Ethnic Differences in Knowledge of Sexually Transmitted Diseases in North American Black and Mexican-American Migrant Farmworkers

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Migrant agricultural workers cultivate and harvest crops during growing seasons and migrate with the change of seasons. There are three major streams of workers: the west coast stream, the midcontinent stream, and the east coast stream. The east coast stream begins in Florida and extends north to South Carolina, North Carolina, the eastern shore of Maryland, central New York, Ohio, and Michigan. The Eastern Stream is composed predominantly of North American blacks; but Mexican-Americans, Haitians, Puerto Ricans, Jamaicans, and South American immigrants are included. The North Carolina migrants are approximately 15%–20% Haitian, 50%–60% Mexican-American, and 25%–30% North American blacks (Hatch, Bryant, Winn, & Yaggy, 1982).

Scholars and health professionals who work with migrant farmworkers have repeatedly noted that sexually transmitted diseases (STDs) are prevalent in this population (Fleming & Hayak, 1984; Heckman, 1982; Gates, 1982; Kurz, 1981). The incidence and prevalence of STD among migrants are difficult to establish, because the population at risk is constantly changing, and neither the Centers for Disease Control, the North Carolina Division of Health Services, nor the Migrant Health and Refugee Health Section of the North Carolina Division of Health Services collect epidemiologic data on STD by ethnicity.

The high prevalence of STDs in migrant farmworkers usually is attributed to inadequate health knowledge, poor accessibility to health care, mobile life style, limited case finding follow-up due to rapid mobility, the asymptomatic period of syphilis and gonorrhea during which the infection may unknowingly be transmitted to others, lack of condoms when needed, language barriers with health care personnel, and variation among ethnic populations in definitions and myths of health and illness.

Researchers have noted that migrants perceived themselves to be healthier than they really were upon clinical examination (Acker-

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man & Simkovic, 1983). Similarly, this author noted that migrant females often presented themselves for care in the late stages of pelvic inflammatory disease. The most comprehensive report of migrant occupation health (Wilks, 1985) suggested that the majority of farmworkers sought care for acute problems rather than for preventive services, such as periodic physical exams, that focus on health education and patient risk status. Thus, migrant farmworkers may lack access to information on STD prevention because of utilization patterns. There have been no published studies of knowledge of STD among migrant farmworkers.

Knowledge of sexually transmitted diseases among North American black and Mexican-American migrant farmworkers was assessed in this study. While the five major sexually transmitted diseases are syphilis, gonorrhea, granuloma inguinale, lymphogranuloma venereum, and chancroid, only syphilis and gonorrhea were studied because they are the most common of the five STDs in the migrant population. The specific objective was to describe the level of knowledge among North American black and Mexican-American migrant farmworkers so that health care providers can design appropriate individual care and public health strategies to decrease the burden of STD among migrant farmworkers. Another objective was to make comparisons of knowledge levels by age, sex, and ethnicity. A third ethnic group in the eastern stream of migrants, the Haitians, was originally included in the study but had to be dropped because of biased communication by one Haitian interviewer.

METHOD

Sample

The setting for the study was the migrant camps in a Tri-County area of Sampson, Johnston, and Harnett counties in North Carolina and the Tri-County Community Health Clinic. This comprehensive primary care clinic is the only full-time migrant health clinic in the state. It is funded by the Public Health Service, Department of Health and Human Services, Office of Migrant Health of the Bureau of Health Care Delivery and Assistance, and serves migrants in the region. Most of the health care is delivered by nurse practitioners.

Sixty Mexican-American male and female migrant farmworkers 18 to 35 years of age, and 60 North American black male and female migrant farmworkers 18 to 35 years of age, were selected by convenience as subjects. Both groups were stratified to include 10 males and 10 females between 18 and 23 years of age, 10 males and 10 females between 24 and 29 years of age, and 10 males and 10 females between 30 and 35 years of age.

Subjects were excluded from the study upon suspicion of recent alcohol intake (within the last 24 hours), suspicion of major mental illness (history or symptoms of hallucinations or paranoia), suspicion of transvestism (by dress or demeanor), and appearance of pain or suffering from acute trauma or illness. Seasonal farmworkers (workers who provide local farm help but do not migrate) also were excluded. A total of six subjects were excluded.

Instrument

The author designed the interview schedule consisting of 22 true-false and open-ended questions about six categories of STD knowledge: prevention, etiology, transmission, symptoms, treatment, and complications. Most categories contained several questions. A total score was obtained by totaling all correct responses in each category. Items were weighted equally. Demographic questions on age, sex, marital status, ethnicity, education, employment, and income also were included. The instrument was designed for a structured oral interview. Interviewers coded each response on the instrument as it was given.

Because there was a time constraint in the delivery of the questionnaires imposed by the crew leaders and farmers, one category of knowledge (etiology) only contained one question. Although all aspects of etiology could not be addressed in an instrument of this length, the one area of etiology that was asked will be reported.

The interview schedule was developed in

English first and then reviewed for content validity by a panel of migrant primary health care professionals, including the clinic administrator, the medical director for the clinic, two nurse practitioners, the director of outreach work, the director of social work, the health educator, and an epidemiologist. It was then translated into Spanish by two translators and reviewed by the Tri-County Spanish health care interpreter for accuracy. Both English and Spanish versions of the instrument were pretested in both the clinic and the camps with 10 blacks and 10 Mexican-Americans who were the same ages as the study population.

Interviewers were trained to conduct interviews and list the answers to the questions, which included true, false, and don't know. Both the true false and the open ended questions were given 1 point each if the answer was correct. Referral criteria and mechanisms were explicit for all interviewers in the event a subject expressed a need for help. All subjects were assured anonymity and confidentiality.

Procedure

Subjects for the study were selected in the clinic waiting room and during daily health screening visits to migrant camps until each stratum was filled. The investigator's choice of subject was based upon convenience and was not influenced by perceived knowledge about STDs. Migrant workers were invited to participate and informed of the nature, purpose, and length of the interview. Participants signed informed-consent forms. Interviews, which lasted 5–8 minutes, occurred during lunch breaks or before the evening meal in the camps after health screening. Privacy was obtained by conducting the interviews in a remote area of the main camp. Interviews in the clinic were conducted in a private location. Two black migrant farmworkers refused to be interviewed in the clinic but gave no reason for refusal. One hundred twenty subjects were interviewed from June to October of 1983 by three interviewers.

Spanish interviews were done by two interviewers fluent in Spanish. Both Spanish interviewers had served as translators for Hispanic patients at the health center and could communicate with ease with Spanish-speaking patients. The author also did English interviews with the North American blacks in the camps.

RESULTS

The majority (72%) of North American blacks were single, divorced, or separated, while the majority (85%) of Mexican-Americans were married. Both ethnic groups had similar income distributions, with the majority earning less than $3,000 per year. The North American blacks were more educated than the Mexican-Americans; 77% had some high school or beyond, while only 23% of the Mexican-Americans did. The majority (77%) of blacks had worked fewer than 8 years, while the majority (53%) of Mexican-Americans had worked more than 8 years. (See Table 1.)

STD Knowledge

The total mean STD knowledge score for the sample was 13.53 out of a possible 22 (62%). The total mean score for blacks was 16.0 (or 72%), while the total mean score for Mexican-Americans was 11.07 (or 50%). (See Table 2.) A three-way analysis of variance showed no age differences in knowledge, but ethnicity was statistically significant [F (1,108) = 44.16, $p<.01$]. (See Table 3.)

There also was an interaction between sex and ethnicity ($F = (1,108) = 8.00$, $p<.01$). The difference between North American blacks and Mexican-Americans was greater for females ($M = 16.77$ versus $M = 9.73$) than for males ($M = 15.23$ versus $M = 12.40$). The pattern of difference held true for transmission, symptoms, treatment, and complications, but not for prevention and etiology.

The North American black group knew more than the Mexican-American group about STD. In most categories of knowledge, the North American black female knew the most and the Mexican-American female knew the least about STD. Mexican-American females had less knowledge on STD prevention, with about one third of them reporting that STD could be prevented by avoiding sex with multiple partners or checking partners before sex.

Table 1. Demographic Characteristics of the Sample of Migrant Farmworkers

	North American Blacks		Mexican American	
	N	%	*N*	%
Marital Status				
Single, Divorced, Separated	43	71.7	9	15.0
Married	17	28.3	51	85.0
Annual Income				
$0–3,000	40	69.0	37	69.8
$3,001–6,000	13	22.4	13	24.5
$6,001 or more	5	8.6	3	5.7
Education				
1 to 5 yrs of grade school	2	3.3	30	50.0
6 yrs of grade school to 3 yrs of junior high	12	20.0	16	26.7
1 to 4 yrs of high school	43	71.7	14	23.3
1 to 2 yrs of college	3	5.0	0	0.0
Length of Employment as a Farmworker				
0–2.9 yrs	30	50.0	8	14.0
3–7.9 yrs	16	26.7	19	33.3
8–15.9 yrs	9	15.0	24	42.1
16–33 yrs	5	8.3	6	10.5

About half of them (57%) believed that condoms prevent STD. More than half of the North American black males did not understand the importance of avoiding sex with multiple partners or abstinence until treatment.

More than half of the Mexican-American males and females thought that STD could be caused by supernatural events. Mexican-American females showed a deficit of knowledge about the sexual transmission of STD. Mexican-American males and females had lower knowledge of the classic symptoms of STD compared to North American blacks. More than half of them did not recognize the

Table 2. Total Mean Knowledge of Sexually Transmitted Disease by Age, Sex, and Ethnicity of Migrant Farmworkers

Age in Years by Sex	North American Black $n = 60$ Mean	Mexican-American $n = 60$ Mean	Total $N = 120$ Mean
Male	15.23	12.40	13.82
18–24	14.70	12.10	13.40
25–29	14.70	11.50	13.10
30–35	16.30	13.60	14.95
Female	16.77	9.73	13.25
18–24	16.30	9.50	12.90
25–29	16.60	11.00	13.80
30–35	17.40	8.70	13.05
Total	16.00	11.07	13.53

Table 3. Analysis of Variance in Knowledge of Sexually Transmitted Disease by Sex, Ethnicity, and Age of Migrant Farmworkers

Source of Variation	*SS*	*df*	*MS*	*F*	*p*
Main Effects					
Sex	9.63	1	9.63	0.58	0.45
Ethnicity	730.13	1	730.13	44.16	0.01
Age	14.87	2	7.43	0.45	0.64
2-Way Interactions					
Sex/Ethnicity	132.30	1	132.30	8.00	0.01
Sex/Age	33.87	2	16.93	1.02	0.36
Ethnicity/Age	9.27	2	4.63	0.28	0.77
3-Way Interactions					
Sex/Ethnicity/Age	16.20	2	8.10	0.49	0.61
Residual	1785.60	108	16.52		
Total	2731.86	119	22.96		

asymptomatic period of STD. More than half of them did not realize that gonorrhea could produce a yellow vaginal discharge. All four groups had low knowledge about the first sign of syphilis.

The majority of Mexican-American males and females believed in waiting to see what developed if a STD was suspected. More than half of them did not realize that the best treatment for gonorrhea or syphilis was penicillin. Knowledge of the complications of STD was high across all groups with the exception of the Mexican-American females, who showed the least understanding of potential complications.

To explore the higher level of STD knowledge in the North American blacks compared with the Mexican-Americans, variables that could have influenced the difference were examined. There was a statistically significant difference between the two groups in marital status (x^2 (1, N = 36.96, $p < .001$), educational level x^2 (3, N = 120) = 42.83, $p < .001$, and duration of employment (x^2 (3, N = 120) = 19.84, $p < .001$). There was no difference between the two groups in income. As mentioned previously, blacks were more likely to be single and have attended high school. Generally, they had been employed fewer years as farmworkers than the Mexican-Americans had. Both education and marital status were significantly related to knowledge, and the difference between the two groups remained when marital status was controlled. Education could not be controlled for due to the disparate educational levels among the two groups.

DISCUSSION

The North American blacks in this sample had more knowledge of STDs than the Mexican-Americans. It seems likely that the difference is explained by demographic, lifestyle, educational, health care utilization, and cultural differences between the groups. Most of the North American blacks in this sample were unmarried. Black migrants generally live in migrant camps similar to army barracks, with many other migrant farmworkers, and tend to live with more non-family in camp than family members. The non-family camp members are male and female strangers, casual acquaintances, or friends. North American blacks may also move up the stream within groups of non-family migrant workers. Thus, most North American blacks tend to be living with groups of unrelated people in a non-permanent fashion. Sexual stories, jokes, and personal case histories and experiences about sexually transmitted diseases are often shared during storytelling sessions among small groups of migrants in camp. Thus, North American blacks are exposed to more discussion about personal STD case histories and stories than are the Mexican-Americans.

The majority (85%) of the Mexican-Americans in this sample were married. Mexican-Americans tend to form small family groups and commute in small family vans up the migrant stream. They live in camps in small family groups and do not live with other non-related migrants. Thus, they form close family bonds and ties and migrate as a constant family unit up and down the stream. In Mexican-American culture, monogamy is highly valued, and sharing of stories of information about STDs is not common in family life in the camps.

Another major difference between the two groups is educational level. The majority of North American blacks in this sample (68%) had at least nine or more years of education, while Mexican-American migrants were less well-educated. Seventy-seven percent of this group had nine years or less of education, with most of them having had between one and six years of school. Thus they did not benefit as much from school health education classes about STDs, contraception and sexuality as did the blacks.

Another difference in the groups is their religion. While North American blacks tend to be heterogeneous in religious affiliation, the majority of Mexican-American migrants are Catholic. Adultery and STD affliction are considered sinful and shameful by most Catholic migrants, and thus the subject is not talked about freely.

Health care utilization patterns may also explain the differences between the groups. North American blacks are more accustomed to using health care services than the Mexican-American population is. A large proportion of the Mexican-American subjects interviewed in this study said that they had never been to a health center, clinic, or hospital before, which may account for their low level of knowledge about STDs. Language barriers are also present in this ethnic group. Communication difficulty between health care personnel and Mexican-American patients during acute problem STD visits or preventive health examinations also could be reflected in their relatively low level of knowledge about STD.

In the migrant clinic the largest users of health services are women and children, with male migrants representing the smallest users. North American black women of childbearing age receive services for contraception, sexuality education, and prevention of sexually transmitted diseases, which may explain their greater level of knowledge when compared with their male counterparts.

The Mexican-American female migrants had the lowest level of knowledge of all four groups, and are thus at greater risk of STD because of lack of preventive knowledge. This lack is probably due to a combination of factors, such as their infrequent use of health services for preventive exams, language barriers in health care, religious barriers that prohibit extramarital sexuality, and cultural factors.

Cultural factors may also explain the knowledge differences between the two groups. More Mexican-Americans than blacks believed that gonorrhea and syphilis were caused by unhappy family spirits. This belief may reflect their broader view of disease etiology. Illness is attributed to many diverse etiologies in this culture: spiritual punishments, magical origin, natural disease, emotional origin, and the hot and cold imbalance of the body (Orgue, Bloch, & Monrroy, 1983; Schreiber & Homiak, 1981; Gonzalez-Swafford & Gutierrez, 1983).

More Mexican-Americans than blacks believed that purulent vaginal discharge was normal in a woman. This may represent their definition of illness. Usually, three criteria are used to determine if an illness exists: (a) pain, (b) blood, and (c) change in functional ability (Reinert, 1986; Martaus, 1986). Many Mexican-Americans believe that some disorders are normal if they are experienced frequently within their population. These disorders are perceived as minor and harmless, and usually treated at home with self care. Purulent vaginal discharge may be defined as normal because the definition of health in this culture may include signs and symptoms that indicate pathology, as long as the symptoms do not interfere with normal functioning.

Mexican-Americans were more inclined than blacks toward no intervention if a STD was suspected, and took a "wait and see what happens" attitude. This attitude could represent their cultural orientation towards time, which is usually focused in the present and not the future. Their "wait and see what develops"

attitude could also mean that they are waiting for further serious symptom development.

The majority of Mexican-Americans did not believe that the best treatment for gonorrhea or syphilis was penicillin. This belief may represent their belief in alternative treatments and providers. Home remedies may be used first to alleviate symptoms. Folk healers, or curanderas, are consulted only after the family's resources have been exhausted. When treatment by the curandera has failed, treatment by a nurse practitioner or doctor is sought. If the symptom is perceived as minor, the best initial treatment may be perceived as treatment by the family or the curandera, which may include inexpensive herbs, balms, or poultices in lieu of expensive antibiotics.

Reliability and validity studies will be needed to document the precision of the study instrument. In addition, other study limitations that should be addressed in future research studies include the non-random selection of subjects and the lack of a control group of rural, seasonal non-migrant farmworkers to compare with the migrant populations.

Attention to cultural factors in health care of both ethnicities must be given. The nurse needs to explore how the Mexican-American's time is oriented: in the past, present, or future, and then plan care according to the client's orientation. Many Mexican-Americans retain their first language. Under stress, even if bilingual, they will revert to their first language. STD care should be given in the consumer's language. It is best if providers can speak Spanish because translators increase the time per visit and decrease the privacy of the visit. The same sex provider will increase the patient's comfort during a discussion of sexual behavior and sexual contact. Mexican-American patients prefer to be called by their last name. This also connotes respect to the patient who may be embarrassed by needing to seek health care for a STD.

Privacy is valued in the Mexican culture. Clients may become embarrassed by a physical examination of the private parts. Adequate draping is essential to make clients feel more in control of their environment. Their modesty should be respected during the collection of the lab specimens, the physical examination, and the shots, if needed.

Use of alternative treatment regimens should be explored in this culture, and the client may be given permission to continue traditional folk healing (if not medically contraindicated) in addition to western health care. The client should be asked if he or she would like close family members to be included during the counselling sessions, as the family serves as a strong, natural support system for the patient which can help in coping with illness. Mexican-Americans place the family first and the individual last. Much care is given to the nature and support of family members. The nurse should always assess how the STD will affect the individual's ability to function as a family member, and the emotional impact on the family.

Because the male is the head of the household and the dominant decision maker in the family unit, his input is often solicited by the female caregiver during the initial evaluation of symptoms and selection of health care providers. Because important family decisions are made by men, they influence the female's role as primary family caregiver. Mexican-American males and females should both be targeted for STD education about the prevention and early detection of STD. In addition, since most non-English speaking migrants appear at greater risk of insufficient knowledge, they need adequate translation services during health education by nurses.

Important cultural characteristics of blacks should be integrated into their care. Blacks have a unique communication pattern. Black English is a highly oral, spontaneous, rhythmic language with African roots in which the meanings of words are conveyed by how they are said. The black oral tradition is memory oriented, values spontaneous speech, has a participatory audience, and is biased away from the written word toward visual perception. STD health education programs for black migrants should emphasize the oral and visual approach to learning and reinforce the participatory audience focus in small groups. The participatory audience style encourages expression of emotion and solidarity of feeling within a group setting.

Black clients are very sensitive to any signs of racial discrimination. Any behavior that appears condescending, rude, or abrupt may be

interpreted as racism. Black clients may suffer from anxiety in STD clinics because of fears of racism. Nurses should treat blacks exactly like they treat other people—with dignity and respect. Titles such as "Mr.", "Mrs.", or "Miss" should be used to address the clients.

In summary, cultural factors such as value orientations, language use, family relationships, and health beliefs and practices must be integrated into STD care to make it acceptable and tolerable to Mexican-American and black patients.

Nurses in public health departments, community health settings, primary care clinics, and migrant health care centers along the East Coast migrant stream provide health care to migrant farmworkers. Thus they have frequent opportunities to find, assess, refer, and follow-up migrants with STDs. Nurses have a unique opportunity to improve the health of the migrant population through assisting migrants to understand the prevention, natural history, treatment, and complications of STDs.

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