99% accurate according to OraSure Technologies, Inc, Bethlehem, Pennsylvania. Tests were administered by certified and trained staff of Planned Parenthood Center of El Paso (PPCEP). The PPCEP used the standardized Texas Department of Health survey forms to collect demographic information, risk factors, HIV testing history, and referral information for follow-up.

Summary statistics were computed by using the Statistical Analysis System (SAS, SAS Institute, Inc., Cary, NC) software, which included frequencies and percentages for categorical variables, as well as means and standard deviations for continuous variables of the study. Consistency of barrier (condom) use and other risk factors were compared between men and women by using the two-sided *z* test for two independent proportions. A one-sided *z* test for a single proportion was used to test the prevalence of HIV/AIDS in MSFW versus the prevalence in the local community. The significance level of .05 was used for all tests.

RESULTS AND DISCUSSION

In this study, 210 MSFW participants (156 males and 54 females) were interviewed for HIV exposure (Table 1). The majority of males (96.1%) and females (92.6%) indicated that they were heterosexuals and the majority of these engaged in vaginal intercourse (Table 1). However, a significant proportion of males (6.4%) and females (7.4%) indicated performing anal intercourse, which if unprotected (see below), could lead to a higher risk of HIV transmission. However, very few of the MSFWs indicated homosexual or bisexual sexual behavior (Table 1). All individuals that consented to the survey and HIV testing were Hispanic and residents of El Paso County and nearby

southern New Mexico. The average age was 41.36 ± 15.58 years for males, 34.79 ± 10.06 for females, and the overall average of all participants was 40.05 ± 14.67 years of age.

Injection drug use is one of the highest risk factors for transmitting HIV.¹³ However, the use of these drugs was relatively low in the MSFWs surveyed, and only 3.8% (*n*=8) admitted to their use (Table 1). Almost half (48.3%) of the respondents (60% men and 15% female) indicated that they had sexual activity while using drugs. As might be expected, the most frequently used drug by respondents was alcohol (44%), followed by heroin/opiates (6.7%), marijuana/pot (2.9%), designer drugs (2.4%), inhalants (1.4%), and cocaine (.5%; Table 1). Additional risk factors were also examined that could lead to HIV infection, such as exposure to contaminated needles or blood. As can be seen in Table 1, 7.6% of participants had body piercings/tattoos, 1.9% had blood transfusions/transplants before and after 1992, and 1.4% had occupational exposure or other blood exposure. Out of the individuals who indicated having no needle exposure, 2.6% had sex or shared needles with an HIV-positive partner, and 1.0% had sex or shared needles with a hepatitis C virus (HCV)-positive partner (Table 1). This survey also identified additional risk factors such as having multiple sex or needle-sharing partners (8.3%), having been incarcerated (2.4%), having a prior history of STDs (1.5%), selling sex for drugs or money (.5%), paying for sex with drugs or money (1.5%), and being forced to have sex (.5%; Table 1).

Several of those surveyed perceived their partners as being at high HIV-infection risk. The main concerns of these individuals were the following: 1) that the partner had multiple sexual partners (18.8%); 2) that the partner had sex or needle-sharing partners at risk for HIV (2.7%); 3) that the partner had IDU/sharing equipment partners

(2.2%); 4) that the partner had male-male sex partners (1.1%); and 5) that the partner had HIV-positive partners (.6%; Table 1).

Another well-known risk factor for HIV infection is having large numbers of sex partners; however, only three males indicated that they had had ≥ 50 sex partners in their lifetime (Table 1). In this high-risk group, one individual used IV drugs, two had needle exposure via tattoo or body piercing, and another had sex or needle-sharing partner exposure. Although these individuals were at high risk, none of them were HIV positive.

The consistency of barrier use was also examined, since the lack of condom use is a major contributor to STD/HIV infection. The percentage of respondents that never used condoms during intercourse was high (Table 2). Most of these individuals did not use condoms during oral (87.5%), vaginal (71.7%), or anal (72.0%) sex (Table 2). As shown in Table 2, almost no difference was found between males and females regarding barrier usage during vaginal, anal, or oral intercourse. A breakdown by age and condom use during vaginal sex revealed that 75.6% ($n=45$) of those between 41 to 50 years of age never used protection, while those between 21 to 30 years of age used condoms more frequently—only 40% ($n=40$) did not use condoms ($P<.001$; data not shown). This generational difference could be attributed to a higher percentage of less promiscuous, married individuals in the older group, a better understanding of STD/HIV transmission risks in the younger MSFWs,¹⁷ or both.

Of those tested for HIV, only two declared that they had been previously tested for HIV but they did not know the outcome of the result. In this study, only one male participant tested HIV positive. This individual admitted to using drugs while engaging in sexual activities as well as having multiple and needle-sharing partners.

Table 1. Survey results concerning HIV/STD risk behaviors

	Number of Answers	%
Gender ($n=210$)		
Male	156	74.3
Sexual behavior ($n=156$)		
Heterosexual*	150	96.1
Anal	10	6.4
Oral	65	42.0
Vaginal	148	94.9
Homosexual*	2	1.3
Anal	2	1.3
Oral	2	1.3
Vaginal	0	0
Bisexual*	3	1.9
Anal	2	1.3
Oral	2	1.3
Vaginal	3	1.9
No sexual partners	1	.6
Female	54	25.7
Sexual behavior ($n=54$)		
Heterosexual*	50	92.6
Anal	4	7.4
Oral	17	31.5
Vaginal	46	85.2
Homosexual*	1	1.8
Anal	0	0
Oral	0	0
Vaginal	0	0
Bisexual*	3	5.5
Anal	0	0
Oral	0	0
Vaginal	2	3.7
Participant uses drugs with sex ($n=209$)		
Yes*	101	48.3
Heroin/opiates	14	6.7
Alcohol	92	44.0
Inhalants	3	1.4
Cocaine	1	.5
Marijuana/pot	6	2.9
Designer drugs	5	2.4
Amphetamine/speed	0	0
No	105	50.2
Unspecified	3	1.4
Needle exposure – risk factors ($n=210$)		
Yes*	28	13.3
Participant is IDU	8	3.8
Sharing intravenous equipment		
Usually	3	1.4
Sometimes	3	1.4
Rarely	1	.5
Never	1	.5
Participant is not IDU	20	9.5
Occupational exposure	3	1.4
Blood transfusion/transplant	4	1.9
Body piercing/tattoo w/o sanitation	16	7.6
Blood transfusion before July 1992	4	1.9
Blood clotting factors before July 1987	0	0
Other blood exposure	3	1.4
No	182	86.6
No needle exposure – risk factors ($n=193$)		
Yes*	10	5.2
Shared straw to snort	3	1.6
Have sex or needle sharing w/HIV	5	2.6

Table 1. Continued

	Number of Answers	%
Have sex or needle sharing w/HCV	2	1.0
≥50 sex partners	3	1.6
No	183	94.8
Other risk factors* (n=205)		
Sold sex for drugs or money	1	.5
Homeless	1	.5
Paid for sex with drugs or money	3	1.5
Forced to have sex	1	.5
Incarcerated	5	2.4
History of STDs	3	1.5
Multiple sex or needle sharing partners	17	8.3
Risk of sexual partner(s)* (n=186)		
Have sex or needle sharing partners at risk for HIV	5	2.7
Have HIV-positive partners	1	.6
Have male-male sex partners	2	1.1
Have IDU/sharing equipment partners	4	2.2
Partners have multiple partners	35	18.8
Other partner risk	16	8.6
No answer to all of the above	134	72

* Participants were asked to indicate all selections that applied.
 STD=sexually transmitted diseases; IDU=injection drug user.
 n=the number of participants responding in each section.

The numbers of HIV/AIDS cases in El Paso County has remained relatively stable during the past five years (2000 to 2004), with an average of 83.2 cases per year. In 2004, only 71 HIV/AIDS cases

(.0099%) were reported in a population of 717,211 inhabitants.¹⁶ In the present study, only one HIV-positive individual (0.47%) was detected out of 210 MSFW tested (P=.021). These results

appear to indicate that the MSFW population is at higher risk (≈47 times higher) of infection than the rest of the inhabitants in this county (.47% vs .0099%).

Data obtained in this study revealed that the MSFW population is at higher risk of contracting HIV and/or STDs because of low condom usage and other high-risk behaviors. As can be seen in Table 2, a large percentage of males that engaged in vaginal, anal, and/or oral sex never used protection. The MSFW group and their spouses need culturally sensitive HIV-prevention education and counseling. We are currently performing additional HIV tests to improve our risk assessment and to obtain a statistically significant value on the prevalence of HIV in the local MSFW population.

ACKNOWLEDGMENTS

Funding for this project was provided by the Migrant Border Health Initiative (Health Resource Service Administration grant

Table 2. Consistency of barrier (condom) use and sexual behavior

Males and Females	Sexual Behavior		
	Vaginal n=191	Anal n=25	Oral n=80
Consistency of Barrier Use*			
Always	3 (1.6)†	2 (8.0)	2 (2.5)
Almost always	2 (1.0)	1 (4.0)	1 (1.2)
Sometimes	28 (14.6)	2 (8.0)	1 (1.2)
Almost never	21 (11.0)	2 (8.0)	6 (7.5)
Never	137 (71.7)	18 (72.0)	70 (87.5)
Males			
	Sexual Behavior		
Consistency of Barrier Use*	Vaginal n=141	Anal n=21	Oral n=65
Always	3 (2.1)	2 (9.52)	2 (3.1)
Almost always	1 (.7)	0	0
Sometimes	22 (15.6)	2 (9.52)	1 (1.54)
Almost never	13 (9.2)	2 (9.52)	5 (7.7)
Never	102 (72.3)	15 (71.42)	57 (87.7)
Females			
	Sexual Behavior		
Consistency of Barrier Use*	Vaginal n=50	Anal n=4	Oral n=15
Always	0	0	0
Almost always	1 (2)	1 (25)	1 (6.6)
Sometimes	6 (12)	0	0
Almost never	8 (16)	0	1 (6.6)
Never	35 (70)	3 (75)	13 (86.7)

* Note that participants (n=195) were asked to indicate all selections that applied.
 † Number in parenthesis represents the percentage of those that responded.

02EM000075F3 to Texas Tech Health Science Center at Lubbock, Texas). Additional support was provided by the Border Biomedical Research Center (RCMI grant 2G12RR008124) and NIGMS-SCORE grant S06 GM008012-34. The authors thank the dedicated staff from Sin Fronteras at the Migrant Farm Worker Center of El Paso, Texas, for assisting with interviews, particularly Carlos Merentes. We also thank the HIV Counseling Testing and Referral Department of Planned Parenthood Center of El Paso including Marci Brooks, Connie Perez, Pat Gamboa, Tony Ramos, Myrna Calzada, Mary Atilano, and Blanca Herrera. The authors thank Mr. Raul C. Tellez Jr. from El Paso City-County Health and Environmental District for providing us with valuable and detailed information on the most current numbers of AIDS/HIV cases in El Paso County.

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