Knowledge of Aids, perceived risk of Aids, and at-risk behaviors among older adults

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KNOWLEDGE OF AIDS, PERCEIVED RISK OF AIDS, AND AT-RISK BEHAVIORS AMONG OLDER ADULTS

by

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Bachelor of Science
University of Nevada, Las Vegas
1992

A thesis submitted in partial fulfillment of the requirements for the

Master of Science in Nursing Degree
Department of Nursing
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Graduate College
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ABSTRACT

Knowledge of AIDS, Perceived Risk of AIDS, and At-Risk Behaviors Among Older Adults

by

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By using a questionnaire derived from the Health Belief Model, this study examined older adults’ knowledge of AIDS, perceptions of risk to AIDS, and at-risk behaviors. A total of 166 questionnaires were received from the EXCELL and Senior Adult Theater Group members actively enrolled at the University of Nevada, Las Vegas. The results indicated the respondents were knowledgeable about the transmission and seriousness of AIDS but were less knowledgeable about AIDS transmission through casual contact and the medical aspects of AIDS. Although they recognized the seriousness of AIDS, they generally do not believe that they are susceptible to this disease. Most did not think protecting themselves from AIDS would be particularly burdensome and they perceived safe sexual practices to be effective in preventing HIV transmission. Overall, this sample does not exhibit activities that would increase their chances in acquiring the AIDS virus and their use of condoms was low.
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CHAPTER I

INTRODUCTION

History

HIV infection is known not to be selective in who will be the next victim for transmission of this disease. What was once characterized as a gay or bisexual disease is now known to affect every age group, income bracket, ethnic group, and both sexes, although the incidence of AIDS is over represented in minorities and the poor (Riley, Ory, & Zablotsky, 1989).

Even though HIV and AIDS have become a concern for all age groups, data from the late 1980s indicated that approximately 10% of persons with AIDS were 50 years of age or older (McCormick & Wood, 1992). In September 1993, the Centers for Disease Control and Prevention reported over 34,000 people 50 and older had full-blown AIDS; a number that had more than doubled since January 1991 (Baker & Crowley, 1994). The most recent Surveillance Report from the CDC on HIV and AIDS cases reported through December 1998 indicates there are 72,161 adults aged 50 or older who have AIDS in the United States (Centers for Disease Control and Prevention, 1998).

New AIDS cases rose faster in middle age and older adults than in adults under the age of 40. Most of these cases are a result of becoming infected after age 50, while many of these AIDS cases are the result of becoming infected with the HIV virus at a
younger age. Society’s prior reluctance to deal with HIV as a problem in the general population has only served to compound problems of addressing HIV as a concern for older adults (Linsk, 1994).

There have been discussions (Whipple & Scra, 1989) that older adults should be considered at risk for HIV/AIDS because they express themselves sexually, may have been intravenous drug users, may have received blood transfusions, and may already have a compromised immune system due to other age and health-related conditions. However, many older adults are first diagnosed with HIV at a late stage of infection when they seek treatment for an HIV-related illness (DeCarlo & Linsk, 1997). Since many of the HIV symptoms and infections coincide with other diseases associated with aging, cases among older adults are often under reported. This age population is being overlooked as possibly having HIV infection as a diagnosis due to these problems. This is of concern due to the risk of HIV transmission to others in this age group.

Problem and Purpose of the Study

There is no age limit for unsafe sexual practices placing an individual at risk for HIV transmission. With recent data indicating a faster rise in new AIDS cases among the 50-plus population, middle-aged and older adults cannot be ignored in AIDS prevention or treatment efforts. First, older adults may not be aware of the knowledge of the real risks of HIV or how the virus is transmitted. Also, older adults may engage in behaviors that put them at risk for acquiring and transmitting the HIV virus if they perceive themselves to be unsusceptible to AIDS. Prevention efforts in the 50 years and older population are hindered by a lack of public awareness of the AIDS rates, transmission
routes, and risk factors in this population (Ory & Mack, 1998). The identified problem is that despite the increasing awareness of HIV/AIDS issues in the United States, there is a lack of research examining older adults' knowledge of AIDS, perceived risk of AIDS, and at-risk behaviors. The purpose of this study is to examine knowledge of AIDS, perceptions of risk to AIDS, and at-risk behaviors among older adults.

Significance of the Study

There is a lack of awareness among members of the health care community and the public at large that HIV/AIDS is a condition that afflicts persons of all age groups, including those over the age of 50 (Mueller, 1997). Nurses and other health care providers today are increasingly being faced with the HIV/AIDS epidemic. Visits to the health care provider can be regarded as opportunities for asking older adults the same questions asked of younger adults for identification of risk factors for possible HIV transmission.

As is true of the general population, many health care providers have an ageist attitude and assume adults older than 50 are unlikely to be at risk for HIV infection (Currier & Fliesler, 1995). The significance of this study to nursing and other health care providers is to increase awareness of the need for prevention efforts directed at older people. For any adult age 50 or older, this remains a critical step in increasing AIDS-related knowledge. Prevention efforts could also change risky behaviors to reduce transmission of the AIDS virus, and to get older infected people diagnosed and into the most effective treatment programs earlier in the disease process.
An additional area of significance for doing this study is related to all the recent information being published about sexuality among older adults. This is exemplified by the most recent release of the September-October 1999 issue of Modern Maturity magazine published by The American Association of Retired People. This special report includes a survey on sexual attitudes and behavior, and a refresher course on love and romance "Intimacy 101." With sexuality being an important aspect of healthy lifestyles among older adults, it is important to educate these individuals about the risks and prevention of HIV infection/transmission. By understanding their knowledge of AIDS, perceived risk of AIDS, and at-risk behaviors could lead towards better interventions which may be implemented for teaching these individuals about this disease.
CHAPTER 2

LITERATURE REVIEW

Introduction

Although the health care community has been aware of HIV/AIDS for some time, older adults have not been seen as a population at risk. It is important to inform people 50 years of age and older that they too can be at risk for contracting HIV and need to take appropriate precautions. Education of this age group is a must if the incidence of HIV infection is to be reduced (Johnson, Haight, & Benedict, 1998). This chapter presents general information about HIV, and studies that have been done examining knowledge of AIDS, perceived risk of AIDS, and risk factors among older adults.

Background

Human immunodeficiency virus (HIV) is a blood-borne virus. It is transmitted primarily through sexual contact, needle sharing, transfusion of infected blood products, and perinatal transmission via the birth canal or breast milk. It is a virus that knows no boundaries and can be found in persons of all ages, races, socioeconomic classes, sexual orientation, and in all 50 states. HIV is a lifestyle disease, meaning it is not who someone is or where they are from, but the behaviors they engage in that put them at various degrees of risk for contracting the virus. AIDS refers to a group of opportunistic diseases
that invades the body of HIV-infected individuals whose immune systems have been compromised by the human immunodeficiency virus (Whipple & Scura, 1989).

Risk Factors

The risk of transmission to older adults through blood transfusions is solely underestimated (Linsk, 1994). Due to the fact that screening of blood products for HIV did not begin until 1985, the receipt of blood transfusions has emerged as the most distinctive transmission source among older adults. In addition, several factors compound the diagnosis and treatment of transfusion-related cases in older adults. It has been reported that an average of 16 to 18 years can pass between initial HIV infection and the onset of transfusion-related AIDS (Schmidt, 1989). Many older adults may not even be aware of having been given a transfusion, for example during surgery, as neither hospitals nor insurance companies are required to report transfusions to their patients (Linsk, 1994).

Another mode of exposure for risk of HIV transmission is intravenous drug use and sharing of needles. Dispelling myths that IV drug use is limited to younger age groups, the Centers for Disease Control and Prevention (1993) reports that the percentage of persons over 50 who report IV drug use has increased significantly in the last several years. Also, older individuals could have been IV drug users at an earlier age and now are showing symptoms of HIV/AIDS contracted by using and sharing IV drug needles. Therefore, the risk of transmission through the sharing of needles also presents as a risk factor for older adults.
An increasingly high percentage of newly identified AIDS cases in older adults is due to HIV transmission through risky sexual behaviors. Sexual behaviors that increase the risk of HIV infection include a variety of unsafe practices such as sexual contact with multiple partners and failure to use condoms (Curran, Jaffe, Hardy, Morgan, Selik, & Dondero, 1988). Within this risk category, male-to-male sexual contact is the most frequent route of transmission among adults age 50 and older (Strombeck & Levy, 1998). A sizable number of older men who have sex with men still engage in practices that put them at risk (Kooperman, 1994).

The trend of increased incidence of AIDS is especially evident for women. From 1991 to 1996, among women age 50 and older, the number of cases attributed to heterosexual contact and intravenous drug use increased 106% and 75% respectively (Centers for Disease Control and Prevention, 1998). A study done in 12 state and local health department clinics indicated that older women with heterosexually acquired AIDS were less likely than younger women to have used a condom before their HIV diagnosis and were less likely to have been tested for HIV. Recommendations from this study were for health care providers to recognize HIV risk behaviors in older women, encourage testing, and promote condom use (Schable, Chu, & Diaz, 1996).

Another study, to determine HIV risk behavior and characteristics among older adult women, surveyed women 45 years of age and older residing in urban housing developments. The study found that knowledge of AIDS risk behaviors was low. On the average, the women responded correctly to only 55% of 12-items comprising the AIDS Risk Behavior Knowledge Scale. Despite high HIV risk behavior evidenced by the women's sexual partners, condom use was low. Eighty-one percent of intercourse
occasions with a primary sexual partner were unprotected, and 25% of intercourse occasions with other sexual partners were unprotected (Crumble, Heckman, Sikkema, & Kelly, 1995).

Stall and Catania (1994) studied risk factors in older people in a national AIDS Behavioral Survey. They concluded that older people are gravely at risk for HIV infection because they engage in sexual practices without using preventive measures, and more than 90% of those 50 years and older have never had an HIV test. Due to this problem of not having been tested for HIV, an infected person will not know they are infected and will unknowingly transmit the disease to others.

Conclusions from these studies note the fact that HIV infection is clearly present among those past the age of 50 years. Individuals over 50 years of age are much less likely to adopt HIV prevention strategies than younger individuals who engage in the same behavioral risks. Adults 50 years and older are invisible and are not the focus of HIV prevention efforts. Older individuals are not pictured like their younger counterparts on many of the current educational ad campaigns. As a result, older adults are generally less knowledgeable about AIDS than younger individuals and less aware of how to protect themselves against infection (Feldman, 1994).

Becoming skilled in educating and counseling individuals at-risk for AIDS needs to be practiced by all members of the health care team. This includes focusing on the older population. Studies indicate that older heterosexuals engage in sexual activity often enough for efficient sexual transmission of HIV to occur (Catania, Turner, Kegeles, Stall, Pollack, & Coates, 1989). Primary prevention counseling should include safe sex guidelines recommended by the CDC (Talashek, Tichy, & Epping, 1990). Behavioral
modification for sexually active persons at risk includes monogamy, reducing the number of sexual partners, and avoiding certain sexual practices. Barrier methods, such as condoms, should be encouraged to reduce the risk of acquiring HIV.

Sexuality

It is commonly believed that sexual desires diminish with age and consequently the elderly are assumed to have little need of sexual information. Whipple and Scura (1989), along with other researchers, have identified that sexual patterns persist throughout the life span. A number of studies have demonstrated that older adults continue to show sexual interest and activity.

A survey released by The National Council on the Aging (1998) indicated that nearly half of all Americans age 60 or older engage in sexual activity at least once a month. This random survey of 1,300 older Americans found that 4 in 10 want to have sex more frequently than they currently do. Thirty-nine percent of all the respondents are satisfied with the amount of sex they currently have. Men are more than twice as likely as women to report wanting more sex (56% of men vs. 25% of women). Only 4% of all respondents said they want less frequent sex.

Stereotypically, older people are seen as being sexually inactive. Because of this assumption, questions related to sexual history are frequently omitted from medical history assessments. Even though older people are sexually active, they have the most freedom to practice unprotected sex with a variety of people than any other age group. Condoms were a major method of birth control not HIV protection in their younger years. Now, without the threat of pregnancy and little knowledge of AIDS, they are free to do
away with condom use, a practice that may have inhibited their earlier sex life (Johnson, Haight, & Benedict, 1998).

Knowledge of AIDS

Wright, Drost, Caserta, & Lund (1998) gave an overview of the AIDS problem and concerns relating to older adults. They reported older adults generally were knowledgeable about AIDS issues. However, almost a third of the sample studied lacked knowledge about the mechanisms for the transmission. The recommendations from this study include the need for older adults to learn more about HIV/AIDS.

McCraig, Hardy, & Winn (1991) did a study to determine whether AIDS knowledge varied among populations residing in areas with a low, medium, or high incidence of AIDS. Respondents to the 1988 National Health Interview Survey of AIDS Knowledge and Attitudes were rated on their knowledge about modes of HIV transmission, general knowledge about AIDS, and misconceptions about HIV transmission through casual contact. The results from this study were based on a nationally representative sample of 29,659 adults. Persons over 50 years of age or older, Blacks, Hispanics, and persons with less than a high school education had lower knowledge scores and higher misconception scores. Recommendations were that new and continued efforts are needed to improve knowledge in older persons, minorities, and the less educated in all parts of the country.

Although AIDS-related knowledge is increasing for all age groups, older people are still less knowledgeable than younger people. For example, those 50 years and older are more likely to believe that HIV/AIDS can be contracted through casual contact. Data
from the 1994 National Health Interview Survey, mentioned in Ory & Mack (1998), show that older people are more likely than younger people to believe that they can be infected with HIV/AIDS by coughing on, sharing food utensils, or using public toilets. Older people are also less likely than younger people to feel that they “know a lot about AIDS.” Older adults are more likely than younger adults to not know how HIV is transmitted and to have less knowledge about the progression of HIV disease (Timmerman, McDonough, & Harmeson, 1991; Schoenborn, Marsh, & Hardy, 1994).

Rose (1995) assessed knowledge of HIV/AIDS among 458 older adults from several senior center locations. Questionnaire results indicated that participants had a fairly good knowledge base about HIV/AIDS. The majority of the respondents were aware of the facts about AIDS. The African-American and Hispanic individuals had significantly lower scores than Caucasians. Recommendations from this study suggest priority must be given to research and innovative primary prevention interventions for the older age group.

Perceived Risk of AIDS

Generally, older adults do not perceive themselves as being at risk for AIDS. Turner (1989) surveyed 425 people between the ages of 18 and 65 years regarding their attitudes about AIDS. Forty-three of those people were between the ages of 60 and 65. The majority of this group was not aware of the modes of transmission of HIV and did express compassion toward people with AIDS.

Rose (1995) not only assessed knowledge of AIDS but also examined beliefs about AIDS among 458 senior center participants 60 years and older. Although this
sample recognized the seriousness of the disease, they generally did not believe that they were susceptible to contracting HIV. No statistically significant relationship between sexual behavior or risk scores and perceived susceptibility were found. In addition, no relationships between recognized seriousness of the disease and any of the risk behaviors were found. The majority of at-risk older people surveyed did not use condoms and had not been HIV-antibody tested. Recommendations for further research included determination of the knowledge, beliefs, and behaviors of older people in other areas of the United States.

Summary of Findings

The literature review indicates that older adults today are sexually active. Researchers have identified that sexual patterns persist throughout the life span. Areas of agreement among the findings of these studies include the fact that older individuals generally do not use condoms and they rarely get HIV-antibody testing done. Areas of disagreement from these studies include varying knowledge levels of older adults reported from the studies done depending on age, ethnic background, educational achievement, and other characteristics. Further research needs to be conducted on knowledge of AIDS, perceptions of risk to AIDS, and at-risk behaviors among older adults. The discrepancies found among the studies already done provide the basis for this study.
CHAPTER 3

CONCEPTUAL FRAMEWORK

Introduction

Changing at-risk behaviors is one way of preventing transmission of HIV. Older adults will become infected with HIV unless there are methods to understand and change at-risk behaviors. Understanding health beliefs among older adults will lead to more effective planning of prevention programs. Interventions can then be targeted to the specific needs identified. The Health Belief Model was used as the conceptual framework for this study. This model is a psychosocial formulation based on the relationship that exists between an individual's beliefs and behaviors (Janz & Becker, 1984).

Overview of Model

The Health Belief Model is viewed as potentially useful in differentiating individuals who use preventive measures from those who do not. It may suggest interventions which increases the predisposition of resistant individuals to engage in health-protecting behaviors. Health-related behavior is a particularly relevant issue for the provider concerned with the care of clients. The Health Belief Model provides one such approach for the understanding of health-related behaviors of clients. Health-related
behavior is the desire to avoid illness or to get well and the belief that a specific health action available to a person would prevent illness.

Figure 1 (Appendix III) represents the Health Belief Model. Two variables are proposed as directly affecting predisposition to take action: 1.) Perceiving a threat to personal health; and 2.) The conviction that the benefits of taking action to protect health outweigh the barriers that will be encountered. The variables, personal susceptibility and the seriousness of a specific disease, combine to produce the degree of threat or negative valence of a particular disease. Modifying factors such as demographic, sociopsychologic, and structural variables, as well as cues to action, only indirectly affect action tendencies through their relationship with perception of threat. The Health Belief Model is appropriate as a paradigm for health-protecting or disease-preventing behavior (Janz & Becker, 1984).

History of Model

The Health Belief Model (HBM) was proposed in the 1960s as a framework for explaining why some people who are illness-free take actions to avoid illness, while others fail to take protective actions (Rosenstock, 1966). The HBM is derived primarily from Lewin's social-psychologic theory, which conceptualized that the life space in which an individual exists is composed of regions; some having negative valence, some having positive valence, and others being neutral (Lewin, Dembo, Festinger et al., 1944). Illnesses are conceived to be regions of negative valence that can be expected to exert a force to move the person away from the region. Health-protecting behaviors are
strategies for avoiding the negatively valence regions of illness and disease (Davidhizar, 1983).

In 1974, Health Education Monographs devoted an entire issue to the Health Belief Model and personal health behavior (Becker, 1974). This issue summarized findings from research on the Health Belief Model undertaken to comprehend why individuals did or did not engage in a wide variety of health-related actions. Also, considerable support was found for the model in explaining behavior pertinent to prevention and explaining behavior in response to symptoms or to diagnosed diseases.

The Health Belief Model continues to be a major organizing framework for explaining and predicting acceptance of health and medical care recommendations. Janz and Becker (1984) reported an updated critical review of Health Belief Model studies conducted between 1974 and 1984. Included in this review were such preventive health and screening behaviors as receiving influenza vaccines, practicing breast self-examinations, attending screening programs for high blood pressure, cessation of smoking, and the use of seat belts.

Formulation of Hypotheses

The Health Belief Model was used as the framework for the study hypotheses. The model proposes that for an individual to engage in a health behavior (i.e. safe sex practices): 1.) The individual has to perceive him/herself as susceptible to a health threat (i.e. AIDS); 2.) The health threat (i.e. AIDS) has to be perceived as having serious consequences; 3.) The protective action (i.e. safe sexual practices) available has to be
perceived as effective; and 4.) The benefits of that action (i.e. safe sexual practices) have to be perceived as outweighing the perceived costs of the action (Janz & Becker, 1984).

Based on the Health Belief Model the following hypotheses were tested in this study:

1.) Selected demographic variables, knowledge of AIDS, and at-risk behaviors are related to perceived susceptibility to AIDS.

2.) Selected demographic variables, knowledge of AIDS, and at-risk behaviors are related to perceived seriousness of AIDS.

3.) Selected demographic variables, knowledge of AIDS, and at-risk behaviors are related to perceived benefits minus perceived barriers to safe sexual practices.

4.) Selected demographic variables, knowledge of AIDS, and at-risk behaviors are related to perceived threat of AIDS.

5.) Perceived susceptibility to AIDS is related to perceived threat of AIDS.

6.) Perceived seriousness of AIDS is related to perceived threat of AIDS.

7.) Cues to action are related to perceived threat of AIDS.

8.) Perceived threat of AIDS is related to the likelihood of using recommended safe sexual practices.

9.) Perceived benefits minus perceived barriers to safe sexual practices are related to the likelihood of using recommended safe sexual practices.

Figure 2 (Appendix III) represents adaptation of the Health Belief Model to include the variables examined in this study.
Study Variables

Selected Demographic Variables

**Theoretical definition:** Physical, social, and economic variables may affect an individual's perceptions of the threat of a disease, and thus indirectly influence health-related behaviors (Rosenstock, 1974).

**Operational definition:** Based on the Health Belief Model and literature review, the selected demographic variables include age > 50, gender, marital status, educational background, and ethnic origin. Items 1-5 from the questionnaire provided information about the selected demographic variables identified.

Knowledge of AIDS

**Theoretical definition:** The knowledge of the cause, transmission, and treatment of AIDS is necessary to determine personal risk, and to develop perceptions of personal seriousness and susceptibility to infection (Emmons, Joseph, Kessler, Wortman, Montgomery, & Ostrow, 1986).

**Operational definition:** Knowledge of AIDS was determined by the summed score from 29 items on the AIDS Information Survey developed by DiClemente, Zorn, & Temoshok (1986). Items 7-35 from the questionnaire examined this variable.

At-Risk Behaviors

**Theoretical definition:** Factors associated with a risk of contracting HIV infection (Stall & Catania, 1994).

**Operational definition:** Transfusion recipients, intravenous drug users, and multiple sexual partners was determined by the summed score from four items on the
Risk Assessment questions developed by Rose (1995), and two questions from the researcher. Items 42-47 from the questionnaire examined this variable.

**Perceived Susceptibility**

*Theoretical definition:* An individual's subjective perception of the risk of contracting a condition (Rosenstock, 1974).

*Operational definition:* Perceived susceptibility to AIDS was determined by the summed score from four items on the Beliefs Scale developed by Rose (1995). Items 57, 58, 60, and 61 from the questionnaire examined this variable.

**Perceived Seriousness**

*Theoretical definition:* An individual's opinion of how serious a condition and its sequelae are (Rosenstock, 1974).

*Operational definition:* Perceived seriousness of AIDS was determined by the summed score from four items on the Beliefs Scale developed by Rose (1995). Items 59, 62, 63, and 64 from the questionnaire examined this variable.

**Perceived Benefits**

*Theoretical definition:* An individual’s opinion of the efficacy of the advised action to reduce risk or seriousness of impact (Rosenstock, 1974).

*Operational definition:* Perceived benefits of safer sexual practices was determined by the summed score from one item on the Benefits Scale developed by Gielen, Faden, O’Campo, Kass, & Anderson (1994) and one item developed by the researcher. Items 53 and 55 from the questionnaire examined this variable.
Perceived Barriers

**Theoretical definition:** Perceptions concerning the potential negative aspects of taking advised action such as expense, danger, unpleasantness, inconvenience, and time required (Rosenstock, 1974).

**Operational definition:** Perceived barriers to safe sexual practices was determined by the summed score from one item on the Barriers Scale developed by Gielen et al. (1994) and one item developed by the researcher. Items 54 and 56 from the questionnaire examined this variable.

Cues to Action

**Theoretical definition:** Strategies to activate one's "readiness" by providing how-to-information, promote awareness, and employ reminder systems (Rosenstock, 1974).

**Operational definition:** Media awareness, education, and advice from others was determined by the summed score from five items on the AIDS Information Survey developed by DiClemente et al. (1986), and five items developed by the researcher. Items numbered 6, 36, 37, 38, 39, 40, 41, 49, 50, and 51 from the questionnaire examined this variable.

Perceived Threat

**Theoretical definition:** Explains why people engage in health-related behavior and directly affecting predisposition to take preventive health action (Rosenstock, 1974).

**Operational definition:** Perceived threat of AIDS was determined by the summed score from two items developed by the researcher. Items 52 and 65 from the questionnaire examined this variable.
Likelihood of Action

Theoretical definition: The desire to avoid illness and the belief that a specific health action will prevent illness (Rosenstock, 1974).

Operational definition: Likelihood of using recommended safe sexual practices was determined by one item modified from the Risk Assessment questions developed by Rose (1995). Item number 48 from the questionnaire examined this variable.

Conclusion

The Health Belief Model is a psychosocial framework developed to explain health-related behavior at the level of individual decision making. The term “health-related behavior” is used to refer to a group of behaviors, namely at-risk behaviors. At-risk behaviors will differ from person to person and are dependent on a number of psychosocial factors. Nurses engaged in the initial assessment of older adults can examine these factors and try to identify patients with potential risk of not following the recommended preventive health actions. This assessment can reveal inappropriate health beliefs and misconceptions about certain health conditions that need to be changed. Based on the Health Belief Model and the findings from previous studies, older individuals need to increase their awareness that AIDS is not just a disease of younger adults, and that protective health actions is the key in prevention.
CHAPTER 4

METHODOLOGY

Introduction

A discussion of the methodology is presented in this chapter. First, there is a discussion of the research design followed by a description of the population sample, identification of the setting in which the population was accessed, and a description of the data collection procedure. A description of the method of measurements will be presented at the end of this chapter.

Research Design

A descriptive correlational design was used for this study. The purpose of this design was to examine relationships that exist in a situation. This design is used to facilitate the discovery of many interrelationships in a situation in a short period of time (Burns & Grove, 1997). No manipulation of the variables was required.

Population and Sample

All adults aged 50 and older in the accessible population were approached to participate in this study. The participants were able to read, answer questions on the data collection forms, and had the ability to comprehend and communicate using the English
language. The goal was to survey 100 adults, aged 50 years and older, who would participate in this study.

The accessible population was retired and semi-retired adults 50 years and older enrolled in an extended education program called EXCELL. EXCELL is the University of Nevada Las Vegas' institute for learning in retirement. Membership is open to all senior adults. A total of 221 older adults were enrolled at the time data collection began. The majority that are involved in this program are between 60-70 years old. In addition to the EXCELL program, adults actively participating in the Senior Adult Theater Group at the University of Nevada, Las Vegas were accessed for participation in this study. There were 80 adults, aged 50 and older, enrolled in this group. Before data collection began, this study was reviewed and approved by the Human Subjects Rights Committee of the Department of Nursing and the University of Nevada, Las Vegas.

Data Collection Method

Data for this study were collected by mailed survey questionnaires. The coordinators of the EXCELL Program and the Senior Adult Theater Group provided approval for the researcher to contact potential participants via mail. After all materials required to collect the data were put together by the researcher, a volunteer from each program addressed and mailed the surveys. This was done in order to stress and enforce anonymity. A total of 301 surveys were mailed; included was a cover letter explaining the anonymous nature of the study, questions to measure the identified variables, and a self-addressed/stamped return envelope. Respondents were asked to answer the survey and mail it back in the enclosed envelope. The same volunteer from each program

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addressed and mailed reminder postcards two weeks after the surveys were sent. The completed questionnaires were returned to the Department of Nursing at the University of Nevada, Las Vegas addressed to the researcher. No names or identifying materials were included.

**Instruments**

Knowledge of AIDS was measured using the AIDS Information Survey developed by DiClemente, Zorn, & Temoshok (1986). This 33-item self-report questionnaire assesses knowledge of, misconceptions about, and beliefs about AIDS. It has three subscales: a Knowledge Scale about the cause, transmission, and treatment of AIDS, consisting of 25 items; a Misconception Scale of Casual Contagion, consisting of five items; and a Scale of Perceived Susceptibility, with three items. The Scale of Perceived Susceptibility was not used in this study; Rose’s (1995) Beliefs Scale was utilized to assess this variable. A total of 29 items from the Knowledge and Misconception Scales were used in the current study. These scales were modified slightly to reflect advances in AIDS research. Items were scaled on a true-false-unsure format. Total scores for the knowledge and misconception subscales were found by summing correct responses. No points were given for wrong answers. Reliability of each subscale was assessed by DiClemente, Boyer, & Morales (1988), in which internal consistency reliability coefficients for the knowledge and misconception subscales were 0.72 and 0.75 respectively.

The AIDS Information Survey developed by DiClemente et al. (1986), also included five questions to examine attitudes in the need for AIDS instruction. These...
items. in addition to five questions asked by the researcher, examined the cues to action variable. The original scale was modified slightly to estimate the need for AIDS instruction among the older population. All except one item was scored on an agree-disagree-unsure format. A total score was found by summing responses in their readiness to learn more about AIDS, being aware of AIDS, and wishing to get tested. No points were given if the respondent did not display these cues. DiClemente et al. (1988) did not assess the internal consistency reliability coefficient for the five items assessing attitudes in the need for AIDS instruction.

Eight Likert type items to assess seriousness of and susceptibility to AIDS was measured with the tool developed by Rose (1995). She adapted this instrument from the work of Bridgers, Figler, Vaughan, & Sawin (1990). Factor analysis supported the two Health Belief Model constructs of seriousness and susceptibility according to Bridgers et al. (1990). The susceptibility scale had a Cronbach alpha of 0.81, and for the seriousness scale was 0.70. A 3-point Likert scale was used in the current study. A total sum score was obtained for the four items relating to perceived susceptibility to AIDS. A summative score for the four items measuring the seriousness of AIDS was also obtained.

Rose (1995) included six items in her study to assess risk behaviors among older adults. The reliability and validity of these risk assessment questions were not done. These same items were slightly modified and used in the current study. A total score was obtained by summing those responses that reflect high at-risk behaviors for possible HIV transmission. No scores were given for answers that reflected low risk behaviors. Items were scaled on a yes-no-unsure format.
Examining perceived benefits and perceived barriers to safe sexual practices was measured by adopting two Likert type items from Gielen et al. (1994). The original benefits scale has four questions using a 4-point Likert format, and the barriers scale has four questions measured with a 5-point Likert format. Cronbach’s alpha for the perceived benefits and perceived barriers scales were 0.59 and 0.68 respectively. In the current study the researcher asked two more items, in addition to, the two items adopted from Gielen et al. (1994). A 3-point Likert scale was used in the current study. A total sum score for the two items examining perceived benefits of safe sexual practices minus the two items measuring perceived barriers to safe sexual practices was obtained for this study.

Perceived threat of AIDS was measured by two items developed by the researcher. A 3-point Likert scale was used. A total score was obtained by summing responses from these two items. The likelihood of using recommended safe sexual practices was measured by asking about condom use modified from Rose’s (1995) Risk Assessment questions. This item was also measured on a 3-point Likert format indicating if condoms are being used to prevent the transmission of the AIDS virus (from never to always).

Data Analysis

The organization and analysis of quantitative data using statistical procedures were done utilizing the Statistical Package for the Social Sciences (SPSS, 1995). Descriptive statistics analyses summarized the sample’s main attributes. These were age, gender, ethnicity, marital status, and educational background. The data were derived from the measurement tools completed by the sample. Inferential statistics were used to
draw conclusions about the relationship between variables in the accessible population
and to test the study hypotheses.

The hypotheses were determined by using the Health Belief Model as the
conceptual framework for this study. In testing this model, each hypothesis was analyzed
using nonparametric statistical tests to determine if there was any relationship or
correlation between two variables. These tests are a general class of inferential statistics
that do not involve rigorous assumptions about the distribution of the variables.
Nonparametric statistics are also mostly used when data is measured on the nominal or
ordinal scales, as in this study.

Simultaneous multiple regression or correlation was done for each hypothesis that
examined two or more independent variables and one dependent variable. The purpose of
this statistical analysis was to examine for relationships between the independent
variables and the dependent variable as predicted by the Health Belief Model.

Conclusion

This chapter presented a discussion of the methodology for this study. Several of
the instruments used were slightly modified for this study because they had been utilized
in primarily adolescent and younger adult populations. Overall, a descriptive
correlational design was utilized to examine how the identified variables impact one’s use
of safer sexual behaviors based on the Health Belief Model.
CHAPTER 5

FINDINGS OF THE STUDY

Introduction

The sample’s demographic characteristics, and the study variables are described first. Nonparametric correlation statistical tests were used to examine each hypothesis to assess for the magnitude and direction of the relationship for each variable. These results are presented at the end of this chapter. The tables mentioned are found in Appendix IV.

Analysis of Data

A total of 169 out of 301 survey questionnaires were returned. From the 169 returned surveys, 166 were usable, representing approximately 55% of the persons asked to participate. The respondents ranged in age from 50 to 86 years (M = 71.09, SD = 6.22). Ninety-five percent of the participants were Caucasians, 67% were female, and 51% were married. No one in this sample had less than a high school diploma (Table 1).

Displayed in Table 2 are the scores reflecting respondents’ knowledge of AIDS (M = 23.96, Range 9 to 29). This sample demonstrated a high level of knowledge regarding the transmission, the seriousness, and methods to prevent HIV infection. Scores on the misconceptions about transmission of AIDS through casual contact varied. Most knew that touching (93%), shaking hands (94%), just being around someone (99%),
and using a comb or hairbrush of one who has AIDS (91%) are not ways of transmission. Participants had lower responses to the misconceptions about the transmission of AIDS via kissing (74%), and food handled by someone with AIDS (70%). The participants' knowledge of the medical aspects of AIDS was also lower. Seventy-five percent knew that individuals who have AIDS usually have other diseases as a result of AIDS and 75% were aware that there is no cure for AIDS.

Table 3 presents the frequency distribution of the participants' responses to perceived susceptibility to AIDS, perceived seriousness of AIDS, and perceived benefits and barriers to safe sexual practices. Also included in this table are the descriptive statistics for each of these variables. This sample perceived themselves to be at low susceptibility to AIDS ($M = 6.74$, Range 5 to 12). Their perception of the seriousness of AIDS was high ($M = 9.79$, Range 4 to 12). The low mean score on the barriers of safe sexual practices ($M = 2.38$, Range 2 to 6) indicates that this sample does not think protecting themselves from AIDS would be particularly burdensome. Finally, the sample also perceived safe sexual practices as highly beneficial or effective for preventing AIDS ($M = 5.92$, Range 3 to 6).

Overall, the participants were mixed in their readiness to learn more about AIDS ($M = 5.01$, Range 1 to 9). At-risk behaviors had an overall low mean score ($M = 1.40$, Range 0 to 4). Fifty-three percent of the sample studied has had one sexual partner in the last year, while 4% responded that they had two or more sexual partners (Table 4).

The responses to perceived threat of AIDS and the likelihood of using recommended safe sexual practices are presented in Table 5. These participants responded that they are at a low perceived threat of AIDS ($M = 2.34$, Range 2 to 4).
Seventy-four percent of this sample responded they never use a condom to protect themselves from possible HIV transmission. Their likelihood of using recommended safe sexual practices was low ($M = 1.42$, Range 1 to 3).

Some of the participants did not answer all 65 questions from the 166 usable surveys. Inquiring about the use of condoms to prevent the transmission of the AIDS virus was the question most respondents did not answer. A crosstab association was done to determine if current marital status may have had a factor in not answering this question. There was no pattern found.

**Statistical Analysis of Hypotheses**

**Hypothesis 1** Selected demographic variables, knowledge of AIDS, and at-risk behaviors are related to perceived susceptibility to AIDS.

Table 6 presents the correlation findings. No statistically significant relationship between age, gender, educational background, marital status, ethnicity, knowledge of AIDS, and at-risk behaviors with perceived susceptibility to AIDS was found. Multiple regression analysis was also done ($R = .21$, $p = .51$). This hypothesis is not supported.

**Hypothesis 2** Selected demographic variables, knowledge of AIDS, and at-risk behaviors are related to perceived seriousness of AIDS.

Table 7 presents correlation findings. No statistically significant relationship was found between age, gender, educational background, marital status, ethnicity, knowledge of AIDS, and at-risk behaviors with perceived seriousness of AIDS. Multiple regression analysis was also done ($R = .28$, $p = .17$). This hypothesis is not supported.
Hypothesis 3 Selected demographic variables, knowledge of AIDS, and at-risk behaviors are related to perceived benefits minus perceived barriers to safe sexual practices.

Table 8 presents the correlation findings. A positive significant relationship was found between gender and perceived benefits minus perceived barriers to safe sexual practices (Kendall’s tau = .22, p = .01). Also, there was a positive significant relationship between knowledge of AIDS and perceived benefits minus perceived barriers to safe sexual practices (Kendall’s tau = .19, p = .01). No statistically significant relationship between age, educational background, marital status, ethnicity, and at-risk behaviors with perceived benefits minus perceived barriers to safe sexual practices was found. Multiple regression analysis was also done (R = .35, p = .01). This hypothesis is partially supported.

Hypothesis 4 Selected demographic variables, knowledge of AIDS, and at-risk behaviors are related to perceived threat of AIDS.

Table 9 presents the correlation findings. No statistically significant relationship between age, gender, educational background, marital status, ethnicity, knowledge of AIDS, at-risk behaviors, and perceived threat of AIDS was found. Multiple regression analysis was also done (R = .23, p = .40). This hypothesis is not supported.

Hypothesis 5 Perceived susceptibility to AIDS is related to perceived threat of AIDS.

Table 10 presents the correlation findings. A positive significant relationship was found between perceived susceptibility to AIDS and perceived threat of AIDS (Kendall’s tau = .31, p = .00). This hypothesis is supported.

Hypothesis 6 Perceived seriousness of AIDS is related to perceived threat of AIDS.
Table 10 presents the correlation findings. No statistically significant relationship was found between perceived seriousness of AIDS and perceived threat of AIDS (Kendall’s tau = .05, p = .47). This hypothesis is not supported.

**Hypothesis 7** Cues to action are related to perceived threat of AIDS.

Table 11 presents the correlation findings. A significant positive relationship was found between cues to action and perceived threat of AIDS (Kendall’s tau = .14, p = .05). This hypothesis is supported.

**Hypothesis 8** Perceived threat of AIDS is related to the likelihood of using recommended safe sexual practices.

Table 12 indicates no statistically significant relationship between perceived threat of AIDS and the likelihood of using recommended safe sexual practices (Kendall’s tau = .12, p = .19). This hypothesis is not supported.

**Hypothesis 9** Perceived benefits minus perceived barriers to safe sexual practices are related to the likelihood of using recommended safe sexual practices.

Table 13 displays no statistically significant relationship between perceived benefits minus perceived barriers to safe sexual practices and the likelihood of using recommended safe sexual practices (Kendall’s tau = .06, p = .49). This hypothesis is not supported.

**Summary of Data Analysis**

In summary, there were six hypotheses that were not supported. First, Hypothesis 1 was not supported with no statistically significant relationship between age, gender, educational background, marital status, ethnicity, knowledge of AIDS, and at-risk
behaviors with perceived susceptibility to AIDS being found. Second, Hypothesis 2 was not supported with no statistically significant relationship between age, gender, educational background, marital status, ethnicity, knowledge of AIDS, and at-risk behaviors with perceived seriousness of AIDS being identified. Third, Hypothesis 4 was not supported with no statistically significant correlation being found between age, gender, educational background, marital status, ethnicity, knowledge of AIDS, and at-risk behaviors with perceived threat of AIDS. Forth, Hypothesis 6 was not supported with no statistically significant relationship being found between perceived seriousness of AIDS and perceived threat of AIDS. Fifth, Hypothesis 8 was not supported with no statistically significant relationship being found between perceived threat of AIDS and the likelihood of using recommended safe sexual practices. Finally, Hypothesis 9 was not supported because no statistically significant relationship between perceived benefits minus perceived barriers of safe sexual practices and the likelihood of using recommended safe sexual practices being identified.

Only one hypothesis was found partially supported. Hypothesis 3 had a positive significant relationship between gender and knowledge of AIDS with perceived benefits minus perceived barriers to safe sexual practices. However, no statistically significant relationship was found between age, educational background, marital status, ethnicity, and at-risk behaviors with perceived benefits minus perceived barriers of safe sexual practices.

As for fully supported hypotheses, there were two found in this study. Hypothesis 5 was supported in this study with a significant positive correlation found between perceived susceptibility to AIDS and perceived threat of AIDS. Hypothesis 7 was also
supported with a significant positive relationship found between cues to action with perceived threat of AIDS.

Significant Relationships from the Health Belief Model

The results from the hypotheses tested indicate that the Health Belief Model is not fully supported. Figure 3 (Appendix III) indicates the significant relationships that were found among study variables adapted to the Health Belief Model. In summary, due to the lack of fully supported hypotheses from the model, it must be concluded that the model is not supported by these results.
CHAPTER 6

DISCUSSION

Introduction

The intent of this chapter is to first discuss the findings from this study. Next will be a presentation of the conclusions from this study. The end of this chapter will offer some recommendations for further research.

Discussion of Results

A total of 301 survey questionnaires were mailed to members of the EXCELL and Senior Adult Theater Groups attending the University of Nevada, Las Vegas. Each member of the accessible population had an equal probability of being included in this study. According to the most recent United States Bureau of Census data (1997), there are approximately 450,000 people aged 50 and older who live in Las Vegas, Nevada.

In comparing the demographics from this study to demographics reported by other studies of older adults, the subjects in the current study are similar only in age (McCraig, Hardy, & Winn, 1991; LeBlanc, 1993; Rose, 1995). These same studies had more of a diverse group in regards to ethnicity and people who had less than a college education. Compared to the current study, respondents were mostly Caucasians (95%) and over 50% of this sample have a college education making generalizability of these findings limited.
Furthermore, only having access to 301 adults aged 50 and older compared to the large number of older adults living in Las Vegas, in addition to the United States, also limits generalizability of the findings.

Respondents in this study knew the basic facts about the transmission and the seriousness of the AIDS virus. However, they were less knowledgeable about transmission through casual contact via kissing and food handled by someone who has AIDS, in addition to, the cause and medical aspects of AIDS. These findings are comparable to those of other groups who surveyed older adults (Timmerman et al., 1991; Schoenborn et al., 1994; Rose, 1995; Ory & Mack, 1998; Wright et al., 1998).

Rose (1995) found that knowledge of AIDS had a positive relationship to educational level in her study on older adults. Educational level and knowledge of AIDS also had a positive relationship in the current study. All of the respondents from Rose’s study had between 9 and 13 total years of education. In the current study, no one had less than a high school diploma. McCraig et al. (1991) mentioned that persons 50 years and older and who have less than a high school education had lower knowledge of AIDS scores. As could be expected, respondents in the current study had a fairly good knowledge base about AIDS (83% answered correctly).

Knowledge of AIDS was found to have a negative significant relationship with age of the participant in the current study. Rose (1995) and LeBlanc (1993) also found that there was a negative relationship between age and knowledge of AIDS. Dilorio, Parsons, Lehr, Adame, & Carlone (1993) assessed AIDS knowledge among college freshmen using DiClemente’s AIDS Information Survey. The results indicated that college freshmen knew the basic facts about the cause and transmission of AIDS, but
were less knowledgeable about the medical aspects of AIDS. These scores are comparable to the current study except older adults scored lower on the medical aspects and the cause of AIDS items. This suggests that older adults from the current study had a lower level of AIDS knowledge compared to college freshmen from DiLorio’s study. LeBlanc (1993) mentioned when age and knowledge of AIDS were used in a path analysis, age remained a significant predictor of AIDS knowledge, suggesting that older adults had lower levels of AIDS knowledge than their younger counterparts.

Overall, the sample studied had a low perceived susceptibility to AIDS. Respondents agreed that they were not worried about getting AIDS, were less likely to get AIDS than most people, and felt their chances for getting AIDS was very low. Furthermore, they responded that older people are less at risk for AIDS than younger people. These findings are comparable to other studies done (Turner, 1989; Rose, 1995).

Although not feeling susceptible to AIDS, the majority of the sample understands the seriousness of AIDS. This finding is comparable to Rose’s (1995) study. One area of concern from this study is that only 28% of the respondents agree AIDS is a problem in older people. Overall, perceived threat of AIDS among the sample studied was low. The current findings are comparable to the National Survey Data from the 1995 Behavioral Risk Factor Surveillance System conducted by the CDC which confirmed that less than 5% of adults ages 50 to 64 reported that their chances of getting AIDS was high or medium (Mack & Bland, 1997).

Looking at risky behaviors among the sample studied, the majority displayed low at-risk behaviors for possible HIV transmission. No one claimed to have ever shared needles when using illegal drugs, twenty-two (13%) had a blood transfusion before 1985,
and six (4%) have had two or more sexual partners in the last year. These findings are comparable to the study done by Rose (1995).

The use of condoms to prevent transmission of the AIDS virus was also low in the current study. From the total sample who did answer the question about condom use, twenty (17%) responded that they always use condoms and eleven (9%) sometimes uses condoms. These findings are comparable to the National AIDS Behavior Survey done by Stall and Catania (1994) which concluded that only a very small proportion of people age 50 and older with a known behavioral risk for HIV infection use condoms.

Rose (1995) mentioned that of unmarried people who reported having had one sexual partner in the last year, half reported never having used condoms, and only five stated that they always used condoms. In the current study, 96% of married respondents never use a condom. Also, thirty unmarried respondents did not answer if they use condoms to prevent the transmission of the AIDS virus. Therefore, from the current study, those who did not respond cannot be assumed that they always use condoms to prevent the transmission of the AIDS virus.

Discussion of Health Belief Model

Overall, variables proposed as directly affecting predisposition to take action are "perceiving a threat to a disease" and "the conviction that the benefits of taking action outweigh the barriers that will be encountered." Beliefs about personal susceptibility and seriousness of a disease combine to produce the degree of threat to this disease. Janz and Becker (1984) mention that results from numerous studies show perceived barriers of taking action and perceived susceptibility to a disease are powerful dimensions, while
perceived benefits of taking action and perceived seriousness of a disease lacked power to explain or predict health-protecting behaviors. From the current study, perceived susceptibility to AIDS is the only powerful dimension explaining why this sample had a low use of health-protecting behaviors.

Two hypotheses were found to be fully supported in the current study. First, perceived susceptibility to AIDS was found to be significantly related to perceived threat of AIDS. Older adults had a low perceived susceptibility to AIDS, in addition to, a low perceived threat of AIDS. The Health Belief Model proposes that an individual needs to perceive him/herself as susceptible to a health threat in order to engage in a health behavior. Since this sample reflects individuals’ feelings of low personal vulnerability to AIDS, which produces the low perceived threat of AIDS, may explain why this sample does not use condoms (health-protecting behaviors) to prevent transmission of the AIDS virus. Even though this sample understood the seriousness of AIDS, this was not found to be correlated to their low perceived threat of AIDS leading to their low use of condoms.

The second hypothesis fully supported in this study was that cues to action and perceived threat of AIDS were positively correlated. According to Janz and Becker (1984) modifying factors, such as cues to action, only indirectly affect action tendencies through their relationship with perception of threat. From the current study, the assumption could be made that this sample had a mixed desire to learn more about AIDS or even get tested because they had a low perceived threat of AIDS. Therefore, these individuals do not use condoms since they do not perceive themselves to be at risk for getting AIDS.
One hypothesis was partially supported. Gender and knowledge of AIDS was found to be positively related to perceived benefits minus perceived barriers to safe sexual practices. Janz & Becker (1984) did not mention if demographic variables or structural variables directly or indirectly affect perceived benefits minus perceived barriers to preventive action. Even though this sample understood the benefits of safe sexual practices and did not think that protecting themselves from AIDS would be burdensome, their condom use was still low.

In testing the model adapted for this study, perceived threat of AIDS and the benefits minus barriers to safe sexual practices were not found to be related to the likelihood of using recommended safe sexual practices. Due to the lack of these variables proposed as directly affecting predisposition to take protective action, it must be concluded that the Health Belief Model is not supported by these results.

Conclusions

Questionnaires were mailed to the identified accessible population over the summer recess. A high response rate of 55% may have been due to the corroboration by the director’s from the EXCELL and Senior Adult Theater Groups. An even higher response rate may have occurred if the questions involved in this survey had not been so sensitive. DiClemente, Forrest, & Mickler (1990) postulate that using college students to answer questionnaires with sensitive questions may create feelings of embarrassment for those who receive the questionnaire, concern as to how they were selected, and doubt about confidentiality of their responses. Thus, lower response rates may occur. Older
adults from the current study may have felt this way and choose not to participate in this study.

Several limitations of the current study design need consideration. First, many of the study participants were married. If these individuals claim to be in a monogamous relationship, using condoms would be less likely to occur or be needed. The sampling method cannot assure a random response from the group surveyed. In addition, older adults who are not in a monogamous relationship may present very different responses related to health-protective behaviors in preventing AIDS than the overall sample obtained in this study.

Another limitation of this study is to further assess the validity of the tools used to measure the Health Belief Model constructs. For example, adding a more direct measure for cues to action would be advisable, such as whether anyone specifically advised the respondent to adopt recommended safe sexual practices. Also, assessing use of recommended safe sexual practices could have been more predictive if additional questions had been asked. Additional questions would specifically ask the respondent if he or she carries condoms with them, talks with their partner about AIDS, choose to have sex less often or no sex at all, and choose to have fewer sex partners. There is a need to address these limitations in future research.

The results from this study do not fully support the Health Belief Model to explain the relationships between perception of risk and behavioral change. In order to explain health-protective behaviors, continued research using this model to identify enabling and reinforcing factors, and assessing the mental strategies that people use to assess their risk
is needed. These suggestions may be helpful in developing programs to promote health-protective interventions.

The sensitivity of the questions used in this study may be another reason why the Health Belief Model was not fully supported. Older adults may not have felt comfortable with the AIDS topic. For example, this model may be better utilized in predicting health-protective behaviors among older adults attending screening programs for high blood pressure or receiving influenza vaccines. Also, several instruments used to measure variables in this study were originally developed for use with younger adults. This could be an additional reason why the model did not better explain the relationships between perceived risk of a disease and changing behavior.

Recommendations for Further Research

In primary prevention for all age groups, education is a major public health strategy to deal with the AIDS epidemic. Priority must be given in researching primary prevention interventions and program development for the older age group to assess program efficacy. Programs to teach individuals in methods for preventing AIDS infection needs to be tested to determine how to better meet the needs of the older population. Since knowledge alone is insufficient to change behaviors, prevention programs must be designed to incorporate psychosocial factors that influence the practice of safe sexual behaviors. Additional research to identify strategies that will allow AIDS prevention programs to be created and aimed towards older adults is needed.

Suggestions for additional research includes assessing knowledge of AIDS, perceived risk of AIDS, and at-risk behaviors among older adults in different areas of the
United States. This includes older adults who live in rural areas, which are often overlooked in research studies. Other important issues to examine are differences between ethnic groups, religious preferences, and educational levels. An additional recommendation would be to examine older adults who are single, widowed, or divorced/separated and their at-risk behaviors and use of safe sexual practices. Furthermore, additional research could look at the factors of why health care providers are not asking older adults about their sexual histories or discussing HIV antibody testing with older adults.
REFERENCES


APPENDIX I

SURVEY AND LETTER TO PARTICIPANTS
ANSWER BY FILLING OR CHECKING WHERE INDICATED:

1.) MALE _______  
    FEMALE_______

2.) AGE ________

3.) MARITAL STATUS:
    Single_______
    Married_______
    Widowed_______
    Divorced/Separated_______

4.) EDUCATIONAL BACKGROUND:
    Never graduated from High School_______
    High School Diploma_______
    Some College_______
    Associate College Degree_______
    Bachelor's College Degree_______
    Master's College Degree_______
    Doctorate College Degree_______

5.) ETHNIC ORIGIN:
    Caucasian_______
    African American_______
    Hispanic_______
    Asian_______
    Other__________________

6.) LAST MEDICAL VISIT:
    Less than 1 year ago_______
    1-2 years ago_______
    2-3 years ago_______
    Greater than 4 years ago_______
    Do not have a physician_______
CIRCLE THE MOST APPROPRIATE RESPONSE TO THE FOLLOWING:

7.) AIDS is a medical condition in which your body can not fight off disease.
   True  Unsure  False

8.) AIDS is a disease caused by a virus.
   True  Unsure  False

9.) AIDS is a genetically transmitted disease.
   True  Unsure  False

10.) Stress causes AIDS.
     True  Unsure  False

11.) If you kiss someone with AIDS you will get the disease.
     True  Unsure  False

12.) If you touch someone with AIDS you can get AIDS.
     True  Unsure  False

13.) All homosexual men have AIDS.
     True  Unsure  False

14.) You can get AIDS from food handled by someone who has the disease.
     True  Unsure  False

15.) Anybody can get AIDS.
     True  Unsure  False

16.) AIDS can be cured if treated early.
     True  Unsure  False

17.) Women are more likely to get AIDS during their menstrual period.
     True  Unsure  False

18.) You can get AIDS by using the comb or hairbrush of someone with AIDS.
     True  Unsure  False

19.) AIDS is not at all serious: it is like having a cold.
     True  Unsure  False

20.) AIDS is caused by the same virus that causes venereal diseases.
     True  Unsure  False
CIRCLE THE MOST APPROPRIATE RESPONSE TO THE FOLLOWING:

21.) The cause of AIDS is unknown.
   True  Unsure  False

22.) Just being around someone with AIDS can give you the disease.
   True  Unsure  False

23.) Having sex with someone who has AIDS is one way of getting it.
   True  Unsure  False

24.) If a pregnant woman has AIDS, there is a chance it will harm her unborn baby.
   True  Unsure  False

25.) People who get AIDS usually die from the disease.
   True  Unsure  False

26.) Using a condom during sex can lower the risk of getting AIDS.
   True  Unsure  False

27.) You can get AIDS by shaking hands with someone who has it.
   True  Unsure  False

28.) Receiving a blood transfusion with infected blood can give a person AIDS.
   True  Unsure  False

29.) You can get AIDS from sharing a needle with a drug user who has the disease.
   True  Unsure  False

30.) AIDS is a life-threatening disease.
   True  Unsure  False

31.) People with AIDS usually have other diseases as a result of AIDS.
   True  Unsure  False

32.) All homosexual women have AIDS.
   True  Unsure  False

33.) There is no cure for AIDS.
   True  Unsure  False

34.) You can avoid getting AIDS by exercising regularly.
   True  Unsure  False
CIRCLE THE MOST APPROPRIATE RESPONSE TO THE FOLLOWING:

35.) A new vaccine has recently been developed for the treatment of AIDS.
   True   Unsure   False

36.) Have you ever had any instruction about AIDS?
   Yes   Unsure   No

37.) Are you interested in learning more about AIDS?
   Yes   Unsure   No

38.) Would you take a free blood test to see if you have the AIDS virus?
   Yes   Unsure   No

39.) I have been asked by a physician or health care provider about my sexual history.
   Yes   Unsure   No

40.) I have been asked by a physician or health care provider about getting tested for the AIDS virus.
   Yes   Unsure   No

41.) Have you donated blood in the last 3 years?
   Yes   Unsure   No

42.) Have you had a blood transfusion prior to 1985?
   Yes   Unsure   No

43.) Have you ever shared needles when using illegal drugs?
   Yes   Unsure   No

44.) Would you use a condom/barrier if you knew your sexual partner was infected with the AIDS virus?
   Yes   Unsure   No

45.) Would you use a condom/barrier if you were unsure if your sexual partner was infected with the AIDS virus?
   Yes   Unsure   No

46.) Have you had sex in the last year?
   Yes   Unsure   No
CIRCLE THE RESPONSE THAT MOST REFLECTS YOUR THINKING:
47.) How many sexual partners have you had in the last year?
None One Two or more

48.) Do you use condoms/barriers to prevent transmission of the AIDS virus?
Never Sometimes Always

CIRCLE THE RESPONSE THAT MOST REFLECTS YOUR THINKING:
49.) I've heard enough about AIDS and I don't want to hear any more about it.
Agree Unsure Disagree

50.) It is important that older adults learn about AIDS.
Agree Unsure Disagree

51.) AIDS is not as big a problem as the media suggests.
Agree Unsure Disagree

52.) People of my age are too old to get AIDS.
Agree Unsure Disagree

53.) Safe sexual practices involves the use of condoms/barriers or other mechanisms to prevent transmission of the AIDS virus.
Agree Unsure Disagree

54.) It would be embarrassing for me if I were to do all the things I have to do to protect myself from getting AIDS.
Agree Unsure Disagree

55.) I would refuse to have sex with a casual sexual partner if they do not agree to use a condom/barrier.
Agree Unsure Disagree

56.) I refuse to use a condom/barrier because they are unpleasant and inconvenient.
Agree Unsure Disagree
CIRCLE THE RESPONSE THAT MOST DESCRIBES HOW YOU FEEL:

57.) I am worried about getting AIDS.
   Agree        Unsure        Disagree

58.) I am less likely to get AIDS than most people.
   Agree        Unsure        Disagree

59.) I'd rather get any other disease than AIDS.
   Agree        Unsure        Disagree

60.) I consider my chances of getting AIDS very low.
   Agree        Unsure        Disagree

61.) I can do a lot to keep from getting AIDS.
   Agree        Unsure        Disagree

62.) I would have a hard time dealing with AIDS.
   Agree        Unsure        Disagree

63.) Getting AIDS would cause me to get very depressed.
   Agree        Unsure        Disagree

64.) AIDS is a problem in older people.
   Agree        Unsure        Disagree

65.) In terms of your own risk of getting AIDS, do you think you are.............for
    getting AIDS ?
   At great risk   At some risk   At no risk
Dear EXCELL Member.

I am a registered nurse enrolled in the Nursing Master's program at the University of Nevada, Las Vegas studying to be an Advanced Nurse Practitioner. Part of the requirements for this program is to implement a research project. Enclosed is a survey questionnaire to examine your knowledge of HIV/AIDS, perceived risk of AIDS and at-risk behaviors.

The expected length of time to complete this questionnaire is approximately 15-20 minutes. Consent to participate in this study only necessitates answering the enclosed questions and to return the booklet in the prepaid, self-addressed envelope provided. There are no known risks or financial costs to you for participation in this study. Your responses are entirely anonymous. The results of this study will be published as grouped data.

The benefit of this study is to obtain information that will assist health care professionals in planning educational programs targeted towards prevention of HIV/AIDS in your age group.

If you have any questions regarding this research study, you may contact me at 895-3360. If you have any questions regarding the rights of research participants, contact the Office of Sponsored Programs at 895-1357.

Your participation in this research study is strictly voluntary and your status at UNLV will not be affected in any way. You may withdraw from participation at any time.

Thank you in advance for your participation.

Sincerely,

Cheryl A. Maes RN, BSN
Graduate Student
Department of Nursing
University of Nevada, Las Vegas
Informed Consent for
Knowledge of AIDS, Perceived Risk of AIDS, and At-Risk Behaviors Among Older Adults

Dear Senior Adult Theater Group Member,

I am a registered nurse enrolled in the Nursing Master’s program at the University of Nevada, Las Vegas studying to be an Advanced Nurse Practitioner. Part of the requirements for this program is to implement a research project. Enclosed is a survey questionnaire to examine your knowledge of HIV/AIDS, perceived risk of AIDS and at-risk behaviors.

The expected length of time to complete this questionnaire is approximately 15-20 minutes. Consent to participate in this study only necessitates answering the enclosed questions and to return the booklet in the prepaid, self-addressed envelope provided. There are no known risks or financial costs to you for participation in this study. Your responses are entirely anonymous. The results of this study will be published as grouped data.

The benefit of this study is to obtain information that will assist health care professionals in planning educational programs targeted towards prevention of HIV/AIDS in your age group.

If you have any questions regarding this research study, you may contact me at 895-3360. If you have any questions regarding the rights of research participants, contact the Office of Sponsored Programs at 895-1357.

Your participation in this research study is strictly voluntary and your status at UNLV will not be affected in any way. You may withdraw from participation at any time.

Thank you in advance for your participation.

Sincerely,

Cheryl A. Maes RN, BSN
Graduate Student
Department of Nursing
University of Nevada, Las Vegas
TO: Senior Adult Theatre Students
FROM: Dr. Ann McDonough
RE: Survey
DATE: June 1, 1999

Greetings to all of you, and I hope that you're having a good Summer break.

I am serving on an M.A. Thesis Committee for Nursing student Cheryl Maes. Her project involves surveying older adults about AIDS, and we would appreciate it if you could take the time to fill out the survey. YOUR RESPONSES ARE ANONYMOUS AND CONFIDENTIAL. This survey has received full approval from UNLV's Office of Research.

Please mail the completed survey in the enclosed envelope as soon as possible, and thank you in advance for your help.
APPENDIX II

RESEARCH APPROVALS AND PERMISSIONS
Dear Ms Maes & Dr. Louis:

The Department of Nursing Human Subjects Rights Committee met and approved your proposal "Knowledge of HIV/AIDS, perceived risk of AIDS and sexual behaviors among older adults".

The next step is to take your proposal to Office of Sponsored Programs at UNLV for their approval before beginning further implementation of the project.

The Committee wishes you well in completing it.

If you make any major change in your project please notify the Committee.

Sincerely,

Susan Michael
Acting Chairperson
Human Subjects Rights Committee
Department of Nursing, UNLV
PROTOCOL FORM APPROVAL SHEET
FOR RESEARCH INVOLVING HUMAN SUBJECTS

Log Number: _____4-1999________________________

Title of Project: Knowledge of HIV/AIDS, perceived risk of AIDS and sexual behaviors among older adults'

Investigator: _______Cheryl Clark Maes and Margaret Louis

After reviewing this proposal, the members of the Department of Nursing, Human Subjects Rights Review Committee have indicated below their approval/disapproval of this proposal.

Signature of Committee Members

Approve

Disapprove

The above named project is hereby approved/disapproved (circle one).

Date: 7 May 1997

Department of Nursing
4505 Maryland Parkway • Box 453018 • Las Vegas, Nevada 89154-3018
(702) 895-3360 • FAX (702) 895-4807

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DATE: May 11, 1999

TO: Cheryl Ann Maes
    Department of Nursing
    M/S 3018

FROM: Dr. William E. Schulze, Director
      Office of Sponsored Programs (X1357)

RE: Status of Human Subject Protocol Entitled:
    "Knowledge of HIV/AIDS, Perceived Risk of AIDS, and Sexual Behaviors Among Older Adults"

OSP #501s0599-040e

The protocol for the project referenced above has been reviewed by the Office of Sponsored Programs and it has been determined that it meets the criteria for exemption from full review by the UNLV human subjects Institutional Review Board. This protocol is approved for a period of one year from the date of this notification and work on the project may proceed.

Should the use of human subjects described in this protocol continue beyond a year from the date of this notification, it will be necessary to request an extension.

If you have any questions regarding this information, please contact Marsha Green in the Office of Sponsored Programs at 895-1357.

cc: M. Louis (NUR-3018)
    OSP File
A SURVEY

CHERYL MAES is a registered nurse enrolled in the Nursing Master's program at UNLV and is studying to be an Advanced Nurse Practitioner. Part of her requirements for this program is to implement a research project. She will be mailing a survey questionnaire to each member enrolled in the EXCELL program. Please be kind enough to return the questionnaire in the prepaid envelope that will be provided. Your reply will assist her in her educational requirements, and more importantly, further the knowledge of other health care professionals. These questionnaires will be sent in the next one to two months. The EXCELL Board approved the Survey. Mailing will go through the UNLV mailroom, and she will not have access to our member addresses.

Thank you in advance for your participation.
TO: Ms. Cheryl Maes  
FROM: Dr. Ann McDonough, Director of Gerontology  
RE: M.A. Thesis Project  
DATE: May 12, 1999

Cheryl, I have received approval to mail your AIDS survey to Senior Adult Theatre students from the Chair of the Theatre Department, Joe Aldridge. Per our discussion, my office will do the actual mailing of the surveys, once you have provided them (along with stamps, envelopes and appropriate cover letters.)

Best of luck.
TO: Cheryl Maes
FROM: Molly A. Rose, RN, PhD
DATE: March 25, 1999
RE: Replication of HIV and elderly study

Enclosed please find the materials I promised to send you. Please feel free to use any of the tools and to replicate my study in any way you choose. Contact me if you have any further questions at 215-503-7567.
Cheryl:

By all means, please feel free to use the AIDS Information Survey. Please reference it in your bibliography.

Good luck with your research.

Ralph DiClemente

Christina S. Clark wrote:

Dear Dr. DiClemente,

My name is Cheryl Maes. I am a nursing graduate student attending the University of Nevada, Las Vegas. I am doing my thesis on knowledge of HIV and safer sexual practices among older adults. I am interested in your questionnaire, the AIDS Information Survey. I am asking if you would give me permission to use this questionnaire for my thesis and if you could mail me a copy.

Thank you so much for your consideration. Looking forward to hearing from you. I am using my sister's Email address since I am having computer problems. You can reach me at the Email address listed.

Sincerely,

Cheryl Maes RN, BSN
My name is Cheryl Maes and I am a nursing graduate student attending the University of Nevada Las Vegas. I am doing my thesis study on Knowledge of AIDS, Perceived Risk of AIDS, and At-Risk Behaviors Among Older Adults. I would like to receive copyright permission to use the Health Belief Model in my study. This model is in the Medical Care journal 1977(15):27-46. The article is entitled “Selected psychosocial models and correlates of individual health-related behaviors” by Becker, M.H., Haslher, D.P., Kasl, S.V., et al.

Thank you in advance for your help and consideration.

Sincerely,

Cheryl Maes RN, BSN
APPENDIX III

FIGURES
Individual Perceptions

Demographic variables:
(age, sex, race, ethnicity, etc.)

Sociopsychologic variables:
(personality, social class, peer and reference-group pressure)

Structural variables:
(knowledge about the disease, prior contact with the disease, etc.)

Perceived susceptibility to disease X
Perceived seriousness (severity) of disease X

Modification Factors

Perceived threat of disease X

Likelihood of Action

Perceived benefits of preventive action minus perceived barriers of to preventive action

Likelihood of taking recommended preventive health action

Cues to action:
Mass media campaigns, Advice from others,
Reminder postcard from physician
Illness of family member or friend, Newspaper or magazine article

Figure 1. The Health Belief Model.

Individual Perceptions

Demographic variables:
Age > 50, gender, marital status, educational background, ethnicity

Structural variables:
Knowledge of AIDS At-Risk Behaviors

Perceived susceptibility to AIDS
Perceived seriousness of AIDS

Modifying Factors

Perceived threat of AIDS

Likelihood of Action

Perceived benefits minus perceived barriers to safe sexual practices

Likelihood of using recommended safe sexual practices

Cues to action:
Media awareness Education Advice from others

Figure 2. Adaptation of the Health Belief Model to include the variables examined in this study.
Figure 3. Significant relationships found among study variables adapted to the Health Belief Model. Areas left blank were not found statistically significant.
Table 1

Descriptive Statistics of Demographic Characteristics (N = 166)

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Valid %</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>67</td>
<td>111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>33</td>
<td>54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>95</td>
<td>156</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African-American</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>10</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>51</td>
<td>84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td>26</td>
<td>43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced/Separated</td>
<td>13</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td>71.09</td>
<td>6.22</td>
</tr>
<tr>
<td>50-59</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>40</td>
<td>63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70-79</td>
<td>51</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 80</td>
<td>7</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Background</td>
<td></td>
<td></td>
<td>4.24</td>
<td>1.47</td>
</tr>
<tr>
<td>High School Diploma</td>
<td>9</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some College</td>
<td>36</td>
<td>59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate Degree</td>
<td>8</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>21</td>
<td>34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master's Degree</td>
<td>22</td>
<td>37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctorate Degree</td>
<td>4</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2

Participant Responses (Valid %) to Knowledge of AIDS Items From DiClemente’s AIDS Information Survey  (N = 166)

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>True</th>
<th>False</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS is a medical condition in which your body can’t fight off disease.</td>
<td>84.2*</td>
<td>8.5</td>
<td>7.3</td>
</tr>
<tr>
<td>AIDS is a disease caused by a virus.</td>
<td>69.1*</td>
<td>10.3</td>
<td>20.6</td>
</tr>
<tr>
<td>AIDS is a genetically transmitted disease.</td>
<td>20.0</td>
<td>72.7*</td>
<td>7.3</td>
</tr>
<tr>
<td>Stress causes AIDS.</td>
<td>0</td>
<td>98.8*</td>
<td>1.2</td>
</tr>
<tr>
<td>If you kiss someone with AIDS you can get it.</td>
<td>3.0</td>
<td>73.9*</td>
<td>23.1</td>
</tr>
<tr>
<td>If you touch someone with AIDS you can get it.</td>
<td>1.2</td>
<td>93.3*</td>
<td>5.5</td>
</tr>
<tr>
<td>All homosexual men have AIDS.</td>
<td>0</td>
<td>97.6*</td>
<td>2.4</td>
</tr>
<tr>
<td>You can get AIDS from food handled by someone who has the disease.</td>
<td>8.5</td>
<td>70.3*</td>
<td>21.2</td>
</tr>
<tr>
<td>Anybody can get AIDS.</td>
<td>93.8*</td>
<td>3.8</td>
<td>2.4</td>
</tr>
<tr>
<td>AIDS can be cured if treated early.</td>
<td>6.2</td>
<td>66.0*</td>
<td>27.8</td>
</tr>
<tr>
<td>Women are more likely to get AIDS during their menstrual period.</td>
<td>2.5</td>
<td>60.5*</td>
<td>37.0</td>
</tr>
<tr>
<td>You can get AIDS by using the comb or hairbrush of someone with AIDS.</td>
<td>1.9</td>
<td>90.7*</td>
<td>7.4</td>
</tr>
<tr>
<td>AIDS is not at all serious; it is like having a cold.</td>
<td>0</td>
<td>100.0*</td>
<td>0</td>
</tr>
<tr>
<td>AIDS is caused by the same virus that causes venereal diseases.</td>
<td>6.8</td>
<td>61.5*</td>
<td>31.7</td>
</tr>
<tr>
<td>The cause of AIDS is unknown.</td>
<td>18.5</td>
<td>54.9*</td>
<td>26.6</td>
</tr>
<tr>
<td>Just being around someone with AIDS can give you the disease.</td>
<td>0</td>
<td>99.4*</td>
<td>0.6</td>
</tr>
<tr>
<td>Having sex with someone who has AIDS is one way of getting it.</td>
<td>98.8*</td>
<td>1.2</td>
<td>0</td>
</tr>
<tr>
<td>If a pregnant women has AIDS, there is a chance it will harm her unborn baby.</td>
<td>93.2*</td>
<td>0</td>
<td>6.8</td>
</tr>
<tr>
<td>People who get AIDS usually die from the disease.</td>
<td>75.8*</td>
<td>7.5</td>
<td>16.7</td>
</tr>
<tr>
<td>Using a condom during sex can lower the risk of getting AIDS.</td>
<td>95.7*</td>
<td>0.6</td>
<td>3.7</td>
</tr>
<tr>
<td>You can get AIDS by shaking hands with someone who has it.</td>
<td>1.9</td>
<td>94.4*</td>
<td>3.7</td>
</tr>
<tr>
<td>Receiving a blood transfusion with infected blood can give a person AIDS.</td>
<td>96.9*</td>
<td>1.2</td>
<td>1.9</td>
</tr>
<tr>
<td>You can get AIDS from sharing a needle with a drug user who has the disease.</td>
<td>99.4*</td>
<td>0.6</td>
<td>0</td>
</tr>
<tr>
<td>AIDS is a life-threatening disease.</td>
<td>98.2*</td>
<td>1.2</td>
<td>0.6</td>
</tr>
<tr>
<td>People with AIDS usually have other disease as a result of AIDS.</td>
<td>75.2*</td>
<td>6.7</td>
<td>18.1</td>
</tr>
<tr>
<td>All homosexual women have AIDS.</td>
<td>0.6</td>
<td>96.4*</td>
<td>3.0</td>
</tr>
<tr>
<td>There is no cure for AIDS.</td>
<td>74.7*</td>
<td>4.2</td>
<td>21.1</td>
</tr>
<tr>
<td>You can avoid getting AIDS by exercising regularly.</td>
<td>0</td>
<td>97.0*</td>
<td>3.0</td>
</tr>
<tr>
<td>A new vaccine has recently been approved for the treatment of AIDS.</td>
<td>45.1</td>
<td>16.5*</td>
<td>38.4</td>
</tr>
</tbody>
</table>

Note. *Correct Response.  M = 23.96; SD = 3.66; n = 154; Range 9 to 29.
Table 3

Participant Responses to Perceptions of Susceptibility and Seriousness of AIDS from Rose's Beliefs Statements and to Perceptions of Safe Sexual Practices (N = 166)

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Agree</th>
<th>Valid %</th>
<th>Disagree</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceived susceptibility to AIDS:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am worried about getting AIDS.</td>
<td>9.8</td>
<td>83.5</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>I am less likely to get AIDS than most people.</td>
<td>73.3</td>
<td>17.6</td>
<td>9.1</td>
<td></td>
</tr>
<tr>
<td>I consider my chances of getting AIDS very low.</td>
<td>94.5</td>
<td>3.1</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>I can do a lot to keep from getting AIDS.</td>
<td>95.1</td>
<td>1.2</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>M = 6.74; SD = 1.29; n = 160; Range 5 to 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perceived seriousness of AIDS:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I'd rather get any disease than AIDS.</td>
<td>49.0</td>
<td>20.4</td>
<td>30.6</td>
<td></td>
</tr>
<tr>
<td>I would have a hard time dealing with AIDS.</td>
<td>84.0</td>
<td>2.5</td>
<td>13.5</td>
<td></td>
</tr>
<tr>
<td>Getting AIDS would cause me to get very depressed.</td>
<td>84.6</td>
<td>3.1</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td>AIDS is a problem in older people.</td>
<td>28.2</td>
<td>39.3</td>
<td>32.5</td>
<td></td>
</tr>
<tr>
<td>M = 9.79; SD = 1.42; n = 155; Range 4 to 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perceived benefits of safe sexual practices:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe sexual practices involves the use of condoms or other mechanisms to prevent transmission of HIV.</td>
<td>96.4</td>
<td>1.8</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>I would refuse to have sex with a casual sexual partner if they don’t agree to use a condom.</td>
<td>95.5</td>
<td>0</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>M = 5.92; SD = 0.38; n = 154; Range 3 to 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perceived barriers of safe sexual practices:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It would be embarrassing for me if I were to do all the things I have to do to protect myself from getting AIDS.</td>
<td>9.5</td>
<td>84.8</td>
<td>5.7</td>
<td></td>
</tr>
<tr>
<td>I refuse to use a condom/barrier because they are unpleasant and inconvenient.</td>
<td>5.2</td>
<td>89.5</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>M = 2.38; SD = 0.83; n = 150; Range 2 to 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Table 4

Participant Responses to Cues to Action from DiClemente’s AIDS Information Survey and At-Risk Behaviors (N = 166)

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Valid % Agree/Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cues to Action:</strong></td>
<td></td>
</tr>
<tr>
<td>Have you ever had any instruction about AIDS?</td>
<td>26.5</td>
</tr>
<tr>
<td>Are you interested in learning about AIDS?</td>
<td>39.4</td>
</tr>
<tr>
<td>Would you take a free blood test to see if you have the AIDS virus?</td>
<td>46.1</td>
</tr>
<tr>
<td>I have been asked by a physician about my sexual hx.</td>
<td>18.7</td>
</tr>
<tr>
<td>I have been asked by a physician about getting tested for the AIDS virus.</td>
<td>4.8</td>
</tr>
<tr>
<td>Have you donated blood within the last 3 years?</td>
<td>6.6</td>
</tr>
<tr>
<td>I’ve heard enough about AIDS and I don’t want to hear anymore about it.</td>
<td>17.7</td>
</tr>
<tr>
<td>It is important that older adults learn about AIDS.</td>
<td>87.2</td>
</tr>
<tr>
<td>AIDS is not as big a problem as the media suggests.</td>
<td>2.4</td>
</tr>
</tbody>
</table>

M = 5.01: SD = 1.78; n = 160; Range = 1 to 9

| **At-Risk Behaviors:**                                                            |                   |
| Have you had a blood transfusion prior to 1985?                                   | 13.3              |
| Have you ever shared needles when using illegal drugs?                            | 0                 |
| Would you use a condom if you knew your sexual partner was infected with the AIDS virus? | 96.8              |
| Would you use a condom if you were unsure your sexual partner was infected with the AIDS virus? | 96.3              |
| Have you had sex in the last year?                                                | 56.1              |

M = 1.40: SD = 1.10; n = 151; Range = 0 to 4

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Table 5

Responses to Perceived Threat of AIDS and Likelihood of Using Recommended Safe Sexual Practices (N = 166)

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Valid %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceived Threat of AIDS:</strong></td>
<td></td>
</tr>
<tr>
<td>People of my age are too old to get AIDS.</td>
<td>Agree 1.8</td>
</tr>
<tr>
<td></td>
<td>Unsure 6.7</td>
</tr>
<tr>
<td></td>
<td>Disagree 91.5</td>
</tr>
<tr>
<td>In terms of your own risk of getting AIDS.</td>
<td>At no risk 76.8</td>
</tr>
<tr>
<td>Do you think you are.....for getting AIDS ?</td>
<td>At some risk 22.6</td>
</tr>
<tr>
<td></td>
<td>At great risk 0.6</td>
</tr>
<tr>
<td><strong>M = 2.34; SD = 0.54; n = 162; Range = 2 to 4</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Likelihood of using Recommended Safe Sexual Practices:</strong></td>
<td></td>
</tr>
<tr>
<td>Do you use a condom to prevent transmission of the AIDS virus ?</td>
<td>Never 74.4</td>
</tr>
<tr>
<td></td>
<td>Sometimes 9.1</td>
</tr>
<tr>
<td></td>
<td>Always 16.5</td>
</tr>
<tr>
<td><strong>M = 1.42; SD = 0.76; n = 121; Range = 1 to 3</strong></td>
<td></td>
</tr>
</tbody>
</table>

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Table 6

Kendall’s tau Nonparametric Correlation Between Selected Demographic Variables, Knowledge of AIDS, At-Risk Behaviors, and Susceptibility to AIDS (N = 166)

<table>
<thead>
<tr>
<th>Variables</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Selected Demographics:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Age</td>
<td>--</td>
<td>-.09</td>
<td>-.10</td>
<td>.21**</td>
<td>-.08</td>
<td>-.20**</td>
<td>-.19**</td>
<td>.03</td>
</tr>
<tr>
<td>B. Gender</td>
<td>--</td>
<td>-.17*</td>
<td>.17*</td>
<td>.09</td>
<td>-.01</td>
<td>-.30**</td>
<td>-.01</td>
<td></td>
</tr>
<tr>
<td>C. Education</td>
<td>--</td>
<td>-.15*</td>
<td>.07</td>
<td>.23**</td>
<td>.10</td>
<td>-.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Marital Status</td>
<td>--</td>
<td>-.06</td>
<td>-.18**</td>
<td>.26**</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Ethnicity</td>
<td>--</td>
<td>.03</td>
<td>-.05</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Knowledge HIV/AIDS</td>
<td>--</td>
<td>.06</td>
<td>-.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. At-Risk Behaviors</td>
<td>--</td>
<td>-.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Susceptibility to AIDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. *p < .05, two-tailed. **p < .01, two-tailed.
Table 7

Kendall's tau Nonparametric Correlation Between Selected Demographic Variables, Knowledge of AIDS, At-Risk Behaviors, and Seriousness of AIDS (N = 166)

<table>
<thead>
<tr>
<th>Variables</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Selected Demographics:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Age</td>
<td>--</td>
<td>-.09</td>
<td>-.10</td>
<td>.21**</td>
<td>-.08</td>
<td>-.20**</td>
<td>-.19**</td>
<td>.03</td>
</tr>
<tr>
<td>B. Gender</td>
<td>--</td>
<td>-.17*</td>
<td>.17*</td>
<td>.09</td>
<td>-.01</td>
<td>-.30**</td>
<td>.08</td>
<td></td>
</tr>
<tr>
<td>C. Education</td>
<td>--</td>
<td>-.15*</td>
<td>.07</td>
<td>.23**</td>
<td>.10</td>
<td>-.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Marital Status</td>
<td>--</td>
<td>-.06</td>
<td>-.18**</td>
<td>-.26**</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Ethnicity</td>
<td>--</td>
<td>.03</td>
<td>-.05</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Knowledge HIV/AIDS</td>
<td>--</td>
<td>.06</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. At-Risk Behaviors</td>
<td>--</td>
<td>.05</td>
<td></td>
<td></td>
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<tr>
<td>4. Seriousness Of AIDS</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** *p ≤ .05, two-tailed. **p ≤ .01, two-tailed.
Table 8

Kendall’s tau Nonparametric Correlation Between Selected Demographic Variables, Knowledge of AIDS, At-Risk Behaviors, and Perceived Benefits minus Perceived Barriers to Safe Sexual Practices (N = 166)

<table>
<thead>
<tr>
<th>Variables</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Selected Demographics:</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>A. Age</td>
<td>--</td>
<td>-09</td>
<td>-10</td>
<td>.21**</td>
<td>-08</td>
<td>-20**</td>
<td>-19**</td>
<td>-04</td>
</tr>
<tr>
<td>B. Gender</td>
<td>--</td>
<td>-17*</td>
<td>.17*</td>
<td>.09</td>
<td>-01</td>
<td>-30**</td>
<td>.22**</td>
<td></td>
</tr>
<tr>
<td>C. Education</td>
<td>--</td>
<td>-15*</td>
<td>.07</td>
<td>.23**</td>
<td>.10</td>
<td>.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Marital Status</td>
<td>--</td>
<td>-06</td>
<td>-18**</td>
<td>-26**</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>E. Ethnicity</td>
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<td>.03</td>
<td>-.05</td>
<td>-.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Knowledge HIV/AIDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.06</td>
<td>.19**</td>
<td></td>
</tr>
<tr>
<td>3. At-Risk Behaviors</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td>-.05</td>
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<tr>
<td>4. Perceived Benefits minus Perceived Barriers</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to Safe Sexual Practices</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. *p ≤ .05, two-tailed. **p ≤ .01, two-tailed.
Table 9

**Kendall’s tau Nonparametric Correlation Between Selected Demographic Variables, Knowledge of AIDS, At-Risk Behaviors, and Perceived Threat of AIDS (N = 166)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Selected Demographics:</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Age</td>
<td>--</td>
<td>-.09</td>
<td>-.10</td>
<td>.21**</td>
<td>-.08</td>
<td>-.20**</td>
<td>-.19**</td>
<td>-.03</td>
</tr>
<tr>
<td>B. Gender</td>
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<td>-.17*</td>
<td>.17*</td>
<td>.09</td>
<td>-.01</td>
<td>-.30**</td>
<td>-.04</td>
<td></td>
</tr>
<tr>
<td>C. Education</td>
<td>--</td>
<td>-.15*</td>
<td>.07</td>
<td>.23**</td>
<td>.10</td>
<td>.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Marital Status</td>
<td>--</td>
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<td>-.18**</td>
<td>-.26**</td>
<td>.13</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>E. Ethnicity</td>
<td>--</td>
<td>.03</td>
<td>-.05</td>
<td>-.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Knowledge HIV/AIDS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.06</td>
<td>-.09</td>
<td></td>
</tr>
<tr>
<td><strong>3. At-Risk Behaviors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.02</td>
<td></td>
</tr>
<tr>
<td><strong>4. Perceived Threat of AIDS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* *p* ≤ .05, two-tailed. **p** ≤ .01, two-tailed.
Table 10

**Kendall's tau Nonparametric Correlation Between Perceived Susceptibility to AIDS and Perceived Seriousness of AIDS with Perceived Threat of AIDS (N = 166)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perceived Susceptibility to AIDS</td>
<td>--</td>
<td>.06</td>
<td>.31**</td>
</tr>
<tr>
<td>2. Perceived Seriousness of AIDS</td>
<td>--</td>
<td></td>
<td>.05</td>
</tr>
<tr>
<td>3. Perceived Threat of AIDS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** **p ≤ .01, two-tailed.**
Table 11

Kendall's tau Nonparametric Correlation Between Cues to Action and Perceived Threat of AIDS (N = 166)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cues to Action</td>
<td>--</td>
<td>.14*</td>
</tr>
<tr>
<td>2. Perceived Threat of AIDS</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>

Note. *p ≤ .05, two-tailed.
Table 12

Kendall’s tau Nonparametric Correlation Between Perceived Threat of AIDS and Likelihood of Using Recommended Safe Sexual Practices (N = 166)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perceived Threat of AIDS</td>
<td>--</td>
<td>.12</td>
</tr>
<tr>
<td>2. Likelihood of Using Recommended Safe Sexual Practices</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. p = .19, two-tailed.
Table 13

**Kendall’s tau Nonparametric Correlation Between Perceived Benefits minus Perceived Barriers to Safe Sexual Practices and Likelihood of Using Recommended Safe Sexual Practices (N = 166)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perceived Benefits minus Perceived Barriers to Safe Sexual Practices</td>
<td>--</td>
<td>.06</td>
</tr>
<tr>
<td>2. Likelihood of Using Recommended Safe Sexual Practices</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** p = .49. two-tailed.
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Graduate College
University of Nevada, Las Vegas

Cheryl Ann Maes

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Poster Presentation:
Accepted for presentation at the 50th Annual Conference of
The National Council on the Aging in Washington, DC March 31, 2000

Thesis Title: Knowledge of AIDS. Perceived Risk of AIDS. and At-Risk Behaviors Among Older Adults

Thesis Examination Committee:
Chairperson. Margaret Louis. R.N., Ph.D.
Committee Member. Cheryl Bowles, R.N., Ed.D.
Committee Member. Deborah Warner. R.N., M.S.N.
Graduate Faculty Representative. Ann McDonough, Ph.D.

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