

Knowledge of AIDS/HIV Infection Among Migrant Farmworkers

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Introduction

Survey instruments used to evaluate AIDS projects in the United States are designed with an eye to collecting data that will be comparable from population to population, region to region, and year to year. These instruments generally include a set of core questions recommended by the Centers for Disease Control.¹⁻⁴ Community-based organizations often reduce the core questions to a more easily managed set of 10 or more questions on knowledge of AIDS, as well as a few introductory questions to elicit socio-demographic data from the respondents.

Strategies for educating the general population about AIDS and human immunodeficiency virus (HIV) infection take into account the urban context of the majority of AIDS cases reported to date and emphasize needle sharing and unprotected sex as two of the three primary risk behaviors for the transmission of HIV.⁵⁻⁷ This emphasis is also evident in educational programs geared to the Latino population, many of whom live in urban environments.⁸⁻¹¹ For the migrant farmworker population, many of whom are Latino, the major risk factor for HIV transmission is not needle sharing but unprotected sex. The educational message that would increase knowledge of AIDS/HIV infection among this population will require an understanding of AIDS knowledge levels plus a more general accounting of sexual behavior patterns¹²⁻¹⁶ and health care-seeking behavior¹⁷⁻¹⁹ in this population.

Materials and Methods

Background

The survey data reported here were collected by the author, who serves as

coordinator for the Migrant AIDS Education Project sponsored by Michigan Economics for Human Development (MEHD). MEHD is a statewide nonprofit organization that provides human services to disadvantaged populations in the state, most of whom are migrant farmworkers. The agency developed its migrant AIDS education program by cooperating with agencies in the four other states that comprise the Midwest Regional Migrant Farmworker AIDS Education and Prevention Consortium.

MEHD adapted for its own use the AIDS curriculum developed by the consortium. This material is available in Spanish and English and was designed for both male-only and female-only audiences, as well as for mixed groups in various settings. The AIDS curriculum was used in the summer of 1989 to educate farmworkers in the Michigan counties ranking first (Berrien), second (Van Buren), fourth (Oceana), sixth (Manistee), and 12th (Lenawee) in estimated number of migrant farmworkers. Seventy-six camps in these five counties were contacted, and more than 1,000 migrant workers attended AIDS education presentations at 31 camps (evenings) or received outreach visits at the other 45 camps (afternoons and evenings). AIDS education was provided to more than 1,400 additional persons through community outreach to such groups as parent advisory committees of the Migrant Head Start Program and community college classes. More than 150 persons received AIDS inservice training, many of whom were staff members from migrant clinics in western Michigan and community-based organizations in different parts of the state. Finally, more than 7,300 educational brochures on AIDS/HIV infection were distributed through the Migrant AIDS Education Project; the majority of these were in Spanish.

Seven programs provided AIDS education to migrant farmworkers in Michigan during the summer of 1989. Although six were local programs, MEHD is a statewide agency and has the option of working in areas not served by local programs. Three of the programs included an evaluation survey, and one program implemented a special system for eliciting data from respondents with few or no literacy skills.

Evaluation Instruments

MEHD collected evaluation data using a single-page questionnaire (interview guide) that had been designed in congress with the five member agencies of the Midwest Regional Migrant Farmworker AIDS Education and Prevention Consortium. Knowledge of AIDS was tested using a set of 10 core questions, to which a respondent could answer "Yes," "No," or "Don't Know." "Yes" was the correct answer to all questions. A separate two-page questionnaire (interview guide) that contained additional questions was administered to persons attending AIDS education sessions outside of migrant camps, generally those who received the training through their place of work (e.g., the administrative staff of the Migrant Head Start Program and the medical personnel at migrant clinics). One side of each survey instrument was printed in Spanish and the reverse side was printed in English.

Migrant Sample

Single-page questionnaires were distributed at the start of AIDS education sessions to nearly 300 migrant workers at 21 of the 31 camps that received AIDS education presentations and at four locations where migrant workers had been invited to attend an education session (N=297

questionnaires), such as parent advisory committee meetings or a training seminar for migrant workers selected to become camp health aides through the Midwest Migrant Health Information Office. Questions were read aloud to assist respondents in answering the survey.

Of the 297 evaluation instruments distributed, 35 were returned with demographic data only and 76 were completely unmarked. The remaining 186 questionnaires contained answers to all or some of the 10 knowledge questions. The response rate was low because the questionnaire was administered at the beginning of the presentation, with a number of migrant workers joining the group as questionnaire administration was concluded. A post-test was not administered in any of the camps, because presentations generally lasted close to two hours and it simply was not feasible to administer the evaluation instrument a second time. Questionnaires were not administered at outreach visits to the camps, where the presentation style was one on one.

The 186 totally or partially completed questionnaires came from 85 male respondents (45.7 percent), 79 female respondents (42.5 percent), and 22 respondents whose sex was not indicated. More than two-thirds of the respondents were under 35, with 37 (19.9 percent) within the 13- to 18-year-old cohort, 48 (25.8 percent) within the 19- to 24-year-old cohort, 41 (22.0 percent) within the 25- to 34-year-old cohort, and 28 (15.1 percent) within the 35- to 44-year-old cohort. Fewer than 10 percent of respondents were 45 to 64, and none identified themselves as being older than 65. Men and women were distributed rather evenly in the various age cohorts, except that there were more women in the 19 to 24 cohort (27 women vs. 18 men) and more men in the 35 to 44 cohort (15 men vs. nine women).

More than three-fourths of the 186 respondents (79.6 percent) identified themselves as Mexican (45.2 percent), Mexican-American (45.2 percent), or Chicano (5.9 percent). Twelve self-identified using other categories (6.5

percent), and 16 listed no ethnic group (8.6 percent).

Ninety-one respondents chose to answer the Spanish version of the questionnaire, and 95 chose the English version.

Results

Of the 186 respondents who completed most or all of the questionnaire, 78 responded correctly to all 10 questions (41.9 percent). Forty-six persons

answered nine questions correctly (24.7 percent), 22 respondents had eight correct responses (11.8 percent), and 18 persons provided seven correct responses (9.7 percent). Thus, a total of 164 migrant workers answered seven or more questions correctly (88.1 percent). Eighty-seven of these respondents chose the English version of the questionnaire (53 percent) and 77 chose the Spanish version (47 percent). Of the 146 respondents who had answered 10, nine, or eight questions correctly, 81 chose the English version (55.5 percent) and 31 chose the Spanish version (44.5 percent).

The migrant workers who demonstrated a high level of AIDS knowledge were rather evenly divided along gender lines (85 men and 79 women answering seven or more questions correctly). More women than men (38 vs. 19) who self-identified as Mexican-American answered seven or more questions correctly, whereas more men than women (55 vs. 22) who self-identified as Mexican answered seven or more questions correctly.

Respondents who answered seven or more questions correctly varied little by age.

Discussion

The AIDS knowledge data that were collected in the migrant camps must be interpreted with a great deal of caution. First, the data do not represent a random sample of migrant farmworkers, that is, there is no way to determine whether data collected in the camps are characteristic of the migrant population that attended the AIDS presentations or, more generally, whether the data are representative of the migrant

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population performing agricultural labor in Michigan. We were unable to generalize our data to the larger population of migrant farmworkers because the only statistical information available on this population in Michigan are estimates, based, for the most part, on continuing projections initially calculated from a more stringent database established 20 to 30 years ago.²⁰ Thus, our sample data represent AIDS information levels in an "opportunistic" sample or casual aggregation of farmworkers rather than in a systematically selected sample.

The second reason for urging caution in the application of these findings is that there was a bias toward self-selection among migrant workers who could read and write and, as already indicated, those who arrived early enough to complete a questionnaire. Even though the questions on the survey instrument were read aloud in Spanish and English, a number of migrant workers chose not to receive a questionnaire or, having accepted one as a courtesy to the presenter, returned it unmarked.

Finally, the questionnaire administered to the migrant population was

designed more for ease in scoring (i.e., it could be scored visually, simply by looking to see which questions were not marked "Yes") than with validity in mind. Asking a series of questions that can all be answered with the same response lends itself to bias in the response set.

There is no way to determine whether "Yes" responses actually represented the migrant worker's knowledge of AIDS/HIV or to identify which respondents simply became aware that all 10 questions should be answered in the same fashion. Thus, the 78 respondents (41.9 percent) who answered all 10 questions correctly may have become aware that the questions were building to a set of all "Yes" responses. The fact that a greater proportion of respondents who chose the English version of the questionnaire had 10 correct responses (47 respondents to the English version vs. 31 respondents to the Spanish version) may reflect the greater availability of AIDS/HIV educational materials in the English language in the United States. This trend may also mean that respondents who chose the English version were "questionnaire savvy," through prior exposure to surveys, and may thus have come more quickly to the realization that the questions all required "Yes" responses. The lower rate of correct responses by respondents who chose the Spanish version may represent a lower level of familiarity with surveys or less access to information on AIDS/HIV.

The evaluation instrument does not lend itself to a more complete analysis or disaggregation of data to determine the representativeness of this sample or which factors are most important in determining level of AIDS/HIV knowledge. Despite the three caveats described above, some generalizations about AIDS/HIV educational levels among migrant workers can be made by analyzing responses to the survey questions.

Most respondents to the single-page questionnaire administered in the camps identified themselves as either Mexican or Mexican-American (76.9 percent), and the study population therefore corresponds rather closely to the percentage of the migrant farmworker population estimated to be of Mexican ancestry now²¹ and for at least the past 30 years.^{22,23} From this perspective, the data can be said to be representative of the ethnic composition of the migrant farmworker population in Michigan, even if other individual characteristics (such as age and sex distribution) are not representative.

The number of incorrect or uncertain responses on the survey instrument raises concern about the level of AIDS/HIV knowledge in the migrant farmworker population. Despite a built-in response bias to the 10 questions on AIDS/HIV, 108 of the 186 respondents missed one or more questions (41.9 percent). Those who missed questions did not belong to a particular age cohort, and they were not clearly distinguishable by sex or ethnicity. It appears

that correct AIDS/HIV information is scattered among the migrant farmworker population, since the lack of concentration of information within any segment indicates that very little public health information is reaching the population in general.

The question with by far the fewest correct answers was the one concerning asymptomatic HIV infection ("A person can be infected with the AIDS virus and not have any symptoms"). Of the 221 respondents who completed all or some of the questions, 132 (59.7 percent) answered this question correctly; 18 of the 60 total incorrect responses were given for this question alone (Table 1). Similar questions used on national surveys of Hispanics have also been those that receive the fewest correct responses, ranging from 23 percent correct for Hispanic adults with fewer than 12 years of school to 33 percent or 55 percent correct for adults with 12 or more years of school, respectively.² Fewer than 50 percent of Latino respondents in a San Francisco study²⁴ were aware that an HIV-infected person could look healthy. A survey of the farmworker population in three Georgia camps²⁵ found that this question was frequently missed (57 percent of 67 respondents gave correct responses) but was answered correctly more often than questions about low-risk modes of HIV transmission (kissing, toilet seats).

The two questions that were most often answered correctly in the Michigan migrant farmworker survey were those concerning transmission of HIV

Table 1
Knowledge of AIDS/HIV Among Migrant Farmworker Respondents (N=221)

Question	Yes ¹		No		Don't Know		Not Answered	
	No.	(Percent)	No.	(Percent)	No.	(Percent)	No.	(Percent)
1. AIDS caused by HIV	150	(67.87)	2	(0.90)	34	(15.38)	35	(15.84)
2. Infection by sexual intercourse	180	(81.45)	2	(0.90)	6	(2.71)	33	(14.93)
3. Mother-fetus transmission of virus	170	(76.92)	5	(2.26)	13	(5.88)	33	(14.93)
4. Condoms as preventive measure	163	(73.76)	10	(4.52)	18	(8.14)	30	(13.57)
5. Asymptomatic nature of HIV infection	132	(59.73)	18	(8.14)	39	(17.65)	32	(14.48)
6. Not sharing needles for prevention	166	(75.11)	10	(4.52)	10	(4.52)	35	(15.84)
7. Blood test to detect HIV infection	161	(72.85)	2	(0.90)	21	(9.50)	37	(16.74)
8. Multiple partners as high-risk behavior	162	(73.30)	5	(2.26)	20	(9.05)	34	(15.38)
9. AIDS disproportionate among minorities	167	(75.57)	4	(1.81)	11	(4.98)	39	(17.65)
10. Current safety of blood/blood products	154	(69.68)	2	(0.90)	23	(10.41)	42	(19.00)

¹"Yes" was the correct answer to all questions.

from a woman to her fetus (170 of 221 responses, 76.9 percent) and by sexual intercourse (180 of 221 responses, 81.5 percent). In a national survey of US Hispanics,² correct responses ranged from 75 to 79 percent on the question about maternal-fetal transmission, and the proportion of respondents with correct answers to the question on sexual intercourse as a mode of transmission ranged from 76 percent for those with less than 12 years of school to 86 or 89 percent for those with 12 or more years of school, respectively. In the survey conducted among farmworkers in three Georgia camps,²⁵ roughly three-quarters of the 67 respondents recognized that women and men can infect each other, and 81.7 percent agreed that "One can catch AIDS through vaginal sex." This finding is at odds with a survey of 120 Mexican-American and black farmworkers in North Carolina,¹⁴ which found that Mexican-American women were much less knowledgeable about sexually transmitted diseases than were black women or the men of either group.

The AIDS/HIV knowledge scores of farmworkers in the Michigan and Georgia surveys and the national Hispanic survey are lower than those of the general population, where correct responses to questions about sexual and maternal-fetal HIV transmission are generally well over 80 percent.¹

Conclusion

The farmworkers studied through the Migrant AIDS Education Project appear to be representative of Michigan's migrant farmworker population in that more than three-fourths of the respondents identified themselves as being of Mexican ancestry. Given the design of this study and the current state of statistical information on migrant farmworkers in Michigan, it is impossible to determine the extent to which the sampled population represents the migrant farmworker population on other sociodemographic characteristics.

The rather even distribution of incorrect responses among age groups

and between male and female migrant farmworkers suggests that information on AIDS/HIV has not uniformly reached agricultural laborers in Michigan. Moreover, the percentage of correct responses to basic questions about AIDS/HIV was lower than that in other populations for whom data are available. Therefore, AIDS education efforts aimed at farmworkers must continue and must be relevant to the migrant worker's experience.

Finally, the design of this study of AIDS/HIV knowledge among migrant farmworkers leaves much to be desired. Given its pre-test nature, the survey instrument evidently served as little more than a "warm-up exercise," since the number of completed questionnaires was minimal in comparison to the number of persons who actually participated in these educational presentations and outreach visits. It is doubtful that a more carefully designed instrument would have elicited more accurate or even more complete responses at the start of a presentation. Evaluation instruments detract from an AIDS presentation and require a shift in the presenter's mien, which may deliver a mixed message to the migrant farmworker audience.

It is rather curious that this research design, wherein the presenter is also the evaluator, has been approved and even encouraged by funding organizations, but this appears to have been the case in several projects in Michigan (not just among the migrant farmworker population). Assessment of AIDS/HIV education among migrant farmworkers is not appropriate when the evaluation phase focuses only on level of knowledge prior to the educational presentation. Moreover, an assessment that involves pre-tests and post-tests of knowledge the same day as a presentation measures only immediate recall. As such, this type of evaluation is little more than an assessment of the presenter's communication skills and in no way reflects the extent to which learning has taken place.

A more appropriate method of evaluation would be to systematically survey the migrant farmworker

population to determine the extent to which that population has been informed about AIDS, regardless of whether the information has been acquired by attending a presentation, discussing with family members and coworkers, or through more general types of public health information. Learning that leads to a reduction in high-risk behaviors is the goal of those involved in AIDS education and prevention,^{15,25,26,27} just as assessment of learning is the goal of evaluation and planning strategies associated with AIDS education programs.

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NOTES

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