AIDS EDUCATION FOR MIGRANT WORKERS: AN EXPERIMENTAL EVALUATION OF CHANGES IN KNOWLEDGE, ATTITUDES AND BEHAVIORS

by

Milagritos González Rivera

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Psychology

1992

ABSTRACT

AIDS EDUCATION FOR MIGRANT WORKERS: AN EXPERIMENTAL EVALUATION OF CHANGES IN KNOWLEDGE, ATTITUDES AND BEHAVIORS

By

Milagritos González Rivera

This research designed, implemented and evaluated two HIV/AIDS educational interventions for the Hispanic migrant community in Michigan. The main objectives of the educational effort were : (a) to increase knowledge about AIDS in Hispanic migrant communities, (b) to promote the subjects exploration of their attitudes towards people with AIDS (PWAs), (c) to motivate more openness to receive information about AIDS, and (d) to increase awareness of the importance of AIDS education for the Hispanic community. A participatory learning meeting was chosen as the preferred educational strategy for the migrant families. A field experiment was conducted comparing this approach to didactic learning meetings and control condition meetings. Family units on six migrant camps were randomly assigned to one of these three conditions. Two non-equivalent control camps were studied. Quantitative data on knowledge about AIDS and attitudes toward PWAs, homosexuals, and injection drug users was gathered with a post-test survey. Qualitative observations were recorded about elements of the culture and social conditions, and receptiveness and understanding of the HIV/AIDS prevention messages. There was a follow-up on behaviors related to openness and awareness. The study found (a) high scores on general knowledge about AIDS across all groups, (b) significantly higher scores on knowledge about prevention in the participatory learning group than the didactic or control groups, (c) significant positive correlations

between attitudes towards homosexuals, drug users and PWAs and the scores on general knowledge about AIDS, (d) positive correlations between attitudes toward homosexuals and drug users, and attitudes towards PWAs. There were no significant differences between groups in the variables openness and awareness. Still, the encouragement of openness to information about AIDS and the display of awareness of the need to learn about the topic were captured in qualitative observations. Qualitative observations are discussed about interaction between the cultural beliefs and the implementation of the educational program.

ACKNOWLEDGEMENTS

First I want to express my gratitude to the sponsors of this research, Cristo Rey Community Center, the Mid-Michigan Chapter of the American Red Cross, the HIV/AIDS Prevention and Intervention Section (MDPH) and the Department of Psychology at Michigan State University, because of their faith in this project and their interest in the Hispanic community.

Next I need to thank my advisor, Dr. William Davidson and committee members, Dr. Anne Millard, Dr. Galen Bodenhausen, and Dr. Marilyn Rothert for their advice, support, and patience during this fast pace process and for their willingness to teach me what I needed, and to learn with me from this research.

I need to mention the "victims" of this project, my family and friends: my friend, boss and companion during the visits to the camps, Robert Patiño, and his family who all participated in this project in ways they never expected to be involved; my parents Orlando and Vivian, and my sisters, Chaqui and Lourdes who did their best to support me and to "panic" with me when there were problems; and my friends Olga Hernández and Waded Cruzado who have always been there for me and never lost their faith in this project. Having this team of people supporting and pressuring me to achieve, is probably one of God's ways to more directly say when He wants me to do something.

But more than to anyone else I owed this project to the migrant families who let me interrupt their lives and routines visiting them, setting up a tent in their yards and inviting them to come to help me learn if I could be of help. What I am reporting in this dissertation belongs to them and it was their decision to let me see it and record it. I will show my appreciation of what they did for me communicating what they teach me to people that can work and provide services to Hispanic migrant families.

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

CHAPTER I
INTRODUCTION

De la Cancela (1989), Singer, Flores, Davison, Burke, Castillo, Scanlon and Rivera (1990), and Marín and VanOss Marín, (1991) advocate for research on the social issues faced by Hispanics living in the United States. Marín and VanOss Marín, (1991) identify "Prejudice, discrimination, institutional racism, low academic achievement, health problems, lack of access to public services, poor housing, underemployment and unemployment" (p.2) among the unresolved topics that the limited number of social researchers focusing in the Hispanic community have to study. Recently, an even more critical and frightening concern--related to all the other social issues--has been added to the list. It is the high rate of Human Immunodeficiency Virus (HIV) in the Hispanic population in the United States; twice as high as among whites non-Hispanics (Centers for Disease Control, 1989). Singer and his colleagues (1990) reported that in 1988, even thought Hispanics constituted about 8% of the U.S. population, they accounted for 15% of Acquired Immunodeficiency Syndrome (AIDS) cases reported to the Centers for Disease Control. Moreover, Selik, Castro and Pappaioanou (1988) found out that the risk of AIDS is higher in African Americans and Hispanics than in whites. The Center From Disease Control reports that 108,788 of the cases of HIV infection reported were whites, 58,791 were Black and 33,204 Hispanics (Michigan Department of Public Health, Jan. 1992). In Michigan the cumulative rates of HIV (cases per 100,000 of the population in that group) are 16.5, 105.9 and 39.4 in whites, blacks and Hispanics respectively (Michigan Department of Public Health, Jan.1992). Even though the data shows that people of color (specifically blacks and Hispanics) have been disproportionately affected by the epidemic, there is neither enough research on the reasons for these high rates of infection , nor enough

information regarding the preventive interventions that will work best in Hispanic or non-Hispanic communities.

The characteristics of the HIV (Human Immunodeficiency Virus) and AIDS (Acquired Immunodeficiency Syndrome) epidemic are so different from those of any other venereal disease (e.g., syphilis) that the research community has not identified the most effective psychological, educational, social or medical intervention to control the spread of the HIV infection. Some of these characteristics of the HIV epidemic are: (a) AIDS is a fatal disease which could induce great fear among those who correctly or incorrectly perceived themselves to be at risk; (b) the long latency period from initial infection to development of symptoms--sometimes more than five years--(Des Jarlais, & Stepherson, 1991) which makes it impossible for the general public to identify who is infected; (c) HIV is transmitted through behaviors such as unprotected receptive anal intercourse, sharing of needles between drug users, or unprotected vaginal intercourse (Morín, 1988) which produce pleasurable and have been part of most society's sexual practices ; (d) the need for immediate prevention initiatives (and services) appears to outweigh the need for research on effectiveness, and consequently, many different programs are taking place, but there is little evaluation research being conducted (on lack of funding for experimental research on the educational methods to change risk behaviors see,Watkins, 1988) ; and (e) all the HIV prevention messages are controversial, making it difficult to obtain government and public support for the implementation of HIV/AIDS prevention programs.

Other obstacles limiting the effectiveness of prevention strategies are: (a) lack of knowledge about the attitudes and behaviors of specific populations, which makes it difficult to design programs for them (Bakeman, McCray, Lumb, Jackson, & Whitley, 1987; Stall, Coates, & Hoff, 1988; Singer, Flores, Davison, Burke, Castillo, Scanlon, & Rivera, 1990;Marín & VanOss Marín, 1991) ; (b) the ethical dilemmas faced by the

government and health educators because of the potential conflict of some programs with commonly accepted principles of biomedical ethics--beneficence, justice and respect for autonomy (Walters, 1988)--,the explicit presentation of information about AIDS risk behaviors, and with mandatory HIV testing (Eisenberg, 1989); and, (d) the stigmas attached to AIDS because of its evocation of death and illness--the "fundamental anxiety" we repress, according to Schutz (cited in Herek and Glunt, 1988)--and especially when linked with the groups that have been identified at highest risk of developing AIDS: homosexuals, drug users, blacks and Hispanics (Herek & Glunt, 1988; Sabatier, 1988).

The moderate success of preventive efforts due to the barriers listed above, supports the logic of Batchelor' s (1988) statement about the causes of the spread of the disease, "AIDS is caused by a virus, but clearly it is indirectly being spread by fear, denial, and prejudice" (p. 853). It is expected that fear, denial and prejudice could be in some ways diminished by educational efforts which are the main strategies in prevention of illness like AIDS. Some of these reactions are probably related to the confusing information about what AIDS is, its origin and its ways of transmission. Unfortunately, the lack of information about AIDS is more common among blacks (Hardy, 1990) and particularly Hispanics (Dawson and Hardy, 1989), whom also show higher cumulative incidence of AIDS than the White non-Hispanic adults (Bakeman, McCray, Lumb, Jackson, & Whitley, 1987; Torres, R. E., 1990).

Given the characteristics of the HIV epidemic, and the barriers to prevention programs many researchers suggests that, in the absence of a vaccine to prevent the HIV, the only way to control the epidemic will be educating the population about the risk factors (Fisher, 1988; Eisenberg, 1989; Sabatier, 1988; Baum & Nesselhof, 1988; Crawford, Jason, & Salina, 1990; Peterson, & Marín, 1988; Ostrow, 1989).

There is a large Hispanic community in Michigan (mostly migrant workers). In a recent report, providers of services to this community identified health as the second most important problem of Hispanic migrant workers (Rochin, R.I., Santiago, A.M., & Dickey, K.S., 1989). Reports about health of Hispanics in the Midwest also show that the cumulative incidence of AIDS is much higher than the cumulative incidence for white non-Hispanics in Michigan: 20.3 vs. 9.9 per 100,000 (Torres, R., 1990a, 1990b) and 39.4 vs. 16.5 per 100,000 (Michigan Department of Public Health, January, 1992). Lafferty (1991) interviewed a convenience sample of 411 eastern stream migrant farm workers and found that : (a) 36.8% of the men had two or more sexual partners during the previous year, (b) 25% reported having multiple partners without the use of a condom, (c) anal intercourse was present at insignificant levels, (d) 18% reported having intercourse with women who sell sex, (e) 2.9% said they used illegal drugs, and (f) 20.3% reported self-injecting antibiotics and vitamins--from which 3.5% reported having injected those with a shared needle. Also, Selik (1989) reported that the risk of AIDS for Hispanics in the Midwest was three times higher than the risk for non-Hispanic Whites. If education is a key to AIDS prevention, it is critical to note that a survey about knowledge, attitudes and behaviors of Hispanics served by the Cristo Rey Community Center in Lansing (Special Office on AIDS prevention and Cristo Rey Community Center, 1990), showed high percentages of people answering incorrectly to questions about AIDS and about ways to prevent it.

Interestingly, different studies have found that the Hispanics get their information about AIDS mainly from the television and that a large proportion of the samples reported having heard about AIDS (Dawson, D.A., & Hardy, A.M., 1989). Why is there such a difference in the knowledge and attitudes about AIDS in the Hispanic community when compared to other groups? Stipp and Kerr (1989) suggested that negative attitudes toward homosexuals constrain the ability of the media to communicate

information about AIDS to the general public. More specific to the Hispanic community, it has been hypothesized that the culture and beliefs of this group have not been taken into consideration in the design of educational efforts and therefore, it is difficult for Hispanics to relate with the information and/or to follow the advice (Mays, V.M. & Cochran, S.D., 1988). Some elements of the Hispanic culture and beliefs that have been suggested for consideration in the design of programs are: religiosity, sexuality, "familismo", "simpatía" script, "respeto"--also discussed as "power distance" by Marin and VanOss Marin, 1991--, "machismo", and "marianismo". Also, it has been suggested that AIDS education efforts should not be limited to passive dissemination of information techniques, and that participatory approaches could be more effective (Crawford, Jason, & Salina, 1990).

The lack of information on the sexual behaviors of Hispanics and other people of color as well as a lack of information regarding their attitudes toward prevention behaviors makes the design of prevention programs for these communities very uncertain. However, the high and fast rate of HIV contagion among people of color does not allow researchers to conduct the studies on attitudes, cultural values, socioeconomic influences, and other social conditions while waiting to, proceed to design and implement prevention programs. The research presented in this dissertation is the result of an exploratory field comparison of two HIV/AIDS education methods implemented with Hispanic (Mexican) migrant communities in Michigan during the Summer of 1991. Quantitative data on knowledge about AIDS and attitudes toward people with AIDS (PWA), homosexuals, and injection drug users was gathered to test the effectiveness of educational interventions. Further, qualitative observations were recorded to study possible relationships between elements of the culture and social conditions, and receptiveness and understanding of the HIV/AIDS prevention messages. Chapter II (AIDS and the general public) will discuss: the origin and

development of AIDS and knowledge, attitudes and behaviors about AIDS in the general population. Chapter III (AIDS in the Hispanic population) will discuss (a) knowledge, attitudes and behavior of Hispanics concerning AIDS, (b) special issues on AIDS education for the Hispanic population, (c) HIV/AIDS prevention, and (d) the rationale for an HIV/AIDS prevention program for Hispanic migrant families in Michigan. Chapter IV describes the method used in the implementation of a field comparison of two education programs about AIDS. Chapter V describes the results of the comparison and chapter VI discusses the results and proposes questions for further research. The literature review covers the period since 1971 until 1991. The sources reviewed during the literature search were mainly, the PsyInf computer database, the "Index to Health Information: A Guide to Statistical and Congressional Publications on Public Health", a computer search of the "Index Medicus" (last 10 years), a computer search on "Health" (last five years), and the "Social Sciences Index".

atti

cha

kno

syn

imp

wha

imm

whi

atta

ceas

thos

body

syndr

calle

Clear

abnor

to be

many

CHAPTER II

AIDS AND THE GENERAL PUBLIC

This chapter provides background information on the AIDS epidemic and knowledge, attitudes and behaviors of the general public about AIDS. The following sections of this chapter discuss: (a) the origin and development of the HIV/AIDS epidemics, and; (b) knowledge and attitudes of the general public about AIDS.

AIDS: Origin and Development

Sabatier (1988) provided a definition of AIDS, "AIDS is not really a disease, but a syndrome of opportunistic infections which strike when immune functioning has been impaired by HIV" (p. 35). Batchelor (1988) provided a very simple explanation of what the AIDS virus does to the organism. He explained that HIV does not destroy the immune system, but rather damages it by infecting and killing the T-4 "helper/inducer" white blood cells, which are supposed to notify the B-cells (the ones in charge of attacking viruses) when they should attack a virus present in the body and when they can cease the attack. Therefore, the body becomes susceptible to infections and cancers; those infections are the so called "opportunistic infections," because they develop in a body contaminated with HIV.

In addition to the physical symptoms that each of the infections associated with the syndrome would cause in the person with AIDS (PWA), a neurological syndrome called AIDS-dementia has been identified. Price, Brew, Sidtis, Rosenbaum, Scheck and Clearly (1988) described the characteristics of AIDS-dementia as including abnormalities in cognition, motor performance and behavior. This syndrome is thought to be the outcome of the direct effect of the virus on the brain. Also, since PWAs face many sources of stress, AIDS has been found to affects psychosocial variables such as

vocational and social functioning, self-esteem, mood states, physical abilities, family and other relationships, and sexual function (Namir, Wolcott, Faozy & Alumbaugh, 1987). However, it is also known that people infected by the HIV could be entirely asymptomatic, only a fraction have the more serious syndrome of AIDS, and it is a virus very difficult to contract (Watkins, 1988). This observation is true since AIDS is only transmitted through direct contact with contaminated blood, vaginal cervical secretions or semen (Osborn, 1986). Research is currently being conducted identifying possible co-factors or variables that could precipitate the development of AIDS in subjects infected with the HIV or of variables that will make a subject more vulnerable to develop HIV infection. Among the factors already identified are other non-HIV infections that will increase the likelihood of infection following exposure, or increase HIV virulency among those people who are already HIV infected (Koop, 1986). Also, environmental factors such as malnutrition, are also being hypothesized as potential co-factors (Bakeman, McCray, Lumb, Jackson, & Whitley, 1987).

In spite of the great interest and effort of the research community, there has not been success in the identification of the origin of the HIV. In his book, Sabatier (1988) described three theories about the possible origin of the virus. First, that it may develop from an old human disease previously found only in an isolated group having immunity; when the virus was transmitted to someone from another ethnic group, it became a disease of deathly consequences. The second theory is that the virus developed from a virus in monkeys. The third theory is that it was developed purposely or accidentally in a laboratory. Sabatier explained that there is some evidence for the first theory, since there are still some very isolated groups--especially in Central Africa. Sabatier thought that the second theory is not too probable anymore because the scientists who identified a virus similar to the HIV in monkeys, reported in 1988 that they had made a mistake. The third theory is difficult to confirm or disconfirm using

scientific methods. Even though the origin of the syndrome has not been identified, the efforts to find it has lead to the discovery of possible AIDS cases in patients as early as 1959 (Sabatier, 1988). Part of the early history of the disease lead to the unfortunate stigmatization of African blacks and Haitians, as potential original disseminators of the HIV virus.

The HIV and AIDS Epidemics

Cases of AIDS began to be noticed in the late 1970's and early 1980's in different locations, such as, Belgium, France, Haiti, the U.S., Zaire and Zambia (Sabatier, 1988). Several articles (Morin, 1988; Eisenberg, 1989) identified the onset of AIDS according to the Center for Disease Control's report of the first case in June, 1981. It has been also argued that press coverage for AIDS was inadequate until heterosexual members of the society started to suffer the syndrome (Herek & Glunt, 1988). Researchers have presented evidence that this phenomenon could be attributed to prejudice against homosexuals (Herek & Glunt, 1988).

Mann (1988) explained that AIDS evolved in three distinctly separated epidemics: an epidemic of HIV infection beginning in the mid-1970's, the epidemic involving the case surveillance definition of AIDS, and a third one involving the social, cultural, economic and political reactions to AIDS--the latter being studied recently.

Three different patterns of HIV infection have been identified according to geographic locations, as described by Eisenberg (1989):

1. The pattern of transmission in North America, Western Europe, Australia, New Zealand, and urban areas of Latin America, which is basically transmission among homosexual and bisexual men, and through blood among injection drug users (IDUs).
2. The pattern of transmission of HIV found in Sub-Saharan Africa and the Caribbean which consists mainly of heterosexual transmission through blood transfusions.

3. The pattern of transmission found in North Africa, the Middle East, Eastern Europe, Asia and the Pacific, which is characterized by low rates of infection and primarily through exposure to imported blood products, or through sexual contact with travellers from areas with patterns I and II.

Crawford, Jason and Salina (1990) reported estimates of more than 1.5 million people in the United States infected with the HIV virus (seropositive) who are probably asymptomatic, but capable of transmitting the virus to others. It has been suggested that people of color (blacks and Hispanics) have a higher rate of AIDS than the whites, but still have the same rate of HIV infections. It is further suggested that environmental conditions make them more vulnerable to develop the syndrome. Nevertheless, Bakeman, McCray, Lumb, Jackson & Whitley (1987) reported that higher rates of HIV have been found among blacks and Hispanics than among whites.

In terms of patients identified suffering the development of AIDS, Eisenberg (1989) reported that in July 1988, 100,000 cases of AIDS had been reported to the World Health Organization, which at that time estimated the actual cumulative total as probably of about 250,000 cases. In the United States, homosexuals were the first group identified as suffering of AIDS--especially in New York, Los Angeles and San Francisco (Batchelor, 1988). After 1982, other concerns regarding AIDS started to emerge because heterosexual contact and shared needle use were also identified as sources of transmission (Morin, 1988). On the other hand, the discovery of high rates of AIDS among Haitian immigrants to the United States was interpreted by some researchers and policy makers as an increased potential for spreading AIDS among the heterosexual community (Batchelor, 1988).

Bakeman, McCray, Lumb, Jackson, and Whitley (1987) analyzed a data set from the Center of Disease Control (CDC) on 33,720 cases of AIDS (as of 1986). They found that white men accounted for 64% of the adult male cases of AIDS reported to

CDC and black , Hispanic, and other racial/ethnic groups, accounted for 21%, 14% and 1% of AIDS cases, respectively. In 1988, Siegel reported that, as of 1987, 70% of the AIDS cases in heterosexual males were accounted for by blacks and Hispanics. In the United States 108,788 cases of AIDS in whites, 58,791 in blacks and 33,204 in Hispanics, have been reported to the Center for Disease Control (Michigan department of Public Health, January 1992). In 1987, Bakeman and his colleagues reported the transmission groups for males and females of three different racial/ethnic groups. The largest transmission group for whites, blacks and Hispanics was that of homosexual or bisexual men (83% of white men with AIDS, 50% of black men, and 53% of Hispanic men). The second largest transmission group for black (34%) and Hispanic (34%) males includes the heterosexual men who used injection drugs (IDs). The white males contaminated through IDs constitute a 4% of the adult, white male population with AIDS. Also, 8.5%, 8.7% and 7.6% of white, black and Hispanic males with AIDS were identified as both, IDUs and homosexuals or bisexuals. More recently, Singer and his colleagues (1990) reported that the percentages of cases of HIV infection among Hispanics were almost the same in the IDU category as in the homosexual/bisexual contact category. They also reported that the percentages of cases of exposure through heterosexual contact are similar for Hispanics and whites and far below the percentages for blacks, and that fewer Hispanics have been exposed to HIV through blood transfusions.

Researchers (Bakeman et.al., 1987) identified a strong correlation between the number of male heterosexual IDUs with AIDS and the number of AIDS cases among women in the three racial/ethnic groups (the correlation was .95). Moreover, when they computed the correlation between female and male cases of AIDS, in general, the correlation was just .389. The study found that black, white and Hispanic women accounted for 49%, 30%, and 21%--of the female--cases of AIDS reported to CDC.

The major source of transmission for all three racial/ethnic groups of women was ID use (61% blacks, 41% whites and 55% Hispanics) and, the second one, heterosexual contact with IDUs.

When Bakeman, McCray, Lumb, Jackson & Whitley (1987) compared the cumulative incidence of the disease in whites, blacks and Hispanics--the cumulative index is the number of cases reported to CDC since 1981 per million relevant population-- they found that AIDS has affected blacks and Hispanics disproportionately. The CI index for black and Hispanic men were 2.6 and 2.5 times higher than the rate for white men, and the CIs for black and Hispanic women were, respectively, 12.2 and 8.5 times higher than the CI for White females. Interestingly, Selik, Castro, Papaioanou and Buchler (1989) found variations in the HIV risk factors between different Hispanic groups in the United States--depending on the country of origin. In each region of the United States, the cumulative index of AIDS in heterosexual intravenous drug users/abusers in Puerto Rican born persons was higher than in any other Hispanic group. Also Puerto Rican-born persons were the only Hispanic group in whom most of the cases of AIDS were reported from heterosexual intravenous drug users/abusers as opposed to the higher percentages of infection in the Cuban community who are classified in the homosexual/bisexual category of exposure. Bakeman, McCray, Lumb, Jackson & Whitley (1987) analyzed variables that have been hypothesized as related to the higher rates of incidence in the black and Hispanic population compared to the whites; the arguments are listed and their criticisms of each one are summarized:

1. **More IV drug users among blacks and Hispanics:** This argument was not supported by their analysis because when they discounted the IV drug users and computed the CIs for the three groups, the incidence of AIDS was still 1.7 times higher for black and Hispanic men than for white men. Nevertheless, needle sharing is a

major factor for the high incidence of AIDS in people of color (43% and 42% of AIDS cases in black and Hispanic men, respectively, resulted from needle sharing).

2. **Undercounting of people of color in the census:** This argument was not supported by their analysis and, even if it were true, for the black CI to equal the white CI the number of black men in the population would have risen to 21.7 million instead of the actual 8.3 million: an unlikely miscalculation.

3. **Undercounting of AIDS cases in whites:** Again, the argument was not supported by the data because, if the AIDS cases in whites were undercounted, there would have to be 50,359 cases of AIDS in this group--instead of the identified 19, 483--in order to have the CI of AIDS cases that blacks have, another unlikely error of undercounting.

4. **AIDS is more prevalent in large cities and people of color are more likely to live in large cities:** Researchers compared the CIs of whites and people of color separately for urban and other areas and rates of AIDS were higher for the people of color in both situations. Therefore, the argument that the higher rate of AIDS cases--when compared to the rates for whites--was due to the fact that people of color tend to live in cities were the conditions promote the spread of the disease, was not supported.

5. **Sexual behavior:** The number of homosexual or bisexual cases of AIDS in black and Hispanic men was 1.7 times higher than for white men. In this regard, the authors discussed that little is known about the sexual behavior of blacks and Hispanics, and that it is possible that members of these groups engage in unprotected sexual behaviors, and/or that some men who engage in homosexual behavior fail to think of themselves as homosexual (therefore at risk, according to the media), if they have the active role during intercourse.

6. Environmental factors that increase stress are more prevalent among people of color: The authors suggest that it could be that differences in nutritional patterns and coping skills make the people of color more likely to develop HIV infections or AIDS, if the subject has been exposed to HIV. This happens because anything that weakens the immunological system (co-factors) makes the individual more prone to progress from the HIV infection to AIDS, and nutritional patterns, as well as stress, alcohol, and other infections are considered co-factors (Bakeman, McCray, Lumb, Jackson, & Whitley, 1987).

Knowledge and Attitudes About AIDS

If Bakeman, McCray, Lumb, Jackson & Whitley (1987) would have posited in their article the expected trend for the incidence of AIDS in the next years, they probably would have mentioned that it is expected that the difference in rates of AIDS cases between racial/ethnic groups and whites is likely to increase. One of the hypothesized reasons for such an increase in the already large difference, is that maybe the educational efforts with whites are been more effective than the ones targeted at people of color. This appears to be because there is more knowledge about whites' attitudes, knowledge and behaviors,which facilitates the design of programs. Moreover, the cultural beliefs of Hispanics and blacks are not well understood by policy makers in the United States and have not been considered in the design of some public campaigns for AIDS prevention (Mays, & Cochran, 1988; Singer, et.al., 1990).

Studies of attitudes, knowledge and behaviors about AIDS in the general population and in Hispanics provide information on elements that should be considered while educating Hispanics about AIDS. It is also apparent that some segments of the population have been receiving more education about AIDS than others.

In 1987, Singer, Rogers and Corcoran reported that since the first poll about AIDS (1983) until 1986 there were 23 surveys--almost all of them nationwide. The summary of these 23 polls is organized according to six dimensions: (a) awareness of the disease; (b) concern about AIDS, both as a medical problem in general and as a problem for one's own health; (c) perceptions about the likelihood of its spread; (d) beliefs about methods of transmission; (e) attitudes toward measures for protecting the public; and, (f) reported changes in ones' own behavior to avoid exposure. The authors identified that between 1983 and 1986 the number of people who said that they had heard about AIDS increased from 77% to 99%. There was just a slight difference in the percentages of awareness about AIDS as a function of education. Even though those with least amount of education were found to be least likely to be informed about AIDS, the differences were not large.

It was found that those at greater risk are most likely to express concern about AIDS. Some of the groups that showed greater than average concern about AIDS were: young people, those under 30 years old, single people, people living in urban areas, and blacks (who were also most likely to have changed their behavior).

The polls revealed that people could accurately identify the extreme modes of transmission of HIV (semen, blood and vaginal cervical secretions), but were confused about intermediate behaviors (tears, saliva). The confusion was especially evident among people of color (in this case the researcher reported data on all non-white groups combined), since a large number of them thought that AIDS could be transmitted through kissing, sharing a drink glass, and/or eating food prepared by someone who has AIDS. Unfortunately, an increase in accuracy overtime is not reflected in the data from the polls analyzed.

When the attitudes about government regulation regarding AIDS and attitudes toward people with AIDS were evaluated the following were found, 1) a decrease in the

percentages of people indicating that they will fight to have a child with AIDS removed from the school, and 2) increases in the number of people reporting that school employees with AIDS should be taken off the job. Later, this issue will be revisited because it could be related to attitudes toward homosexuals and drug users and the possible relation of these attitudes with attitudes towards people with AIDS.

Only a slight increase in the number of people reporting changes in their behavior as a result of AIDS was captured in the data from polls between 1983 and 1986. Another main finding reported by Singer, Roger and Corcoran (1987) was a small but steady increase in the percent in the people saying that they avoided homosexuals, stayed away from places where homosexuals might be present, and refused elective surgery that would require blood transfusions.

Another major source of information on knowledge and attitudes about AIDS in the general population is the report by Hardy (1990), based on a set of questions included in the National Health Interview Survey (NHIS) of the National Center for Health Statistics. Hardy's report is based on data of the period from October 1989 until December 1989. The information about AIDS gathered in the NHIS is classified in six areas: (a) sources of AIDS information; (b) self-assessed levels of AIDS knowledge; (c) basic facts about the AIDS virus and how it is transmitted; (d) blood donation and testing experience; (e) awareness of and experience of the blood test for HIV; (f) personal acquaintance with persons with AIDS or HIV; and, (g) willingness to take part in a proposed national seroprevalence survey.

Clearly, the most common source of information about AIDS is television: 80% of the sample reported that they saw public service advertisements (PSA's) about AIDS on television during the month before the survey, as opposed to 45% who reported having heard information on the radio. Also, the proportion of people who had seen or heard the information about AIDS, increased with years of education. In terms of other

dem
havi
duri
AID
like
pare
adu

the
pro
sim
tha
30
kn
or

ma
kn
th
of

w
of
ab
or
bi

demographic characteristics, black adults were more likely than white adults to report having heard radio PSA's (51% compared to 44%) and read brochures (29% vs. 19%) during the last month. For all groups, the proportion who reported ever having read AIDS brochures was very similar and low. In addition, females were identified as more likely than males to have read the AIDS brochures. Sixty-three percent (63%) of the parents said their children received information about AIDS in school, and 61% of the adults said that they had ever discussed AIDS with a friend or relative.

Changes in the levels of self-assessed knowledge about AIDS were not found in the data from 1989 (68% claimed to know at least something about AIDS). The proportion of white and black adults that reported that they knew a lot about AIDS was similar (25 and 23%, respectively), but the proportion of black adults which reported that they knew little or nothing about AIDS was higher than in white adults (41% vs. 30%). Education and age of the subjects also had an effect in the levels of self-assessed knowledge, with people with less than 12 years of education and people 50 years of age or more claiming little or no knowledge about AIDS.

The assessment of knowledge showed that accurate information about the three major modes of transmission was high in all demographic groups. In general, AIDS knowledge increased with education, and was higher for people less than 50 years old than for those 50 years or over. Hardy also reported a small difference in the frequency of correct responses about AIDS between black and white adults.

The proportion of people who had heard about the blood test for the AIDS virus was high and remained unchanged throughout 1989 (74%). Once again, the proportion of people who have more information about AIDS--in this case, those who had heard about blood testing--was higher for: white than for black adults; among people with 12 or more years of education; and, among adults younger than 50 years old. In regard to blood testing for AIDS, only 21% reported that they had been tested for AIDS; the

majority of them as part of blood donation (67%) and only 19% sought the testing voluntarily.

Using condoms and keeping monogamous relationships were considered effective prevention methods by all subgroups (71% or greater, and 74% or greater respectively). The proportion who identified monogamy as an effective prevention method, was greater among black adults (from 70% to 79%). The researchers did not report if this difference is statistically significant.

The proportions of people reporting that they felt that they had no chance of having HIV infection (83%) and of people reporting that they felt that they had no chance of getting AIDS (77%), did not show too much change over the data collection period (October 1989 to Decembr 1989). Females were more likely than males to report no chances of having or getting AIDS, and--probably related to less knowledge about AIDS--people 50 years or over and those with 12 or fewer years of education were also more likely to report no chance of infection than younger and more educated persons.

As it can be expected during epidemics, the number of adults which reported knowing someone with AIDS was found to increase steadily since the NHIS started to ask the question in 1987 until 1989, but Hardy (1990) does not report the numbers.

Summarizing what have been learned about the knowledge and attitudes of the general public regarding AIDS, researchers have found: (a) a steady increase in the number of people who say they have heard about AIDS; (b) accuracy in identification of the three major modes of transmission of HIV and confusion regarding intermediate behaviors; (c) increases in the number of people agreeing with more regulation and isolation of adults infected with HIV; (d) that television seems to be the most common source of information about AIDS; (e) small percentages of people saying that they know a lot about AIDS; (f) a small number of people requesting the HIV blood test voluntarily; (g) large percentages of people identifying the use of condoms as effective

prevention methods; and, (h) small percentages of people feeling at risk of having or getting HIV. Both studies reviewed above (Singer, Rogers, & Corcoran, 1987; Hardy, 1990) found repeatedly that educational levels and age of the subjects were related to most of the variables about AIDS, with the more educated and younger members of the sample having more information about the disease. None of the studies reported information on Hispanics. Some data on black adults and people of color (non-whites) was mentioned in the articles, and it showed that either black or people of color in general or older adults were in disadvantage in some aspect regarding AIDS (such as knowledge, misconceptions, and/or preventive behaviors).

CHAPTER III

AIDS AND THE HISPANIC COMMUNITY

This chapter will discuss: (a) the knowledge, attitudes, and behaviors of Hispanics about AIDS; (b) special issues on AIDS education for the Hispanic population, including attitudes towards homosexuals, and cultural values; (c) HIV/AIDS prevention, including theories of prevention, and HIV/AIDS prevention programs, and (d) the rationale for the design of the program and the research in the section titled "AN HIV/AIDS prevention program for Hispanic migrant families in Michigan."

Knowledge Attitudes and Behaviors of Hispanics about AIDS

Dawson and Hardy (1989) published a special report on Hispanics' knowledge and attitudes about AIDS, gathered during the National Health Interview Survey from May to October, 1988. The authors specified that the sample of Hispanics was very small and full of sampling errors, and therefore, only large differences were considered statistically significant. However, they did not provide information about the types of sampling errors. The analysis of these data on Hispanics showed:

1. Similar changes in knowledge between Hispanic and non-Hispanic adults and similar patterns of knowledge and attitudes about AIDS and HIV within the Hispanic population, as for the U.S. population as a whole (during the period from May to October 1988). Still, when compared to the group of non-Hispanic, those of Hispanic origin were found to be less knowledgeable about many aspects of AIDS and HIV. The relationship between education and age with more knowledge about AIDS discussed in the previous section was also identified in Hispanics in Dawson and Hardy's (1989) sample.

2. A large percentage of Hispanics (84%) watched PSA's about AIDS on television the month before the survey and 56% of them had heard ads on the radio. It is important to note that the proportion of Hispanic adults who received the information from television was also related to age and education: 87% on those 18-29 years, 78% of those 50 years or older; and 73% of those with less than 12 years of education and 53% of those with 12 or more years of education and over, received the information from television. Hispanic men heard the radio advertisement in a higher proportion than Hispanic women (61% vs. 51%). This proportion of people getting the information from the radio was also higher for people with more education than for those with less than 12 years of education. Fifty-one percent (51%) of the Hispanic people reported ever having read brochures or pamphlets about AIDS (36% reported having done so during the previous month). Only 45% of people with Mexican ancestry reported ever having read brochures or pamphlets about AIDS, compared with 57% of other Hispanics. Once again, age and education were related to the proportions of people who had ever read materials on AIDS: 59% of those age 18-29 years , 32% of those 50 years of age and over, 34% of those with less than 12 years of education , and 63% of those with 12 or more years of education.

3. The experiences of the Hispanic families in sharing information about AIDS--especially communicating information to the children about AIDS--was studied. Fifty percent (50%) of Hispanic adults reported having discussed AIDS with their children age 10 to 17 years and 60% stated that their children received information about AIDS at their schools. It was also identified that Hispanic men (39%) were less likely than Hispanic women (56%) to have discussed AIDS with their children. Subjects of Mexican ancestry were less likely than other Hispanics to have talked about AIDS with their children (42% vs. 57%, respectively).

4. Only a small number of Hispanic adults reported that they knew a lot about AIDS (21%), and 36% said that they knew some information, 31% that they knew a little, and 13% that they knew nothing about AIDS. Subjects of Mexican ancestry were more likely than other Hispanic adults to feel that they didn't know anything about AIDS (16% vs. 9%, respectively) and less likely to report that they knew a lot than other Hispanics (44% vs. 33%). The proportion of Hispanic adults who claimed to know a lot about AIDS was higher among those having 12 years of school or more than in those with less education, those 50 years of age or over were less likely to report that they knew a lot about AIDS than younger members of the sample (14% vs. 22%, respectively).

5. The misconceptions about AIDS in Hispanics decrease with education. Still, Mexicans reported misconceptions in a higher proportion than other Hispanics.

6. Regarding HIV blood tests, Hispanics were less likely than non-Hispanics to have heard about the HIV blood test when they had less than 12 years of education, and equally likely to have heard about the test when they had 12 years or more of education.

7. With respect to the proportions of Hispanics that thought that using condoms and/or keeping monogamous relationships with people not infected with HIV were effective methods of protection against getting infected with HIV: 28% said that condoms were very effective (compared to 83% of non-Hispanic adults), and 77% thought that monogamy was very effective.

8. Only one percent of the Hispanic adults reported that there was a high chance that they were already infected with HIV. Seventy-six percent (76%) of the Hispanic adults felt there was no chance of them becoming infected, and 13% said that their chance of becoming infected was low. Variations on perceived risk were found to be related to age (perception of risk decreased), but the variables of sex and education did not seem to be related to that perception.

9. The proportion of Hispanics that trusted information about AIDS provided by the government, and the proportion that said they trusted advice from the government on how to avoid AIDS were 69% and 77%, respectively. However, it was found that trust in government information and advice decreased with age and increased with education. Mexicans were more skeptical than the non-Hispanics or other Hispanics.

Dawson and Hardy (1989) did not report the significance of the differences between Hispanics and non-Hispanics in many areas, but the proportions and values for Hispanics were always lower--especially for Mexicans. A main concern with their report is the statement that the data collection on Hispanics was full of sampling errors. However, neither these errors nor information about income and other demographic characteristics of the Hispanics surveyed--except age, sex, education, and whether the subject is Mexican American or "Other-Hispanic"--appear listed in the report. This makes it difficult to hypothesize what areas of the data could not be descriptive of the majority of the Hispanic population. A survey of knowledge, attitudes and behaviors about AIDS conducted with the Hispanic clients of Cristo Rey Community Center in Lansing, Michigan, provides information about poor and underprivileged Hispanics--Mexican or with Mexican ancestry. Some main differences between the data from Cristo Rey and that of Dawson and Hardy will be highlighted.

The survey at Cristo Rey was conducted in the period of May-June 1989 as a randomized survey assessing knowledge, attitudes, beliefs, and behaviors of Hispanic clients at Cristo Rey. It was administered to 145 clients by the Special Office on AIDS Prevention (as of December, 1991 called HIV/AIDS Prevention and Intervention Section) and Cristo Rey Community Center. Interestingly, in most of the variables there were major differences between the Hispanics who answered the instrument in Spanish and those who preferred to do it in English:

1. In regard to knowledge about AIDS: (a) seventy-three percent (73%) of those who preferred to answer in Spanish answered incorrectly or did not know the answer to the item regarding if condoms and jelly are effective against HIV infection (compared to 17% of those who answered in English); (b) only 5% of those answering in Spanish reported that they knew a great deal about AIDS (as opposed to 25% of those who answered in English); and, (c) 68% of the Spanish speaking and 27% of those who answered in English reported that they knew very little about AIDS.

The only knowledge-related area where the Spanish speaking subjects seem to have a slight advantage was in terms of the proportion of those who have heard about AIDS (30% of Spanish speaking vs. 14% of English speakers). However, this could be a mistake in the report or in the subjects' interpretation of the question, because it is not clear if it is possible to reconcile the fact that Spanish speaking subjects knew much less about AIDS than English speaking subjects with the fact that they have heard about it more often than the English speaking subjects. If there are no mistakes in the report or in the data, it suggests that, even though the Spanish speaking subjects received information more often, they do not understand it as well as the English speaking subjects. Also, Marin and VanOss Marin, 1989) found a strong positive correlation between acculturation and knowledge about HIV transmission, and acculturation in the case of the Hispanics in the United States, usually includes knowledge of the English language. Keith Bletzer, (1991) also found in a sample of migrant workers in Michigan that from the respondents who answered eight or more of ten questions about HIV/AIDS correctly, 55% answered in English and 44% answered in Spanish.

The age of the subjects was related to knowledge about AIDS, since those under 40 years of age or those with more education or both (under 40 years old and with more education) were more likely to identify correctly the potential routes of transmission of HIV, than older subjects--especially those 50 years of age or more. Also, age was

positively correlated with misconceptions about HIV/AIDS. The education level of the respondents was positively correlated to a "Summary Knowledge Index" and negatively correlated to the number of misconceptions about AIDS.

2. When the subjects were asked if AIDS patients should be forced to live away, many of them (53% of the Spanish speaking and 13% of the English speaking), reported that they didn't know.

3. There was a large difference in the proportions of Hispanics reporting correctly that women can get AIDS, in Spanish and English speaking subjects (50% vs. 80%, respectively).

4. It was identified that single respondents were less likely to respond correctly to questions on knowledge, attitudes and beliefs: (a) 80% of single respondents didn't believe AIDS was a problem, (b) 38% didn't think it was dangerous, (c) 50% didn't know that AIDS was transmitted in sexual intercourse, (d) 41% knew very little about AIDS or had never heard of it.

5. The information about the sources of information about AIDS reflected the findings of previous studies cited above. Television continued to be the main source of information about AIDS (52% of the subjects).

6. Three items included in the survey dealt with the subjects' interest in the education about AIDS for their family: (a) 55% wanted their family to get information about AIDS, (b) 96% wanted their children to get information about AIDS, and (c) 39% answered that a Community Center was the place to go for information.

7. The study included the computation of an "Effective Prevention Summary Index" and the variables: education, "Knowledge Index", and perception of oneself as at risk of developing AIDS, showed to be positively correlated to the prevention index.

Other studies of AIDS knowledge, attitudes and behaviors among Hispanics found: (a) replication of the finding of higher misconceptions about AIDS in Hispanic

and black communities than in white communities (De la Cancela, 1989); (b) that knowledge about AIDS is negatively associated with perceived risk of infection , and perceived risk is positively correlated with prevalence of misconceptions (Di Clemente, et.al.,1988); (c) that only 15% of Hispanic respondents answered correctly to the item, "AIDS is common among Hispanics" (Marin & VanOss Marin, 1989); (d) that approximately one-third of the Hispanics in the sample were unaware that there is no cure for AIDS (AIDS Community Research Group, 1989); (d) that 36% of Hispanic respondents compared to 80% of black and non-Hispanic white respondents were aware that using a condom is an effective way to prevent HIV transmission; and (e) that Hispanics are more likely to fear that they or someone they know will get AIDS, than blacks and non-Hispanic whites (AIDS Community Research Group, 1988).

Currently, there is no conclussive information about Hispanics' knowledge, attitudes and behaviors about AIDS (a large scale randomized survey has not been conducted), but some main points have been presented in the data described above: (a) those of Hispanic origin are less knowledgeable about AIDS than the group of non-Hispanics; (b) the main source of information about AIDS for the Hispanics seems to be the television; (c) moderately high percentages of Hispanics reported ever having read AIDS brochures or pamphlets about AIDS; (d) Hispanic men are less likely than the women to have discussed information about AIDS with their children; (e) a small number of Hispanic adults identified condoms as an effective prevention method and a high number of them thought that monogamy was an effective prevention method; (f) perception of risk of HIV infection is not found frequently among the Hispanics and when it is found it is negatively correlated with knowledge about AIDS and positively correlated with misconceptions about AIDS. ; (g) knowledge of Hispanics about prevention methods is very limited; (h) single subjects were less likely to answer correctly to questions about AIDS, to believe that AIDS is a problem, and/or to have

heard about AIDS; (i) that a small number of Hispanics identified AIDS as problem in the Hispanic community and knew that there is no cure for AIDS; and (j) that Hispanics were more likely to believe that they or someone they know could get AIDS than the non-Hispanic whites and blacks. Also, another main finding was that when Mexican-Americans or Mexicans were compared to a group of "other Hispanics", the Mexicans or those with Mexican ancestry showed to be in disadvantage regarding many variables, such as: (a) knowledge about AIDS and prevention behaviors; (b) talking to the children about AIDS; (c) number of misconceptions about AIDS; and, (d) skepticism regarding government advice about AIDS.

Special Issues on HIV/AIDS Education for the Hispanic Population

Several reasons have been suggested to account for the failure of the media in communicating information about AIDS to the general public and specifically to the Hispanic community (stigma towards homosexuals and cultural beliefs).

B.V. Marín, (1990) stated that there is data showing that mass-media-based changes in attitudes and behaviors could be obtained, but that saturation is necessary for an effect. It could be that the public service advertisements about AIDS--developed with the Hispanic community in mind-- are not presented frequently enough. Also, Siegel (1988) has stated that sometimes the media advertisements about AIDS have used ambiguous language--such as "multiple partners", and "sexually active"--and that the focus should be on communicating only one or two clear messages consistently. This is recommended because the subject will choose the behavior that is easier for him/her to follow. For example, men who have sex with other men could reduce the number of sexual partners to two during a month or a year and consider that he is preventing his infection with AIDS, while in fact, this behavior alone is not going to have a strong effect in reducing the individual's risk of getting infected. Another alternative is that

presented by Stipp and Kerr in 1989. Suggests that negative attitudes toward homosexuals stand between media information and public knowledge and public opinion, limiting the potential effectiveness of the media. Stipp and Kerr's (1989) study will be discussed in more detailed because there is evidence of progressive and conservative attitudes toward homosexual rights among the Hispanic community (Singer, et.al., 1990) and it is important to explore if that is in some way related to knowledge about AIDS.

Attitudes Toward Homosexuals

It has been found that Hispanics are more likely to support government funding for AIDS research and government restrictions of homosexual behavior (Friedman et.al., 1987) and that two thirds of the respondents in a Chicago sample opposed the quarantine of people with AIDS (PWAs). Yet, 75% of that sample also believed that contact with homosexual individuals should be avoided.

For the purpose of their research, Stipp and Kerr (1989) combined six items about beliefs regarding the transmission of AIDS into a scale of attitudes toward contact with people with AIDS (Alpha= .85). The higher the score on the scale, the greater the willingness to have contact with people with AIDS (the index ranged from 0 to 6, with a mean of 1.9 and S.D. of 2.1). The researchers evaluated how much of the values on the scale could be predicted by educational attainment, media exposure, age and attitudes toward homosexual rights. Even though education was found to be a significant predictor of knowledge about AIDS transmission, it accounted for considerably less variance in the index than attitudes toward homosexual rights.

Stipp and Kerr (1989) discussed three alternative explanations for their findings. First, they said that maybe the scale that they developed was one of perception of risks, and that this perception was the one affecting the subjects' attitudes toward homosexual

rights (instead of the other way around). However, they suggest that if this explanation were adequate, the attitudes toward homosexual rights should have become more negative since the discovery of AIDS. Instead, the public opinion is slightly more pro-homosexual rights (according to Stipp and Kerr). Another alternative explanation was that the relationship between attitudes toward homosexual rights and perceived risks stem from the variable of educational attainment. The authors expected that since better educated people are more likely to be tolerant toward homosexual rights and to be exposed to, and interpret correctly the information about AIDS transmission, the association between the attitudes toward homosexual rights and perceived risks was going to attenuate when education was controlled. However, that was not the case. The third alternative explanation that Skipp and Kerr evaluated used education as an indicator of media exposure, and hypothesized that media exposure would be less strongly related to perceived risks among people with negative attitudes toward homosexual rights than among those with positive attitudes. It was found that among those with positive attitudes toward homosexual rights, each additional year of education adds an average of .12 to the index but it makes less difference among those who hold negative attitudes toward homosexual rights (each additional year of education adds .03). This indicated that people with anti-gay attitudes are less responsive to information about AIDS, which is a critical finding for the design of education campaigns about the disease. Stipp and Kerr suggested that future studies should look at awareness, beliefs about transmission, media exposure, and opinions about HIV testing and treatment, addressing relevant attitudinal factors regarding homosexuals, drugs users and people of color. They also suggested that a field study should be conducted where people with different prior attitudes toward homosexual rights are exposed to AIDS information campaigns.

Another interesting study about the relationship of the stigma toward homosexuals and AIDS was the one conducted by Lawrence, Husfeldt, Kelly, Hood, and Smith (1990). These researchers compared the attitudes of the public toward people with leukemia and people with AIDS (with descriptions of patients of both illness that varied in that sometimes the person with AIDS was portrayed as an homosexual) and found that people with AIDS were viewed as: (a) more deserving and responsible for their disease, (b) more deserving to die, (c) more dangerous and deserving to be quarantined, (d) less entitled to work, and (e) of less intrinsic worth. Also, the subjects in the study indicated less willingness to interact with a person with AIDS in casual everyday contexts. These attitudes were very similar to the attitudes toward ill people when the only information provided to the subjects described the individual as homosexual. The authors suggested that the stigma toward homosexuals could be responsible of some of the irrational fears and avoidance behaviors in the communities with regard to AIDS. In other words, that PWAs might experience negative attitudes towards them in the community because they are labeled as homosexuals and there are negative attitudes towards homosexuals.

Following Stipp and Kerr' and Lawrence et.al.'s findings and hypothesis it is possible to believe that negative attitudes toward homosexuality might be a barrier to AIDS education in the Hispanic community. The lack of knowledge about AIDS among Hispanics and the early label of homosexuals as one of the groups at risk (by the media) might have effected already negative attitudes toward homosexuals, with the consequence of Hispanics neglecting the information about AIDS. One example which suggests that stigma toward homosexuality could be related to the Hispanics' fear and avoidance behaviors about AIDS is that posters informing Dominican men about the use of condoms were ineffective because men were reluctant to be seen reading them (Peterson & Marín 1988, referring to a personal communication with A. Moya in 1987).

Also, regarding Hispanics' attitudes toward homosexuals, Marín, B.V. (1990) stated, "...Hispanic culture includes a very powerful homophobic component" (p. 38). Still, there is not enough data and information on Hispanics' beliefs and behaviors regarding homosexuality and no information about the relationship of these beliefs and behaviors to receptiveness of information about AIDS. However, a negative impact of attitudes towards homosexuals on receptiveness of information about AIDS could be expected.

Cultural values

In talking about other issues found in educating Hispanics about AIDS, or in the conduction of research with Hispanics, Marín (1990), Peterson and Marín (1988), Mays and Cochran (1988), Marín and VanOss Marín (1991) analyzed cultural elements that should be taken into consideration in planning educational interventions for this population. Even though it is well known that there are many differences between Hispanics depending on their countries of origin, Marín and VanOss Marín (1991) specified that there are values shared by most Hispanics and that there are more similarities than differences between the Latino groups. The following paragraphs summarize the shared cultural elements among Hispanic groups and their possible relation with AIDS education efforts.

1. **"Familismo"**: The familismo refers to the Hispanics' emphasis on the family as the main source of support, to their need to consult their family members before making important decisions, and to help family members economically and emotionally (Peterson & Marín, 1988; Marín, 1990). Marín, B.V. (1988) also explained how the relevance of the family-- and especially the children-- for the Hispanic women could make her continue with a pregnancy, after being identified as infected with AIDS. Moreover, Mays and Cochran (1988) specified how the suggestion of abortion and use of birth control methods are not accepted by some Hispanic women

beca

fami

illne

indiv

desc

The

high

beha

for h

inter

B.V

that

or fo

inap

if sh

tabo

disc

poli

taug

unde

199

shar

some

with

because of beliefs about family and religion. However, all three articles suggested that family beliefs should be used in education campaigns by presenting the AIDS issue as an illness from which the individual has to protect his/her family, instead of as individualistic self-protection behaviors and concerns.

2. **"Simpatía"**: Triandis, Marín, Lisansky, and Betancourt (1984) described the "simpatía" as a cultural script--pattern of social interaction--of Hispanics. The authors conducted a study and found that Hispanics were more likely to expect high frequencies of positive social behaviors and low frequencies of negative social behaviors. The "simpatía" script also refers to certain levels of conformity and the strive for harmony in interpersonal relations--which implies that direct confrontation and/or interpersonal conflicts are avoided (Triandis, Marín, Lisansky, & Betancourt, 1984). B.V. Marín, (1990) identified three implications of this script for AIDS education: (a) that AIDS prevention activities that could promote confrontation regarding condom use or for partners to share information about previous sexual behavior, could be seen as inappropriate; (b) that the Hispanic listener may appear to agree with the message, even if she/he has no intention of following the advice or did not understand it, and; (e) that taboo topics will be avoided in the conversation, making interventions that require discussion of sexual behavior and/or drug abuse, more difficult. It is suggested that polite ways to discuss topics such as condoms and previous sexual behavior need to be taught to the subjects, and that questions or other ways to assure that the subjects understood the information should be used during educational interventions (Marín, 1990).

The "simpatía" script could also be related to AIDS in terms of the behavior of sharing needles among Hispanic drug users. Peterson and Marín (1988) mentioned that sometimes immigrants reuse needles for vitamin and medication sharing this equipment with their neighbors. Between injection drug users the act of sharing a "wash"--a

recently used syringe filled with water (Mays, & Cochran, 1988)--or just the equipment, with a "running partner" (the individual who shares the drugs in a syringe) is an act of friendship and social bonding. Therefore, we could expect that in both cases, for drug users that have been sharing needles and for families who share needles with their neighbors, changing these behaviors could mean that they are not going to be "simpático" to others, and/or it will mean that they will not trust others. As a consequence, different ways to still show concern for others--in the case of the families--and ways to still show trust in other drug users will have to be explained as part of the educational efforts.

3. **"Respeto"**: The "respeto" refers to Hispanics' attitude towards others in their social group who are considered authority figures (such as, older people, parents, or those with more money, more education, or who are ministers or priests). In all of these cases, the subject will try to be respected by the authority figures, and at the same time may not question the authority figure, even if they do not understand him/her (Marín, 1990). The implications of the "respeto" are that treatments for drug abuse, as well as suggestions on AIDS prevention behaviors, will be rejected if the individual does not feel respected, and also, that the subjects could have a very good relationship with the educators, even if they are not understanding what is been said (Marín, B.V., 1990).

4. **Sexuality**: In the Hispanic community, sexual matters sometimes are not even discussed between sexual partners. There are cultural pressures on Hispanic women toward female naiveté, and sex only within the context of marriage. Therefore, it would seem inappropriate for a women to suggest to a man the use of condoms or to inquire about previous sexual behavior (Mays & Cochran, 1988). Even further, Mays and Cochran reported that a small proportion of black and Hispanic women had reported experiencing physical and/or verbal abuse from their partners in response to a request to use a condom. Poma (1987) reported an estimate of 25% of Hispanic

husbands as being against any form of birth control. In terms of homosexual behavior, it is suspected that many Hispanic men having sex with other men will not consider themselves as homosexuals if they are the active partner during intercourse (Marín, 1990). Peterson and Marín (1988) suggested that ethnic/racial minority homosexuals (not specifically Hispanics) may not consider themselves at risk of getting infected with HIV, if they are the active partner and/or if they are not having sexual relationships with white homosexuals. Therefore, the messages targeted to homosexuals will need to be targeted at specific risk behaviors instead of risk groups, but it also needs to be clarified that the risk behavior takes place within the context of heterosexual and homosexual relationships.

5. **Religiosity:** Rochin, Santiago and Dickey (1989) mentioned that one of the most effective and frequently used source of health education and services for the migrant workers in the Midwest are the community organizations--especially those related to the church--because the Hispanic migrant workers tend to go first to the church when they need help. This situation presents the problem that, when the church is the channel for AIDS education, the subjects may not get enough information about condoms (Mays, and Cochran, 1988). However, the United States Catholic Conference (1987) declared that in church based AIDS prevention messages, condoms can be mentioned, but in a limited way. The rationale for a limited mention of condoms in education interventions sponsored by the church is that they appear to be a necessity (Marín B.V., 1987, mentioned that Hispanic men felt that not having sex would be nearly impossible and unhealthy for them), that individuals will also receive information about condoms from other sources in the community, and that the Church preferred prevention methods are abstinence or monogamic relationships.

Another implication of the religiosity of subjects for the receptiveness of AIDS education campaigns is that messages like "play it safe" may not get enough attention,

because for many religious groups sexual intercourse is only licit for procreation and should not be seen as a game (Mays & Cochran, 1988). More attention should be given to show respect for the religious beliefs of individuals, and still communicate the information about preventive behaviors.

A major controversy that would probably continue to be discussed in the next years is the situation where even though most religions reject homosexuality, pastoral ministries and values encourage the religious groups to be involved with helping PWAs. Some examples of problems that different churches have faced with AIDS and homosexuals included: (a) Mays and Cochran (1988) reported that a personal communication from G. Gallup said that there is data showing that evangelicals are more likely to believe that AIDS is transmitted casually--and it has been reported that many protestant leaders refer to AIDS as a "punishment from God" (Nugent & Gramick, 1989); (b) Pope John Paul II's reaction to the AIDS epidemic, in one of his messages to the United States, was that the church was concerned with the moral background of AIDS and with offering care and hope for the suffering and those caring for them (Nugent & Gramick, 1989). Even though the religious position toward homosexuality could make it difficult to deal with the stigma toward this group and toward PWAs, appeals to the religious principles of compassion, forgiveness and love for human kind, could be of help when presenting information about AIDS.

6. **"Machismo":** Medina (1987) summarized the "machismo" as a combination of behaviors through which men, by virtue of their gender exercise authority over women. Some of the behaviors of men traditionally attributed to the "machismo" are extramarital sexual activity, heavy drinking, endurance of pain, to be the only provider of economic support for the family and to be responsible for the well been of the family. There is no current data on the prevalence of this trait in the Hispanic community. However, some researchers (Singer et.al., 1990) suggest that the high number of Hispanic families

where women and men provide income to the house could have modified the characteristics of the "machismo." It is possible that men who adhere to the traditional role prescribed by the "machismo" might find it harder to limit extramarital sexual activity, and that also the consumption of alcohol can become a risk of HIV because of its effect on the immunologic system and because the individual might not take adequate precautions during sexual behavior. Still, Singer and his colleagues (1990) provided examples of cases were appeals to the sense of responsibility for the well been of the family were effective in getting men interested in learning about HIV/AIDS prevention. Other examples of cases that Singer et.al., (1990) described showed men getting into risk behaviors because of frustration with themselves in the fulfillment of their role expectations. For instance, they described a young Hispanic man who lost his job and joined the army --as a way to have an income to send to his family--where he started to have psychological problems being away from his family and began to use drugs and share syringes. The researchers probably did not intend to show that Hispanics have good reasons to incur in the high risk behaviors, but that socioeconomic pressures might affect the social life of individuals in such a way that makes them more vulnerable to high risk behaviors. It is possible to believe--and it will be necessary to study--that economic conditions of the Hispanics could have a higher impact on HIV/AIDS prevention than the trait of "machismo".

7. **"Marianismo"**. The "marianismo" prescribes a role to Hispanic women in which she is supposed to be morally superior to the men--remain virgin until marriage--and to endure any type of pain or suffering with stoicism (Singer et.al., 1990). This role is related to HIV/AIDS through its impact on women sexuality (as explained earlier) because women might not be able to communicate openly about sexual topics with their partners. On the other side, Singer and his colleagues (1990) discuss that Hispanic women usually take care of their male partners when they find out that they are infected.

A role for Hispanic women that is sometimes regarded as opposite to the "marianismo" is the "hembrismo"or "femaleness". This role implies that the women should be obedient, make sacrifices for the family and work hard--just like the "marianismo"--but that she is supposed to strive and achieve despite any cultural and sociopolitical barriers (Singer et.al.,1990). Researchers comment that it must be difficult for women to have to submit themselves to the men but to also be assertive and successful. Singer et.al. (1990) provided examples of the way Puerto Rican women in the United States balance both roles. For example, a woman might stay with a man that is using drugs expecting him to quit, or might stay with a man who abuses her, believing that he will change. But usually these women also decide when they are going to abandon the man or ask him to leave. According to the authors, it could happen when the man begins to steal from the family or if the individual abuses the children. Singer and his colleagues found out that Puerto Rican women will sacrifice themselves but not their children. Also, the researchers reported cases were women were successful negotiating with men and promoting behavioral change. For instance some women specify to the men that they have to quit having extramarital affairs and/or quit using drugs before they can come back to stay in the house. This dual role of Hispanic women could be very useful to consider in the design of HIV/AIDS prevention programs. Women should be targeted almost as if they were going to be the educators of their families. Also, once again it is found that the economic and sociopolitical conditions could have higher impact on AIDS prevention than the gender role, because the expression of behaviors and attitudes attributed to the "marianismo" or "hembrismo" seem to vary depending on the particular economic and sociopolitical situation at a particular time.

HIV/AIDS Prevention

The HIV/AIDS prevention programs can be classified as primary or secondary prevention programs. Primary prevention programs are directed to the general population and secondary prevention programs are directed to populations at highest risk of infection. The most common primary prevention method is education (e.g., public service advertisements, brochures, group discussions, lectures or one-on-one education). The most frequently implemented secondary prevention programs for HIV/AIDS, are: (a) needle exchange or distribution (Magura, Grossman, Lipton, Siddigi, Shapiro, Marion & Amann, 1989; Guydish, Clark, García, Downing, Cass, & Sorensen, 1991), (b) HIV screening and testing (Cates, 1988; Fehrs, Hill, Kerndt, Rose, & Henneman, 1991), and (c) condom use promotion (Solomon & Dejong, 1989; Schechter, Craib, Willoughby, Douglas, McLead, Maynard, Constance, & O'Shaughnessy, 1989). It is important to keep in mind that all the HIV/AIDS secondary prevention programs include educational components.

Unfortunately, evaluations of HIV/AIDS prevention programs are scarce. Also, these programs are not implemented experimentally testing a theory or explicit model of health behavior. The next two subsections on HIV Prevention discuss the most common examples of HIV/AIDS prevention programs evaluated in the literature, and theories related to prevention reviewed for the design of the program of HIV/AIDS education for migrant workers.

HIV/AIDS Prevention Programs

The most frequently implemented prevention programs for HIV/AIDS, are: (a) needle exchange (Magura et.al., 1989; Guydish et.al., 1991), (b) HIV screening and testing (Cates, 1988; Fehrs, Hill, Kerndt, Rose, & Henneman, 1991), and (c) condom use promotion (Solomon, & Dejong, 1989; Schechter et.al., 1989).

Needle Exchange or Distribution Programs

Magura and his colleagues (1989) gathered data from a sample of injection drug users (IDUs) in methadone treatments to study the determinants of needle sharing. The data showed that sharing needles was directly related to peer group behavior, attitudes conducive to sharing, economic motivation to share, not owning injection equipment and fatalism about developing AIDS or perceived utility of risk avoidance. The following variables were not found to be related to needle sharing: knowledge of AIDS risks, knowing people with AIDS/ARC, gender, age, ethnicity, marital status, and time in methadone treatment. The finding of perceived utility of risk avoidance as one of the determinants suggested that educational interventions based on the health beliefs model should be successful if the programs also try to develop skills and work with the attitudes of the drug users.

One of the most controversial programs to prevent the spread of HIV infection among IDUs is the needle exchange program. Opponents to these programs argue that exchange or distribution of needles increases intravenous illegal drug use. Guydish et.al. (1991) used capture-recapture methods to evaluate needle exchange. They marked needles distributed by the exchange at two time periods. Half of the marked needles (2,068/4239) returned within two weeks, and 61% (2,593/4,239) returned during the study period. The rate of return for stationary exchange sites (63%) was greater than that for roving/mobile sites (51%, $X^2 = 28.6$, $p<.001$). Since a large number of needles came back to the exchange sites, the researchers argument that needle exchange programs did not increase the use of drugs. This type of intervention is based on the effect that changes in public policy could have on health behavior. Nevertheless, Guydish et.al.'s (1991) did not evaluate if the needle exchange program actually slowed the spread of HIV or reduced needle sharing behavior. There was no data showing that

the individuals who used the needle exchange would have use intravenous drugs at the same rate without the exchanged needles.

Another type of program which included needles distribution but was mainly an educational intervention was that of Stephens, Feucht, and Roman (1991). They implemented a one-on-one education program with four modules and reported that high risk behaviors were significantly reduced--compared to a pre-intervention assessment. The percentage of people who reported using injection drugs decreased from 92.2 to 70.5, and the percentage of people who reported sharing syringes decreased from 67.4 to 24.3. There was also an increase in the number of people who reported cleaning works with bleach. Some of the limitations of the study included the use of a non-equivalent control group, a group of individuals interviewed for the pre-test at the time that the experimental subjects were interviewed for the post-test, and the use of self-report data.

HIV Screening and Testing

Willard Cates (1988) review if counseling and testing for HIV antibodies to promote preventive behaviors. He explained that public health authorities suggested voluntary HIV antibody test as a preventive intervention based on previous experience with sexually transmitted diseases. This approach argues that seropositive persons aware of their infections, were going to be more likely to modify their behavior. Cates (1988) reported mixed findings regarding behavioral changes after testing. He discussed two major studies. The Vancouver study included gay men referred by general practitioners. This study found that those who were seropositive decreased the mean number of sexual partners similarly to those who were seronegative. Significantly more seropositive individuals changed to less risky sexual practices than the seronegatives who in turn changed more than those who were not tested. The Boston study of gay

men did not find a reduction in the number of sexual partners. It did report a positive impact on risk behaviors such as unprotected insertive anal intercourse among infected men.

Cates (1988) described the limitations of most of the evaluations of testing and counseling programs. They included the fact that studies are conducted in samples of homosexual men who were aware of their high-risk status, rely on self-reported behavioral change, equate the decision to learn one's results with the decision to undergo testing and counseling, and the fact that the methodology itself could have influenced the impact of prevention messages.

One example of HIV testing in a population other than the homosexual is a blinded HIV seroprevalence study at a public prenatal and family planning center serving mostly Hispanic women. The blood drawn from the women coming to the center for tests other than the HIV test was tested for HIV. HIV testing was selectively offered to women who reported risk factors for HIV infection and 14% of clients offered testing chose to do it. Only 28% of clients classified as being at highest risk of infection agreed to be tested and none of the four women who tested positive by blinded HIV testing chose testing. Therefore, the targeted screening program did not prove to be effective in persuading women.

More information on the effect of counseling and testing on behavior change is reported from a study in which 615 seropositive and 694 seronegative clients returned to a testing site for their test results and received post-test counseling. Unfortunately, 3.9% of the seropositive and 10.2% of the seronegative clients who received post-test counseling returned to the STD clinic with probable STDs. This may mean that the one-on-one education about risk reduction provided during the post-test is not having an strong impact on reduction of sexually transmitted diseases--or high risk sexual behavior (Zenilman, J.M., Erickson, B., Fox, R., Reichart, C.A., & Hook, E.W., 1992).

Condom Promotion

One of the most important preventive behaviors been promoted is condom use. Schechter and their colleagues (1989) studied the patterns of condom use in a cohort of homosexual men. The subjects were recruited through private physicians. Questionnaire responses from April 1984 to March 1985 were compared to responses from October 1986 to September 1987. The researchers found that seronegative subjects reported no condom use with regular partners more frequently than the seropositives (55.7% vs. 23.4%). Among subjects with the most contact, 33.3% of the seronegatives, and 29.2% of seropositives did not report usual condom use during receptive anal intercourse.

Usually condom use is promoted through educational interventions. Solomon and Dejong (1989) assessed the impact of a soap-opera style videotape on inner city STD clients' knowledge and attitudes about condom use and willingness to redeem coupons for free condoms. Subjects who agreed to participate in the research were randomly assigned to watch the videotape. Two studies were conducted from these data: one assessed attitudes toward condom use and the second one used cards that the subjects could exchange for condoms. Each subject had two cards, one that they could redeem in person and another that could only be redeemed by mail. The first study found more knowledge about AIDS and more accepting attitudes among those who saw the videotape. The intervention was most effective among the less educated, among those who reported less frequent use of condoms, and those involved with fewer sex partners. The second study found that subjects who saw the videotape were more likely to redeem coupons for condoms--even though both groups redeemed a high number of cards. Interestingly, the highest number of condoms redeemed was at the clinic (60%) as opposed to by mail 1.1% (13.7% redeemed coupons at the clinic and by mail). Regression analysis showed that three background characteristics interacted with the

videotape to predict knowledge about AIDS, education, previous used of condoms and number of sexual partners; subjects with less formal education, subjects who had never used condoms, and subjects with only one sexual partner in the previous month learned more about AIDS. The variables interacting with the intervention in the prediction of more accepting attitudes about condoms were education--those with less education--and birthplace--those subjects who were not native born.

Theories of prevention

Laura Leviton (1989) classified the theories used in the prevention area as: (a) cognitive decision-making (including theories of risk communication, the health beliefs model and the theory of reasoned action); (b) learning theories,(i.e., operant conditioning, and social learning; (c) theories of motivation and emotional arousal, (i.e., fear and fear arousing communication); and (d) persuasion and communication. As will be discussed in the following sections two of the theories classified as cognitive decision making theories--health beliefs model and theory of reasoned action-- propose models that combine attitudes and beliefs to get to the health behavior. Programs designed to promote health behavior based on these models need to provide information--because there is a knowledge component-- and to promote conditions in the social environment that could facilitate subjective norms, perception of less barriers to undertake the health behavior, perception that the benefits exceeds the expenses, and general health values conductive to the health behaviors. Learning and motivation theory provide alternative frameworks for the organization of information and the type of message that could be transmitted. The communication and persuasion theories provide frameworks on how the knowledge could be disseminated to the people but also, on different ways through which the adquisition of knowledge could affect and be affected by the social

environment and therefore have an impact on the individual variables vulnerable to social influences in the health beliefs and reasoned action models.

Cognitive Decision-Making Theories

Cognitive decision-making theories assume that people will make choices they believe will increase their likelihood of obtaining valued goods or experiences, and it is just ignorance regarding the health behaviors or biases in thinking, that prevent people from healthy behaviors (Leviton, 1989). Most educational interventions are based on these theories. Leviton (1989) identified one of the problems in the application of these theories to HIV/AIDS prevention is that the theories rely on people weighting consequences. With the long dormancy period of HIV the individual faces too many conditions of uncertainty, such as whether or not the potential sexual partner is infected, and whether to delay gratification based on a probability, or take the chance of getting infected. Another problem in the application of these theories to HIV/AIDS prevention is that often times there are social and economic conditions propitiating the high risk behaviors and individuals --in addition to lack of knowledge--and individuals need resources and skills to counteract those influences.

One example of cognitive decision-making theories is the theory of risk communication. According to Leviton (1989) this theory suggests that people perceive greater danger when a risk is both unknown and dreaded. It is the situation with AIDS because among other things, the risks are unknown--not observable--and dreaded, since the risks are not controllable and the consequences are fatal. Interestingly, Leviton (1989) proposed that the search for control over dreaded risk could explain the many mistaken beliefs about HIV transmission. This could be one of the reasons why misconceptions about HIV transmission were found among adolescents with high knowledge about AIDS (discussed earlier in this chapter). Also, DiClemente et.al.'s (1988) finding a negative correlation between perceived risk of HIV infection and

knowledge about AIDS, and a positive correlation between perceived risk of HIV and misconceptions about AIDS support the assumption regarding a search for control over dreaded risk. Still, the authors do not provide any hypothesis about why sometimes people have knowledge about accurate prevention behaviors and continue to have misconceptions about transmission and the effects of the need to reduce dreaded risk on behavioral changes.

Another example of cognitive decision-making theories is the health beliefs model. This is a causal model hypothesizing the elements that make a person assume certain health behaviors. The model explains that the main elements that could make a person behave in certain way regarding health issues, are: (a) the belief that there is a risk, and (b) the belief that there is a specific health behavior that will reduce the risk. At the same time, these two elements are influenced by other elements. The belief that there exists a risk is influenced by: (a) general health values, (b) beliefs regarding vulnerability, and (c) beliefs regarding the severity of the disorders. The belief that a specific health behavior reduces risk is influenced by: (a) the belief that the measure will be effective, (b) the belief that the benefits exceed the expenses, and (c) the perceived barriers to undertake the health promoting or preventive behavior. Leviton (1989) provided an example of the adaptation of the health belief model to HIV/AIDS prevention; " the likelihood of condom use as a means of preventing HIV infection, will be greater when people perceive themselves as susceptible to HIV infection, perceive the consequences of HIV infection as very severe, perceive protective action as very effective, see few costs or barriers to self-protection, have a cue to action and are enabled to protect themselves" (p.51). Among the main criticisms to the health beliefs model are that nothing is said about how external factors affect the specific health beliefs and behaviors of the individual and that different questions are used to measure the same variables. Therefore, it is difficult to compare the results of the application of the model. Also,

this model does not specify what type of behavior could be expected when one of the conditions is absent --e.g., the perception of protective action as very effective.

Looking again at Leviton's example, social influences, cultural factors and economic conditions could have a strong impact on the individuals' perception of costs or barriers to protection and therefore the ability to protect themselves. Moreover, Janz and Becker (1984) reviewed 46 investigations related to the health beliefs model, computing a "significant ratio"--the result of dividing the number of positive statistically significant findings for a dimension of the health beliefs model by the total number of studies reporting significance levels for that dimension--and organizing the studies according to the topics examined and if they were prospective or retrospective. Janz and Becker's (1984) analysis found: (a) that the perceived barriers proved to be the most powerful of the health beliefs model dimensions in explaining preventive health behaviors, (b) that the perceived severity of the disorder was the one with the lowest significance ratio, but still strongly related to sick role behaviors; and (c) that the perceived susceptibility was a good predictor of both, preventive health behavior and sick role behavior. Specific examples of how this model explains the AIDS related behavior of Hispanics are not found in the literature, however some hypothesis could be mentioned.

Mays and Cochran (1988) explained the situation regarding the AIDS threat to black and Hispanic women mainly in terms of: (a) women not perceiving themselves at risk, (b) women underestimating the risks involved in AIDS as compared to the risks that poor women faced everyday, and (c) women thinking that the benefits of not engaging in the preventive health behaviors--the economic benefits of drug dealing and selling sex as well as the social and emotional "benefits" of having a male partner, which is supposed to bring them status even if it is a drug user-outweight the risk of changing their behavior. Clearly, Mays and Cochran are talking about the perception of

susceptibility, the comparison of the benefits versus the expenses of engaging into the health behaviors and the perceived barriers to health behavior. Research evaluating the health beliefs model in regard to black and Hispanic women behavior is necessary and will probably show a need for interventions at levels other than the individual cognitive level in order to promote health behavior.

A third example of a cognitive decision-making theory is the theory of reasoned action (Fishbein & Ajzen, 1975). This theory suggests that the person's intention to act is the immediate determinant of behavior and that four personal variables affect the intention to behave: (a) the attitudes toward the behavior, (b) the beliefs about the behavior, (c) the perception of subjective norms, (d) and the value that the person places on approval by others. The main advantage of this theory over the health beliefs theory is that it recognizes the influence of subjective norms (Leviton, 1989). One example of an application of this theory to HIV/AIDS prevention is: " a gay man who values the approval of his peers, believes that they endorse safer sex, and also believes that safer sex can be enjoyable, would be more likely to engage in safer sex compared to men who do not have these beliefs" (Leviton, 1989, p. 53).

Learning Theories

Learning theories, instead of emphasizing behavioral change as the outcome of an individual cognitive rational process, emphasize the identification of environmental cues and reinforcements promoting the adquisition and maintenance of behavior. One of the basic learning theories is that of operant conditioning (Ferster & Skinner, 1957), which states that it is mainly elements of the environment that act as reinforcers for individual behavior. It follows that individuals will get control over their behavior if they manage their reinforcements (Leviton, 1989). The operant conditioning theory could be applicable to the design of secondary prevention programs for intravenous drug users,

where reinforcers and contingencies of reinforcements can be identified. For instance the reinforcers could be the state of physical arousal, elements of the environment where the individual uses the drugs and/or the avoidance of stressful life situations.

Another learning theory used in the design of prevention programs is Bandura's (1977) social learning approach. This approach differs from the operant conditioning approach in that it assumes that individuals do not need to experience reinforcements directly to learn about contingencies, but can learn from what they see that happen to other people--modeling. This could be the basic theory underneath videotapes and movies for AIDS education which present the story of a family, couple or individual. Another example of social learning in HIV/AIDS prevention is through the basketball player Magic Johnson who is infected with HIV. It is possible that he already had a very strong impact in prevention behaviors because the number of phone calls to the AIDS information lines and the number of HIV antibodies test performed in Michigan was much higher the days following the news about his infection with HIV (Bruni, 1991).

Motivation Theory

A third category of theories used by Leviton (1989) is motivation. The main characteristic of the approaches classified on this category is the assumption that internal individual's processes cause the behaviors. Leviton chose to discuss fear as a motivation and described it as a drive, and as a set of responses. Fear as a drive becomes an aversive internal state to be reduced and avoided. In the same way as with the risk reduction theory, if the information about AIDS produces fear because of the perception of been at high risk of infection, it could be expected that people will either do something to reduce the fear--not to be at risk of HIV--or to avoid hearing information about AIDS.

Leviton (1989) reported that the greater the fear generated in a person or group, the more self-protective behavior results, but that sometimes regardless of the fear aroused, people show greater acceptance of the health behavior when they perceived it as effective. For example, there is evidence that individuals at high risk of HIV infection are afraid of antibody testing. From this point of view it is argued that the consequences of a positive test result will negatively affect social relationships, employment, and psychological states and there is nothing that can be done that will help them if they are found to be seropositive in the HIV antibodies test.

Communication and Persuasion Theories

Communication and persuasion theories are used as a basis of health education programs. In addition, approaches such as social marketing, and community organization have been used in the design of preventive programs because of the potential for involvement of the community and because it has been identified that the social environment influence critical individual variables that could be related to health behaviors. McGuire (1985) identified the elements included in a complex communication as input and output variables. The input variables are the source, message, channel, receiver, and target characteristics. The output variables are steps mediating attitude or behavioral change: (a) exposure to the message, (b) attention to the it, (c) liking the message, (d) understanding the content, (e) generation of thoughts about the message, (f) acquisition of relevant skills, (g) agreement with the communication, (h) storing of the content in memory, (i) using the information to make decisions, (j) acting in agreement with the decisions made and re-appraisal of new pattern of action. One main disadvantage of this process is that the individual might fail at any of the steps. Further, it is necessary to determine the specific conditions that will move individuals from one step to the other successfully (Leviton, 1989). Some of the characteristics of

information appeals that have been found to enhance the effectiveness of the messages are: (a) colorfulness and attractiveness of the presentation, (b) discussion of both sides or one side of the issue depending on the predominant attitudes, (c) mention of the most important arguments at the beginning and at the end of the message, (d) brevity, clarity and directness of the message, (e) conclusions should be said or written explicitly, and (f) messages should not reflect only extreme positions.

Valdiserri (1989) discussed the social marketing strategy as it is used in the health education and prevention areas. The social marketing approach uses the traditional marketing strategies of market research, product development, use of incentives to increased the desirability of the behavior or idea promoted, and facilitation. The main characteristic is that in social marketing, the product is a behavior, service or social idea. One of the basic assumptions of social marketing theory is as Valdiserri said that : "the 'product 'should be acceptable to the target group" (p.95). Earlier in this chapter barriers to prevention programs were mentioned, one of which is that the prevention behaviors are highly controversial for many communities. It is in dealing with groups that might have difficulties accepting the preventive behaviors that educational programs providing basic information about a health issue will need to be supplemented. This will necessarily include elements that will increase their incorporation into the range of culturally accepted behaviors for that particular community.

The diffusion of innovation theory assumes that necessary innovations move through a natural diffusion process and that the goal of the researcher, marketer or designer of a program is to speed-up the process. The diffusion process includes the same stages if it is toward the adoption and implementation of new programs in organizations as if it is about the adoption and acceptance of new ideas. There are three main features of the diffusion process--curve--: (a) the characteristics and distribution of individuals or organizations according to their relative time of adoption, (b) the lag time

between awareness and adoption, and (c) the forces pushing the diffusion process forward and those holding it back at each stage (Rogers, 1983). Two main variables affect the diffusion process significantly, the satisfaction of the early adopters and the timing and placing of the intervention. As mentioned earlier in this chapter ,the HIV/AIDS epidemic is more complex than any other disease. In terms of the diffusion of innovation theory, one of the prevention behaviors is not new to many groups in the population and has been rejected by the public during many years--use of condoms. In a situation like this, we would not expect that the innovation--the use of condoms to prevent the spread of HIV--will progress through the natural diffusion of innovation process the same way as other innovations, even though the knowledge about AIDS will probably progress according to the diffusion of innovation curve.

Another approach that Leviton (1989) classified within the communication and persuasion approaches was, community organization. Community organizers see individual behavior as a reflection of community behavior and in order to change unhealthy behaviors the approach is to change the behavior in the social setting. This is similar to social marketing but requires more involvement --and decision making--from the community.

Carlaw (1982) said that the common sources of change to organize a community for health are dissatisfaction and aspiration. Dissatisfaction that could arise from an assessment of the community health that will promote reflection on needs or problems, and aspiration that may come from emulation of the example set by another community or from a local leader. The three main strategies of social change applicable to health education are: (a) The Collaborative Strategy, assumes that the educators and the community share the same values and is basically an educational intervention at the community level; (b) The Campaign Strategy, assumes that the values are not too different. It suggests that the determinants of success are tradition, apathy, or

ignorance; and (c) The Conflict Strategy, consists of the use of social protest, civil disobedience, and strikes. These approaches are necessary because changes in the distribution of power and decision making are required for change (Warren, 1975). Solomon and Dejong (1986) reported that the gay community organized its support for AIDS action in a very effective way, providing services for persons diagnosed with HIV and supporting prevention activities.

A method of community organization not mentioned by Leviton (1989) or Warren (1975) is Paulo Freire's method of education. Freire's method was originally developed for the purpose of literacy training. It is a process of problem solving, dialogue, reflection and action (Freire, 1970). Pruitt (1980) said: "Freire viewed the act of acquiring knowledge as a means through which people can analyze critically the culture which has shaped them and move toward reflection and positive action upon their world" (p.3). Freire's method uses symbols or codes to be uncoded by the group through identification with a particular situation which at the same time promotes understanding of community problems. This type of approach could be successful with communities that are not used to traditional educational methods, do not perceive their members at high risk of HIV infection, could perceive the preventive behaviors as opposite their beliefs, or valued community support and respect.

A study that used an approach similar to Paulo Freire's is discussed by Marrow (1969). Marrow discussed Kurt Lewin's experiment to compare the effectiveness of authoritarian and democratic styles of leadership in persuading housewives to serve organ meats to their families. Some groups of women heard a lecture by an expert on the subject, others took part in group discussions in which women expressed their own opinions about the need to change food habits and took over the responsibility for doing something about the problem. The group discussions proved to influence more the housewives' decisions than the expert lecture. Leviton (1989) identified characteristics

that favor group situations for the promotion of changes in health behaviors: (a) when the relationship between the leader and the group members is good, (b) when the task is clear, (c) when the leader has some type of power over the group, and (d) when the group has the ability and motivation to generate relevant information. Moreover, many researchers (Friedman, Des Jarlais, & Sotheran, 1986; Baldwin & Baldwin, 1988; Siegel, 1988; Crawford, Jason & Salina, 1990) have stated that passive didactic approaches alone are not as effective as participatory (democratic) approaches in promoting preventive behaviors.

One example of a participatory approach is a program directed to promote family discussion of AIDS (Crawford, Jason, & Salina, 1990). This project presented information about AIDS and conducted exercises to promote communication about AIDS, sexuality, drugs, and decision making. All the activities were conducted within the family context. The behavioral exercises included: AIDS family IQ test, role playing, imaging one's heroes and/or heroines responding to peer pressure situations, discussing how information about the number of individuals diagnosed with AIDS makes one feel, and drawing pictures of germs, viruses and diseases. Siegel (1988) also emphasized, that the participatory approaches were important because they represent a way to exploit the potential of social norms and sanctions to constrain or promote health behaviors.

Summary and The Need for Further Research

The programs described above target individuals identified as performing certain high risk behaviors. These type of programs are just beginning to be evaluated but the data suggests that reductions on risk behaviors are been obtained. Still, there is the disadvantage that these programs have been designed for people with known risk and not for the general population, and that nothing is reported regarding how and if the

programs will have to be implemented in different ways depending on the ethnicity or culture of the clientele. It will be important to know--for the purpose of HIV/AIDS prevention--if the individual's attitudes and behaviors will be more affected by his/her identification with a group that is at high risk because of the performance of high risk behaviors, or by his/her identification as a member of an ethnic group.

A review of the theories related to prevention--learning theories, motivation theory, communication and persuasion approaches--to follow either the health beliefs model or the theory of reasoned action they also depend on the population that is going to be targeted, on the way the risk behavior is defined for the specific population and on the variables that one wants to affect-- information about HIV/AIDS, social influences, or both--in order to promote health behavior. Figures 1 and 2 show the different elements of the health beliefs model and the reasoned action theory that could be considered to be affected by knowledge or social influences.

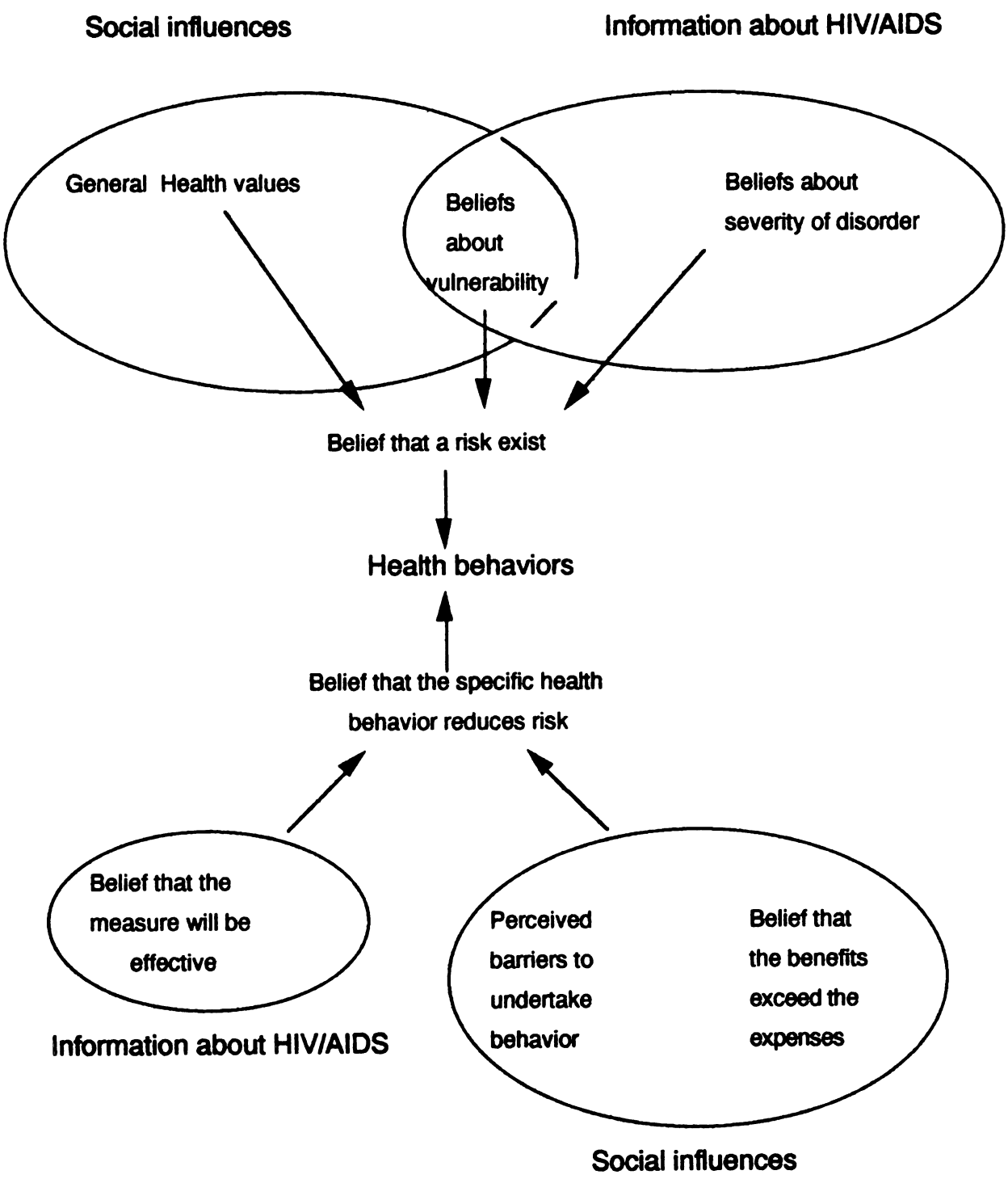


Figure 1. Elements of the Health Beliefs Model affected by information and social influences

Prevention programs testing the assumptions of the Health Belief Model should include didactic components regarding the severity of the disorder and the beliefs about vulnerability as well as information to promote the belief that the measure will be effective in preventing the disease. But the programs should also include elements to promote conditions in the social environment that will facilitate the individual's perception of less barriers to undertake the preventive behavior, beliefs that the benefits exceed the expenses and general health values.

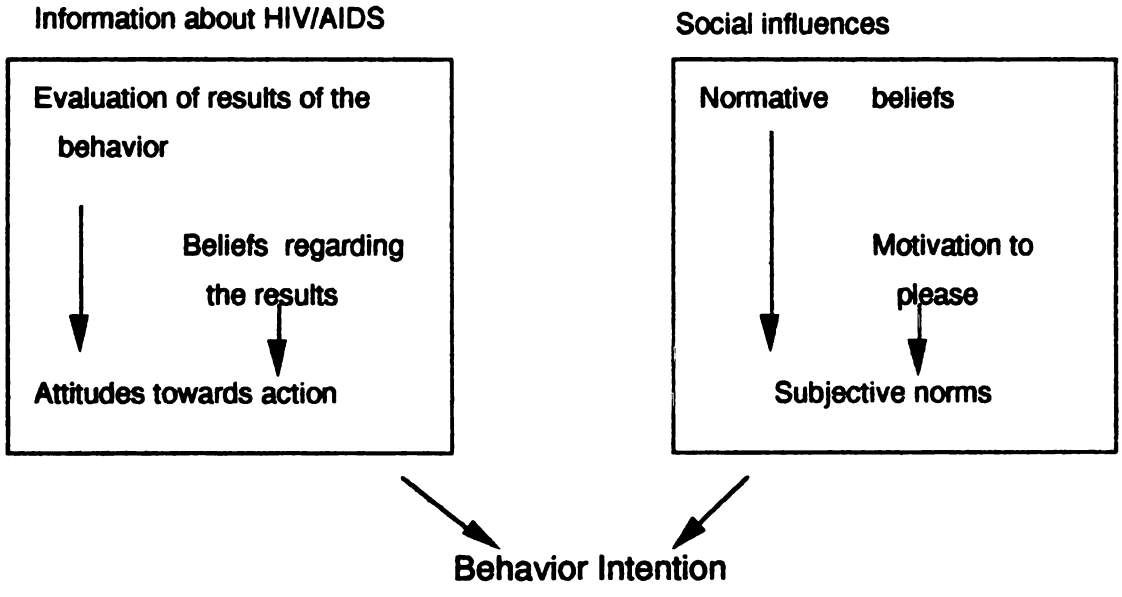


Figure 2. Elements of the theory of reasoned action affected by Social influences and information about HIV/AIDS

In the design of programs based on the reasoned action theory ,the didactic component should provide information helpful in the evaluation of results of the behavior in terms of facts and beliefs about consequences, but should also work with the elements of the social environment that could promote normative beliefs in the direction of the health behaviors or the motivation to please when pleasing others will mean performing the health behaviors.

Looking at the previous figures, it could be argued that including the specific information indicated by each model (either following learning or motivation theories), designing the program in a way that involves the community (Paulo Freire, collaborative strategy), or altering the social environment (conflict strategy, campaign strategy), the models should achieve their goals. However, there are some major areas of uncertainty that need to be addressed.

First of all, there is neither enough data indicating the specific elements of the social environment that influence normative beliefs, motivation to please, general health values, beliefs about vulnerability, the perception of barriers and the belief that benefits exceed expenses, nor information on how to affect the elements of the social environment to promote all the things mentioned above. The other major problem is that one time educational interventions might not be enough to obtain behavioral change. It could be added that one time interventions might not be enough to promote social influence in the positive direction. Maybe the major area of uncertainty that makes these theories extremely difficult to test is the fact that the time that it will take for the health beliefs, perceptions or attitudes to develop is not specified. Since these are the results of information and social influences it is reasonable to believe that all the necessary conditions might not be happening at the same time. The models do not propose how the beliefs, attitudes and perceptions are weighted by the individual in order for him/her to be able to still do some health behavior when some of the elements of the model are not positive (e.g., normative beliefs, or general health values may not be present).

The process to obtain behavioral change in terms of prevention of risk behaviors seems to take time for the repetition of the information in different ways and for the social environment to be affected positively--e.g.,public policies, education--and negatively--high numbers of people affected physically, economically and emotionally by the consequences of a behavior. It is proposed that short term or one-time prevention

programs include as their outcome variables elements that will show disposition to receive more information about the disease and its prevention and that will show a potential effect on the social environment. The outcome variables for these programs could be openness to information about the disease and its prevention and awareness of the importance of learning about the topic for the specific community. In this sense, it could be expected that a program that provides information about HIV/AIDS in a community environment should promote openness and awareness. Openness to information facilitates the future--and continuous in the case of HIV/AIDS--education of the individual, and the awareness of the relevance of the topic for the community should facilitate the acceptance of prevention behaviors in the social environment and the integration of the behaviors into the life of the community. The following figure shows the model discussed.

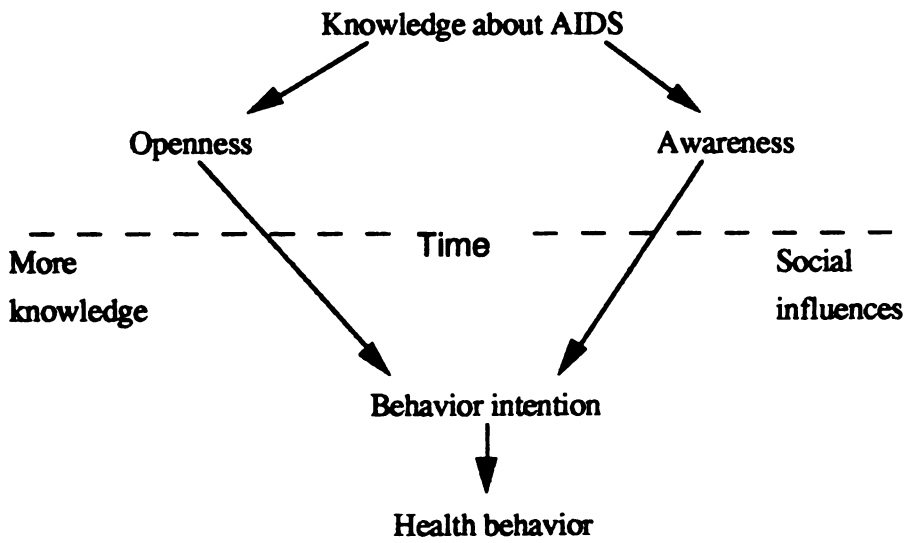


Figure 3. A model of health behavior through the promotion of openness and awareness.

Depending on the type of knowledge that continues to be communicated and the way that the social environment is affected by the information and the disease, the behavior intention and the health behavior will develop in the individual following the theory of reasoned action and/or the health beliefs model.

If a short term or one-time intervention program is going to be implemented and the promotion of openness and awareness becomes part of the objectives of the program, it is necessary to identify methods that will promote those two variables. The review of the methods commonly used in prevention programs and of typical interventions for HIV/AIDS prevention, showed that no one single method seems to fit best for the design of all HIV/AIDS prevention programs. The critical variable for selecting which method should be followed in the implementation of a programs--even more critical than some of the objectives--is the specific population. For instance, the issues that might represent a barrier to openness to information about AIDS could be different for different populations--e.g., language, values, economic conditions, access or patterns of utilization of health care services.

Nilken (1987) said that AIDS prevention requires the application of theories about human behavior depending on the culture and special circumstances of individuals. It was discussed earlier that this is necessary in order for the individuals to integrate the information and new behavior into the range of accepted and desirable behaviors for his/her culture. The next section discusses the rationale for the design and experimental evaluation of a one-time HIV/AIDS prevention program for Hispanic migrant families that includes the promotion of openness to information about AIDS and awareness of the importance of learning about AIDS for the Hispanic community as the two behavioral goals.

An HIV/AIDS Prevention Program for Hispanic Migrant Families

Leviton (1989) identified three steps in the design of prevention programs: (a) identification of aspects of high risk behavior that really pose the risk, (b) characterization or description of the behaviors, and (c) determination of the theories that fit the behaviors ["as opposed to making the behaviors fit the theories" (Leviton, 1989, p.46)]. This section used the information discussed earlier in this chapter to introduce the design of the prevention program for migrant workers--mainly Mexican or Mexican American--implemented in Michigan.

A. Identification of aspects of high risk behaviors that really pose risk

The cumulative incidence of AIDS among Hispanics in the Midwest is much higher than the cumulative incidence for white non-Hispanics in Michigan (Torres, R., 1990a, 1990b;Michigan Department of Public Health, January, 1992). The risk of AIDS for Hispanics was three times higher than the risk for non-Hispanic whites (Selik, 1989). Lafferty (1991) identified risk behaviors in a sample of migrants--mainly Latinos--: (a) 36.8% of the adults having two or more sexual partners during the previous year, (b) 25% having multiple partners without the use of condoms, (c) 13% reported intercourse with women who sell sex, and (d) 20.3% having used self-injecting antibiotics and vitamins--from which 3.5% reported having injected antibiotics and vitamins with a shared needle. The main risk behaviors are therefore: unprotected sex and use of needles for self-injection of antibiotics and vitamins.

B. Characterization of risk behaviors

Both risk behaviors are greatly affected by social norms and expectations. The cultural values discussed earlier that could be related to HIV/AIDS prevention are: sexuality, religiosity, "familismo", "simpatía", "respeto", "machismo", and

"marianismo". Also, the hypotheses that the attitudes toward homosexuality and that elements of the socioeconomic environment could be related to knowledge about AIDS were discussed.

The unprotected sex could be supported by the: (a) "familismo", in terms of the desire to have children; (b) "machismo", in terms of the idea that men will have sex with women who sell sex (even though there is no data about the use of condoms in these situations); (c) "marianismo", in terms of the submissiveness and naiveté expected in the women, and ; (d) the sexuality, in terms of the patterns of communication about sexual matters. Still, in the previous discussion of cultural values, I discussed how each of the values could also have a positive influence in AIDS prevention. For example, men and women could be more motivated to teach to their children and to learn about HIV/AIDS prevention for the sake of their families ("familismo"), men could be motivated to use protection when having sex also as part of their role to defend the family ("machismo") , and women could take action and promote the use of condoms and other prevention behaviors as part of the other face of the "marianismo", the "hembrismo". The behavior of sharing needles for antibiotics and vitamins could be related to the "simpatía" script and to socioeconomic conditions such as the lack of access to health services. None of the two risk behaviors identified in the migrant population could be classified as gambling behavior, instead these behaviors could be considered habits strongly affected by these elements of the social environment. Moreover these social influences could interfere with the openness to information about AIDS and with the way the information is interpreted by the individual.

C. Theories that fit the behaviors

It is important to note that since the risk behaviors are social behaviors, and migrants at higher risk are not to be identified, the intervention was designed to be

implemented in a social groups--meetings with several families. The section on Hispanics' knowledge and attitudes about AIDS identified some areas of concern and opportunity for prevention programs. These included the observations that: (a) subjects of Hispanic origin are less knowledgeable about AIDS than non-Hispanics; (b) a high percentage of Hispanics reporting having read AIDS brochures; (c) a small number of Hispanic adults identified condoms as an effective prevention method, and a high number of them thought that monogamy is an effective prevention method; (d) that the perception of risk of HIV was not found frequently among Hispanics and when it was found it was negatively correlated with knowledge about AIDS and positively correlated with misconceptions about AIDS; (e) very limited knowledge about prevention methods existed among Hispanics , and (f) a small number of Hispanics identified AIDS as a problem in the Hispanic community and knowing that there is no cure for AIDS. Other critical findings were the areas in which Mexican Americans showed disadvantaged when compared to other Hispanic groups: (a) knowledge about AIDS and prevention behavior, (b) talking to children about AIDS, (c) number of misconceptions about AIDS, and (d) skepticism regarding government advice about AIDS (AIDS Community Research Group, 1988; Cristo Rey and SOAP, 1989; Dawson & Hardy, 1989; De la Cancela, 1989; Marín & VanOss Marín, 1989; Bletzer, 1991).

A need for education about HIV and AIDS was identified from the literature and next, it was necessary to find out the best way to provide education. Since social factors that could influence openness to the information and the interpretation of the information were also identified it was necessary to develop an intervention method to provide knowledge and also work with the social values and potential influences on behavior.

Siegel's (1988) suggested that, "If we are to induce and maintain change... in any social group, we must find some way to tie the desired change into the group's own value and belief system"(p. 643). The theories of communication and persuasion,

specially in the area of community organization with the Paulo Freire's theory, provided the background for the design of the educational method. The Freire approach has been recommended for populations that are not used to traditional educational environments. It provided opportunities for the community to discover the issues and present them to themselves from their own perspective. This approach was considered a method of empowerment.

Since it is known that most migrant workers do not have a traditional educational background and that there are many social issues related to the issue of AIDS it is better to propitiate an environment where those issues can be brought up. It was also thought to be helpful for the community to discover the facts throughout the recognition of their experiences and feelings about the different aspects of the AIDS epidemic.

Before further elaboration on how the intervention was implemented, it is critical to discuss the method and problems reported in the only published study of AIDS and migrant workers in Michigan (Bletzer, K., 1991). The study aimed at the assessment of migrants' knowledge about AIDS. The researcher distributed a one-page questionnaire (ten yes-no items) at the start of educational sessions to 297 migrant workers at 21 camps. The instrument was read aloud in English and Spanish to help those who wanted to follow the order of the questions. Thirty-five of the instruments were returned with only demographic data, 76 completely unmarked, and 186 contained answers to all or some of the knowledge questions. Obviously, this is a very low response rate. There was no post-test because different types of interventions were used, and because the researcher indicated that sometimes the presentations lasted close to two hours and it was not feasible to administer the instrument. Keith Bletzer discussed the difficulties in getting the participants to attend the meetings. When they did come, they often came late or were coming in and out of the presentation and could not complete the questionnaire. Besides the specific findings about migrants'

knowledge about AIDS, Bletzer's study shows how there might not be openness to information about AIDS or awareness of the need to learn about it. As further learned measures will be extremely difficult to administer in a presentation, and that even very short instruments asking general information about knowledge might not be accepted by the community. Unfortunately, Bletzer's (1991) did not describe the recruitment technique for the presentations nor details about the activity that could have make it more or less attractive for the people at the camps.

Consequently, the participatory educational technique that was going to be designed and implemented at migrants camps faced the following challenges: (a) the meetings needed to be attractive to the people; (b) it was necessary to be able to compare the findings without the reliance on pre-post test administration (due to the inconveniences that Bletzer identified, and because of the high mobility of migrant families); and (c) the instruments needed to be perceived as non-threatening and easy to respond to--it was not going to be possible to gather data on individual risk behaviors. But the intervention also needed to provide adequate information effectively and to propitiate an environment for the exploration of individual's attitudes towards AIDS related topics--i.e., homosexuality, drug use, people with AIDS--and for the discussion of social norms that could be related to preventive behaviors. The information should also produce comfort with the discussion of the topic and therefore, openness to further information and awareness of the need to learn about it. Figure 4 summarizes the potential influences on knowledge about AIDS identified or hypothesized for the Hispanic population .

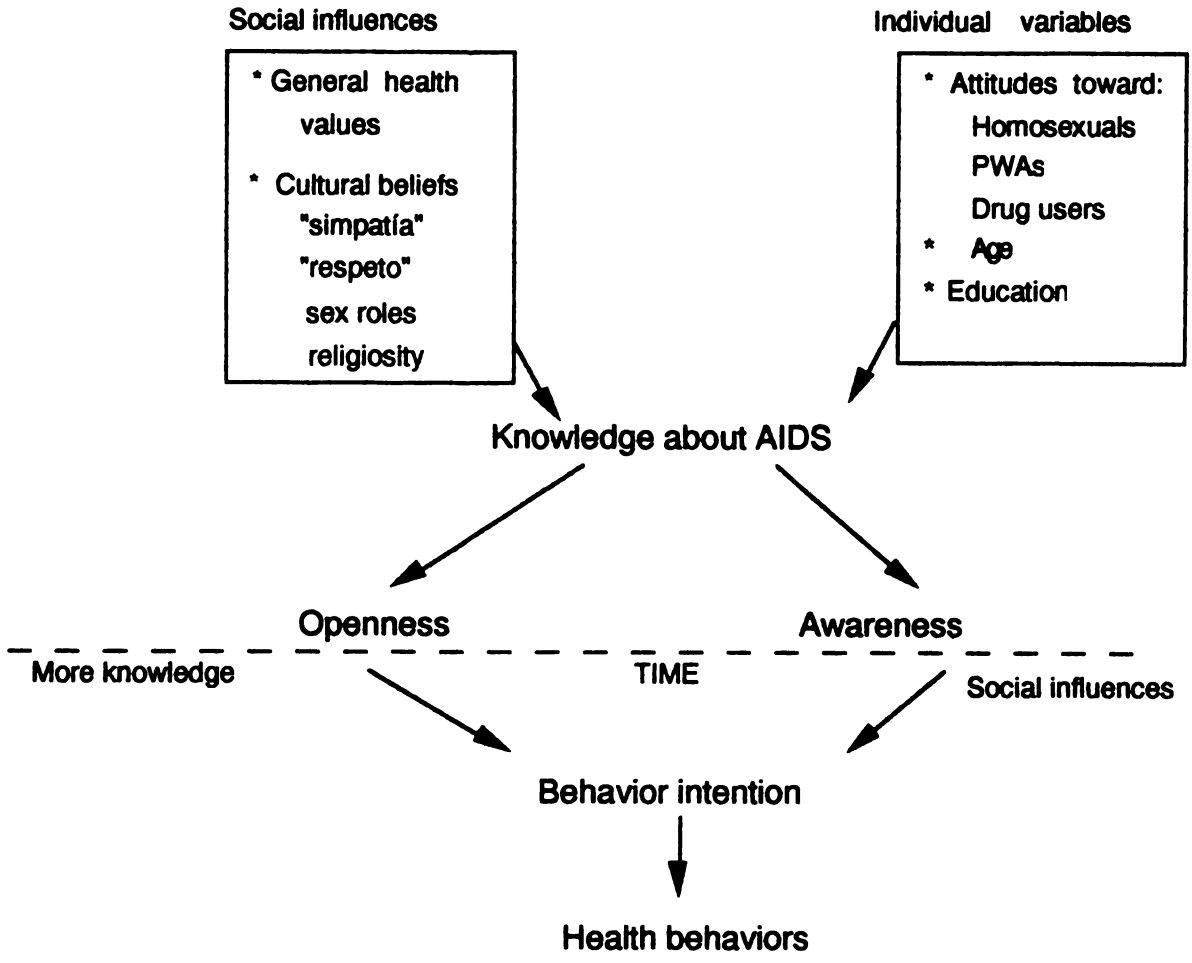


Figure 4. Model for the prevention program implemented

Finally, with these challenges in mind, and due to the high incidence of AIDS among Hispanics, their low scores on attitudes and knowledge about AIDS, and the poor success of current educational efforts the following objectives were chosen for the program: (a) to increase knowledge about AIDS, (b) to promote the subjects exploration of their attitudes toward people with AIDS, homosexuals and drug users, (c) to motivate more openness to receive information about AIDS, and (d) to increase awareness of the importance of AIDS education for the Hispanic community.

In order to evaluate the participatory educational intervention another educational method was used--a lecture type presentation--, and both methods were implemented in migrants' camps in Michigan as an experimental field evaluation. The recruitment

process included an initial visit (no AIDS discussion) between the educator and the migrant families, and a second visit to invite the families to an entertainment activity that was going to include a 20 minute presentation about a critical health issue. Each housing unit on the experimental camps was randomly assigned to one of three groups: participatory learning group, didactic learning group--lecture type education--or control group--just the entertainment activity and data collection. Two camps were included in the design as non-equivalent control camps.

In the participatory learning group the participants guided the discussion of the information through their interpretation of AIDS related issues shown to them in posters developed by the American Red Cross known as the "talking posters". Immediately afterwards, a variety show was played with the interruptions for public service advertisements about AIDS. The didactic learning group was a passive approach, very similar to the current AIDS education to which Hispanics have more access, because it comprises a brief discussion of AIDS and the presentation of a variety show with interruptions for the presentation of four public service advertisements about basic information regarding AIDS issues. A week after the group's meetings the researcher went back to the camps and the subjects had the opportunity to display behaviors showing openness to AIDS information and awareness of the need to learn about AIDS, in exchange for entries into a raffle. The original proposal mentioned that gender differences were going to be evaluated. The analysis showed that gender was not a significant factor on any of the relationships studied. As a result gender was dropped from this dissertation. The following questions and hypotheses were examined in the study :

1. What do migrant workers know about AIDS (transmission, preventive behaviors, prevalence among Hispanics and other ethnic and/or minority groups)?

H1. There will be a significant difference between the migrant workers' knowledge about HIV/AIDS after the educational experience in the two experimental conditions as compared to the control groups.

H2. Migrant workers in participatory learning group will show higher knowledge than those participating in the didactic learning group which will also be higher than subjects in the control group.

2. What attitudes do migrant workers have towards people with AIDS?

H3. There will be a significant difference between migrant workers' attitudes towards people with AIDS after the educational experiences, compared to the participants in the control conditions.

H4. There will be a positive significant relationship between knowledge and attitudes toward people with AIDS and the knowledge about AIDS.

H5. There will be a significant relationship between attitudes towards people with AIDS and the behaviors of: requesting of written materials about AIDS, volunteering to distribute written materials to other people, bringing someone to receive information about AIDS, and requesting more information about condoms and spermicides.

3. What attitudes do migrant workers' have towards homosexuals and drug users in relation to AIDS ?

H6. There will be a significant difference between attitudes towards homosexuals of migrant workers in the experimental conditions, and the attitudes towards homosexuals in the control groups.

H7. There will be a significant difference between the attitudes of migrant workers towards drug users in the experimental conditions, and the attitudes toward drug users of migrant workers in the control groups.

H8. There will be a positive significant relationship between migrant workers' attitudes towards homosexuals and their knowledge about HIV/AIDS.

H9. There will be a significant relationship between migrant workers attitudes toward drug users and their knowledge about HIV/AIDS.

H10. There will be a significant relationship between migrant workers' attitudes toward drug users and their attitudes toward people with AIDS.

H11. There will be a positive significant relationship between migrant workers' attitudes toward homosexuals and their attitudes toward people with AIDS.

5. Would the participation in the participatory or didactic learning groups increase migrant workers' openness to AIDS information as measured by their behavior?

H12. There will be a significant difference in the number of subjects requesting more written information about AIDS, and the number of subjects requesting more

information about condoms and spermicides between the experimental education conditions, and the experimental control group.

6. Would the participation in the participatory or didactic learning groups increase the migrant workers' awareness of the importance of education about AIDS?

H13. There will be a significant difference between the migrant workers' report of interest in distributing information to other people, and disposition to bring someone they know to receive information at the end of the intervention in all conditions, and the difference will be higher for the experimental education groups.

Qualitative information about the participants' satisfaction with the educational experience, their sex roles behaviors related to the project, and the questions that were asked more frequently during the educational experiences was gathered and analyzed. The next chapter describes the method followed in conducting this field experiment.

CHAPTER IV

METHODS

This project was supported by the AIDS Awareness Office from Cristo Rey Community Center, the Lansing Chapter of the American Red Cross, the Special Office on AIDS Prevention from the Michigan Department of Public Health and the Psychology Department from Michigan State University. All the lectures and or participatory meetings were conducted in Spanish by this researcher (female). The AIDS Awareness Coordinator, a man, attended to all activities and was a resource when younger men wanted specific information and preferred to ask a man. In the following pages I will refer to both of us as the educators and use the words researcher or AIDS coordinator when it is necessary to be more specific describing some of the interactions.

Setting

All the activities were conducted at eight migrants camps in Michigan. A migrant camp is a small area on a farm with small housing units (mobile homes, wood houses or large warehouse constructions divided for different families) occupied by seasonal agricultural workers. Six of these camps were included as experimental camps, and two as control camps. The decision of whether a camp was included as an experimental or control condition was based on its location and the camp similarity in terms of situational and environmental characteristics. Camps that were too close to each other were not included. The two camps that are farthest from the other camps were assigned to the control conditions (one other camp was chosen for the pilot test of the whole procedure).

The housing units are often arranged in the camp in the shape of a rectangle or circle and the space in the center is used for showers or washing machines. Most

farmers receive money from the government to provide housing to their workers during the summer. However, sometimes the migrant families have to pay rent to the farmers to stay in the housing units. Moreover, on some farms, people are not hired if they are not going to live in the housing units owned by the farmer.

The camps included in the study had between seven and sixteen housing units. In two of the camps the housing units had just one room with one or two mattresses on the floor, a table, some chairs and an old stove and refrigerator. In most of the other camps the housing units were still very small but had one or two rooms--sometimes without doors, and separated with curtains. Half of the camps visited (three) did not have showers inside the housing units, and only three or four water-closets for the community. Only one of the camps had specific areas which were clean and prepared for the children to play. One of the camps visited had much better housing units than any other camp--made out of bricks, larger, painted and with sidewalks--this is the camp that also had areas for the children to play and a basketball court.

With the exception of two camps (working on lettuce and onions) all camps worked in pickles. Usually one of the members of the family is contracted by the farmer who pays the worker according to the number of pounds of the crops picked daily. Therefore, it is convenient for the families to have many members going to work at the fields.

None of the families live permanently in Michigan: they spend half of the year working and living in either Texas or Florida--just two families had come directly from Mexico. All families drove to Michigan and moved into the housing units during the first few weeks of May (especially those working on pickle farms). The crops are ready to be picked during the last weeks of June or the first week of July. Meanwhile, the workers could be either hired to help cultivate the crops, or unemployed until the crops are ready to be picked.

No people of non-Mexican ancestry were found working in any of the camps. Most of the families have been coming to work in Michigan--with the same farmer--consecutively during many years and in most of the camps, many families were related.

The type of family living in the same housing unit was either nuclear--just the parents and children--or extended--including grandparents, nieces, nephews, etc.. Nuclear families were found more often in individual housing units when other nuclear families related to them were also living at the same camp. When extended families were found living in the same housing unit, usually the families living in the other housing units at that camp were not related. Still, it was clear that the families travel to Michigan in extended families and usually worked for the same farmer.

It was not necessary to request permission from the farmers to conduct the activities at the camps--the activities were not going to interfere with the farm work and it was up to the migrants to refuse to have the activities near their housing units. Still, all the farmers were notified about the program a month before it started, and had the opportunity to ask questions and meet with the educators. Only one farmer contacted the educators requesting an interview with us before any contact with the migrants living at his camp. This research will not identify the camps assigned to each condition or identify the results from particular camps.

Research Participants

The first visit to each camp had the following objectives: (a) to meet migrant families, (b) to establish contact persons, (c) to determine the number of families in the camps, (d) to determine the location for the tent, (e) to obtain a camp phone number, (f) to find out when the workers were going to start working at the farms, (g) to identify if the people were interested in the project activities, and (h) to discuss any objections that potential participants had.

The first visit usually lasted between one and two hours (from 6:00P.M. to 8:00P.M.) and the interaction was mainly with women and children because they were the ones at the camp. Still, all the adults present at the camp were met during this initial visit. It was common to find groups of women sitting in front of a housing unit or playing Bingo. During the time that I was talking to the women, the AIDS coordinator often was able to distribute candies to the children. When the men were at the camp they were found usually near a truck listening to music in Spanish or doing some work fixing one of the vehicles. They usually heard the information that was given to the women. Usually a men was invited to be the contact person--the oldest or one related to different families living at the camp--; in their absence, a woman was invited to be the contact person. The men was approached first because recalls of experiences from people who have done migrant AIDS education in the past, informed me that getting the men to participate was a very difficult and that if they do not agree with the conduction of the activity the participation of their families or peers was also difficult.

The role of the contact person was to introduce the educators to other families (sometimes walking with me door to door) and to express any concerns about the activity or presentations that he/she perceived that the people had. The contact person also provided information on any change in plans that required a re-scheduling of the meetings.

The people contacted in all the camps showed a lot of interest in the activity--specifically in the videotapes of Tex-Mex bands--and suggested days and times for the meetings. The activity sounded very appealing because in most of the camps the first visits were conducted during the second and third week of June and at that time the migrants had not started working. They did not have many options for entertainment. Even though most of them had television, they didn't have any Spanish channels. The

videotapes that were offered for the meetings included a musical show that most of them watched daily while in Texas or Florida.

Within three days after the first visit, each housing unit at the camp was visited again. This time I talked with the adults about the activity and gave them an invitation. At the same time, records were kept of the number of men and women older than thirteen years old living on each housing unit, of the surname of the family, and of the color of the invitation left.

On each of the experimental camps, three colors of invitations were distributed. The color coded invitations were used to randomly assign housing units to the control group, participatory learning group, or didactic learning group. Only one color of invitation was distributed in the control camps--because there was going to be one type of meeting. Everyone at the camps was assigned to the meeting that his/her housing unit was included in. It was specified that the size of the tent used for the presentations dictated the number of people that could be invited. It is important to note that complete families could show-up for the presentations but only subjects 13 years old or older participated in data collection activities.

The invitations for the experimental groups specified that during the meeting a critical health issue and information about a study that was gathering information to benefit migrant workers were going to be discussed briefly. The invitation also described the names of the bands included in the videotapes, the date of the presentation, the fact that refreshments were going to be provided, and the affiliation and names of the educators. Interestingly, nobody ever asked what health issue was going to be discussed. Appendix A displays the format and content of the invitations.

Sample

The participants in this experiment were Mexican American migrant workers in Michigan. Migrants thirteen years and older were invited to participate in either the education (182 invited to educational conditions didactic or participatory, of whom 84 came to the activities) or control meetings (131 migrants invited and 68 participated). In total, the project approached 313 migrant workers and received the collaboration of 139 subjects (89 females, 50 males).

The following table (1) displays the number of people invited to each group (N) and the males and females who attended and the percentage of participants from each camps. The camps are designated by letters.

Table 1. Number of migrants invited, and attendance by gender and group.

Exp. camps	Groups: Control				Didactic learning				Participatory learning			
	N	F	M	%	N	F	M	%	N	F	M	%
A	22	6	4	45	35	17	3	57	29	3	5	28
B	21	3	1	19	13	2	5	54	13	3	1	31
C	14	5	3	57	11	1	1	18	10	2	0	20
D	16	4	2	38	9	2	3	56	11	5	1	55
E	12	5	4	75	6	2	1	50	12	5	4	75
F	10	4	0	40	13	1	2	23	20	5	1	30
Totals	95	28	14	43	87	25	14	46	95	23	12	37
Group totals=	42				39				35			

Non-equivalent control group	N	F	M	%
G	22	8	5	59
H	14	5	6	79
Totals	36	13	11	67
Group Totals=	24			

More females than males attended the meetings: (a) in the control group,74% of the women and 25 % of the men invited to the meetings attended; (b) in the didactic learning condition, 71% of the women and 31% of the men invited to the meeting

attended; and, (c) in the participatory learning condition, 52% of the women and 24% of the men invited to the meeting attended.

The demographic characteristics of the sample were: (a) age, X= 27.8 years (S.D.=14.2, min.=13, max.=76); (b) education , X=8.13 years (S.D.=3.59, min.=no education, max.=4 years of university); (c) marital status, married=77, single=52, living together=4, widow/widower=2; (d) cultural/ethnic group, Mexican=76, Mexican-American=57 and Chicano=2; and, (e) preferred language, English=8, Spanish=61, English and Spanish=68.

Table 2 displays the means for age and education for each of the conditions and Table 3 displays the distribution of responses on language, marital status and cultural and ethnic identity.

Table 2. Mean age and education by conditions.

Variables	Conditions PL	DL	CG	NEC
Age	25.69	28.28	26.12	32.52
Education	7.91	8.32	8.21	8.00

Note. PL= participatory learning group, DL=didactic learning group, C= control group, and NEC= non-equivalent control group.

Table 3. Distribution of responses on demographic characteristics by group.

Variables	Conditions PL	DL	CG	NEC
Language preferred				
English	3	1	2	2
Spanish	15	16	14	16
Both	2	22	25	6
Marital status				
Married	19	20	25	13
Single	12	17	14	9
Living together	1	1	-	2
Widow/widower	1	1	-	-

Table 3 (cont'd.)

Cultural and ethnic identity				
Mexican	22	23	20	11
Mexican-American	11	15	19	12
Chicano	-	1	-	3

Note. PL= participatory learning group, DL=didactic learning group, C= control group, and NEC= non-equivalent control group.

The migrants discussed many of their needs with the educators and since there were consistencies in the things that they reported, the subjects' needs were considered important situational variables. The main needs mentioned were: (a) furniture, especially cradles, chairs and mattresses; (b) medical services--sometimes there were conflicts between the schedule of the clinics available, and migrants' work hours, also, some clinics that visit the camps during the Summer were not announcing their visits; (c) food--especially during the month of June when many of the migrants were not been paid; (d) televisions or radios; (e) toys; (f) kitchen appliances; and (g) a washing machine for the camp. Also, even though it was not mentioned by the workers, we observed during the visits that the electricity generators in some camps were very old and frequently stopped working and that three camps sometimes did not have water running inside the housing units.

The Chi-square test of independence is used to study the null hypothesis that the categorical variables: education, gender, preferred language , marital status, age, and cultural and ethnic identity, and number of previous sources of information about AIDS are independent of the conditions (groups) in the study. None of the Pearson Chi-square coefficients computed was significant.

Research Design

The evaluation of the two AIDS education processes was done as a field experiment with four conditions. The housing units on each of six migrant camps were randomly assigned to the control group or to one of two learning groups. All the housing units in two other camps were assigned to a non-equivalent control group. The non-equivalent control group is a condition were only the entertainment activity and the post-test were conducted. It is named non-equivalent because the participants in these groups were not randomly assigned to the condition. The dependent variables, knowledge about AIDS and behaviors showing openness to information about AIDS and awareness of relevance of educating the community about AIDS, were assessed after the interventions in the experimental educational conditions A and B and after the meetings in the control conditions. Hence, the research design was a post only design. Figure 1 displays the experimental design.

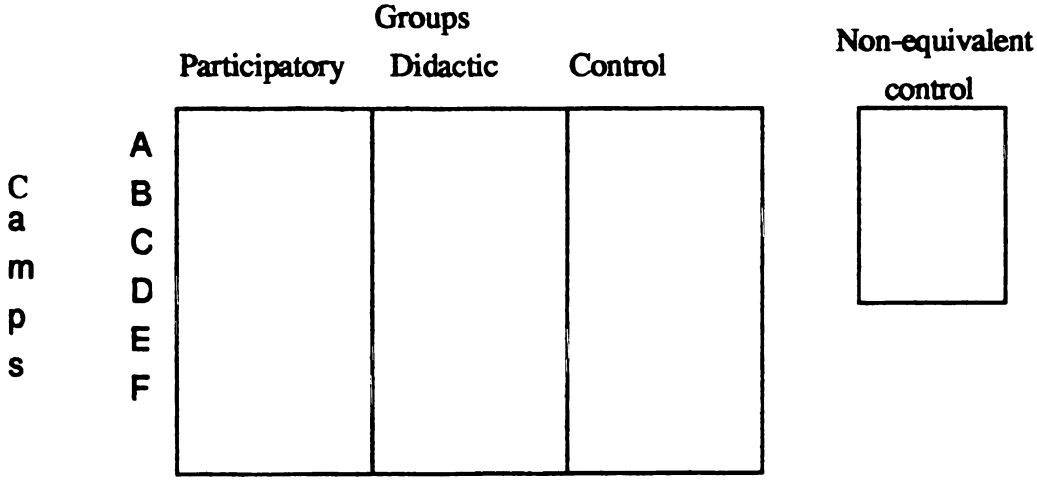


Figure 5. Research design.

Procedure

One of the two educational methods consisted of a lecture and the presentation of public service advertisements about AIDS (in Spanish) inserted in a videotape of entertainment, which was presented after the lecture. The key messages provided in the lecture are outlined in appendix B and the information about the public service advertisements is displayed in appendix C.

The second educational method consisted of a modification of the Paulo Freire model, where the participants watch symbols that are meaningful to them and that help them to relate to the information that the educator wants them to discover. The implementation of this type of educational intervention in this research relies on a participatory approach to the presentation of the information prompted by "talking posters" (developed by the American Red Cross). For descriptions of these posters, see appendix D. Participants in the second learning group were also exposed to the entertainment videotape with the public service advertisements about AIDS.

Each of the conditions on each camp met on a different day and had education (participatory or didactic format) and entertainment (the videotapes), or just the videotapes (the control conditions). All participants answered the same questionnaire at the end of the meeting. Five to six visits to each of the experimental camps and four visits to the control camps necessary. The purpose of the first two visits was discussed earlier in this chapter. The following table (4) indicates the purpose of each of these visits.

Table 4. Purpose of the visits to the camps.

Visit	Purpose
I	- Meet migrant families. - Establish contact persons. - Determine number of families in the camp. - Determine location for tent. - Attain camp phone number. - Find out the date when the workers will start picking-up the crops. - Identify if the people are interested in the activities planned.
II	- Meet or get re-acquainted with migrant families. - Handout color coded invitation to housing units recording the number of people older than 13 years old on each housing unit, their surname and the color of the invitation distributed to them. - Confirm tent site, contact person, & number at site.
III	- Conduct AIDS presentation for control group. - Provide AIDS information materials.
IV	- Conduct AIDS presentation for participatory or didactic conditions. - Provide AIDS information materials.
V	- Conduct AIDS presentation for corresponding participatory or didactic condition. - Provide AIDS information materials.
VI	- Hold raffle--to provide an incentive for migrants to return behavioral change cards. - Provide AIDS information materials.

The first meeting on each experimental camp was the one with the control group. The order of the meetings for the other two conditions varied: in three of the camps the meeting of the didactic learning group was the second one, and in the other three camps the meeting of the participatory learning group was the second one. The number of planned visits to the camps was 44 (20 visits for the meetings of the different conditions). However, sometimes meetings had to be re-scheduled due to unexpected

circumstances such as: (a) a birthday party going on at the day and time of the meeting; (b) a baseball game between all the men in the camp and a neighbor camp; (c) the decision of the farmer to request the migrants to work until late in the evening; (d) all the women at a camp going out together to buy groceries--on the same night; (e) failure of the video equipment and the television; (f) severe rain, or : (g) simply not finding anyone at the camp. For instance, in one camp two meetings had to be done in the same day. The following paragraphs describe each group.

As soon as we (researcher and AIDS coordinator) arrived at the camp the children came to us and started to help unloading the truck. Before we set up the tent, I went to each of the housing units assigned to the meeting--escorted by the children-- and checked if the family was at the camp. The families were told that the presentation was going to start in 25 minutes. Most of the time we had to start much later than the scheduled time, waiting for families assigned to the meeting who were either grading the crops or out of the camp doing some errands, but had specified that they were coming back for the presentation.

The children were very excited about the activity --specially about the refreshments and the tent--and we waited for their parents playing baseball or soccer with them or watching some additional videotapes on the television that we brought to the camps. It was difficult to convince the children that they needed to come to the meeting to which their housing unit received the invitation. Therefore, whenever we had enough space children under 13 years old were allowed inside the tent to watch the videotapes and have some refreshments. We did not allow children of those ages inside the tent during the brief discussions about AIDS, unless an adult from their housing units decided that the child could listen to the information.

The people invited to each meeting usually sat on the carpet inside the tent or brought chairs from their houses. They received refreshments as they came into the tent

and the first five or ten minutes were dedicated to informal conversation and jokes. In order for the subjects to be fully informed of their rights before they choose to provide data, they were informed that the presentations were also part of a study of methods of AIDS education for Hispanic families and that at the end of the meeting they were going to be given the option to participate in the study. The rest of the procedure varied depending on the type of meeting (control or participatory or didactic education).

Participatory learning group

The meeting officially started with an introduction of the activities that were going to take place and their purpose (i.e., information about AIDS, presentation of the show and data collection). At this time, I specified that someone who did not wish to hear the information about AIDS could wait 10 to 15 minutes outside the tent and come back for the presentation of the television shows. The adults attending the meeting had the chance to decide if they wanted any of their children to stay outside while the information about AIDS was discussed--if that was the option, we provided drawings and crayons for them to color while they waited to get back into the tent. None of the adults chose not to listen to the information about AIDS, but most of the time they asked the little children--under ten years old--to stay outside until the discussion about AIDS was ended.

The discussion was introduced saying that the presentation was going to be done by going through a set of posters. It was evident that some people felt nervous about the type of posters that were going to be used, and smiled and showed their relief when they saw the first poster of two children playing. The discussion of each poster started by asking the participants to create a story based on the picture. Since the subjects knew that the topic of the presentation was AIDS, they always try to create stories related to this topic, even when that was not part of the instructions for the development of the

stories. Most of the posters had four boxes and there is not a correct sequence to read the boxes and develop the stories. There was a lot of participation in the discussion of the posters and since the task was easy--to create a story or just to name the people in the story--everybody felt entitled to an opinion and sometimes the stories were very elaborate. The following topics were discussed throughout the posters:

1. Poster of a Mexican boy and a girl playing with marbles.

This poster was used to present: (a) the responsibility to learn about AIDS as something everyone should do for the future of the Hispanic community; (b) the duty to protect and teach the children; (c) epidemiology of AIDS in the Hispanic community; and, (d) clarification of myths about groups that some participants regarded as the only ones getting infected with HIV.

2. Poster of a Mexican family in a party with a piñata.

This poster helps in the discussion of the supportive role of the Mexican family whenever there is an illness in the family and of how that could be the same if the relative has HIV infection. Also, the characteristics and differences between HIV and AIDS were discussed.

3. Poster of two arms and a syringe.

This poster guides the discussion of: (a) intravenous drug use and syringe sharing; (b) sharing of syringes for medicines or vitamins; (c) stereotypes about drug users; and (d) methods to clean the syringes.

4. Poster of a couple going out.

The other main method of transmission of the AIDS virus was discussed in the stories developed for this poster: unprotected sexual intercourse. The safe and unsafe sexual practices were identified as well as the reasons that will make someone engage in any of these type of behaviors. It was very interesting to see how much women and men coincided in the type of conversation that they said that the couple in the story was having. Almost everybody mentioned that the man was suggesting or asking the woman to have sex with him and that since she was not sure that she wanted to do that, he tried to get her to drink a lot and make her more vulnerable to agree to his request. This was one of the posters that prompted the longest discussion because of the many different elements that it included, such as alcohol, cigarettes, a couple that could have had sexual intercourse and a woman that seemed worried.

5. Poster with a big monster, a little monster and a teddy bear.

This poster was used to ask the participants to mention different types of behaviors related to sexual relationships and drug use and to classify the behaviors as no risk, moderate risk or safe behaviors in regard to possibilities for HIV infection.

6. Poster of the people in the park.

The subjects started by making a list of everything that is happening in the poster. When everything had been mentioned, they began to realize all the activities mentioned had something in common, and that it is that all the activities mentioned are casual contacts throughout which HIV had not been found to be transmitted. The reasons why it is difficult to get HIV from these type of interpersonal behaviors were explained. The participants asked a lot of questions regarding this poster.

At the end of the discussion of these posters, the children came back into the tent and the presentation of the videotapes started. After the first 15 minutes of the show two consecutive public service advertisements (20 seconds each) about AIDS were shown. When the public service advertisements were shown the participants paid a lot of attention and sometimes made comments about them and asked questions even though they were not prompted by me to watch the advertisements. Appendix C describes the content of the public service advertisements. After the next 15 minutes of the show a second pair of public service advertisements about AIDS was presented and the participants were asked if they would like to pause and complete the questionnaires and then continue with the videotapes.

The consent forms were distributed--read in Spanish and English--and the subjects rights were explained (confidentiality, anonymity, possibility to receive information about the results of the study and, opportunity to withdraw from the study at any time without any penalty). Appendix D displays the English and Spanish versions of the consent forms. The consent form for children under 18 years old needed to be signed by the parent and the child--these forms are also shown on appendix D.

All the participants signed the forms, but some of them asked the person siting next to them to write their name in the form because they did not know how to write. After the consent forms were collected, the questionnaires with the corresponding behavioral cards were distributed in either English or Spanish--according to the subject's preference (appendix E). The questionnaire was read in Spanish for those who wanted to follow the order of the items, and the instructions of each section were read and explained aloud to the whole group. If someone needed the questionnaire to be read to him/her in English, the AIDS coordinator read the items and explained the instructions to them outside of the tent.

Some older subjects asked if I could write their responses for them. In those cases, the subject had the alternative of completing the questionnaire later, privately, as an interview. If they did not care about other people hearing their responses, I wrote their responses while I was reading the questionnaire to the whole group.

When the subjects were done answering the questionnaire, they heard the explanation of the five color-coded cards (See Appendix F for a sample of the cards). It was explained that one week after the third group meeting at the camp, the educators were coming again --at an specific day and time--to visit each housing unit and that those who completed the questionnaire had the option to do one or more of the behaviors mentioned in the cards, and would receive one ticket for the raffle of a fan for each color coded card that they bring--each behavior they chose to do. There was also one card which said that the subject was not interested in any of the behaviors mentioned in the other cards, but would like to receive a ticket for the raffle of the fan. The raffle was held during that visit to the camp, after all the housing units were visited. The behaviors mentioned in the cards were the following:

1. Green card: "I want to receive more written information about AIDS for me."
2. Yellow card: "I will like to receive copies of written materials about AIDS to distribute among people I know."
3. Gray card: "I will bring someone I know on the day of the raffle to receive information about AIDS from the educators" (if the worker chooses to do that, the additional persons would also have a chance to participate in the raffle).
4. Red card: "I will like to receive more information about condoms or spermicides."
5. Blue card: "I am not interested on doing any of the behaviors suggested in the other four cards, but I will like to receive a ticket to participate in the raffle of the fan."

Each card was explained in Spanish and in English and it had a drawing of the behavior on the back .

Didactic learning group

There was a main difference between the procedure followed with the groups assigned to participatory learning group and the procedure followed with groups assigned to didactic learning group. The didactic learning group listened to educational information on the same topics covered with the participatory learning group, but instead of using posters the presentation was done as a brief lecture before the presentation of the videotape, without any participatory exercises. The subjects in the didactic learning group watched the same videotape of shows--with public service announcements "PSAs" inserted--presented to participatory learning groups. The didactic learning groups were also very attentive to the public service advertisements and asked questions or made comments about those messages.

After the second interruption for PSAs, the subjects were invited to pause and complete the consent forms and questionnaires. They completed the consent forms and the questionnaire and receive five cards throughthe same procedure used in the administration of these forms to the experimental groups A.

Control groups

At the beginning of their meeting, the control groups listened to the same information about their opportunities and rights to provide or not data for the study discussed with the experimental groups A and B. The videotape presented to the control groups did not have the PSAs inserted. The consent forms, questionnaires and the cards were administered in the same way that it is done with groups A and B, but instead of after the second interruption for PSA's--since the PSA's were not shown to

control conditions--the forms were administered after the first half hour of the videotape.

Measures

Quantitative and qualitative data was gathered during this research. The quantitative data was gathered in questionnaires administered to the participants in all the conditions, and throughout the study the subjects had the opportunity to bring back the behavioral cards during the follow-up--while doing the behavior written on the card. The qualitative data was gathered in field notes of every visit to a camp, dictated to a recorder and later classified in different categories of information. The following sections provide more specific information on each of the data collection instruments.

The questionnaire

A two-page, two sided questionnaire was developed for the study (see appendix F for the Spanish and English versions of the questionnaire). The instrument was developed in Spanish and an English translation--not directly equivalent because of lack of correspondence between the two languages for some words and phrases--was prepared and offered to subjects that preferred to read English. This questionnaire gathered information on: (a) knowledge about AIDS, (b) attitudes towards AIDS patients, (c) attitudes towards homosexuals, (e) attitudes towards drugs users, (f) awareness of the relevance for the Hispanic community of learning about AIDS, (g) interest in receiving information about AIDS, (h) sources of previous information about AIDS, and (i) demographic information. The following table displays the main sections included in the instrument and the numbers corresponding to the items used to assess the different variables.

Table 5. Variables and sections of the questionnaire.

Sections Item number	Type of response
General knowledge about AIDS I1, I2, I3a-i	Dichotomous (yes-no)
Knowledge about prevention III1-5	1-3 Likert scale (never effective to very effective)
Attitudes towards AIDS patients II1-II8	1-4 Likert scale (strongly disagree to strongly agree)
Attitudes towards homosexuals V1, V2, V3, V4, V10	1-4 Likert scale (strongly disagree to strongly agree)
Attitudes towards drugs users V5, V6, V7, V8, V9	1-4 Likert scale (strongly disagree to strongly agree)
Awareness of the relevance for the Hispanic community of learning about AIDS VI2, VI4	Dichotomous (yes-no)
Interest in receiving information about AIDS VI1, VI3	Dichotomous (yes-no)
Sources of previous information about AIDS VI5, VI6, VI7, VI8	Dichotomous (yes-no)
Demographic information IV1-IV6	Categorical information

General knowledge about AIDS. The items to assess knowledge about AIDS assess general knowledge about AIDS and misconceptions about AIDS transmission. Some of these items were from the survey developed by the Michigan Department of Public Health and the Hispanic Community. Even though information on the reliability of the scales was not reported, the instrument was used during 1989 and 1990 with Hispanics at Cristo Rey and showed that they were able to understand the language. The scores on general knowledge about AIDS were coded as one when the subject answered "yes", and two if the subject answered "no." A highest score indicated more correct

responses about AIDS (three items were eliminated because of their low item -total correlation: I1, I2 and I3f). The table in appendix H displays the item -total correlation of each of the items included in the score on general knowledge about AIDS--the mean inter- item correlation for the scale is .19. With items I1, I2 and I3f eliminated, the scale's Alpha coefficient was .65. The mean score on the scale was 15.13, with a standard deviation of 1.33. The maximum and minimum possible scores were 8 and 16. Table G-1 displays the responses on knowledge about AIDS.

Knowledge about prevention. Five behaviors were included on the section on knowledge about prevention. The instructions were to circle the number that best indicated the subject's perception of the effectiveness of each of the methods in regard to prevention of HIV infection. The coding of the responses to these items was done assigning a value of two to the best response, a value of one to the next best response, and a value of zero to the option that is a wrong response to the item. Item number five was eliminated from the scale due to its low item-total correlation and it should also be reported that the item was not clear enough for the subjects while they were answering. The scale's coefficient Alpha is .54. The mean score is 4.70 with a standard deviation of 1.91. The minimum and maximum possible scores were zero and eight, respectively. The following table displays item-total correlations. The mean inter-item correlation is .23.

Table 6. Item-total correlations for score on knowledge about prevention.

Items	Item-total correlation
III1. Not to have sexual relationships	.31
III2. To use a condom	.31
III3. To clean needles with clorox before injecting drugs	.33
III4. To use an spermicide	.36

Attitudes towards people with AIDS. Items regarding attitudes about AIDS and attitudes toward people with AIDS were studied in the same section. Attitudes towards AIDS were assessed with three items answered on a 1-4 Likert scale (strongly disagree to strongly agree). Attitudes towards people with AIDS were assessed with seven items answered on a Likert scale (strongly disagree to strongly agree) and based on Larsen, Serra, and Long's (1990) "Attitudes Towards AIDS Victims Scale" (ATAV). The original scale (ATAV) comprised 20 items and the coefficient Alpha reported by the authors was .91 ($p < .001$). Since the Alpha coefficient of the whole scale was high and the part-whole correlations of the items were almost all higher than .70, only a selection of the items was included in this instrument. The items with the highest part-whole correlations in the ATAV scale were chosen and the wording changed slightly when the items were written in Spanish.

The score on attitudes towards people with AIDS combined the responses on items about attitudes about AIDS and attitudes towards people with AIDS. Only one of the eight items was eliminated from the computation of the score (item II6) because of its low item-total correlation. The mean score on the scale was 18.94 with a standard deviation of 3.86. The mean inter-item correlation was .13, and the coefficient Alpha for the scale was .50. The following table displays the item total correlations of the items in this scale.

Table 7. Item-total correlations for score on attitudes towards people with AIDS.

Items	Item-total correlation
II1. People with AIDS should be isolated from the community.	.46
II2. AIDS is not a common disease among the Hispanics	.13
II3. AIDS is a punishment from God.	.36
II4. Needles should be provided to drug users to prevent spread of the infection	.07
II5. If someone gets infected with the AIDS virus it is because she/he have been behaving immorally	.11
II7. I would open my house to someone infected with the AIDS virus	.08
II8. I would not want a person with AIDS to touch me.	.41

Attitudes towards homosexuals. The attitudes towards homosexuals were studied with items developed after the review of several studies (Aguero, J.E., Bloch, L., & Byrne, D., 1984; Herek, G.M., 1984; Larsen, K.S, Serra, M., & Long, E., 1990). These items were answered in a 1-4 Likert scale (strongly disagree to strongly agree). The mean score on the scale was 11.97 with a standard deviation of 3.59. The maximum and minimum possible scores were 5 and 20, respectively . The mean inter-item correlation was .29, and the Alpha coefficient was .67. The following table displays the item-total correlation for the score on attitudes towards homosexuals.

Table 8. Item-total correlations for score on attitudes towards homosexuals.

Items	Item-total correlation
V1. I would feel uncomfortable if I were in the bathroom and a homosexual were there too	.39
V2. I would not like to have a homosexual as my neighbor	.67
V3. Homosexuals are born that way	.32
V4. The police should arrest homosexuals	.42
V10. A homosexual person should not be allowed to take care of his children	.35

Attitudes towards drug users. No measures of attitudes towards drug users were found in the literature. Therefore, information about how this group is stigmatized was used to develop a set of items to assess those attitudes. The mean score on attitudes towards drug users was 10.93 and the standard deviation was 3.68. The maximum and

minimum possible scores are 20 and 5 respectively. The mean item-total correlation was .35, and the coefficient Alpha for the scale was .73. The following table displays the item-total correlations for the scale on attitudes towards drug users.

Table 9. Item-total correlations for score on attitudes towards drug users.

Items	Item-total correlation
V5. Drug users are persons that do not know how to handle their problems	.44
V6. Drug users are criminals	.59
V7. It is impossible to be a friend of a drug addict	.52
V8. The government should separate the children of drug users from their parents	.57
V9. A drug user cannot stop his/her addiction	.35

Previous sources of information about AIDS. Four items were included to assess the number of different types of previous sources of information about AIDS. The items asked if the subject had heard information about AIDS on the radio, watched advertisements about AIDS on the television or read brochures of information about AIDS. A fourth question asked the subjects to circle other sources from which they might have received information about AIDS. The options were friends, clinics, school, clinical laboratories, pharmacists or other.

Awareness of relevance of educating the community about AIDS. The awareness of the relevance for the Hispanic community of AIDS education was assessed in two ways: with two items in the questionnaire, and with two behavioral cards during the follow-up. The items in the questionnaire asked if the respondent was interested in introducing someone to the educators to be informed about AIDS and if the respondent was interested in distributing copies of written information about AIDS to people that they know. During the follow-up, the subjects had the opportunity to do one or both of the

behaviors. In both cases (items and cards), the responses were gathered as dichotomous variables. The following chapter describes how the tetrachoric correlation coefficient was computed for each card;its corresponding item in the questionnaire and the correlations were very low. For interest in distributing information about AIDS to other people and the request of copies of information about AIDS to distribute to people that they know the r_t= .14. For the interest in introducing someone to the educators to receive information about AIDS and the actual behavior of introducing someone to the educators to receive information about AIDS the r_t=.01.

Openness to information about AIDS. The subjects' openness to information about AIDS was assessed in two ways, with two items in the questionnaire and with two behavioral cards. The items in the questionnaire were dichotomous (yes-no) and asked if the subject was interested in more written information about AIDS for him/herself and if the subject wanted more information about condoms or spermicides. The behavioral cards gave the option to the subject to request more written information about AIDS (by returning the green card)or request more information about condoms or spermicides (the red card). If the subject returned the red card he/she was given the option of listening privately to information or to receive a sealed envelope with samples of condoms and spermicides with written instructions on how to use them. Since the relationship between the items in the questionnaire and their corresponding cards during the follow-up were low (.28 for the card and items about condoms, and .10 the item about more written information for the individual and the request of written information), the information from the items in the questionnaire and the information from the cards was used separately in further analysis presented in the results chapter.

The Qualitative Observations

The researcher carried a micro-cassette recorder to the camps and on the way back dictated main observations. The observations were about the objectives of the visit (if they were accomplished or not), any problems encountered, conversations with the migrants, specific events taking place during the visit, sex roles and health and possible cultural beliefs. The day and the time when each visit started and the time when we left the camp were recorded. Special attention was paid to record any information that could possibly be related later to attendance to the meetings. It was assumed that sex roles and health beliefs could have an effect on the implementation of the program and for this reason the researcher was attentive to any information related to sex roles and health beliefs.

Since it was discovered during the follow-up that people's dissatisfaction with previous AIDS education programs could become a barrier to future AIDS education, and since it is known that one-time interventions are not likely to achieve behavioral changes, it became critical for me to leave the subjects at the camps with a positive attitude towards AIDS prevention and AIDS education. Therefore, observations were also made on the subjects' satisfaction with the intervention. For example, any anecdote showing satisfaction or dissatisfaction of the subjects with the activities were recorded. The process of dictating observations lasted between 15 and 20 minutes. That same night or the next day , I typed the notes and elaborated more on the observations made during the visit. Typing the notes and elaborating on them lasted between 15 and 45 minutes depending on the type of visit (if there was a meeting or if it was just to distribute invitations, etc.).

At the end of the project, the notes were classified into major topics and situations that happened at least once in each of three or more camps. There were situations when

that could affect the interpretation of the results of the study, it was not classified. If the same situation did not happen at least once in two more camps, it was not reported in the section of qualitative observations. After the observations matching the requirements in terms of frequency were identified, I looked into the notes for experiences that could reject the possible interpretations of the observations. Even if the experience contrary to the observations classified as major topics happened only once, and in one camp, it was reported and interpreted.

CHAPTER V

RESULTS

This research provides a combination of qualitative and quantitative data. The data reported on the section titled "Quantitative findings," involves parametric statistical analysis. The section titled "Exploratory analysis" displays analysis of additional quantitative data; and, the section titled "Qualitative observations," describes satisfaction with the educational interventions, sex roles behaviors, and questions about HIV and AIDS and comments on other cultural beliefs and general health values.

Quantitative Findings

Knowledge about AIDS

Two sections in the questionnaire assessed knowledge about AIDS. One was a section on general knowledge about AIDS which asked about main characteristics of the syndrome, routes of contagion, and myths. The other section was about knowledge of the effectiveness of different prevention behaviors. No significant effect due to gender was found on general knowledge about AIDS or general knowledge about prevention.

The score on general knowledge was computed adding the responses to dichotomous (Yes-No) items. Table G-2 in the appendix displays the percentage of correct and incorrect responses on each item from each group. With the exception of one item (3f), the percentages were higher for the correct responses. The maximum and minimum possible scores were 8 and 16. Table 11 displays the average score on general knowledge about AIDS for each group.

done assigning a value of two to the best alternative, a score of one to the next best response and a score of zero to the option that was not adequate. Table G-3 in the appendix displays the values assigned to each item. Table 10 displays the distribution of responses given by each group to each of the items on prevention of AIDS.

It is important to note that item #5 (" Having sexual relationships only with someone you know well") was clarified during the administration of the instrument. It was specified that it refers to having sexual relationships with someone that you know well and whom you do not suspect that may be incurring in any of the risk behaviors. Still, this item was eliminated from the scale when the score was calculated because of its low correlation with the other items.

The following table displays the average scores on knowledge about AIDS on each of the four conditions in the study.

Table 10. Average score on knowledge about AIDS on each group

	Groups			
	PL	DL	CG	NEC
General knowledge	15.47	15.25	14.81	14.91
Knowledge about prevention	5.36	5.18	3.55	4.76

Note. PL= Participatory learning group, DL=Didactic learning group, CG=Control group, NEC=Non-equivalent control group.

This research evaluates two hypothesis about differences between conditions on knowledge about AIDS.

H1: There will be a significant difference between the migrant workers' knowledge about AIDS after the educational experience in the two experimental conditions as compared to the control groups.

The evaluation of this hypotheses requires the computation of different tests, some using the score on general knowledge about AIDS and others regarding the knowledge

abou

of sc

Krus

used

(F=2

any

conc

sam

othe

four

con

subj

of v

the

test

was

abo

about prevention methods (there was a very low correlation--.07--between the two sets of scores). The analysis of general knowledge about AIDS by groups starts with the Kruskal-Wallis one-way analysis of variance by ranks. This non-parametric test was used because the Barlett-Box test showed that the homogeneity of variance was violated ($F=2.28$, $p=.08$). The null hypothesis in this analysis was that there is not going to be any association between the scores on knowledge about AIDS and the different conditions. The assumptions of this non-parametric uncorrelated statistic are that the samples have similar distributions, are drawn at random, and are independent from each other. The value of the Kruskal-Wallis statistic (H) is 6.8 ($p>.05$). A ceiling effect is found in the scores on general knowledge about AIDS, because even the non-equivalent control group had a very high score (14.91).

The knowledge about prevention behaviors was studied separately. Each subject's responses to each item were added to form the subject's score and the analysis of variance procedure was used to evaluate the hypothesis that there was no difference in the mean scores on knowledge about prevention between conditions . The Barlett-Box test of homogeneity of variance suggested that the homogeneity of variance assumption was not violated (2.05, $p=.105$). The following table displays the means on knowledge about prevention and the summary Anova table.

Table 11. ANOVA of knowledge about prevention by groups.

	Groups			
	PL	DL	CG	NEC
Means	5.36	5.18	3.56	4.76

Sources	D.F.	SS	MS	F ratio	P	Eta^2
Between groups	3	70.67	23.56	7.16	.0002	.15
Within groups	124	408.05	3.29			
Total	127	478.72				

Note. PL= Participatory learning group, DL=Didactic learning group, CG=Control group, NEC=Non-equivalent control group.

A main effect from groups was identified. Therefore, the results of the analysis of variance supported the rejection of the hypothesis that there is no difference in the mean scores on knowledge about prevention methods in the different conditions.

The contrast of the two experimental conditions with the two control conditions on the score of knowledge about prevention yields the following results: Contrast=2.23, standard error=.66, T=3.38, degrees of freedom=124, and T probability=.001. Therefore, the null hypothesis that there is no difference in means on prevention about AIDS between the experimental and control conditions was rejected. The mean score on knowledge about prevention was higher for the experimental conditions than for the control conditions, and this difference was significant ($p<.05$).

The Scheffé procedure was used to study all possible pairs of comparisons between conditions on knowledge about prevention, and significant differences are found at less than .05 probability between the control group and the participatory learning group, and between the control group and the didactic learning group. In both

comparisons the scores for the learning groups were higher than the score for the control group.

H2: Migrant workers in participatory learning groups will show higher knowledge than those in the didactic learning group and the subjects in the control group.

The data on general knowledge about AIDS was evaluated with the Jonckheere trend test which is used as an extension of the Kruskal-Wallis one way analysis of variance. The Jonckheere trend test evaluates the predicted trend across the scores of different conditions. The predicted trend in this case is specified in hypothesis 2, which suggests an increase in scores on knowledge in the following order: non-equivalent control group, control group, didactic learning group and participatory learning group. The null hypothesis for this test is that in the scores on general knowledge about AIDS differences among the four conditions are random. The value of the S statistic is 975, which results in a Z score of 2.39. The probability table for the Z scores shows that a value of 2.39 has probabilities smaller than .05, at .01 and .05 one-tailed tests of significance respectively. Therefore, the null hypothesis was rejected and it is concluded that the score on general knowledge about AIDS is associated with the conditions.

The analysis of the difference in knowledge about prevention between conditions was significant. The two pairs of conditions found to be significantly different at a probability of less than .05 were: (a) control group and participatory learning group , and (b) didactic learning group and control group. Therefore, this test on knowledge about prevention--and our previous description of the groups with higher scores on each pair--indicates that the experimental conditions did better than the control group, but no evidence was found that participatory learning group did better than the didactic learning group or that the learning groups did better than the control group in knowledge about prevention.

Attitudes towards people with AIDS

H3: There will be a significant difference between migrant workers' attitudes towards AIDS patients after the educational experiences, and the participants in the control conditions. The following table displays the means and the analysis of variance summary table. Table G-5 in appendix G displays the responses to each item about attitudes towards people with AIDS.

Table 12. ANOVA of score on attitudes towards people with AIDS by group.

	Groups							
	PL		DL		CG		NEC	
	X	n	X	n	X	n	X	n
	14.45	33	17.00	36	16.34	35	16.50	20

	D.F.	SS	MS	F ratio	P	Eta^2
Between	3	123.54	41.18	2.89	.04	.07
Within	120	1711.07	14.26			
Total	123	1834.60				

Note. X= Mean on attitudes towards people with AIDS, n=group size. PL= Participatory learning group, DL=Didactic learning group, CG=Control group, NEC=Non-equivalent control group.

The null hypothesis that there is no significant difference in the mean scores on attitudes towards people with AIDS between groups is rejected because a significant main effect is found. When the Scheffé analysis was conducted on the one-way analysis of variance of the scores on attitudes towards AIDS patients and groups, none of the pairs of groups was significantly different at less than .05. When the scores on attitudes towards people with AIDS of participatory and didactic learning groups were contrasted with the scores of the two control conditions, the T value and T probability for the pooled variance procedure were -.995 and .322, respectively. Therefore, using this test, the null hypothesis for the contrast between the mean scores on attitudes towards AIDS victims between the experimental groups--participatory and didactic--, and the two control groups--control group and non-equivalent control group-- was not significant. However, when the scores of experimental groups participatory and didactic

were compared, the T value and T probability were 2.80 and .006, respectively. Thus,a significant difference is found in attitudes towards people with AIDS between participatory and didactic learning groups with the participatory learning group having the lowest scores on attitudes towards people with AIDS.

Knowledge about AIDS and attitudes towards people with AIDS

H4: There will be a positive significant relationship between attitudes towards people with AIDS and knowledge about AIDS.

The Pearson correlation coefficient was computed with scores on general knowledge about AIDS and attitudes towards people with AIDS and the coefficient was .46 ($p<.05$). The higher the score on general knowledge about AIDS (meaning more knowledge) the higher the score on attitudes towards people with AIDS (more positive attitudes), which supports the relationship hypothesized.

The Pearson correlation coefficient was also calculated for the scores on knowledge about prevention and the scores on attitudes towards AIDS patients and was .10 and non-significant.

Attitudes towards people with AIDS and behaviors related to openness and awareness

H5: There will be a significant relationship between attitudes towards AIDS patients and the behaviors of: requesting written materials about AIDS, volunteering to distribute written materials to other people, bringing someone to receive information about AIDS, and requesting more information about condoms and spermicides.

Two of these behaviors were regarded as displays of openness to information about AIDS: the request of written materials about AIDS, and the request of more information about condoms and spermicides. The other two behaviors were considered indicators of awareness of relevance of educating the community about AIDS. These

behaviors were: the request of written information about AIDS to distribute to others, and the behavior of bringing someone to talk to and receive information about AIDS from the educator. The following table displays the number of people returning the cards related to openness and awareness.

Table 13. Frequencies on openness and awareness.

Responses	Frequencies	%
Openness		
No cards returned (or all cards missing)	75	54
Only one card returned	25	18
Two cards returned	39	28
Awareness		
No cards returned (or all cards missing)	89	64
Only one card returned	41	30
Two cards returned	9	7

The data about each behavior performed by the subjects was recorded as a dichotomous categorical variable. Four analyses of variance were conducted, one between attitudes towards people with AIDS and each of the behaviors associated with openness or awareness--no analysis of variance was conducted with the blue card. On each analysis the null hypothesis evaluated was that there was no difference between people who perform the behavior and people who did not perform the behavior in their mean scores on attitudes towards people with AIDS. No significant differences were found on any of the four analyses of variance. Therefore, the null hypothesis studied as an evaluation of hypothesis 5, was not rejected. Also the correlation between attitudes towards people with AIDS and the variables openness and awareness (each variable

comprising two items) was studied and the attitudes toward people with AIDS were significantly correlated with awareness of need to learn about AIDS for the Hispanic community (r.=20, p<.05)

Attitudes towards homosexuals and drug users

Table 14 displays the mean scores on attitudes towards homosexuals and drugs users on each group. Tables G-6 and G-7 display the responses to the items about attitudes toward homosexuals and drug users.

Table 14. Mean group score on attitudes towards homosexuals and drug users.

Attitudes towards	Groups PL	DL	CG	NEC
Homosexuals	11.64	13.45	13.70	13.14
Drug users	13.48	14.83	13.72	14.29

Note. The scales are worded in the positive direction. PL= participatory learning group, DL=didactic learning group, CG=control group, and NEC=Non-equivalent control group.

A possible difference in the attitudes towards homosexuals and attitudes towards drug users due to gender of the subjects was evaluated with analysis of variance. Neither of the two analyses reflected a significant variance among groups due to gender. Also the correlations between attitudes towards drug users and homosexuals and the variables openness and awareness were studied and found to be very low and non-significant.

H6: There will be a significant difference between attitudes towards homosexuals of migrant workers in the experimental conditions, and the attitudes towards homosexuals of migrant workers in the control groups.

First, the one-way analysis of variance procedure was used to study the null hypothesis that the mean scores on attitudes towards homosexuals are similar for the four groups. The between-groups variance on this analysis was not significant.

H7: There will be a significant difference between the attitudes of migrant workers towards drug users in the experimental conditions, and the attitudes towards drug users of migrant workers in the control groups.

The one-way analysis of variance was used to study if there was a significant difference between the four conditions in the study and their scores on attitudes towards drug addicts. The between groups variance was not significant.

H 8: There will be a positive significant relationship between migrant workers' attitudes towards homosexuals and their knowledge about AIDS.

The Pearson correlation coefficient was computed for the scores on attitudes towards homosexuals and general knowledge about AIDS. The coefficient was .21 ($p<.05$). Higher scores on general knowledge about AIDS were related to higher scores on attitudes towards homosexuals (more positive attitudes). Therefore, the null hypothesis was rejected and hypothesis 8 is supported by the correlation coefficient.

A similar positive correlation was found between attitudes towards homosexuals and the knowledge about prevention (Pearson=.23, p.<.05) indicating that the higher the knowledge about prevention methods the more positive the attitude towards homosexuals. Therefore, hypothesis 8 was also supported by the analysis of knowledge about prevention and attitudes towards homosexuals.

H9: There will be a significant relationship between migrant workers attitudes towards drug users and their knowledge about AIDS.

The Pearson correlation coefficient is calculated for the score on attitudes towards drug users and the score on general knowledge about AIDS; Pearson= .38, $p<.05$. The coefficient indicates that more knowledge will be related to more positive attitudes towards drug users. Therefore, the null hypothesis is rejected and the data from general knowledge about AIDS supports hypothesis 9. A positive correlation was not found between knowledge about prevention and attitudes towards drug users ($r=.074$).

H10: There will be a significant relationship between migrant workers' attitudes towards drug users and their attitudes towards people with AIDS.

This hypothesis is supported by the Pearson correlation coefficient calculated with the scores on attitudes towards drug users and attitudes towards AIDS victims. This coefficient is .38 ($p<.05$). This suggests that the more positive the attitude towards drug users, the more positive the attitude towards people with AIDS.

H11: There will be a positive significant relationship between migrant workers' attitudes towards homosexuals and their attitudes towards people with AIDS.

The direction and strength of the association between the scores on attitudes towards people with AIDS and attitudes towards homosexuals was studied with the Pearson correlation coefficient. The hypothesis was supported by the data with a correlation coefficient of .32 ($p<.05$). The more positive the attitudes towards AIDS patients, the more positive the attitudes towards homosexuals.

Openness to information about AIDS and awareness of the relevance of educating the community

As described earlier in this chapter two pairs of behaviors were regarded as displays of either openness to information about AIDS or awareness of the relevance of educating the community about AIDS. Two variables were created (openness and awareness), each one including the number of occurrences of the value 1--meaning the behavior was displayed--on each of the two behaviors corresponding to the new variables. These two new variables are used in the analysis of the following two hypothesis. Table G-4 in the appendix displays the values and frequencies for the variables openness and awareness.

H12: There will be a significant difference in the number of subjects requesting more information about AIDS and the number of subjects requesting more information about condoms and spermicides, between experimental the participatory learning group, the didactic learning group and the experimental control.

A Chi-square test is used to study the independence of the two variables. The Chi-square value is 1.57 with 3 degrees of freedom and it is not significant ($p>.05$). Since a difference between groups on openness is not supported, no further analysis is conducted to evaluate hypothesis 12.

H13: There will be a significant difference between the migrant workers' report of interest in distributing information to other people, and disposition to bring someone they know to receive information at the end of the intervention in all conditions, and the difference will be higher for the experimental groups.

The Chi-square test of independence on awareness by groups identified a Chi-square value of 3.92 with 3 degrees of freedom and it is not significant ($p>.05$).

Summary of quantitative findings

Through the analysis of the research hypotheses the following results were found to be significant: (a) migrant workers' knowledge about prevention differed between the experimental and control conditions--the experimental groups showed higher knowledge about prevention--; (b) the difference in knowledge about prevention between the participatory learning group and the control group--the participatory learning group having the higher scores on knowledge about prevention--and also between the didactic learning group, and the control group--the didactic learning group having highest scores than the control group--; (c) a main effect between groups on attitudes towards people with AIDS--the participatory learning group having the lowest score on attitudes towards people with AIDS--; (d) a positive relationship between attitudes towards people with AIDS and general knowledge about AIDS; (e) a positive relationship between attitudes towards homosexuals and general knowledge about AIDS; (f) a positive relationship between attitudes towards homosexuals and knowledge about prevention; (g) a positive relationship between attitudes towards drug users and general knowledge about AIDS; (h) a positive relationship between attitudes towards drug users and attitudes towards people with AIDS; and, (i) a positive relationship between attitudes towards homosexuals and attitudes towards people with AIDS.

Exploratory Analysis

The data from this research allowed for the study of other relationships. Of special interest are the relationships between: (a) age, education, and knowledge about AIDS; (b) age, education and attitudes towards AIDS patients, homosexuals, and drug users; (c) the number of previous sources of information about AIDS and knowledge about AIDS; (d) the items about interest in doing the awareness and openness related behaviors and the cards used in doing the behaviors; (e) the behavioral cards and general

knowledge about AIDS and knowledge about prevention; and, (f) the regression analysis of independent variables into general knowledge about AIDS and knowledge about prevention.

Age , education, and knowledge about AIDS

The Pearson correlation coefficients were -.34 ($p<.05$) and -.18 ($p<.05$) for age and general knowledge about AIDS, and age and knowledge about prevention, respectively. The older the subject, the lower the score on general knowledge about AIDS. Older subjects had lower scores on knowledge about prevention.

The correlation coefficients for the relationship between general knowledge about AIDS and education was .35 ($p<.05$), meaning that the higher the number of years of education the higher the score on general knowledge about AIDS. The relationship between knowledge about prevention and education was non-significant.

Age, education, and attitudes

The relationships between age and education and attitudes towards AIDS patients, attitudes towards homosexuals and attitudes towards drug users are displayed in the following table.

Table 15. Relationship between age and education and attitudes.

	Attitudes		
	Homosexuals	Drug users	People with AIDS
Age	-.28 ($p<.05$)	-.38 ($p<.05$)	-.35 ($p<.05$)
Education	.29 ($p<.05$)	.32 ($p<.05$)	.44 ($p<.05$)

The correlations of attitudes with age show that the higher the age the less positive the attitudes towards homosexuals, drug users and AIDS patients. The correlations of

attitudes and education indicate that the higher the number of years of education the more positive the attitudes towards homosexuals, drug users and AIDS patients.

Number of different types of previous sources of information about AIDS

One item of the questionnaire asked the subject to circle the sources from which he/she had received information about AIDS. Later, a variable is calculated counting the number of different types of sources indicated by each subject. The correlation between different types of previous sources of information about AIDS and general knowledge about AIDS was non-significant . However, the relationships between the number of different types of previous sources of information about AIDS and knowledge about prevention is .18 ($p<.05$) and the relationship between attitudes towards homosexuals and the number of different types of previous sources of information about AIDS is .34 ($p<.05$). This indicates that the higher the number of different types of previous sources of information about AIDS, the higher the score on knowledge about prevention, and that the higher the number of different types of previous sources of information about AIDS, the higher--more positive--the score on attitudes towards homosexuals. The relationships between the number of different types of previous sources of information about AIDS and attitudes towards drug users and people with AIDS were studied and both relationships are non-significant.

Relationship between responses about behaviors and the actual behaviors

The questionnaire had four dichotomous items (Yes-No), each one asking the subject if she/he was interested in doing the following behaviors: (a) request more written information about AIDS for him/herself, (b) distribute copies of written information about AIDS to others, (c) receive more information about condoms orspermicides, and (d) introduce someone he/she knows to the educators to listen to the

information about AIDS. A week after the subjects completed the questionnaires, they had an opportunity to do any or all of the four behaviors. The Tetrachoric correlation coefficient is used to study the relationship between each of the four questions about behaviors in the questionnaire and their corresponding follow-up behaviors. The correlation coefficient was very low and non-significant for the following relationships: (a) interest in receiving more information about AIDS and the request of more written information about AIDS (r=.10); (b) interest in introducing someone to the educators and the behavior of introducing someone to the educators to be instructed about AIDS (r=.01); and, (c) interest in receiving copies of written information about AIDS to distribute to others and the actual request of written information about AIDS to be distributed (r=.14). The correlation between the interest in getting more information about condoms or spermicides and the request of information on condoms or spermicides was significant (r=.28). This suggests a relationship between interest in information about condoms or spermicides and request of information about those topics.

Relationship between the behavioral cards and general knowledge about AIDS

The Point-biserial correlation was used to study the relationship between the return of behavioral cards (the performance of behaviors) and the scores on knowledge about AIDS.

Only two relationships were significant. One was the relationship between the behavior of requesting copies of information about AIDS to distribute and the score on knowledge about prevention (X ret. card=5.22, X=did not ret. card=3.45, r_{pb}=.51, T=5.53, $T_{crit.}$=1.99). The group of people who returned the card had higher scores on knowledge about prevention. The null hypothesis saying that the return of the card

requesting written information about AIDS to distribute to others was not related to the score on knowledge about prevention was therefore rejected.

The other relationship that was significant is between the behavior of introducing someone to the instructors and knowledge about prevention. The mean is 5.75 for those who did not return the card, and 5.44 for those who did return the card. The correlation coefficient was .56, the T observed was 6.29 and the T crit.=1.99. The null hypothesis about absence of a relationship between introducing other people to the instructors to be educated about AIDS, and the score on knowledge about prevention was rejected.

Regression of independent variables into knowledge about AIDS

General knowledge about AIDS was studied as the dependent variable and attitudes towards homosexuals, attitudes towards drug users, age and education were introduced into the regression equation as the independent variables (stepwise method). Two independent variables can be used to predict the scores on general knowledge about AIDS and are significant at less than .05 probability: attitudes towards people with AIDS and education. The multiple regression coefficient was .41 and the adjusted R square was .16 when attitudes towards people with AIDS were introduced. The multiple regression coefficient was .47 and the adjusted R square was .20 when education was introduced into the equation. The following table displays the analysis of variance and statistics for the independent variables.

Table 16. Regression on general knowledge about AIDS.

ANOVA					
ATTPWA	SS	Df	MS	F	sig.F
Regression	22.75	1	22.75	19.85	.0000
Residual	113.48	98	1.15		
ANOVA					
Education	SS	DF	MS	F	sig.F
Regression	28.98	2	14.48	12.97	.0000
Residual	104.94	96	1.12		
	B	SE	T	sig.T	
ATTPWA	.097	.029	3.40	.001	
Education	.089	.036	2.49	.015	

Note. ATTPWA refers to attitudes towards people with AIDS.

When knowledge about prevention is studied as the dependent variable and the variables, attitudes towards homosexuals, attitudes towards AIDS patients, attitudes towards drug users, age, education and general knowledge about AIDS were included in the regression equation as the independent variables--using the stepwise method--the only variable that can be used to predict the scores on knowledge about prevention is attitudes towards homosexuals. The multiple regression coefficient was .22 and R square was .05. The following table shows the analysis of variance for the regression and the statistics for the independent variable.

Table 17. Regression on knowledge about prevention.

Analysis of variance					
	SS	Df	MS	F	sig. F
Regression	16.82	1	16.82	4.62	.034
Residual	345.83	95	3.64		
Attitudes	B	SE	T	sig.T	
towards homosexuals	.11	.051	2.15	.034	

Summary of exploratory analysis

During the exploratory analysis the following relationships were found to be significant: (a) negative relationships between age and general knowledge about AIDS,

and between age and knowledge about prevention; (b) a positive relationship between general knowledge about AIDS and education; (c) negative relationships between age and attitudes towards homosexuals, attitudes towards drug users and attitudes towards AIDS patients; (d) positive relationships between education and attitudes towards homosexuals, attitudes towards drug users, and attitudes towards AIDS patients; (e) a positive relationship between knowledge about prevention and the number of previous sources of information about AIDS; (f) a significant positive relationship between attitudes towards homosexuals and the number of types of previous sources of information about AIDS; (g) a positive relationship between the interest in receiving more information about condoms or spermicides and the behavior of requesting more information about condoms or spermicides; (h) a significant positive relationship between the request of copies of information about AIDS and the score on knowledge about prevention--those who requested materials had higher scores on knowledge about prevention--; (i) a positive significant relationship between awareness of the need to learn about HIV/AIDS for the Hispanic community and the atittudes toward people with AIDS; and, (j) a relationship between introducing someone to the educator and the score on knowledge about prevention--the ones with higher scores on knowledge about prevention were the ones who more often did not return and introduce anyone to the educator.

Also regression analysis was conducted for general knowledge about AIDS and knowledge about prevention. The significant predictors of general knowledge about AIDS were the scores on attitudes towards AIDS patients and attitudes towards drug users. The only significant predictor of knowledge about prevention was the score on attitudes towards homosexuals.

Qualitative Observations

I could not reach a full understanding of this research and educational intervention without the critical analysis of the field experiences with members of migrant families. Qualitative observations provided information about the participants' satisfaction with the educational experience, their sex role behaviors related to the project, and the questions that were asked more frequently during the educational experiences. These observations are also the basis for comments regarding the cultural beliefs of "simpatía", "respeto" and religiosity.

Satisfaction with the educational experience

Baltimore and Wolff (1986) stated that it is unrealistic to believe that the spread of HIV infection is likely to be stopped by simple one time education efforts, but that still, these efforts needed to be undertaken with hope and conviction because the most effective measures to reduce the spread of HIV infection are education and voluntary behavioral changes, and we know that the chances of achieving voluntary behavioral changes without education are minimum.

Nevertheless, since the public is receiving information about AIDS continuously from the media, it is assumed that a one time intervention could be helpful if at least it clarifies the information to community members and helps them to relate the information to their lifestyles. When this happens, and the participants walk out of the presentation feeling satisfied with the way the information was presented, they might also be more open, interested and able to understand information about AIDS in the future and to participate in further AIDS education programs. For instance, while doing this research the resistance and negative attitude of migrants in one camp--the pilot camp--due to negative previous experiences with AIDS education presentations was a strong barrier

to attendance at meetings. For this reason, the researcher observed the participants' reactions to the presentations--and the presenter--to assess their satisfaction.

It is thought that the participants in this research were satisfied with the educational experiences because: (a) there were no complaints about the presentation and people did not leave early; (b) sometimes people watched the presentations twice; (c) there were no reports of a man prohibiting children or women to attend the second educational meeting in each camp--in fact , more women than men attended the meetings--; and, (d) at the end of the meetings, the participants showed their appreciation of the activity.

Some of my major concerns during the project were to avoid making anyone feel uncomfortable during the educational activities and to promote openness and acceptance of the discussion of the topic of AIDS. Moreover, it was intended to leave the participants with a good attitude towards future AIDS education efforts. There are several experiences which suggests that those objectives were accomplished.

1. There were no people leaving the presentation early or feeling upset.

The participants told the educators about previous educational activities that they disliked. They identified the elements that they found offensive on prior presentations and none of those elements was part of the educational interventions in this project. The participants mentioned their discomfort with educational presentations including : (a) the use of rubber models of the penis and vagina, (b) the use of sexually explicit vocabulary and information about how to "have fun with safe sex" in front of a mixed audience of men and women, (c) the distribution of condoms to everybody--including children--and (d) a lack of discussion of alternatives to condoms for women. Therefore, the lack of complaints regarding the style of presentation or any other aspect of the presentation is not attributed to the "simpatía" script of "respeto" but to satisfaction with the experience.

2. In most of the camps (five of the six experimental camps) the people kept coming to talk to the educators, and often stayed during the presentations about AIDS and musical videotapes (for a second time) after having gone through their assigned meetings.

It was common for people who had seen the presentation previously to watch the activities for a second time, either sitting inside the tent or watching through the tent's windows . It can be hypothesized that the incentive of watching the musical videotapes was strong enough to counterbalance for any possible discomfort with the topic. Still, if that was the case, the fact that the information about AIDS was accepted can't be denied. In fact, it suggests that the combination of elements--entertainment and education--in this intervention was adequate and propitiated the environment for the discussion of HIV/AIDS.

3. There was very good attendance of children and women at the second educational meetings on each camp.

This fact was an important achievement because after the first educational meeting it was evident that information was disseminated through the camp and most adults knew that the health topic that was going to be discussed was AIDS. If they had received negative information about the activity, it is probable that children and women would not have attended the meetings. This could have been expected in the event of negative reports of the activity, because women indicated that in previous educational presentations about AIDS (in Texas, Michigan and Florida) the men felt upset with the content and methods used and forbade the women and children to interact with the educators. For this reason, it is thought that people assigned to the second educational meeting were probably informed that there was going to be information about AIDS, but did not hear negative comments about the way the information was presented. Also,

during the first two visits to the camps many men indicated to the women (in front of the educators) that they wanted them to attend the meetings.

4. At the end of the meetings the participants showed their appreciation of the activity and of the effort that was made in bringing all the things that were necessary for the presentation.

Even though Hispanics have been regarded as displaying the "simpatía" script, if the participants would have felt offended, they would not have been so grateful, or would not have said anything about the activity; in contrast, the participants even provided food, asked if it was possible to come again, and helped to load our truck.

Finally, a comment by one of the participants regarding the combination of the variety show (videotape of Tex-Mex bands) provides an illustration on a possible reason why the intervention was accepted and appreciated by the community. She said, "*gracias por traernos las películas y estuvo buena la presentación se ve que la prepararon para que nos divirtieramos*,[thanks for bringing the movies and the presentation was good, it was evident that you wanted us to enjoy it]." This suggests that maybe the fact that it was evident that this was a complicated activity to conduct (in terms of all the equipment and the number of visits to the camps) made them feel that they should participate in the activity and be grateful.

Sex roles

Women differed from men in some behaviors, comments and reactions. This information is useful for understanding characteristics of sex roles in migrant families that need to be considered in designing AIDS education programs for Hispanic migrant families. The following are behaviors or comments found among women, men or couples of different ages in at least three different camps :

Women's reactions and behaviors

1. Women but not men described the needs of the families and asked for help.

Many needs were reported to me in each camp (the needs were discussed in the methods chapter), but there was not one case of a man coming forward with this information, even when sometimes the needs were completely related to the man. For instance, a woman came and discussed her husband's need for a referral to be seen by an ophthalmologist, and her son's need for a cast for a twisted finger. It might be thought that the women came and discussed their needs because most of the interaction was with myself. Still, this explanation is not too plausible because often times when I did not know the answer or a resource to refer them to, the women talked with the AIDS coordinator (a man).

2. Women between the ages of 26 and 45 years sometimes reacted to the information with feelings of helplessness regarding opportunities to protect themselves from HIV infection, and with anger about the possibility of been at risk because of their partners' behaviors.

Comments such as "*esto del SIDA está canijo, quién sabe si ya a uno lo enfermaron y ahora ya ni cuidarse* [this thing about AIDS is bad, who knows if one has already gotten the illness, and now not even the precautions will help] ," showed helplessness. Comments such as, "*el hombre puede hacer lo que quiera por ahí y no importa lo bueno que uno se porte se puede enfermar y morir de eso también* [the man can do what he wants and it does not matter how well you behave, you can also get it and die of this]" showed anger and concern.

I tried to emphasize the concept that prevention is the responsibility of both individuals engaging in sexual behaviors, but that the woman should not feel helpless if the man does not want to prevent HIV because there are things that women can do to

protect themselves and decrease their probabilities of HIV infection--such as using spermicides or lubricants with nonoxynol 9. Sometimes since most of the participants were women I also had the opportunity to discuss with the women ways to communicate with their partners about HIV prevention. These views will be discussed further in the next chapter, but it is worth noting here that women feel helpless and angry regarding the possibility of AIDS infection.

3. Older women (more than 45 years old) were very interested in learning all the information and often mentioned that they needed to learn in order to be able to teach children how to prevent the HIV infection.

I perceived that even though it was not easy for some women to ask questions about sexual behaviors and condoms, they followed all the explanations mindfully, and felt that it was their responsibility to do so. For instance, once the educators went to a housing unit for the follow-up visit, and the only person there was the grandmother. She expressed concern that her daughter and granddaughter were not there to get the information. She asked me to explain everything about condoms and to review the information on prevention with her. She also requested copies of brochures and samples of condoms and spermicides for the two women who were not there. Since she showed interest in learning what to say to the other two women, I helped her to practice the information to make sure that she understood and knew what she was going to tell them.

Similarly, during the educational meetings, the oldest women (60 years of age or more) generally participated a good deal by making comments about the information being presented--especially in support of prevention behaviors. These interventions were highly valued by us educators, because they continuously related the information to situations in the camps or in the areas where they live in the winter--Florida, Texas--

even providing examples of situations that put people that they know at risk of HIV infection and other diseases. This type of participation made the communication much easier because the message was even more real for the participants.

Men's reactions and behaviors

1. In most of the camps the contact person was a man.

It was more difficult to convince women to be contact persons and to introduce us to the other families. Women who agreed to be contact persons were much less expressive than men in introducing us educators--usually they just said that the we worked at Cristo Rey Community Center and wanted to talk to them.

When a men was the contact person he introduced us to the different families in a very supportive way, encouraging the youngsters and women to come to the meetings--as though he had known the educators for a long time. It was also easier to get other men to participate when the contact person was a man, instead of a woman.

2. When men were the only ones at the meetings, they responded to the information with denial, resignation, and jokes.

During the meetings, men reacted differently when there were no women in the audience than when they attended mixed meetings. They teased each other, guessing which one of them was more at risk of having been infected with HIV, and while doing this, they named women which they thought were at risk, and accused each other of being either alcohol abusers or homosexuals. I did not try to stop the jokes. But instead used them to clarify myths and to provide information about the behaviors that were being brought up. For instance, I discussed alcohol as a factor that can increase the probability of unsafe sex and drug use, and that can also decrease the strength of the immune system.

Efforts to make the participants realize that it is not just the individual who is at risk but that he might also be risking the life of his current or future wife or permanent partner did not clearly show success. Some representative reactions to the appeal to guilt were: (a) if that is what God decides, there is not much that you can do to avoid it; and, (b) the couple is married until death separates them, and that if the man is going to die, it is reasonable for the woman to share his fate. The way in which the statements were made, in a boastful manner, and the negation of them by other men, indicated that they did not whole-heartly accept the statements. It was apparent that the comments were made partially to challenge me as a woman.

Young couples (17 to 25 years old):

1. Young couples (men and women 17 to 25 years old) usually came to the meetings together--often with their babies--and participated by asking questions and making jokes.

The couples answered together during the follow-up visits, and both the woman and man often brought the red cards (the ones requesting more information about condoms or spermicides). In those cases, the subjects answered that they did not want or need to listen to the information on how to use the condoms and spermicides, separately. Neither women nor men showed that the decision about which cards to return was affected by the presence of the spouse, for instance, spouses often brought different cards.

Older couples (26 years old or more):

1. Older couples (men and women 26 years old and over) came together to the meetings less frequently.

In those instances, the men asked more questions than the women and were usually the ones participating more. Frequently, women from these older couples came alone or with the children to the educational meetings. On the other side, sometimes men from these couples came to the meetings when their spouses were not coming to the meetings (happened less often than with the women). When these older couples had to bring back the behavioral cards--during the follow-up--they were not comfortable bringing the red card in front of their respective partners. Consequently, the educators had to find opportunities to interview the participants regarding their behavioral cards privately, and under these conditions, some women went back to their spouses asking them which card to return--those cards were marked as missing data.

Cultural beliefs

In chapter III some cultural traits that have been hypothesized as related to AIDS prevention were identified ("simpatía", "respeto" and religiosity). Some of the observations about satisfaction with the intervention and sex roles were discussed in the previous section in their relationship to "simpatía" and "respeto". Still, it is pertinent to make more general comments here on how these two beliefs and the religiosity could have been related to the implementation of the AIDS education project.

The "simpatía" script. The members of migrant families were very helpful and friendly with us. Also, the avoidance of direct conflict was observed twice; once when it was evident that a woman was very shy and undecided about attending to the presentation, but there was no way to engage her into a discussion of the reasons why this had been a

difficult decision for her, and another time at a different camp when the same situation was faced with a group of three men who said that they did not know if they were coming to the presentation and when I asked them why, I got many smiles and people looking down or telling me: "*bueno quizás vayamos ahorita*", [well, maybe we will go in a while].

The "respeto". We were treated as people with a different status. We did not made any particular efforts to be perceived as peers but we avoided the use of any symbols that could imply that we haddifferent status due to education, socioeconomic conditions or jobs. Some examples of this were: (a) people asking us to provide advice to youngsters about the relevance of studying in order to get good jobs in the future or about how is the life of a college student; (b) people listening to the information discussed never saying or displaying non-verbal behaviors reflecting distrust in the information presented,--even though sometimes my age, gender, or the erroneous information about AIDS sometimes presented in the media could have made someone have doubts about the accuracy of the information presented--; (c) the fact that most of the time the participants dress up to come to the meetings--including the children--, and; (d) the fact that when were invited to come into any of the houses we were always offered the best chairs and when we were invited to share food with any of the families we always had the best plates and cups. It is suspected that the difference in status was probably related to our job as educators, because I remember being known in different camps as "la maestrita puertorriqueña" [the Puertorican teacher].

Religiosity. Most of the families considered themselves affiliated with religious groups. This was observed in: (a) the presence of small crosses in some houses, (b) the participation of many women and children in a religious ritual in one of the camps at the

time of one of our visits, (c) a request that a Spanish-speaking priest visit a camp, (d) requests of information about the closest churches with Spanish-speaking priests by people in different camps, and (e) the behavior displayed toward a priest who visited the camps. Still, it is very interesting that we never had any comments during the presentations or follow-up visits regarding religious beliefs opposed the information discussed about HIV prevention. This could be interpreted in terms of religiosity not being a factor (or barrier) to HIV education or prevention. An alternative explanation is that since the educational program was sponsored by Cristo Rey Community Center the participants might have thought that all the content presented was acceptable at least to the Catholic church.

General health values

There were not enough comments about health values to allow identification of health values. However, some observations should be discussed. I was interested in identifying folk healers to see if they have particular opinions about HIV. None of the camps visited had someone whom the people identified as a healer except that in one camp there was an older woman that some women identified as the person they go to first when any of the children get sick, but these women also specified that when the child's illness seems serious or the person with the illness is an adult, they go to a clinic.

It was observed that access to medical care was difficult for the migrant families. As it was discussed in the section about needs reported, often times the clinics visiting the camps did not announce the visits in advance. Other problems were that sometimes migrant workers requiring follow-up care had difficulties getting prescriptions or referral to specialists because their medical files were lost--from visits to the clinics the previous year--and then often they had to drive long distances to the clinics during work hours.

There was no evidence of a lack of trust in western medicine or a lack of concern about health issues.

Frequently asked questions

It is important to review the questions that participants of different genders and age groups asked. The following questions were asked by participants in at least two camps.

1. Is it really true that Hispanics can get AIDS?

This was asked more frequently by men (all ages) and older women (more than 45 years old).

2. Is AIDS also a problem in Mexico?

Some older women mentioned not having heard about AIDS when they were growing up in Mexico; they were the ones asking this more often.

3. Is AIDS only a problem of the black community and will Hispanics only get it through sexual relationships with a black person?

This was asked by some men and women, and there was not a particular age group asking this question more often.

4. Could someone get AIDS from a dentist's work?

There was a lot of curiosity about the case of a dentist in Florida who died of AIDS and had eight of his clients infected with HIV. People of all ages and both genders asked about this.

5. Could someone get AIDS from mosquito bites?

This question was very typical of the children attending to the meetings. Only once an adult asked about this, and it was a man talking about a small town in Florida that was said to had a high number of people infected with HIV throughout mosquito bites.

6. Where does AIDS come from?

People all ages and genders were interested in knowing if AIDS developed from Haitians, monkeys, or African tribes.

7. Could someone get AIDS drinking from the same water fountain at school?

Children were particularly interested in this information and were the only ones asking about this way of contagion.

8. At what age should children start learning about AIDS, and what is being done at schools to teach them about prevention?

Men and women asked about this regardless of the gender or age of the other participants in the meetings--wether the participants were a mixed group of women and men or wether they were in a single sex meeting.

9. Is it correct to assume that someone is not infected if the individual was tested as part of the procedures for his/her legalization of immigrant status and was not contacted by a government agency or denied permission to stay in the United States.

A group of women mentioned having gone through HIV testing to legalize their status in the U.S., that they never went back for the results, and that they assume that they were not infected because they were not contacted or thrown out of the country.

Summary of qualitative observations

The behavioral observations provided information about the participants' satisfaction with the educational experience, their sex roles behaviors, some cultural beliefs, health beliefs and the questions asked more frequently.

The participants were found to be satisfied with the educational experience on the basis of several consistent characteristics including: (a) no complaints about the presentation; (b) no people leaving early; (c) sometimes people watched the presentations twice; (d) there were no reports of men prohibiting children or women to attend to the

second educational meeting on each camp--more women than men attended to the meetings--; and, (e) at the end of the meeting, the participants showed their appreciation of the activity.

The following table lists the main roles played by women and men during the presentations.

Table 18. Sex role behavior during the presentations.

Observations
Women
1. The women were the ones describing the needs of the families and asking for resources.
2. Older women were very interested in the information and help to teach about AIDS and prevention behaviors.
3. Women between 26 and 45 years old sometimes reacted to the information with feelings of helplessness.
Men
1. In most of the camps the contact person was a man, because men agreed to be contact persons much more easily than women.
2. When both were attending to the same meeting, older men asked more questions than women.
3. When men were the only ones in the meeting, they reacted to the information with denial, resignation and jokes.

An interesting difference was found between the participation and reactions of younger and older couples. The younger couples came together to the meetings and often requested more information about condoms in front of each other, while the older couples came together to the meetings less frequently, and showed discomfort requesting information about condoms in front of their partners.

Examples of the traits "simpatía" and "respeto" were found and discussed in relation to the implementation of the intervention. Religious beliefs were not discussed

at any time in relation to HIV/AIDS prevention, sexual behavior, and evidence of difficulties in accessing health care were identified.

The questions asked frequently during the meetings can be classified as: (a) general information about the epidemiology of AIDS; if Hispanics can get AIDS, if AIDS is a problem in Mexico and if AIDS is just a problem of the black community; (b) myths about ways of contagion: if you can get AIDS from a dentist's work, if you can get AIDS from mosquitoes' bites, and if one can get AIDS drinking from the water cooler at school; (c) general information about AIDS: where does AIDS comes from; and, (d) government measures regarding AIDS: at what age children should start learning about AIDS; what is being done at schools to teach them about AIDS, and if it is possible to assume that someone is not infected because the individual was tested as part of the immigration procedures and was neither contacted nor denied the permission to stay in the United States.

CHAPTER VI

DISCUSSION

This chapter discusses and summarizes the answers to the research questions and hypotheses found in quantitative and qualitative data. Limitations and questions for further research are presented and finally information from each of the different data sources is used to analyze if the four objectives of the prevention program were accomplished.

Research Questions

What do migrant workers know about AIDS?

Similar to Dawson and Hardy (1989), and Cristo Rey and HAPIS survey in 1989, the participants in this study obtained very high scores on general knowledge about AIDS, and lower scores on knowledge about prevention. The first hypothesis stated that there was going to be a significant difference between the migrant workers' knowledge about AIDS after the educational experience in the two experimental conditions as compared to the control groups. The results showed no significant differences on general knowledge about AIDS between conditions, and a significant difference in knowledge about prevention between conditions. Significant differences were identified in knowledge about prevention between the experimental educational conditions and the control conditions.

The analysis of the score on general knowledge about AIDS between conditions did not support the first hypothesis because the scores on that scale were very high among all the subjects, and the potential impact of the educational interventions was diminished. However, a trend analysis of the score on general knowledge about AIDS between conditions was significant, meaning that the scores for the different

conditions followed a predicted order: participatory learning group, didactic learning group, control group and non-equivalent control group.

The trend analysis supported the second hypothesis which proposed that migrant workers in the participatory learning group were going to have higher scores on knowledge about AIDS than the subjects in the didactic learning group and the control group. The analysis of knowledge about prevention identified significant differences in two pairs of combinations: (a) participatory learning group and the control group, and (b) didactic learning group and the control group. There was no evidence that the participatory learning group knew more about AIDS prevention than the didactic learning group.

The finding of high scores on general knowledge about AIDS and lower scores on knowledge about prevention suggests that different variables or processes might be interfering with the adquisition of knowledge about AIDS, depending on wether the information was general or preventive.

Psychosocial factors could be interfering with the understanding, perception or receptiveness of information about the preventive behaviors. This study also looked at the relationship of some of the psychosocial factors with knowledge of preventive behaviors: ideas about sexuality (sex roles) and the use of condoms, attitudes towards homosexuals and attitudes towards drug users. However, the qualitative observations of sex roles did not show the avoidance of sex topics and lack of communication between partners as a general characteristic--it was found in older couples--that is often mentioned in the literature. Also, a positive significant correlation was found between the number of people saying that they wanted more information about condoms and the number of people requesting condoms.

The only attitudinal variable that was significantly and positively related to knowledge about prevention, was the attitudes towards homosexuals (also the only

predictor of knowledge about prevention in the regression analysis). It is interesting to note that there was also a positive significant correlation between attitudes towards homosexuals and general knowledge about AIDS. These two findings support the research hypothesis (H_8) which proposed a significant relationship between knowledge about AIDS and attitudes towards homosexuals, and does not contradict Stipp and Kerr's (1989) finding of people with anti-gay attitudes being less responsive to information about AIDS. It is possible that if the subjects thought of HIV/AIDS as a disease of people labeled as homosexuals, their perception of their own vulnerability to the infection is not high enough to realize a need to learn about prevention behaviors. Also, exploratory analysis identified that the attitudes towards homosexuals were significantly correlated to the number of previous sources of information about AIDS.

Cristo Rey and HAPIS survey (1989) found a positive correlation between perceived risk of developing AIDS and knowledge about prevention. This research found support for the statement that the perceived vulnerability might be related to knowledge about prevention behaviors since one of the items more frequently answered incorrectly was: " AIDS is a problem for the Hispanic community " (this replicated the finding of Marín and VanOss Marín, 1989). It might well be that increasing the knowledge about AIDS, specifically clarifying the subjects' vulnerability to the infection, makes it more relevant for them to learn about prevention, and for this reason significant differences were found between the experimental and control conditions on knowledge about prevention.

Another alternative explanation for these findings is a lack of trust of the sources of information regarding prevention behaviors, or simply not enough previous and clear information about prevention behaviors. The later could be supported by the finding of a positive significant correlation between knowledge about prevention and

the number of types of previous sources of information about AIDS and of a very low correlation between the general knowledge about AIDS and the number of types of previous sources of information about AIDS. It was also mentioned earlier that Mays and Cochran (1988) stated that the culture and beliefs of Hispanics have not been considered in the design of most educational campaigns and that it is therefore, very difficult for them to relate to the information.

It is important that the participants in the experimental educational conditions showed higher scores on knowledge about prevention, because since this study lacks a pre-test, the fact that the scores on knowledge about prevention were lower in the control conditions suggests that the educational interventions clarified or taught these critical information to the participants. Also, the fact that the scores on general knowledge about AIDS followed the expected trend--with higher scores on experimental educational conditions--suggests that maybe a larger sample would have shown significant differences between conditions. Still, it is necessary to remember that a significant trend was identified between the conditions in general knowledge about AIDS, but that a non-parametric test was used to test the difference between the conditions (because of violation of the homogeneity of variance).

The mean score on attitudes towards people with AIDS was 18.94 (the higher the score the more positive the attitude) and the maximum possible score was 28. The third research hypothesis proposed that there was going to be a significant difference in the attitudes towards PWAs between experimental and control conditions. This hypothesis was not supported by the data. The attitudes towards PWAs of subjects in the participatory learning group were significantly different from the attitudes of subjects in the didactic learning group with the later group having the highest scores. Even though a significant difference in scores on attitudes towards people with AIDS was found, there were no significant differences between experimental and control

conditions, and the group that was expected to have the highest score, the participatory learning group, was in fact the group with the lowest scores. The reason why it was expected that this group was going to have the highest scores was because it was hypothesized that there was going to be a positive relationship between knowledge about AIDS and attitudes towards PWAs and the participatory condition was designed to be more effective increasing the participants' knowledge about AIDS. Moreover, a significant positive correlation (.46) between general knowledge about AIDS and attitudes towards PWAs was found, and this variable was one of the two predictors of general knowledge about AIDS in the regression analysis. Therefore, the unexpected finding can not be attributed to discomfirmation of the fourth hypothesis about a relationship between knowledge about the topic and attitudes towards PWAs. It is further explained later how the elements of the participatory intervention related to attitudes towards people with AIDS did not work as expected in propitiating the environment for the discussion of the topic.

The discussion of attitudes towards people with AIDS in this group depended on the subjects' mention of comments related to the topic and it usually did not happen. This lack of intervention to work on attitudes could be in part responsible for disconfirmation of the expectation of higher scores on attitudes towards people with AIDS in the participatory learning group. However, the finding of significatively lower scores on attitudes towards people with AIDS in the group that was identified with highest scores on general knowledge about AIDS--in a trend-- and in knowledge about prevention, is difficult to explain with the data available. Further research should explore the possibility of an initial decrease in positive attitudes--or increase in negative attitudes--towards people with AIDS, homosexuals and drug users as a result of exposure to information about AIDS and large improvements in knowledge about AIDS. Changes over time or the amount of change in the general knowledge about

AIDS could account for the still positive correlation between knowledge about AIDS and attitudes towards people with AIDS.

Other variables that were found to be positively and significantly correlated with attitudes towards PWAs were the attitudes towards drug addicts (.38) and the attitudes towards homosexuals (.32). However, since none of the two experimental educational conditions included a module or specific exercises to change or support positive attitudes towards PWAs, homosexuals or drug users (other than the sections in the questionnaire, that subjects in all conditions completed) and, there were not many comments showing attitudes towards PWAs during the sections (it was expected that the participants were going to show their attitudes towards PWAs more often and that it was going to be the opportunity to talk about some myths and promote more accepting attitudes) there was almost no intervention regarding attitudes. This is probably the main reason why significant differences were not found between the conditions on attitudes towards PWAs.

A fifth hypothesis expected to find a significant relationship between attitudes towards PWAs and the behaviors of: requesting written materials about AIDS, volunteering to distribute written materials to other people, bringing someone to receive information about AIDS and requesting more information about condoms and spermicides. None of the relationships was found to be significant, probably because the intervention was not strong regarding attitudes towards PWAs and because of the reduction of the sample due to missing data in the cards from the follow-up.

What attitudes do migrant workers have towards homosexuals and drug users in relation to AIDS?

The attitudes towards homosexuals and drug users were found to be moderately positive: attitudes towards homosexuals X=13, attitudes towards drug users, X=14.

The maximum possible score on both scales was 20. The hypotheses that there were going to be significant differences between conditions on attitudes towards homosexuals and drug users were both rejected. The differences were not found probably for the same reason that significant differences were not found between conditions on attitudes towards PWAs. Still, the finding of moderately positive attitudes towards homosexuals agrees with Stipp and Kerr (1989) assertions regarding the existence of conservative and progressive attitudes towards homosexuals in the Hispanic community and Marín (1990) statement regarding the existence of an homophobic component in the Hispanic culture. Unfortunately, the possibility of a response bias in subjects answering the way they thought that the educators would like them to respond was not tested. This is particularly critical with controversial issues such as homosexuality and drug use: specially, because it has been discussed that some of the characteristics of the Hispanics could make them more motivated to please other people (e.g., "simpatía" script and "respeto"). There is no way to know if the attitudes towards homosexuals and drug users are really more negative but were attenuated by a response bias. It could have been that the subjects in the participatory learning group felt less pressure to develop a response bias when answering the questionnaire because they talked more and it was easier for them to perceive acceptance and interest in their own opinions from us educators, than the other groups which did not have the experience of discussing many of their point of views with us, before the completion of the questionnaire.

It was discussed earlier that attitudes towards homosexuals were found to be positively and significantly related to general knowledge about AIDS and knowledge about prevention. Hypothesis nine evaluated the relationship between attitudes towards drug users and knowledge about AIDS. In this analysis the attitudes towards drug users were only related to general knowledge about prevention, which was also

one of the predictors of general knowledge about AIDS in the regression analysis (the other predictor was attitudes towards PWAs). A possible reason for not finding a significant relationship between attitudes towards drug users and knowledge about prevention is that usually just one or two behaviors (not to share needles, or to clean the needles) are identified with drug use, as opposed to more preventive behaviors for safer sex which be could mistakenly related to homosexuals--even though the use of drugs could also be related to unsafe sexual behavior. Another situation that could have interfered with the finding of a relationship between attitudes towards drug users and knowledge about prevention is that only one item clearly related to drug use was included in the assessment of prevention behaviors--cleaning the needles with bleach before injecting drugs. Future studies should include items such as not to use intravenous drugs, and not to share needles, in the section about perceived effectiveness and knowledge of prevention behaviors.

Interestingly, the attitudes towards drugs users and the attitudes towards homosexuals were significantly and positively correlated to attitudes towards PWAs (hypothesis 10 and 11). This was expected, particularly because Lawrence, Husfeldt, Kelly, Hood and Smith (1990) experimentally found that when patients were portrayed as homosexuals, the subjects considered them as more deserving and responsible for their disease, more deserving to die, more dangerous and deserving to be quarantine, less entitled to work, and of less intrinsic worth. In other words the attitudes towards the patients were more negative.

Would the participation in the participatory and didactic learning groups increase migrant's openness to AIDS information as measured by their behavior?

The hypothesis regarding this research question was that there was going to be a significant difference in the number of subjects requesting information about condoms

and spermicides, between the participatory and didactic learning groups and the control group. This hypothesis was not supported by the data. The method used to collect data regarding openness behaviors faced difficulties that limit its reliability--i.e., people losing their cards, people not been at the camps at the time of the follow-up.

Exploratory analysis found a positive significant relationship between the reported interest in getting more information about condoms and spermicides--item in the questionnaire--and the behavior of requesting samples or information about condoms during the follow-up. This finding and qualitative observations, indicated that people were open to the information about AIDS. For instance: in most camps the people kept coming to talk to the educators and often stayed during the presentations about AIDS and musical videotapes (a second time) after having gone through their assigned meetings; many people attended the second educational meetings on each camp after having participated in the first one; the subjects asked many questions during the presentations,and; most of the subjects who returned cards during the follow-up requested more written materials. It could be thought that the subjects chose the request of written information because it was an individual behavior, not as intimidating as requesting information about condoms, or taking someone to the educator to receive information. However, it is necessary to remember that the subjects had the option of bringing a card to get into the raffle without doing any of the behaviors, and also that in some cases subjects who lost their cards requested the brochures as well as people who did not participate in the presentations--because they were not at the camps.

A possible explanation for not finding differences in openness between conditions could be that since the whole camp was involved in activities related to AIDS education (even the controls which only completed the questionnaire and the follow-up), the return of the cards and performance of the different behaviors were

considered as acceptable behaviors by the community. It could have also been that the subjects in the control group displayed the behaviors used to assessed openness out of curiosity because they knew that other people at the camp receive more information about AIDS. Thus, the involvement of the whole camp in the AIDS education program and experiment could have been more effective promoting openness to the topic of AIDS among everyone in the camp than the interventions with the experimental conditions. Summarizing, if the migrant workers were open to information about AIDS--a ceiling effect--if would have been unreasonable to expect major changes in the display of behaviors related to openness during the follow-up. Still, it was not tested if performing the behaviors regarded as displays of openness to information about AIDS meant more openness to information about AIDS than the subjects' participation in the AIDS education activity. Also, the involvement of the whole camp in AIDS education activities could have promoted social acceptance of the topic and elicited openness to the topic equally across all groups.

Would the participation in the participatory and learning groups increase the migrant workers' awareness of the importance of education about AIDS for the Hispanic population?

The hypothesis proposing a significant difference in the migrant workers' report of interest in distributing information to other people, and disposition to bring someone to receive information between the conditions was rejected. Some of the alternative explanations presented in the previous hypothesis apply to this situation: the reduction in the sample size during the follow-up and the possibility of an effect on awareness of the importance to educate the community about the topic due to the involvement of the families at the camp in the HIV/AIDS prevention program.

Similarly to what happened with qualitative observations of openness, qualitative data indicated awareness of the need to educate the community about AIDS. Adult women and men showed interest in having their families listen to the information about AIDS and asked questions regarding when the children should begin to learn about the topic.

Another interesting finding is that the exploratory analysis found a significant relationship between the request of copies of information about AIDS to be distributed and the score on knowledge about prevention, and between the behavior of introducing someone to the instructors and the knowledge about prevention. Those who requested materials for distribution were the ones with higher scores on knowledge about AIDS, and those who accompanied someone to receive information about AIDS from the educators were the ones with lower scores on knowledge about prevention. The second relationship was found in a very small sample, and usually the subjects who brought someone to receive information were among the oldest in the camp, and stayed during the short explanation provided to the person that they brought. Meaning that they could have brought the other person out of interest in having this other person educated about AIDS, or maybe because of the subjects' perception that they did not knew or understood enough to communicate the information themselves.

There are many possible explanations for the relationship between knowledge about prevention and the request of copies of information to distribute. For example, it could be that the understanding of information about prevention increases the sense of self-efficacy or the perception that the infection could be avoided. As a consequence it becomes more relevant to educate other people about the disease, or it could be that the understanding of more information about AIDS promotes more accurate assessments of risks and the perception that people that they know in the

community could be at risk becomes more clear. Therefore, increasing the need to protect them through education was reflected in the interest to have others learning about HIV/AIDS. More information about the community dynamics regarding dissemination of information about AIDS would be extremely useful in the design of prevention programs.

The variables age and education

The literature review provided evidence of how the variables age and education have been found to be related to having more information about AIDS in the general public--the more educated and the younger knowing more--(Singer, Rogers, & Corcoran, 1987) and in the Hispanic community (Dawnson & Hardy, 1989: Cristo Rey and HIV/AIDS Prevention and Intervention Section, 1989). This research also found a negative significant correlation between age and general knowledge about AIDS and age and knowledge about prevention, and significant positive correlations between education and general knowledge about AIDS and education and knowledge about prevention.

It is important to note that a negative significant correlation was found between age and education in the sample of migrant workers (-.53)--the younger the subject, the more educated. This finding probably accounts for the correlations between knowledge about AIDS and age and education; younger subjects have more education and could either receive more information about AIDS or understand it better.

Previous research explained this finding in connection with the variable language. The rationale has been that subjects with more education and younger completed the questionnaires in English and that it could be assumed that they had access to more information about AIDS--since most of it is in English. The present research included one item in the questionnaire where the subjects indicated the

language that they preferred to speak and it was not found to be related to any of the other variables in the study. Also, the choice of the English or Spanish--88 chose the Spanish version and 51 chose the English version--questionnaires was studied as an indicator of the language that the subjects feels he/she can understand better and there was not a significant difference between the subjects who chose any of the versions and the general knowledge about AIDS. The means on general knowledge about AIDS were 15.06 for the people who answered in Spanish and 15.27 for those answering the English translation of the questionnaire.

The variables age and education were also related to the attitudinal variables. Age was significantly and negatively related with attitudes towards homosexuals, drug users and PWAs. Education was significantly and positively related to attitudes towards homosexuals, drug users and PWAs.

Qualitative observations also suggested relationships with the variable age. The participation and reactions of younger and older couples were different. The younger couples came together to the meetings and often requested more information about condoms in front of each other, while the older couples came together to the meetings less frequently, and showed discomfort requesting information about condoms in front of their partners.

Summary of findings

This research identified the following main findings:

1. That the migrant workers knew most of the general information about AIDS, but were less knowledgeable about prevention behaviors.
2. That the participatory and didactic learning interventions were effective in increasing knowledge about prevention, and showed more general knowledge about

AIDS than the control group and non-equivalent control group (this found in a trend analysis).

3. The participatory education was not better than the lecture type education in the dissemination of information about prevention.

4. There was a significant difference between conditions on attitudes towards PWAs but it was not in the predicted direction (the participatory learning group had lower score than the didactic learning group).

5. The attitude towards PWAs was not found to be related to any of the behaviors related to openness and awareness and studied during the follow-up.

6. The attitudes towards homosexuals were positively and significantly related to general knowledge about AIDS and knowledge about prevention.

7. The attitudes towards drug users were related to general knowledge about AIDS.

8. The attitudes towards drug users and homosexuals were significantly and positively correlated to attitudes towards people with AIDS.

9. The subjects in the experimental conditions did not show more openness to information about AIDS or awareness of the need to educate the community about AIDS.

10. There was a significant negative correlation between age and education, and between age and general knowledge about AIDS and knowledge about prevention.

11. There was a significant positive correlation between education and general knowledge about AIDS and knowledge about prevention.

12. Age and education were significantly related with attitudes towards homosexuals, people with AIDS and drug users: age was negatively related to the attitudes and education was positively related to the attitudes.

13. The younger couples came together to the meetings and often requested more information about condoms in front of each other, while the older couples came

together to the meetings less frequently, and showed discomfort requesting information about condoms.

14. The women and men reacted in different ways to the presentations: women with helplessness,or anger , and men with boastful comments trying to challenge me or to minimize the relevance of the information and the perceived threat of HIV/AIDS. Also more women than men invited to the presentations attended.

15. There was no evidence of religious beliefs conflicting with the HIV/AIDS prevention information.

16. Behaviors that could be attributed to the "simpatía" script and the "respeto" were identified in people's reactions to the project. For instance, a couple of times people with concerns about participating in the presentations will not discuss their objections to the educational intervention with us. Also, there were many examples of a perceived difference in status between myself and the family members probably due to my job as educator and this could have limited the discussion of individual concerns about HIV/AIDS. The following diagram shows the relationships that were identified with this study.

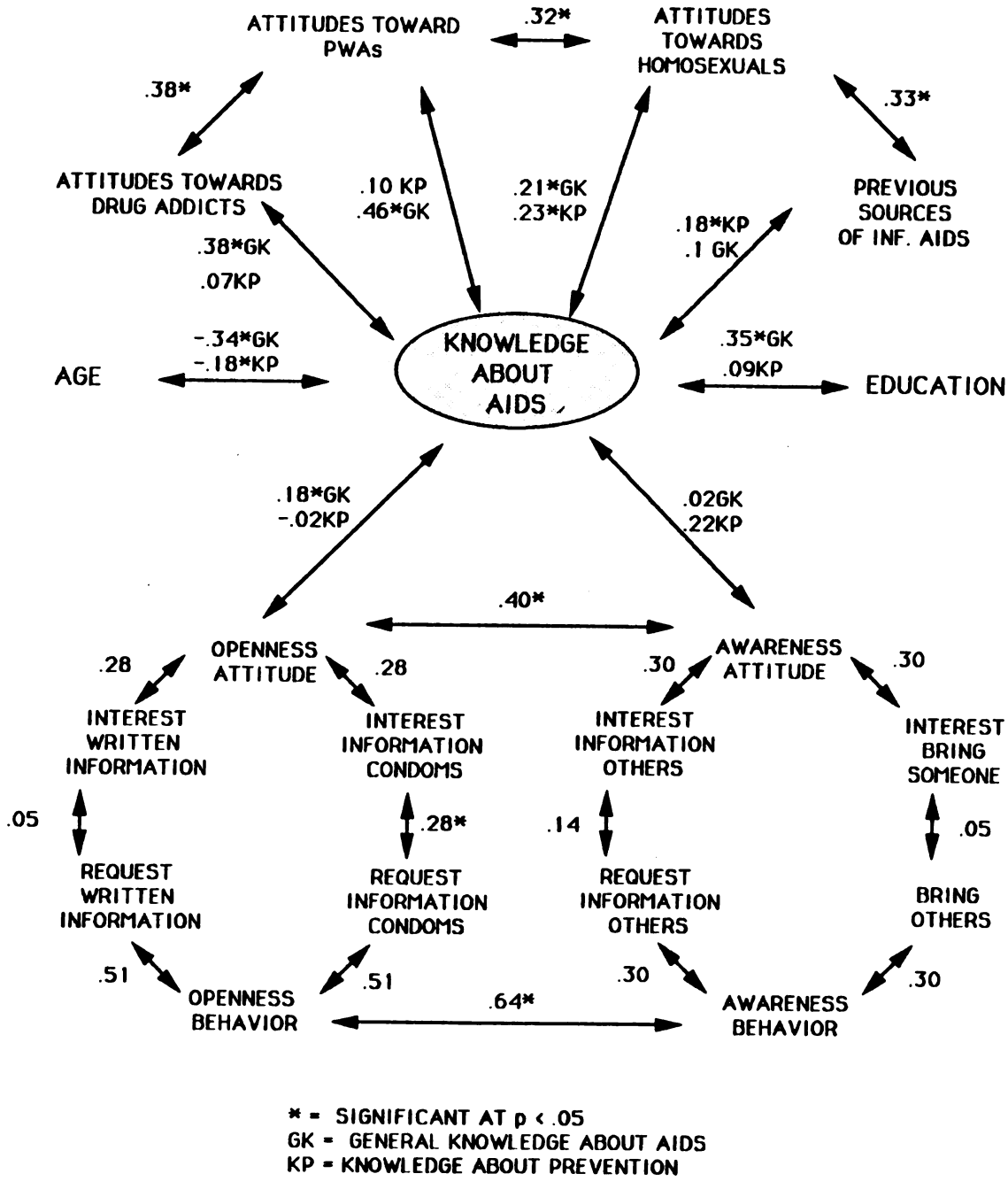


Figure 6. Relationship Between Variables.

This field experiment was designed to test the effectiveness of a participatory education approach in promoting openness to information about AIDS and awareness of the need to learn about AIDS. The participatory learning condition was expected to be more effective than didactic, control and non-equivalent control conditions, because of its potential to influence social norms and facilitate the interpretation of the information about prevention according to the subjects' living conditions and previous experiences. Some attitudinal variables that have been hypothesized in the literature as having an impact on Hispanics' knowledge about AIDS were studied. The top half of figure 6 shows the relationship between attitudes towards PWAs, homosexuals and drug users and knowledge about AIDS . These attitudinal variables were positively and significatively correlated with either general knowledge about AIDS (attitudes towards drug addicts, PWAs, and homosexuals) or knowledge about prevention (attitudes towards homosexuals). The attitudes towards PWAs were positively and significatively correlated with attitudes towards homosexuals and drug users. Two demographic characteristics were also correlated with general knowledge about AIDS (education--positively correlated--and age--negatively correlated). One other background characteristic studied was the number of previous sources of information about AIDS. Interestingly, this variable was significatively correlated with knowledge about prevention and with attitudes towards homosexuals. The bottom half of the figure displays the relationships between knowledge about AIDS and attitudes and behaviors assess as indicators of openness and awareness. The only significant relationship between knowledge about AIDS and either openness or awareness attitudes and behaviors was between general knowledge about AIDS and openness as an attitude measured with two written items (interest in written information about AIDS and interest in more information about condoms). For each of the four written items used as indicators of either openness or awareness there was one corresponding

behavior. The only significant relationship between the written items and the corresponding behaviors was found between the interest in receiving condoms and the request of condoms. Still, it is important that openness and awareness, as attitudes were significantively correlated (.40) and that openness and awareness as behaviors were also significatively correlated (.64). If the relationship were found only in the behaviors it would have been possible to argue that maybe people just tend to bring cards classified under any of the categories--were not discriminating--when they decided to bring a card. However, this was not the case because openness and awareness were also correlated when assessed as attitudes.

The finding of significant relationships between the attitudinal variables and knowledge about AIDS suggests potential areas of intervention for future prevention programs and research. It is encouraging to think that working with peoples' attitudes towards homosexuals drug users or persons with AIDS could have an impact on knowledge about prevention behaviors and general knowledge about AIDS, because the only other variables that have been continuously identified as related with knowledge about AIDS are age and education of the subjects and those variables are out of the researcher's control. Still, if the reason why education and age are related with knowledge about AIDS is because younger and more educated people have better understanding of the English language, then these two variables will not impact on knowledge about AIDS as more information about AIDS is disseminated in Spanish. However, this study did not found significant differences in knowledge about AIDS due to the reported language that the subjects preferred to speak or the language chosen to answer the questionnaire.

Limitations of the Study

The method used to implement the educational sessions at the camps imposes certain limitations to this research. First of all, it was necessary to have random assignment of the families on each housing unit to each of the three experimental conditions in order to have families from the same environment and with the same potential opportunities receive information about AIDS on each of the experimental groups. Still, this poses the risk that by the time of the follow-up people from control conditions could have talked about AIDS with participants in the educational conditions and then their return of cards during the follow-up could have been affected by curiosity to learn about a topic that was discussed with some of their neighbors or by interest in finding out the answers to the items that they completed in the questionnaires. In fact, qualitative observations reported in the previous chapter indicated that this could have happened. For instance, sometimes members of the control groups asked the researcher for the correct responses to the questionnaires or came to the presentations for the educational groups--in this later case their follow-up cards were not included in the data set.

Another area where the research faced limitations was in terms of data collection techniques. Maybe it would have been better to use longer instruments assessing self-reported preventive behaviors, using multidimensional scales and assessing perceived risk of HIV/AIDS to have scales with higher reliability. However, most of the participants did not have strong educational backgrounds and sometimes had difficulties reading questionnaires and getting used to the type of exercises. Also, given the fact that talking about AIDS was expected to be intimidating and that the intervention was not going to include any specific elements to change risk behaviors, other than the provision of knowledge, items about personal risk taking behaviors were not included. Another reasons why this type of questions was not used was

that it was critical for this program that subjects who answer the questionnaire and participate in the first presentations, do not feel uncomfortable because otherwise, our attendance to future meetings at that camp could have been affected, and also that I did not want to make the migrant families feel that they were being "checked" on their behavior to be criticized, or further stigmatized. Still, some areas of the questionnaire should be improved, like the section on knowledge about prevention that needs to include more items about needle sharing behavior, and a section should be added on behaviors that the individual thinks that it will be possible for him/her to do in the future to prevent getting infected with HIV and further research should explore if it will be possible to ask those type of questions without affecting negatively the attendance to presentations in that community.

The reliance on the subjects bringing up comments related to attitudes towards homosexuals, drug users and people with AIDS was not the best way to get an opportunity to talk about the topic and clarify myths. There were simply not enough comments on those topics. Different symbols or exercises with key terms can be included in the future to promote the discussion of those topics.

Finally, the measures of openness to information about AIDS and awareness of the need to educate the community about AIDS were difficult to administer because some people lost their cards and some families were not at the camps at the time of the follow-ups, and since the follow-up visit also included a raffle it was not possible to re-schedule that visit.

Issues for Further Research

Several areas of further research were identified through this study. First, the finding of significant correlations between knowledge about AIDS and attitudes towards homosexuals, people with AIDS and drug addicts suggests that the potential

impact of more positive attitudes on knowledge about HIV/AIDS and knowledge about prevention should be studied. It will be important to know if when the public is exposed to sources of information about AIDS aiming at the development or reinceforcement of more positive attitudes towards homosexuals, drug users or people with AIDS, knowledge about AIDS and preventive behaviors and behavioral change is more probable. These attitudes could be interfering with the subjects' interpretation and integration of the information about AIDS that he/she had received.

Another area for further research is the study of the community dynamics on how and what information about AIDS is disseminated within the camp--by the migrants --before and after educational interventions. This type of information, together with individual assessments of the perceived social norms associated with AIDS issues will bring information conducive to learning more about how to influence the social environment to have an impact on individuals' knowledge, attitudes and behaviors regarding AIDS. It will be interesting to answer if the involvement of the whole camp in HIV/AIDS education activities have an impact in promoting more openness to information about AIDS in the community. If this were the case, the potential of community involvement in the promotion of more specific behavioral changes could be used for HIV prevention.

Earlier in this chapter the need to identify preventive behaviors performed by the migrants before and after experimental implementation of educational interventions was mentioned. Also, the intentions to do the preventive behavior, and the subjects' perceptions of their ability to do the preventive behaviors should me measured. It was discussed earlier that asking for individual risk taking behaviors might not be feasible in some programs. Moreover, the intentions to do a preventive behavior are not always correlated with the performance of the behavior. An alternative will be the longitudinal administration of surveys regarding community norms regarding risk

behavior, and the perception of risk of infection in the particular camp. This will be useful in two ways, identifying the current community norms, and providing an estimate of risk behaviors of migrant workers without having to ask each individual about his/her sexual and needle sharing behavior.

The next section draws conclusions based on this research and makes suggestions for future programs of education of Hispanic migrant families.

Conclusions and Recommendations for Future Programs

This dissertation discussed earlier how social influences and knowledge could affect the beliefs and values that should impact on health behavior or intentions to behave according to the health beliefs model and the reasoned action theory. It was suggested that the different conditions and elements of this model take time and require the repetition--some researchers said saturation--of the messages and an strong impact of the disease on the social environment for knowledge to be assimilated and for social influences to push in the direction of preventive behaviors.

A need of AIDS prevention initiatives for the Hispanic migrant community in Michigan--and for Hispanics in general--was described and the elements of the social environment and individual's attitudes hypothesized in the literature as potentially related with AIDS prevention behaviors in the Hispanic community were identified (cultural values such as, "machismo", "marianismo", "respeto", "simpatía script", religiosity and sexuality, and individual attitudes such as those towards homosexuals, drug users and people with AIDS).

A one-time educational intervention for the Hispanic migrant community was designed to provide information about AIDS and incorporating openness to information about AIDS and awareness of the importance of learning about AIDS for the community as goals of the educational interventions. The objectives of the

program were : (a) to disseminate knowledge about AIDS, (b) to promote the subjects' exploration of their attitudes towards people with AIDS, homosexuals and drug users, (d) to motivate more openness to receive information about AIDS, and (e) to increase awareness of the importance of AIDS education for the Hispanic community.

The method preferred for the educational intervention was a participatory approach based on Paulo Freire method of using symbols to help the people identify the information that they need at the same time that they relate the concepts to their own lifestyles and experiences. In order to evaluate this educational method the intervention was implemented as a field comparison of this type of education with the usual didactic--lecture type-- of presentation.

The participants in the study had a fair amount of general knowledge about AIDS even in the control conditions. For this reason there were not large and significant differences between conditions. The area of knowledge about prevention--which was identified in the literature as the area of weakness for Hispanics--showed the expected differences between the experimental and control conditions.

There were doubts regarding if the subjects had enough opportunity to explore their own attitudes towards homosexuals, drug users and people with AIDS. Even though all the participants had the opportunity to complete the questionnaire asking about their attitudes, there was almost no discussion regarding this attitudes during the meetings.

The level of awareness of the need to educate the community about AIDS and the openness to the information about AIDS could not be confirmed by the quantitative behavioral measures used. However, qualitative data suggested that both objectives could have been accomplished through: (a) the whole camp involvement in the HIV/AIDS education program--it was probably appropriate to talk about the topic and ask about it because everybody was doing it and people were having fun in the

activities where they talked about it--;(b) the subjects' satisfaction with the educational experience, identified through the absence of complaints and people leaving the presentations, people who watched the presentations twice, the attendance of many women and children to the meetings,and the collaboration of the participants with the educators during every visit.

Even though the participatory education was only identified to be superior to the other conditions in general knowledge about AIDS in a trend, and showed to be significantly better than the didactic education, it worked out extremely well in getting the family members to talk about AIDS in a non-threatening atmosphere. The use of the talking posters is a very effective education method for the Hispanic migrant families, and has the advantage over the didactic learning presentations of allowing family members to hear what members of their family think or feel about AIDS. For the same reason, it is highly recommended that future programs conduct the education with families instead of the common way of doing it which is separate meetings for women and men. This research experience showed, that even though it is harder to get the participation of men in mixed meetings, by using adequate recruitment techniques (i.e., oldest or influencial men as contact persons, entertainment activites and men from the camp recruiting other men) they did attended with their families. Also, the role of the father and the mother on AIDS education were very clear. Not having the opportunity to offer different training seminars to the women or men about how to talk to each other about AIDS or how to communicate about AIDS with their children, it was very beneficial to have mixed groups were men could hear women concerns and viceversa. Another reason why separate groups are not encouraged is because the information that is discussed among the men is sometimes more sexually explicit and in a different tone than the way the information is discussed with a group of women. Men tend to forbid women to attend to meetings about AIDS when they

feel that they are going to be attending presentations presenting sex issues that way--this was learned from the participants' reactions to presentations in the past.

The combination of an entertainment activity with the educational intervention is highly recommended as an incentive, because it could help the participants perceive the information about the topic as something more common. Further, it can be used as a way to get the community an opportunity to make decisions regarding the implementation of the program. In the current research, even though the migrants did not decide the type of educational program that they wanted to have at their camps, they participated in the decision regarding the shows that they wanted to watch on the television--they chose between comedies, Mexican music, Tex-Mex music, or contemporary latino music.

Previous visits to get acquaintance with the migrant families and the disposition to help them with referrals for services or in doing some of their tasks, the openness to interact with the children, and the interest in talking and sharing a meal with some families, were spontaneous activities that became very important in order to be trusted and accepted by the community, which in this study seem to have developed the opinion that they were coming to the educational meeting to collaborate with the educator and to show appreciation.

For these reasons the participatory approach of AIDS education is recommended for migrant families and should be implemented as part of an entertainment activity of interest to the migrants and with attention paid to get the educator to be known and trusted by the migrant families. This approach was more effective for the communication of information about prevention of AIDS and providing a forum for the discussion of AIDS and its related issues at a community and family level. This allowed the participants to integrate the information to their experiences, and could have an impact on social norms or in the perception of social norms about AIDS

related issues. It is also important to note that since the individual attitudes studied in their potential relationship with knowledge about AIDS were found to be related with either general knowledge about AIDS or knowledge about prevention, future educational interventions should promote more positive attitudes towards homosexuals, drug users and people with AIDS.

A program that will continue with the effort initiated with the current research will be implemented during the Summer of 1992, through Cristo Rey Community Center, and sponsored by the HIV/AIDS Prevention and Intervention Section of the Michigan Department of Public Health. This year, each of the camps included in the previous study, and four new camps will be visited and the people older than 13 years old will be interviewed regarding their participation in the educational program implemented last Summer, and about knowledge about AIDS. The six camps with the lowest scores on knowledge about AIDS will be chosen for the migrant education program. A couple from each camp included in the new study will be hired to attend a one day workshop to be trained to conduct a participatory educational presentation about AIDS at their camp. This type of program promises the benefit of developing two permanent resource persons (the trained couple) that might be able to answer future questions about AIDS (either because of their knowledge of the information or because of their contact with AIDS coordinators or AIDS information networks) to the community. Also, part of the data gathered during the Summer 1992 will help to estimate long term effects of the educational intervention discussed in this dissertation.

BIBLIOGRAPHY

BIBLIOGRAPHY

Aguero, J.E., Bloch, L., & Byrne, D. (1984). The relationship among sexual beliefs, attitudes, experience, and homophobia. Journal of Homosexuality, 10(1), 95-107.

AIDS Community Research GRoup (1988). AIDS knowledge, attitudes and risk behavior in an ethnically mixed urban neighboorhood community. Hartford, CT: Hispanic Health Council.

AIDS Community Research GRoup (1989). AIDS knowledge, attitudes and behavior in Hartford's neighboorhood. Hartford, CT: Hispanic Health Council.

Allard, R. (1989). Beliefs about AIDS as determinants of preventive practices and of support for coercive measures. American Journal of Public Health,79(4) 448-451.

Bakeman, R., McCray, E., Lumb, J.R., Jackson, R.E., Whitley, P.N. (1987). The incidence of AIDS among blacks and hispanics. Journal of the National Medical Association, 79(9), 921-923.

Baldwin, J.D., & Baldwin, J.I. (1988). Factors affecting AIDS related sexual risk taking behavior among college students. Journal of Sex Research, 25, 181-196.

Bandura, A. (1977). Social learning theory. Englewood Cliffs,N.J.: Prentice Hall.

Batchelor, W.F. (1988). The science and the limits of science. American Psychologist, 43(11), 853-888.

Baum, A., Nesselhof, E.A. (1988). Psychological research and the prevention, etiology, and treatment of AIDS. American Psychologist, 43(11), 900-906.

Beauchamp, T.L., & Childress, J.F. (1983). Principles of biomedical ethics (ch. 3-6). New York: Oxford University Press.

Bletzer, K.V. (1991). Knowledge of AIDS/HIV infection among migrant farmworkers. AIDS and Public Policy Journal, 5(4) 173-177.

Bruni, F. (1991). Michigan HIV Report, Nov-Dec, 6-7.

Cates, W., & Handsfield, H.H. (1988). HIV counseling and testing:Does it work?. American Journal of Public Health,78(12),1533-1534.

Crawford, I., Jason, L.A., & Salina, D.D. (1990). The use of behavioral strategies in a multi-media based AIDS prevention program. Journal of Community Psychology, 9-10.

Cristo Rey Community Center and HIV/AIDS Prevention and Intervention Section (1990). Unpublished data.

Dawson, D.A., Hardy, A.M. (1989). AIDS Knowledge and attitudes of Hispanic Americans. Advance data, Number 166, 1-24.

De La Cancela, V. (1989). Minority AIDS prevention: Moving beyond cultural perspectives towards sociopolitical empowerment. AIDS Education and Prevention, 1(2).

Des Jarlais, D.C., & Stepherson, B. (1991). History, ethics, and politics in AIDS prevention research. American Journal of Public Health,81(11), 1393-1394.

DiClemente, R.J., Boyer, C.B., & Morales, E.S. (1988). Minorities and AIDS: Kowledge, attitudes, and misconceptions among black and latino adolescents. American Journal of Public Health,78(1), 55-57.

Eisenberg, L. (1989). Health education and the AIDS epidemic. British Journal of Psychiatry, 154, 754-767.

Fehrs, L.J., Hill, D., Kerndt, P.R., Rose, T.P., & Henneman, C. (1991). Targeted HIV screeening at a Los Angeles prenatal/family planning health center. American Journal of Public Health, 81(5),619.

Ferster, C.B., & Skinner, B.F. (1957). Schedules of reinforcement. NY:Appleton-Century-Crofts.

Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention, and behavior. Reading, Mass: Addison-Wesley.

Fisher, J.D. (1988). Possible effects of reference group-based social influence on AIDS-risk behavior and AIDS prevention. American Psychologist, 43(11), 914-920.

Flynn, E.P. (1985). AIDS: A catholic call for compassion. Kansas, MO:Sheed & Ward.

Friedman, S.R., DesJarlais, D.C., & Sotheran, J.L. (1986). AIDS education for intravenous drug users. Health Education Quarterly, 13(14), 383-393.

Guydish, J., Clark, G., García, D., Downing, M., Case, P., & Sorensen, J.L. (1991). Evaluating needle exchange: Do distributed needles come back?. American Journal of Public Health, 81(5)617-618.

Hardy, A.M. (1990). AIDS knowledge and attitudes for October-December 1989. Advance Data. Number 186, 1-12.

Herek, G.M. (1984). Attitudes toward lesbians and gay men: A factor-analytic study. Journal of Homosexuality, 10(1), 39-51.

Herek, G.M., & Glunt, E.K. (1988). An epidemic of stigma: Public reactions to AIDS. American Psychologist, 43(11),886-891.

Hogan, T. (1989). Psychophysical relation between perceived threat of AIDS and willingness to impose social restrictions. Health Psychology, 8(2), 255-266.

Janz, N.K., & Becker, M.H. (1984). The health beleif model: A decade later. Health Education Quarterly, 11(1), 1-41.

Lafferty, J. (1991). Self-injection and needle sharing among migrant faarmworkers. American Journal of Public Health, 81(2), 221.

Larsen, K.S., Serra, M., & Long, E. (1990). AIDS victims and heterosexual attitudes. Journal of Homosexuality, 19(3), 103-115.

Leviton, L.C. (1989). Theoretical foundations of AIDS-prevention programs. In R.O. Valdisierri (Ed.): Preventing AIDS (pp.42-90). New Brunswick,NJ: Rutgers University Press.

Magura,S., Grossman, J.I., Lipton, D.S., Siddiqi, Q., Shapiro, J., Marion, I., & Amann, K.R. (1989). Determinants of needle sharing among intravenous drug use. American Journal of Public Health, 79(4), 459-461.

Mann, J. (January, 1988). Global AIDS:Epidemiology, impact, projections and the global strategy. Invited address to the international meeting of health ministers, London: England.

Marín, B.V. (1988). AIDS prevention for Non-Puerto Rican Hispanics. In Z. Amsel, R. Battjes, and C. Leukefeld (Eds.), National Institute on drug abuse research monograph series: AIDS and intravenous drug use: Future directions for community-based research. (pp. 35-53) Washington, D.C.: U.S. Government Printing Office.

Marín, G., & Marín B.V. (1991). Research with Hispanic populations. London:Sage Publications.

Marrow, A.J. (1969). The practical theorist: The life and work of Kurt Lewin. NY: Basic Books.

Mays, V.M., & Cochran, S.D. (1988). Issues in the perception of AIDS risk and risk reduction activities by black and Hispanic/Latina women. American Psychologist, 43(11), 949-957.

Medina, C. (1987). Latino culture and sexual education. SIECUS Report 15(3), 1-4.

Michigan Department of Public Health. MDPH Monthly AIDS Statistics. January 1, 1992.

Morín, S.F. (1988). AIDS: The challenge to psychology. American Psychologist, 43(11), 838-842.

McGuire, W.J. (1985). Attitudes and attitude change. In G.Lindsey and E.Aroson (Eds.): Handbook of Social Psychology. NY: Random House.

Nelkin, D. (1987). AIDS and teh social sciences: REview of useful knowledge and research needs. Reviews of Infectious Diseases,9(5), 980-986.

Nugent, R., Gramick, J. (1989). Homosexuality: Protestant, catholic, and jewish issues; A fishbone tale. Journal of Homosexuality, , 7-46.

Osborn, J.E. (1986). AIDS, social sciences, and health education: A personal perspective. Health Education Quarterly, 13(4), 287-299.

Ostrow, D.G. (1989). AIDS prevention through effective education. Daedalus, 118(3), 229-254.

Peterson, J.L., & Marín, G. (1988). Issues in the prevention of AIDS among black and hispanic men. American Psychologist, 43(11), 871-877.

Poma, P.A. (1987). Pregnancy in Hispanic women. Journal of the National Medical Association,79, 929-935.

Price, R.W., Brew, B., Sidtis, J., Rosenblum, M., Scheck, A.C., & Clearly, P.(1988). The brain in AIDS: Central nervous system HIV-1 infection and AIDS dementia complex. Science, 239, 586-594.

Pruitt, B.S.W. (1980). An adaptation of the Paulo Freire method for health and nutrition education among Mexican-American migrant families (Unpublished Master's thesis). Michigan State University.

Rochin, R.I., Santiago, A.M., & Dickey, K.S. (November, 1989). Migrant and seasonal workers in Michigan's agriculture: A study of their contributions, characteristics, needs, and services. (Institute Research Report No. 1). East Lansing, MI: Julian Samora Research Institute.

Sabatier, R. (1988). Blaming others: Prejudice, race and worldwide AIDS. London:Panos Publications Ltd.

Schechter, M.T., Craib, K.J.P., Math, M., Willoughby, B., Douglas, B., McLeod, A., Maynard, M., Constance, P., & O'Shaughnessy, M. (1989). Patterns of sexual behavior and condom use in a cohort of homosexual men. American Journal of Public Health, 79(4), 1536-1538.

Schutz, A. (1962). Multiple realities. In M. Natason (Ed.) , Collected papers: Vol. 1. The problem of social reality (pp. 207-259). The Hague: Nijhoff.

Selik, R., Castro, K.G., & Pappaioanou, M. (1988). Racial /ethnic diferences in the risk of AIDS in the United States. American Journal of Public Health, 78(12), 1539-1544.

Selik, R., Castro, K.G., Pappaioanou, M., & Buehler, J.W. (1989). Birhtplace and the risk of AIDS among Hispanics in the U.S. American Journal of Public Health, 79, 836-839.

Selwyn, P.A. (1991). Injection drug use, mortality, and the AID epidemic. American Journal of Public Health, 81(10),1247-1249.

Siegel, K. (December, 1988). Public education to prevent the spread of HIV infection. New York State Journal of Medicine, 642-646.

Siegel, J.E.,Weinstein, M.C., & Fineberg, H.V. (1991). Bleach programs for preventing AIDS among IV drug users: Modeling the impact of HIV prevalence. American Journal of Public Health, 81(10), 1273-1279.

Singer, E., Rogers, T.F., & Corcoran, S.D. (1988). The polls-A report: AIDS. Public Opinion Quarterly, 51, 580-595.

Singer, M., Flores, C., Davison, L., Burke, G., Castillo, Z., Scanlon, K., & Rivera M. (1990). SIDA: The economic, social, and cultural context of AIDS among Latinos. Medical Anthropology Quarterly, 4 (1) 72-114.

Stephens, R.C., Feucht, T.E., & Roman, S.W. (1991). Effects of an intervention program on AIDS-related drug and needle behavior among intravenous drug users. American Journal of Public Health, 81(5), 568-571.

Stipp, H., & Kerr, D. (1989). Determinants of public opinion about AIDS. Public Opinion Quarterly, 53, 98-106.

Solomon, M.Z., & DeJong, W. (1986). Recently sexually transmitted disease prevention efforts and their implications for AIDS health education. Health Education Quarterly, 13, 301-316.

Solomon, M.Z., & DeJong, W. (1989). Preventing AIDS and other STDs through condom promotion: A patient education intervention. American Journal of Public Health,79(4),453-458.

Torres, R.E. (October, 1990a). Chartbook on health of latinos in the midwest. (Institute Research Report No. 3). East Lansing, MI: Julian Samora Research Institute.

Torres, R.E. (July, 1990). Health status assessment of latinos in the midwest. (Working paper No. 5). East Lansing, MI: Julian Samora Research Institute.

United States Catholic Conference. (1987) The Many Faces of AIDS. Washington, D.C.: United States Catholic Conference.

Valdisierri, R.O. (1989). Preventing AIDS. New Brunswick,NJ: Rutgers University Press.

Walters, L. (1988). Ethical issues in the prevention and treatment of HIV infection and AIDS. Science, 239, 597-603.

Warren, R.L. (1975). Types of purposive social change at the community level. In R.M. Kramer, and Specth (Eds.): Englewood Cliffs, NJ: Prentice Hall Inc.

Watkins, J.D. (1988). Responding to the HIV epidemic. American Psychologist, 43(11), 849-851.

Williams, L.S. (1986). AIDS risk reduction: A community health education intervention for minority high risk group members. Health Education Quarterly, 13(4), 407-421.

Zenilman, J.M., Erickson, B., Fox, R., Reichart, C.A., & Hook, E.W. (1992). Effect of HIV post test counselign on STD incidence. JAMA, 267(6),843-845.

APPENDICES

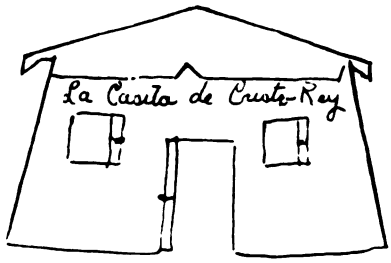
APPENDIX A

Appendix A
Format and Content of the Invitation

¡ LES ESPERAMOS !

¡ No nos fallen!

WE ARE GOING TO HAVE A GOOD TIME!



FAMILIA _____

VENGAN A OIR Y VER
VIDEOS MUSICALES DE:

LOS MIER
BRONCO
JUAN LUIS GUERRA Y 4.40
LOS BARON DE APODACA
EMMANUEL
GRUPO IMPACTO
PROGRAMA DE JOHNNY CANALES

* tendremos "popcorn" y limonada

Les invitamos a compartir un buen rato viendo videos de musica latina y platicando sobre un tema importante de salud con Robert Patiño y Milagritos González quienes trabajan en el "Cristo Rey Community Center."

Tendremos una casa de campaña en su campamento el día _____
a las _____

Como la casa de campaña que tenemos no es suficientemente grande y queremos tener algunos refrigerios, estamos invitando a algunas familias a asistir un día a una hora y a otras a asistir otro día o a otra hora.

Es muy importante que usted y su familia asistan el día y la hora que les fue asignado y que muestren esta invitación.

APPENDIX B

Appendix B

Key Messages Provided in the Presentations

I. Basic information about AIDS
   A. Difference between HIV and AIDS
   B. How the virus affect the human organism
   C. Spectrum of infection
   D. Symptoms of infection
   E. Symptoms of the disease

II. Routes of transmission of the virus
   A. Blood
   B. Semen
   C. Vaginal cervical secretions

III. Real versus hypothetical risk
   A. Casual contact and contagion
   B. Other body fluids

IV. Issues related to AIDS prevention
   A. Communication between partners
   B. HIV test
   C. Other as mentioned by the participants

V. Questions

APPENDIX C

Appendix C

Summary of Content of Public Service ADVERTISEMENTS

All these public health advertisements were developed by the Department of Public Health, they are in Spanish and played by actors with Mexican traits.

PSAs

1."Anita": This advertisement shows a Hispanic woman explaining that AIDS is a problem for Hispanics and showing a picture of an adolescent (her niece) who looks healthy, but who died of AIDS.

2. "Words": This advertisement shows different men which have been diagnosed having AIDS explaying what is happening to them.

3. "Stand & Deliver": The same actors who played the role of the students in the movie "Stand and Deliver", are showed having a conversation clarifying misconceptions about ways through which AIDS is and is not transmitted.

4. "Morales": Puerto Rican actor Essai Morales talks about the risks of sharing needles for drug use, tatoos, or ear piercing for the transmission of AIDS.

APPENDIX D

Appendix D

CONSENT FORM

You are been asked to collaborate in a study about methods of education about AIDS for the migrant population in Michigan. This study is sponsored by the AIDS awareness office of Cristo Rey Community Center, the Special Office of AIDS Education of the Public Health Department, the American Red Cross and the Psychology Department at Michigan State University. The information that will be gathered in this survey will help in the development of effective methods of education about AIDS. Your answers are really important and valuable, and your participation should be COMPLETELY VOLUNTARY. There will be NO PENALTIES for anyone to refuse to participate in the study. The completion of the questionnaire would not take more than 20 minutes, if you follow the educator as she reads the instrument aloud. If you work on the questionnaire independently, you might finish in 10 or fifteen minutes.

Even though the topic of the questionaire that you will be asked to answer is AIDS, you will not find any questions about your individual sexual behavior, or about drugs and/or alcohol use. The items that you will be anwering are about knowledge about AIDS, and your attitudes and beliefs about certain issues related to AIDS. However, if you feel uncomfortable with an item or question you may CHOOSE NOT TO ANSWER THE ITEM. You could also CHOOSE TO WITHDRAW FROM THE STUDY at any time without any penalty.

THIS IS A CONFIDENTIAL SURVEY. This means that you will not be asked to write your name, or any information that could be used to identify you. An identification number has been assigned to each questionnaire for the purpose of matching the responses from each subject to his/her responses in a second exercise. However, since the educators are not going to have a list matching the identification numbers to names, it will be IMPOSSIBLE TO IDENTIFY YOUR ANSWERS. THE RESPONSES ARE ANONYMOUS. This means that the educators and researchers will not know the name of any of the respondents.

If you understand this information and agree to complete the questionnaire, please sign the following statement: " I have been informed of my rights as a participant in the study and agree to collaborate answering a questionnaire" _____

If you have any questions and/or concerns about the study Milagritos González and/or Robert Patiño will be glad to talk to you, and if you would like to know the results of the study you can contact the Cristo Rey AIDS Awareness Office (372-4700).

YOUR COLLABORATION IS REALLY APPRECIATED.

Appendix D

CONSENT FORM FOR PARENTS OR GUARDIANS

I understand the information that was read to me about the rights of the participants in the study and decided that my son and/or daugther can participate providing data to the educators given that his/her participation in the study only implies the completion of a questionnaire and decisions regarding a set of cards, and that the information will be kept confidential and anonymous and that my children can refuse to answer any item and/or resign from the study at any time without any consequence.

My child age is _____ and my name is _____.

APPENDIX E

Appendix E

ENCUESTA PARA TRABAJADORES AGRICOLAS SOBRE EL SIDA

Las siguientes preguntas buscan conocer mejor qué piensan y qué saben los trabajadores agrícolas hispanos sobre el SIDA/AIDS. Usted solamente tendrá que escribir un círculo alrededor de su respuesta. No escriba su nombre en el cuestionario. Las respuestas son completamente confidenciales (nadie sabrá qué usted respondió) y anónimas (nadie sabrá quién contestó cada cuestionario). Si tiene alguna duda sobre la manera de responder alguna sección de este cuestionario o si no entiende la pregunta, por favor pídale a uno de los educadores que le explique lo que tiene que hacer.

I. Lea cada una de las siguientes declaraciones e indique si cada una es CIERTA O FALSA, circulando su respuesta.

1. Al presente no hay cura para el SIDA.	CIERTO	FALSO
2. Una mujer embarazada que tiene el virus del SIDA puede pasarlo a su bebé sin que este haya nacido todavía.	CIERTO	FALSO
3. Una persona puede infectarse del virus de SIDA si...		
a. ...trabaja cerca de alquien infectado(a) con el virus del SIDA.	CIERTO	FALSO
b. ...asiste a la escuela con alguien infectado(a) con el virus del SIDA.	CIERTO	FALSO
c. ...una persona con el virus del SIDA le estornuda cerca.	CIERTO	FALSO
d. ...comparte platos, tenedores o vasos con alguien que tiene el virus del SIDA.	CIERTO	FALSO
e. ...usa baños públicos.	CIERTO	FALSO
f. ... dona o recibe sangre en una clínica.	CIERTO	FALSO
g. ...besa a una persona con el virus del SIDA en la mejilla.	CIERTO	FALSO
h. ...comparte agujas para inyectarse drogas con una persona infectada con el virus del SIDA.	CIERTO	FALSO
i. ...tiene relaciones sexuales con una persona infectada con el virus del SIDA.	CIERTO	FALSO

II. Lea, por favor, las siguientes oraciones y para cada una indique cuán de acuerdo o en desacuerdo está usted con cada una, circulando el número correspondiente: 4=Muy de acuerdo, 3=De acuerdo, 2=En desacuerdo y 1=Muy en desacuerdo.

	Muy De acuerdo	De acuerdo	En desacuerdo	Muy en desacuerdo
1. Las personas que tienen SIDA deben ser separadas de la comunidad.	4	3	2	1
2. El SIDA no es una enfermedad muy común entre los hispanos.	4	3	2	1
3. El SIDA es un castigo de Dios.	4	3	2	1
4. Las agujas deberían ser regaladas a los drogadictos para evitar que se contagien.	4	3	2	1
5. Si una persona se infecta con SIDA , es porque ha llevado a cabo conductas inmorales.	4	3	2	1
6. Las víctimas del SIDA representan un grupo no atendido en nuestra sociedad.	4	3	2	1
7. Yo recibiría en mi casa a una persona que tiene SIDA.	4	3	2	1
8. Yo no quisiera que una persona con SIDA me tocara.	4	3	2	1

III. Circule el número que mejor indica cuán efectivo cree usted que es cada uno de los siguientes métodos para prevenir el SIDA. El número 3= Muy efectivo, el 2=Mas o menos efectivo, el 1=Nunca efectivo.

	MUY EFECTIVO	MAS O MENOS EFECTIVO	NUNCA EFECTIVO
1. No tener relaciones sexuales.	3	2	1
2. Usar un condón.	3	2	1
3. Limpiar las agujas con cloro antes de inyectarse drogas.	3	2	1
4. Usar un espermicida.	3	2	1
5. Tener relaciones sólo con una persona que conocemos bien.	3	2	1

IV. Escriba la respuesta a cada una de las siguientes preguntas.

1. ¿Qué edad tiene usted? _____

2. Circule el último grado de educación que usted completó.

Escuela primaria:	K	1	2	3	4	5	6	7	8
Escuela secundaria:	9	10	11	12					
Universidad/Colegio:	1	2	3	4	5	6+			
Escuela vocacional:	1	2	3	4					

3. Circule el idioma que usted prefiere hablar

Inglés Español Español e inglés Otro (mencione, por favor)_____

4. Circule cuál es su sexo: Femenino Masculino

5. Circule su estado civil: casado/casada soltero/soltera viviendo juntos
separado/separada viudo/viuda divorciado/divorciada

6. Circule el grupo étnico/cultural al cual usted pertenece

a. mexicano/mexicana b. mexicano-americano/mexicana-americana c. chicano/chicana

d. cubano/cubana e. puertorriqueño/puertorriqueña f. suramericano/americana

g. otro (mencione)_____

V. Lea, por favor, las siguientes oraciones y para cada una indique cuán de acuerdo o en desacuerdo está usted con cada una, circulando el número correspondiente: 4=Muy de acuerdo, 3=De acuerdo, 2=En desacuerdo y 1=Muy en desacuerdo.

	Muy De acuerdo	De acuerdo	En desacuerdo	Muy en desacuerdo
1. Me sentiría incomodo si estuviera en el baño y hubiera un homosexual.	4	3	2	1
2. No me gustaría vivir con un homosexual de vecino.	4	3	2	1
3. Los homosexuales nacen siendo así.	4	3	2	1
4. La policía debería arrestar a los homosexuales.	4	3	2	1

	Muy De acuerdo	De acuerdo	En desacuerdo	Muy en desacuerdo
5. Los adictos a drogas son personas que no saben manejar sus problemas.	4	3	2	1
6. Los/las adictos(as) a drogas son criminales.	4	3	2	1
7. Es imposible ser amigo(a) de un(a) adicto(a).	4	3	2	1
8. A las personas que usan drogas el gobierno les debe quitar los hijos.	4	3	2	1
9. Una persona que usa drogas puede dejar de ser adicto.	4	3	2	1
10. A una persona homosexual no se le debe permitir criar a sus hijos.	4	3	2	1

VI. Responda SI o NO a las siguientes preguntas

1. ¿Le interesaría a usted recibir más información escrita sobre el SIDA?	SI	NO
2. ¿Le gustaría distribuir copias de información escrita sobre el SIDA a personas que usted conoce?	SI	NO
3. ¿Le interesaría recibir más información sobre condones y espermicidas?	SI	NO
4. ¿Le interesaría traer a personas que usted conoce a recibir información sobre el SIDA de parte de los educadores?	SI	NO
5. ¿Ha oído usted información sobre el SIDA por radio?	SI	NO
6. ¿Ha visto usted anuncios de televisión sobre el SIDA?	SI	NO
7. ¿Ha leído usted información escrita sobre el SIDA?	SI	NO

8. Circule alguna otra fuente de la cuál usted haya recibido información sobre el SIDA:
a. Amigos b. Clínicas c. Escuela d.Laboratorio e. Farmaceutico

MUCHISIMAS GRACIAS POR SU COOPERACION AL RESPONDER A ESTE CUESTIONARIO.

SURVEY FOR MIGRANT WORKERS ABOUT AIDS

The following questions try to better understand what Hispanic migrant workers think and/or know about AIDS. You will only have to draw a circle around your answer. Do not write your name in the questionnaire. The answers are **completely confidential** (nobody will know what you answered) and **anonymous** (nobody will know who answered each questionnaire). If you have any doubts about the way to answer any of the sections of this questionnaire, or if you do not understand any item, please ask one of the educators to explain the task to you.

I. Read each of the following statements and indicate if they are TRUE OR FALSE.

1. Currently there is no cure for AIDS.	TRUE	FALSE
2. A pregnant woman infected with the AIDS virus could infect her baby before it is born.	TRUE	FALSE
3. A person could get infected with the AIDS virus from...		
a. ...working with someone infected with the AIDS virus.	TRUE	FALSE
b. ...going to school with someone infected with the AIDS virus.	TRUE	FALSE
c. ...someone infected with AIDS sneezes nearby.	TRUE	FALSE
d. ...sharing dishes, forks or cups with someone infected with the AIDS virus.	TRUE	FALSE
e. ...using public restrooms.	TRUE	FALSE
f. ...giving or receiving blood at a clinic.	TRUE	FALSE
g. ...kissing someone infected with the AIDS virus on the cheek.	TRUE	FALSE
h. ...sharing needles with a drug addict infected with the AIDS virus.	TRUE	FALSE
i. ...having unprotected sexual relationships with someone infected with the AIDS virus.	TRUE	FALSE

II. Read each of the following statements and for each one, please indicate how much do you agree and/or disagree, by drawing a circle around the number corresponding to your answer: 4=Strongly agree, 3= Agree, , 2=Disagree, 1=Strongly disagree.

	Strongly agree	Agree	Disagree	Strongly disagree
1. People with AIDS should be isolated from the community.	4	3	2	1

	Strongly agree	Agree	Disagree	Strongly disagree
2. AIDS is not a common disease among the Hispanics.	4	3	2	1
3. AIDS is a punishment from God.	4	3	2	1
4. Needles should be distributed to drug addicts to stop the spread of the disease.	4	3	2	1
5. If someone gets infected with the AIDS virus it is because she/he have been behaving immorally.	4	3	2	1
6. AIDS victims are a forgotten group of the society.	4	3	2	1
7. I would open my house to someone with AIDS.	4	3	2	1
8. I would not want a person with AIDS to touch me.	4	3	2	1

III. Circle the number that best indicates your perception of how effective each of the following methods is to prevent infection with the AIDS virus:3=Very effective, 2=Somewhat effective, 1=Never effective.

	VERY EFFECTIVE	SOMEWHAT EFFECTIVE	NEVER EFFECTIVE
1. Not to have sexual relationships.	3	2	1
2. Using a condom.	3	2	1
3. Cleaning the needles with clorox before injecting drugs.	3	2	1
4. Using an spermicide.	3	2	1
5. Having sexual relationships only with someone you know well.	3	2	1

IV. Answer each of the following questions.

1. How old are you? _____

2. Circle the last level of education that you completed.

Elementary school:	K	1	2	3	4	5	6	7	8
Secundary school:	9	10	11	12					
University/College:	1	2	3	4	5	6+			
Vocational school:	1	2	3	4					

3. Circle the language that you prefer to speak:

a. English b. Spanish c. English and Spanish d.Other_____

4. Circle your gender:

a. Female b. Male

5. Circle your marital status:

a. married b. single c. living together

d. separated e.widow/widower f. divorced

6. Circle the ethnic/cultural group to whom you belong:

a. Mexican b. Mexican-american c. Chicano

d. Cuban e. Puertorican f. South-American

g. Other (mention)_____

V. Please read each of the following statements and indicate how much do you agree and/or disagree with each one, drawing a circle around the corresponding number: 4=Strongly agree,3=Agree, 2=Disagree, 1=Strongly disagree.

	Strongly agree	Agree	Disagree	Strongly disagree
1. I would feel uncomfortable if I were in the bathroom and a homosexual were there too.	4	3	2	1
2. I would not like to have a homosexual as my neighbor.	4	3	2	1
3. Homosexuals have a mental disease.	4	3	2	1
4. The police should arrest homosexuals.	4	3	2	1
5. Drug users are persons that do not know how to handle their problems.	4	3	2	1
6. Drug addicts are criminals.	4	3	2	1

	Strongly agree	Agree	Disagree	Strongly disagree
7. It is impossible to be a friend of a drug addict.	4	3	2	1
8. The goverment should separate the children of drug addicts from their parents.	4	3	2	1
9. A drug addict cannot stop his/her addiction.	4	3	2	1
10. A homosexual person should not be allowed to take care of his children.	4	3	2	1

VI. Answer YES or NO to each of the following questions.

1. Would you like to receive more written information about AIDS?	YES	NO
2. Would you like to distribute copies of written information about AIDS to people that you know?	YES	NO
3. Would you like to receive more information about condoms and/or spermicides?	YES	NO
4. Would you like to bring people that you know to receive information about AIDS from the educators?	YES	NO
5. Have you heard information about AIDS on the radio?	YES	NO
6. Have you seen AIDS advertisements on television?	YES	NO
7. Have you read written information about AIDS?	YES	NO

8. Circle any other source from which you have received information about AIDS?

a. Friends b. Clinics c. School d. Laboratories

e. Pharmacist f. Other_____

THANK YOU VERY MUCH FOR YOUR COOPERATION ANSWERING THIS QUESTIONNAIRE.

APPENDIX F

Appendix F

Examples of the color coded cards

GREEN CARD

ID number_____ Group A B C

Por favor, recuerde traer esta tarjeta y llevar a cabo la conducta que se menciona en la misma, si usted está de acuerdo con ella.

La FECHA para traer la tarjeta es _____.

Por cada tarjeta que usted traiga de vuelta llevando a cabo la conducta mencionada en la misma usted tendrá derecho a un boleto para la rifa de un abanico eléctrico que se llevará a cabo ese día.

CONDUCTA:

DESEO RECIBIR MAS INFORMACION ESCRITA SOBRE EL SIDA/AIDS.

YELLOW CARD:

ID number_____ Group A B C

Por favor, recuerde traer esta tarjeta y llevar a cabo la conducta que se menciona en la misma, si usted está de acuerdo con ella.

La FECHA para traer la tarjeta es _____.

Por cada tarjeta que usted traiga de vuelta llevando a cabo la conducta mencionada en la misma usted tendrá derecho a un boleto para la rifa de un abanico eléctrico que se llevará a cabo ese día.

CONDUCTA:

ME GUSTARIA RECIBIR COPIAS DE MATERIALES ESCRITOS SOBRE EL SIDA/AIDS PARA DISTRIBUIRLOS A PERSONAS QUE CONOZCO.

GRAY CARD:

ID number_____ Group A B C

Por favor, recuerde traer esta tarjeta y llevar a cabo la conducta que se menciona en la misma, si usted está de acuerdo con ella.

La FECHA para traer la tarjeta es _____.

Por cada tarjeta que usted traiga de vuelta llevando a cabo la conducta mencionada en la misma usted tendrá derecho a un boleto para la rifa de un abanico eléctrico que se llevará a cabo ese día.

CONDUCTA:

TRAIGO A ALGUIEN QUE CONOZCO PARA QUE USTEDES LE INFORMEN SOBRE EL SIDA/AIDS.

RED CARD:

ID number_____ Group A B C

Por favor, recuerde traer esta tarjeta y llevar a cabo la conducta que se menciona en la misma, si usted está de acuerdo con ella.

La FECHA para traer la tarjeta es _____.

Por cada tarjeta que usted traiga de vuelta llevando a cabo la conducta mencionada en la misma usted tendrá derecho a un boleto para la rifa de un abanico eléctrico que se llevará a cabo ese día.

CONDUCTA:

QUIERO RECIBIR MAS INFORMACION SOBRE CONDONES Y ESPERMICIDAS.

BLUE CARD:

ID number_____ Group A B C

Por favor, recuerde traer esta tarjeta y llevar a cabo la conducta que se menciona en la misma, si usted está de acuerdo con ella.

La FECHA para traer la tarjeta es _____.

Por cada tarjeta que usted traiga de vuelta llevando a cabo la conducta mencionada en la misma usted tendrá derecho a un boleto para la rifa de un abanico eléctrico que se llevará a cabo ese día.

CONDUCTA:

NO ESTOY INTERESADO(A) EN LLEVAR A CABO NINGUNA DE LAS CONDUCTAS MENCIONADAS EN LAS TARJETAS, PERO DESEO OBTENER UN BOLETO PARA LA RIFA DEL ABANICO.

APPENDIX G

Appendix G
Tables

Table G-1. Item-total correlations for score on general knowledge about AIDS.

Items	Item-total correlation
I3a. Currently there is no cure for AIDS.	.34
I3b. A pregnant woman infected with the AIDS virus could infect her baby before it is born.	.31
* A person could get infected with the AIDS virus from...	
I3c. ...working with someone infected with the AIDS virus	.52
I3d. ...going to school with someone infected with the AIDS virus	.42
I3e. ...someone infected sneezes near you	.30
I3g. ...kissing someone infected with the AIDS virus in the cheek	.26
I3h. ...sharing needles with a drug user infected with the virus	.31
I3i. ...having unprotected sexual relationships with someone infected	.28

Table G-2. Percentage of correct and incorrect responses on each item by each group.

	Groups							
	NEC		CG		DL		PL	
Items	Y	N	Y	N	Y	N	Y	N
1. Currently there is no cure for AIDS.	**67%**	33%	**68%**	27%	**77%**	21%	**89%**	9%
2. A pregnant woman infected with the AIDS virus could infect her baby before it is born.	**96%**	4%	**93%**	7%	**92%**	8%	**97%**	3%
3. A person could get infected with the AIDS virus from...								
a. ...working with someone infected with the AIDS virus.	17%	**79%**	17%	**83%**	15%	**85%**	11%	**89%**
b. ...going to school with someone infected with the AIDS virus.	13%	**83%**	12%	**85%**	8%	**90%**	14%	**86%**
c. ...someone infected with AIDS sneezes	25%	**75%**	22%	**73%**	8%	**92%**	3%	**97%**
d. ...sharing dishes, forks or cups with someone infected with the AIDS virus.	21%	**75%**	22%	**76%**	13%	**87%**	11%	**89%**
e. ...using public restrooms.	29%	**71%**	29%	**66%**	15%	**82%**	9%	**91%**
f. ...giving or receiving blood at a clinic.	88%	**8%**	83%	**12%**	85%	**15%**	63%	**31%**
g. ...kissing someone infected with the AIDS virus on the cheek.	88%	**13%**	7%	**93%**	8%	**90%**	3%	**94%**
h. ...sharing needles with a drug user infected with the AIDS virus.	**100%**	---	**88%**	7%	**95%**	5%	**98%**	3%
i. ...having unprotected sexual relationships with someone infected with the AIDS virus.	**100%**	---	**85%**	12%	**92%**	8%	**94%**	6%

Note. The percentages highlighted show the correct answers to each item.
NEC=Non-equivalent control group, CG=control group, DL= didactic learning, PL=participatory learning

Table G-3. Percentages on Knowledge of prevention.

Effectiveness	Conditions											
	Control			Participatory			Didactic			Non-equivalent		
	NE	SE	VE	NE	SE	VE	NE	SE	VE	NE	SE	VE
items												
1. Not to have sexual relationships.	32	29	37	15	28	54	6	31	57	21	25	54
2. Using a condom.	29	37	32	5	28	67	6	49	43	17	38	46
3. Cleaning needles with clorox if using drugs.	51	27	22	10	23	67	17	20	60	38	29	33
4. Using an spermicide.	42	29	22	3	44	54	9	46	43	25	46	17
5. Having sexual relationship only with someone that you know well.	12	29	46	8	31	54	31	26	40	8	21	67

Table G-4. Frequency of performance of behaviors.

	Behavioral cards			
	RD	GRE	YE	GRA
Responses				
YES	44	59	50	9
NO	53	38	47	88

Table G-5. Means on Attitudes toward people with AIDS

Items	Groups CC	PL	DL	NEC
*1. People with AIDS should be isolated from the community.	2	2	3	3
*2. AIDS is not a common disease among the Hispanics.	2	2	2	2
*3. AIDS is a punishment from God.	3	3	3	3
4. Needles should be distributed to drus addicts to stop the spread of the disease.	3	2	2	2
*5. If someone gets infected with the virus it is because she/he have been behaviong immorally.	2	3	2	3
6. AIDS victims are a forgotten group of the society.	3	2	2	2
7. I would open my house to someone with AIDS.	4	2	2	2
*8. I would not want a person with AIDS to touch me.	3	4	3	3

* The responses for these items are recoded (4=strongly disagree, 3=disagree, 2=agree and 1=strongly agree). Higher scores in all the items correspond to positive attitudes.

Table G-6. Means on Attitudes toward homosexuals

Items	Groups CC	PL	DL	NEC
1. I would feel uncomfortable if I were in the bathroom and a homosexual were there too.	2	2	2	2
2. I would not like to have a homosexual as my neighbor.	2	3	2	2
3. Homosexuals have a mental disease.	3	3	2	3
4. The police should arrest homosexuals.	2	3	3	3
10. A homosexual person should not be allowed to take care of his children.	2	2	2	2

Note. The responses to all of these items were recoded (4=strongly disagree, 3=disagree, 2=agree and 1=strongly agree). Higher scores mean positive attitudes to homosexuals.

Table G-7. Means on Attitudes toward drug users.

Items	Groups CC	PL	DL	NEC
5. Drug users are persons that do not know how to handle their problems.	2	2	2	2
6. Drug addicts are criminals.	2	2	2	2
7. It is impossible to be a friend of a drug addict.	2	3	2	3
8. The government should separate the children of drug addicts from their parents.	2	2	2	3
9. A drug addict cannot stop his/her addiction.	3	2	2	2

Note. The responses to all of these items were recoded (4=strongly disagree, 3=disagree, 2=agree and 1=strongly agree). Higher scores mean positive attitudes toward drug users.