

Age (years)	
Median	
Range	
Race/Ethnicity	
Black	
White	
Hispanic	
Other	
Unknown	
Sex	
Male	
Female	
Marital status	
Single	
Married	
Other	
Unknown	
Risk behavior	
Homosexual	
IV drug use	
Both	
Heterosexual	
Transfusion	
Unknown	
Rapid plasma	
Positive	
Negative	
Specimen in	
History of ST	
Positive	
Negative	
Unknown	
Condom use	
Never	
Sometimes	
Always	
Unknown	

HIV-Related Characteristics of Migrant Workers in Rural South Carolina

JEFFREY L. JONES, MD, MPH, PAMELA RION, MSPH, SHIRLEY HOLLIS, RN, SHARON LONGSHORE, RN, WILLIAM B. LEVERETTE, BA, and LORI ZIFF, BS, Columbia, SC

ABSTRACT: After finding human immunodeficiency virus (HIV) infection in a migrant worker named as a syphilis contact, the South Carolina Department of Health and Environmental Control offered HIV counseling and testing and syphilis screening to migrant workers in the surrounding two-county area. In addition, a brief questionnaire was administered to document demographics and risk behavior. Of the 265 workers aged 16 and older in 15 migrant camps, 198 (75%) consented to the survey and testing. Of the 198 tested, 85% were male and 75% single. The median age was 39, with a range of 16 to 69 years. Twenty-five (13%) were HIV antibody positive, and 32 (16%) had reactive serologic tests for syphilis. Of the 166 workers who reported the frequency of condom use, 77 (46%) indicated they never use condoms. We conclude that there is a relatively high rate of HIV infection in these rural South Carolina migrant workers, whose behavior puts them at risk for HIV infection and other sexually transmitted diseases.

THIS INVESTIGATION of characteristics related to human immunodeficiency virus (HIV) in migrant workers was initiated in July 1990, after a sexual contact of a syphilis patient was offered routine counseling and HIV antibody testing. When this person was found to be infected with HIV, health department personnel decided it would be beneficial to offer syphilis- and HIV-related counseling and testing to other migrant workers in the area.

The health of migrant workers is an important issue in South Carolina because most (95%) of the state's agricultural labor is provided by migrant and seasonal workers who register with the Employment Security Commission. The vast majority (93%) of agricultural labor is supplied by migrant workers rather than seasonal workers. Approximately 20 500 migrant and seasonal laborers work in the state each year (oral communication, South Carolina Employment Security Commission, March 1991).

BACKGROUND

Edgefield and Saluda counties, where the study was conducted, lie in the midwestern portion of South Carolina and have a combined population of 35 740.¹ Peaches are the principal crop in these counties. Farmers in this area of the state have

traditionally hired black migrant workers. In these two counties, from March 1990 through August 1990, there were approximately 875 registered migrants working the crops (oral communication, South Carolina Employment Security Commission, March 1991). Because of a severe freeze, this is approximately half the number of migrants who normally work in these counties.

Many of the migrant workers in this region reside in South Carolina from March through August and during the rest of the year work in other Eastern Seaboard states including Florida, Georgia, North Carolina, Virginia, West Virginia, and Pennsylvania. No seasonal workers who were local county residents were living in the camps during the time of this study.

There is one migrant worker clinic in Edgefield County, which receives 98% federal funding, and a rural health clinic in Saluda County, but most of the migrant workers do not have transportation that would allow routine access to clinical care. In addition, migrant workers are generally not given paid sick leave to attend clinics.

METHODS

Between July 17, 1990, and August 15, 1990, migrant workers at 15 of the estimated 30 migrant camps in Edgefield and Saluda counties were offered on-site counseling and testing for HIV and syphilis. The 15 migrant camps were chosen because their location was known to the health department. Only migrant farm workers were surveyed.

From the South Carolina Department of Health and Environmental Control, Columbia and Greenwood.
Reprint requests to Jeffrey L. Jones, MD, MPH, South Carolina Department of Health and Environmental Control, 2600 Bull St, Columbia, SC 29201.

In South Carolina study, seasons who of 25 or 1 earned at work, and round by, are define able to re work day Each m naire that graphics, ually tran were pres enting w which was reagin (R linked in Western k of Labora obtained provided v and were of syphilis with Epi J

TABLE. HIV Infection in 198 Migrant Workers, South Carolina, 1990

Factor	HIV Positive N = 25 (13%)	HIV Negative N = 173 (87%)	Total N = 198 (100%)
Age (years)			
Median	39	39	39
Range	24-57	16-69	16-69
Race/Ethnicity			
Black	24 (13%)	156 (87%)	180 (100%)
White	0 (0%)	9 (100%)	9 (100%)
Hispanic	1 (4%)	6 (86%)	7 (100%)
Other	0 (0%)	1 (100%)	1 (100%)
Unknown	0 (0%)	1 (100%)	1 (100%)
Sex			
Male	22 (13%)	147 (87%)	169 (100%)
Female	3 (10%)	26 (90%)	29 (100%)
Marital status			
Single	16 (11%)	132 (99%)	148 (100%)
Married	2 (13%)	13 (87%)	15 (100%)
Other	4 (14%)	24 (86%)	28 (100%)
Unknown	3 (43%)	4 (57%)	7 (100%)
Risk behavior			
Homosexual/bisexual	3 (16%)	16 (84%)	19 (100%)
IV drug user	9 (23%)	9 (75%)	12 (100%)
Both	2 (50%)	2 (50%)	4 (100%)
Heterosexual	5 (13%)	34 (87%)	39 (100%)
Transfusion	3 (25%)	9 (75%)	12 (100%)
Unknown	9 (8%)	103 (92%)	112 (100%)
Rapid plasma reagin test			
Positive	5 (16%)	27 (84%)	32 (100%)
Negative	20 (12%)	145 (88%)	165 (100%)
Specimen inadequate	0 (0%)	1 (100%)	1 (100%)
History of STD			
Positive	17 (17%)	82 (83%)	99 (100%)
Negative	6 (7%)	85 (93%)	91 (100%)
Unknown	2 (25%)	6 (75%)	8 (100%)
Condom use			
Never	7 (9%)	70 (91%)	77 (100%)
Sometimes	9 (13%)	58 (87%)	67 (100%)
Always	4 (18%)	18 (82%)	22 (100%)
Unknown	5 (16%)	27 (84%)	32 (100%)

In South Carolina, and for the purposes of this study, seasonal farm workers are defined as persons who performed farm work for an aggregate of 25 or more days during the past 12 months, earned at least half of their income from farm work, and were not employed in farm work year round by the same employer. Migrant workers are defined as seasonal farm workers who are unable to return to their residence within the same work day.

Each migrant worker was read a brief questionnaire that contained questions concerning demographics, risk characteristics, and history of sexually transmitted diseases (STDs). Interpreters were present for Spanish-speaking workers. Consenting workers has a blood specimen drawn which was screened for syphilis using rapid plasma reagin (RPR) and tested for HIV with enzyme-linked immunosorbent assay confirmed by Western blot test at the South Carolina Bureau of Laboratories. Written informed consent was obtained from clients tested. All clients were provided with counseling before and after testing and were offered clinical follow-up for treatment of syphilis if indicated. Statistical analysis was done with Epi Info software.²

RESULTS

Of the 265 workers, 198 (75%) consented to testing. Of the 198 tested workers, 91% were black, 85% were male, and 75% were single. The median age was 39 years (range, 16 to 69 years). Of the 198 tested workers, 25 (13%) were HIV antibody positive. The Table shows HIV antibody status stratified by age, race/ethnicity, sex, marital status, risk behavior, syphilis serology status, history of STDs, and condom use. Of the 198 tested workers, 166 indicated sexual activity during the previous 3 months and reported information about condom use. Seventy-seven (46%) of these 166 persons indicated they never use condoms (Table). Fifty-two percent of the workers indicated that their permanent residence was in Florida. Few workers had families present in the camps.

DISCUSSION

The 13% HIV seropositivity found in this study is higher than that reported in previous studies of migrant workers. A study of migrant and seasonal workers attending health clinics in North Carolina in 1987 showed a 2.6% HIV seropositivity.³ In that North Carolina study, 62% of those tested were black and 53% were male. A nationwide study of migrant workers presented at the Fifth International AIDS Conference in 1989 found a 0.5% HIV seropositivity in seasonal and migrant workers attending health clinics in the United States.⁴ Those researchers found that 87% of the HIV seropositive workers were detected in eastern coastal states where many workers came from Florida. The HIV seropositivity in our study may differ from the national and North Carolina studies we have cited because our investigation team offered testing in the migrant camps rather than at health clinics, which may not be easily accessible to workers.

Although not all persons in the camps were tested, the seroprevalence would still be relatively high (9%, 25 of 265) if all untested persons in these 15 camps were HIV antibody negative. It has been shown in a previous study, however, that those who decline HIV testing are more likely to be seropositive.⁵ Since there are no HIV-related data for migrant workers in other areas of the state, the findings of this investigation cannot be generalized to migrant workers throughout South Carolina.

CONCLUSION

Among migrant workers tested in 15 camps in two rural South Carolina counties, about one out of eight was HIV infected. These findings illustrate the need to target education, counseling, and

testing for HIV, as well as other STDs and tuberculosis, for these migrant workers and their families. As a result of this survey, the South Carolina Department of Health and Environmental Control plans to (1) provide migrants with educational materials in English and Spanish about HIV/AIDS and other STDs, (2) provide a resource directory to migrant crew leaders to assist in gaining access to local and state resources, and (3) encourage community clinics and migrant workers' health centers to apply for federal, state, and private funding for outreach and direct services.

References

1. South Carolina estimated population for 1989. South Carolina Department of Research and Statistical Services, 1989
2. Dean AD, Dean JA, Burton AH, et al; Epi Info, Version 5: a word processing, database, and statistics program for epidemiology on microcomputers. Stone Mountain, Ga, USD Inc, 1990
3. Centers for Disease Control: HIV seroprevalence in migrant and seasonal farmworkers—North Carolina, 1987. *MMWR* 37:517-519, 1988
4. Narkunas JP, Castro K, Reig S, et al; Seroprevalence of HIV infection among migrant farmworkers. Fifth International AIDS Conference, Montreal, June 4-9, 1989
5. Hull HF, Bettinger CJ, Gallaher NM, et al; Comparison of HIV-antibody prevalence in patients consenting to and declining HIV-antibody testing in an STD clinic. *JAMA* 260:935-938, 1988

Epic Tula

BARTON
GREGOR

ABSTRACT
Oklahoma
common
oculoglan
disease w
frequently
(58/154 [3
The annu
exposure
killed by
from year

TULARE
bacillus
humans
ing strai
determin

From
were rep
same tim
of the U
homa ha
Oklahom

Recent
tularemia
More ca
(May thro
(Novemb
rabbits at
exposure
dren than

In 197
Health (C
epidemiol
tion with
purpose c
ical manif
tors assoc
acquire d

From the Ep
Oklahoma City
Reprint requ
Rural Practice,
Box 1071, Knc