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# Effects of an AIDS education program on nurses' knowledge, attitudes, and intention to behave toward patients with HIV/AIDS

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**FLORIDA INTERNATIONAL UNIVERSITY**

**Miami, Florida**

**EFFECTS OF AN AIDS EDUCATION PROGRAM ON NURSES'  
KNOWLEDGE, ATTITUDES, AND INTENTION TO BEHAVE TOWARD  
PATIENTS WITH HIV/AIDS**

**A thesis submitted in partial satisfaction of the**

**requirements for the degree of**

**MASTER OF SCIENCE**

**IN**

**NURSING**

**by**

**Cezar Derla Dumago, Jr.**

**1995**

To: Linda Agustin Simunek, R.N., PhD., JD, Esq.  
School of Nursing

This thesis, written by Cezar Derla Dumago, Jr., and entitled Effects of an AIDS Education Program on Nurses' Knowledge, Attitudes, and Intention to Behave Toward Patients with HIV/AIDS, having been approved in respect to style and intellectual content, is referred to you for judgement.

We have read this thesis and recommend that it be approved.

Terri Frock

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Date of Defense: November 29, 1995

The thesis of Cezar Derla Dumago, Jr. is approved.

Dean Linda Agustin Simunek  
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Dr. Richard L. Campbell  
Dean of Graduate Studies

Florida International University, 1995

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I dedicate this thesis to my loved ones. Without their understanding, emotional support, and most of all love, the completion of this work would not have been possible.

I also dedicate this thesis to all the people afflicted by HIV/AIDS. Your continued struggle against discrimination, inhumane treatment and fight to survive the disease's devastating effects, gave me the courage to get involved in this fight and to help others overcome their fears, misconceptions and anxieties about the disease.

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**ABSTRACT OF THE THESIS**  
**EFFECTS OF AN AIDS EDUCATION PROGRAM ON NURSES' KNOWLEDGE,**  
**ATTITUDES AND INTENTION TO BEHAVE TOWARD PATIENTS WITH**  
**HIV/AIDS**

by

**Cezar Derla Dumago, Jr.**

**Florida International University, 1995**

**Miami, Florida**

**Professor Luz Sobong Porter, Major Professor**

This pretest/posttest control group study design sought to determine the effects of an AIDS education program on nurses' knowledge, attitudes and intention to behave toward HIV-positive/AIDS patients. The study, based on Ajzen and Fishbein's Theory of Reasoned Action (TRA), was conducted on a sample of 90 nurses (exp=45 Ss; con=45 Ss), randomly selected from among those employed in one large medical center in South Florida. Only the experimental group participated in a 2-hour AIDS education program. Data were analyzed using descriptive and inferential statistics, which included *t*-tests for non-independent samples and Pearson's correlation coefficients. Significance level was set at  $p \leq .05$ . Pretest findings revealed both groups were moderately knowledgeable about AIDS, and moderately positive in attitude and intention to care for HIV/AIDS patients. Whereas both groups made significant gains in posttest scores, the experimental group

yielded significantly higher scores than the control group in all three outcome measures, supporting the hypotheses. The subjects when categorized according to their sociodemographic characteristics, changes in their knowledge, attitude and intention levels were found to have no significant correlations. The effectiveness of an AIDS Education Program on bringing about positive changes in nurses' knowledge, attitude and behavioral intention to care for patients with HIV/AIDS, is evident in this study, providing empirical validation of the Theory of Reasoned Action.



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## Chapter I

### INTRODUCTION

In 1981, when the first case of Acquired Immunodeficiency Syndrome (AIDS) was diagnosed among homosexual men in the United States, the world was ignorant of the true magnitude of the Human Immunodeficiency Virus (HIV) and AIDS pandemic (The U.S. Agency for International Development Program for Prevention and Control of HIV Infection [USAID], 1993). The AIDS epidemic affected many social behaviors and attitudes including those who are engaging in a key AIDS risk behavior (Jemmott & Jemmott, 1991). Factors such as ignorance, misunderstanding of the disease, and social and cultural values with deep symbolic meaning of illness, contribute to this behavior (Goldenberg & Laschinger, 1991).

Being a controversial disease surrounded by many misconceptions, particularly with respect to disease transmission, peoples attitudes and behaviors are somewhat affected, citing among other things, the danger posed by the disease to human lives.

Nurses who are in the frontline to care for AIDS patients respond to the group of patients stricken by the deadly disease from a perspective of their knowledge, values, beliefs and experiences (Alexander & Fitzpatrick, 1991). In 1989, Meisenholder and La Charite wrote that nurses' lack of current knowledge and intolerant attitudes toward people with AIDS may interfere with the development of optimum nurse-patient relationships. They further pointed out that this interaction can be affected by the nurses' fear of contagion characterized by avoidance, extreme precautions and verbal expressions

of fear (Young & Garvin, 1990).

As the world enters the second decade of the HIV/AIDS pandemic, the deadly disease is spreading throughout the world among the heterosexual population, and disproportionately killing people of different nationalities in their 20s, 30s, and 40s (USAID, 1993).

With the increasing number of individuals who are HIV-positive or with AIDS, nurses are facing a major challenge of coping with this devastation. Nurses must be knowledgeable about AIDS and the care of individuals with AIDS (Brown, Calder, & Rae, 1990). Since the time AIDS transmission was discovered, AIDS education played a major role in the prevention of the spread of the disease.

In the State of Florida, AIDS education among health care professionals was initially required for license renewal under the Florida AIDS Law of 1988. Current available literatures reviewed focusing on the effects of education on nurses' attitudes toward HIV positive/AIDS patients, were very limited. The few studies conducted on the attitudes of practicing nurses towards AIDS patients and specific to practicing medical-surgical nurses is almost non-existent.

Swanson, Chemitz, Zalar, and Stoll (1990) cited outcomes of some of the experimental studies in their critical review of HIV infection and AIDS related research: knowledge, attitudes, and practices of nurses, specific to the effects of AIDS education programs. In 1988, an evaluation study by Turner, Gauthier, Ellison, and Greiner utilized the pretest and posttest knowledge and attitudes towards AIDS. Both studies

recommended a combination program be given to staff nurses, which would include not only knowledge, but an opportunity for looking at attitudes and behavioral changes among nurses (Swanson, Chemitz, Zalar and Stoll, 1990).

## **PURPOSE**

Being a certified professional nurse alarmed by the new developments of the disease, the researcher, through this investigation, aims to determine the effects of an AIDS education program knowledge, attitudes and intention to behave toward patients with HIV/AIDS among medical-surgical/telemetry nurses. The outcomes of the research could aid in the assessment of the general status of nurses' knowledge, attitudes and intention to behave toward patients with HIV/AIDS. Further, the output of this research could aid the hospital in the institution of appropriate intervention, such as the AIDS education program as in the case of this research, to enhance the nurses' delivery of quality care among patients known to be HIV-positive or infected with AIDS.

## **PROBLEM STATEMENT**

**General Problem:** To what extent does AIDS education and sociodemographic variables influence the cognitive, affective, and conative domains in nurses' interaction with patients with HIV/AIDS.

### **Specific Problems:**

1. What is the effect of AIDS education on nurses' interaction toward patients with HIV/AIDS in terms of:
  - a. HIV/AIDS specific knowledge



- b. Attitudes, and
  - c. Behaviors
2. What is the difference in nurses' pretest/posttest changes in knowledge , attitudes, and intention to behave toward HIV-positive/AIDS patients.
3. To what extent are the effects of AIDS education program on nurses knowledge, attitudes, and intention to behave influenced by the following sociodemographic factors:
- a. Gender
  - b. Age
  - c. Ethnicity
  - d. Marital status
  - e. Religion
  - f. Work experience caring for HIV/AIDS patients, and
  - g. Friend or relative who is HIV-positive or with AIDS

## **VARIABLES**

Dependent Variables: Knowledge

Attitudes

Behaviors

Independent Variable: AIDS Education Program

Extraneous Variables: Accounted for but not controlled

## **OPERATIONAL DEFINITIONS**

1. HIV (Human Immunodeficiency Virus) - is a virus that may enter the body through

- semen and blood and infects special T-cells where the virus grows (CDC, Dec. 18, 1992).
2. AIDS (Acquired Immune Deficiency Syndrome) - is the term used to indicate only the most severe disease or clinical conditions (i.e., opportunistic infections, neoplasm) observed in the continuum of illness related to infection with the retrovirus human immunodeficiency virus type 1 (HIV-1) in which the body's immune system breaks down (CDC, Dec. 18, 1992).
  3. HIV-Positive Patient - is a patient infected with HIV whose disease conditions ranging from asymptomatic infection to life-threatening conditions characterized by severe immunodeficiency (CD4 cell count below 200 cells per microliter of blood (CDC, Jan. 1993)), serious opportunistic infections, and cancers (CDC, Dec. 18, 1992).
  4. AIDS Patient - is a patient infected with HIV who fully develops AIDS, indicated by many health problems which includes, but not limited to: extreme weight loss, pulmonary tuberculosis, recurrent pneumonia, damage to the nervous system, invasive cervical cancer, etc. (CDC, Jan. 1993).
  5. AIDS Education Program - is an organized, formal classroom, lecture-discussion pertaining to the etiology, transmission, pathophysiology, and nursing management of patients with AIDS, as well as other subjects. The course description, objectives, and program content developed by the Nurse Epidemiologist in an acute care hospital in Broward County will be used. Teaching methodology includes audiovisual materials (i.e., videotapes and overheads), lecture, group discussion, and question-and-answer periods.

The program is designed in conformation with the Florida Board of Nursing requirements for nursing license renewal, under the Florida AIDS Law of 1988.

6. Nurses - are male and female Registered Nurses (RNs) and Licensed Practical Nurses (LPNs) whose training and education are focused on the care of general medical and surgical/telemetry patients including HIV-positive/AIDS patients.

The medical-surgical/telemetry nurses are the subjects of this investigation.

7. Knowledge- According to Good (1973), knowledge refers to the accumulated facts, truths, principles, information and branches of learning accessible to the human mind. In this study it refers to information acquired or learned by the participants on HIV/AIDS in the course of their nursing practice caring for HIV/AIDS patients.

The medical-surgical/telemetry nurses' pre- and post-AIDS Education Program knowledge on HIV/AIDS is another concern dealt in the study.

8. Attitude - a stable, long-lasting and learned predisposition to respond to certain things in a certain way. An attitude has three aspects to it: belief, feeling and action (Statt, 1991); a predisposition or tendency to react specifically towards an object, situation, or value usually accompanied by feelings of emotion (Good, 1973); a person's point of view towards something (McCarthy & Perreault, 1990).

The pre- and post-AIDS Education Program attitude of medical-surgical/telemetry nurses towards HIV-positive/AIDS patients is determined in this study.

9. Behavior (Intention to Behave) - is any activity that can be observed, recorded and measured (Atkinson et al., 1993); it refers to the responses and reactions of the

individual, whether observable by others or not (Haltzman, 1991); the actions of large groups of people or their attitudes (McMahon and McMahon, 1986).

The medical-surgical/telemetry nurses' pre- and post-AIDS Education Program behavior towards HIV-positive/AIDS patients will likewise be measured in the investigation.

## **ASSUMPTIONS**

1. Education can alter people's attitudes and behaviors.
2. Education enhances people's knowledge about a situation.
3. Attitudes and behaviors are influenced by personal and environmental factors.
4. Familiarity with the situation can reduce anxiety and fear of the situation.

## **THE SIGNIFICANCE OF AND NEED FOR THE STUDY**

As the world entered the second decade of HIV/AIDS pandemic, researchers have made little progress to find a cure or prevent the continued spread of HIV. The Tenth International Conference on AIDS/HIV and Conference on STD's held in Yokohama, Japan in August 7-12, 1994, provided very little hope that the cure for HIV/AIDS is on it's way nor gave the participants any positive indication that the pandemic will soon end.

The majority of the studies conducted in the past, were focused on nurses' attitudes towards AIDS patients with little emphasis on the effects of AIDS education programs on the behavior of nurses towards AIDS and AIDS patients. The ultimate effectiveness of AIDS patient care lies in the acquisition of knowledge about the disease (Goldenberg & Laschinger, 1991). AIDS education programs are just beginning, and it is too soon to tell

how well most of them are working. Most mass media programs for the general public have succeeded in informing people about HIV/AIDS. It is not yet clear, however, how much of these programs influence one's knowledge, attitudes, and behavior. Because of the nature of AIDS, AIDS education programs face even greater obstacles than other health education programs.

The results of this study can serve as baseline information for health practitioners who, knowing the findings, may be motivated to exert more efforts in disseminating information about the need to know what the disease is; how it is and is not transmitted; how likely they are to become infected and what they can do to avoid infection.

The key to success in changing people's attitudes toward AIDS patients is through public awareness, taking responsibility with one's action, and continued education regarding the disease. Acquisition of AIDS knowledge may or may not guarantee changes in the nurses' behavior. The potential benefit in the findings of the study includes: provision of baseline data on nurses' knowledge regarding HIV/AIDS and promoting positive attitudes and behaviors of nurses toward patients with HIV/AIDS. HIV/AIDS education may nurture in nurses non-judgmental and non-discriminatory quality care of people with HIV/AIDS. The educational experience may help to allay nurses' anxiety, clarify misunderstanding about the disease, and overcome prejudices toward people afflicted by HIV/AIDS. Outcomes of the study will provide the investigator an opportunity to determine a need to further educate and prepare nurses to promote a better quality of life among HIV-positive/AIDS patients. This study will serve

to reinforce nursing research in evaluating the effectiveness of AIDS education and its impact upon quality of care nurses provides to patients with HIV/AIDS.

Health educators may refer to the results of the study on the knowledge, attitudes and behavior of nurses toward patients with HIV/AIDS. Education programs dealing with misconceptions with respect to the disease transmission should be properly addressed. As Luckman and Sorensen (1990) put it, AIDS is a controversial disease surrounded by many misconceptions, particularly with respect to the disease transmission. For AIDS education program to be effective, it has to do more than simply teach biological facts. Good programs must acknowledge the social and psychological barriers among people, most especially, among nurses charged with providing the necessary health care to patients with HIV/AIDS.

Public health officials may likewise benefit from the results of this investigation. From the findings of the study, they will be able to include in their health plans and programs the need to educate the public. People with AIDS, their significant others, and the public need learning/teaching guidelines concerning the transmission and prevention of AIDS.

Patients with HIV/AIDS may be able to acknowledge the way nurses deal with them through the findings of the study. They will understand why, nurses, being human beings, not to mention the danger posed by the disease, usually attach certain precautionary measures that would sometimes affect the way they care their patients based on their knowledge, attitudes and beliefs on the nature of the disease and how the

disease is transmitted. They will be able to take the necessary precautions to minimize the risk of infecting, if not avoiding contaminating significant others.

Nurses charged with the responsibility of caring for patients with HIV/AIDS will benefit most from the results of the investigation. The findings will be very vital to the exercise of their duty being in the frontage in health care. Moreover, they will be able to gain insights on how to deal with HIV-positive/AIDS patients more effectively free from misconceptions and other hindrances.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

Different research studies related to knowledge, attitudes and behavior of various health care providers have been examined. In the hospital setting, health care providers are often concerned about the transmission of the AIDS virus. This concern stems from the lack of knowledge about the disease or misconception of the transmission of the AIDS virus that results in fear, misapprehensions, and prejudices surrounding the syndrome.

#### **PREVALENCE OF AIDS**

In the United States an estimated population of one million people are infected with HIV. Updated data through September 30, 1993, a total of 328, 392 AIDS death and new AIDS cases in the United States have been reported (Health United States 1993, National Center for Health Statistics, U.S. Department of Health & Human Services). The Centers for Disease Control (CDC) in 1989, projected a total of 390, 000 to 480,000 cases of AIDS will be reported by the end of 1993 (CDC, 1989). This projected number was based on the case definition used for reporting of AIDS cases prior to its revised definition in January 1993. For the AIDS Surveillance System, the new AIDS case definition adds pulmonary tuberculosis, recurrent pneumonia, and invasive cervical cancer to the list of diseases that indicate that AIDS has fully developed among HIV-infected humans (CDC, 1991).

The new definition also includes HIV-infected humans with a CD4 count below 200



cells per microliter of blood, regardless of whether those persons have opportunistic infections, neoplasms, or any other symptoms of HIV infection. With this new definition and the current rate of increase, the number of cases for the total population is estimated at 400 per 100,000 people. The estimate shows no change from the baseline set in 1989 on the prevalence of HIV infection, to no more than 800 per 100,000 people.

In 1989, Curtis, Crummey, Baker, Foster, Khanyrle, and Wilkins, attest as evolving evidence showed, that almost all HIV-infected persons will eventually develop AIDS and the mean incubation period may be as long as 8 years. With the new CDC classification of HIV infection and AIDS surveillance case definitions, the course of infection is as follows: incubation period from acute infection to seroconversion (production of antibodies to HIV) is usually between 2-12 weeks, but may take up to 6 months. The development of AIDS usually occurs between 8-10 years, but can occasionally occur within few months of seroconversion.

The pattern and rate of progression of HIV disease varies significantly between individuals and appears to be dependent upon the person's age, sex, general health, and mode of infection. AIDS which is nearly fatal in its full clinical manifestation is spread by persons with no visible clinical symptoms. It has become "an epidemic of fear," resulted to "overt discrimination," social ostracism, and stereotyping, depriving AIDS victims' of civil rights in employment, housing, and schooling (Royse & Birge, 1987).

### **IMPACT OF HIV/AIDS ON HEALTH CARE WORKERS**

The continued increased number of individuals who have AIDS or who are HIV-

positive will cause a major challenge to health care workers and health care providers alike. AIDS which was initially associated with a lifestyle that is considered deviant (Brown et al., 1990) is fatal, and spreading fast worldwide among heterosexual and children. Prevention of the spread of HIV/AIDS through education is not only limited to those who provide care to these groups of patients, but to the general population. However, nurses as well as other health care workers, must be knowledgeable about AIDS and the care of individuals with AIDS. It is extremely important that they be educationally prepared to provide safe, competent and compassionate care (Brown et al., 1990).

Nurses and other health care workers are not exempt from the fears, misconceptions, misapprehensions, and prejudices surrounding the syndrome (Brown et al., 1990). In 1988, van Servellen, Lewis, & Leake reported that some nurses and physicians are refusing to care for AIDS patients because of fear of the disease and its transmissibility. The issue of nurses' refusal to care for AIDS patients stems from negative attitudes and concerns driven by lack of knowledge of the disease. Education regarding realities of AIDS has been recommended as the first step in changing attitudes towards AIDS patients (Imperato, 1987; Koop, 1987; Ostrow, 1986). Several AIDS educational programs, workshops, symposia, conferences have been directed at audiences of health care professionals. O'Donnell (1987) states that, AIDS inservice training reduced hospital workers' negative attitudes, improved knowledge of the disease, and increased satisfaction with care provided for people with AIDS.

In preliminary findings of the study conducted by Pederson in 1990, 67% of the participants (R.N.s enrolled in a baccalaureate degree) indicated that they were unlikely to choose to work on a patient care unit that routinely admits patients with AIDS (PWAs). Forty-five percent favored the position when questioned whether every nurse who provides patient care would be expected to provide care for PWA, and 55% expressed their opposition to it. The subjects expressed advantages of their providing care for PWA. They believed that they would be meeting the needs of PWA and their own need to learn more about the disease and people with AIDS. However, the subjects identified disadvantages of providing care for PWA, the possibility of becoming infected with HIV and taking it home to their families and the stress of dealing with dying and bereaved people. It also explicated their unresolved feelings about working with patients who have homosexual lifestyles or intravenous drug users (IDUs). Although preliminary findings of this study did not strongly confirm a positive or negative outcome, it raised the question whether their beliefs about and negative attitudes toward providing care for PWAs can be modified by an educational intervention.

A survey of nurses working with AIDS patients (at the Westchester County Medical Center near New York City) conducted by Blumenfield, Smith, Milazzo, Seropian and Wormser in 1987, showed similar findings as that of Reed, Wise, and Mann in 1984. Results revealed that the majority of nurses' friends and families were concerned about associating with them because of their AIDS patient contact. The survey in 1987 by Blumenfield et al. showed that one-half of the nurses believed transmission of AIDS is

through contact from handling of specimens inspite of precautionary measures. Almost half expressed for a transfer if they had to care for AIDS patients. McLeod and Silverthorn (1988) study confirmed the outcome of Blumenfield's 1987 survey of Intensive Care Unit (ICU) nurses' significant fear of contagion. ICU nurses felt that they are at particular risk of exposure. In a study by Damrosch, Abbey, Warner, & Guy, (1990) of two sample groups of critical care nurses (from a secular teaching hospital and a religious-affiliated community hospital), showed significant levels of concern and favorability of attitudes. A significant sizable percentage of 45% in the teaching and 65% in the community groups indicated refusal to care for AIDS patients if given a chance.

Research findings that showed a positive correlation between a positive attitude toward AIDS-related issues and knowledge about AIDS (Lawrence & Lawrence, 1989; Turner, Gauthier, Ellison & Greiner, 1988; Wertz, Sorenson, Liebling, Keplor, & Heeren, 1987; Valenti & Anarella, 1986) support the effectiveness of an AIDS education program to promote a positive attitude.

In 1993, Pederson performed a follow-up experimental study (Pederson, 1990) comparing the effectiveness of structured controversy with lecture on BSN students' beliefs about attitudes toward providing care for PWA. The study was conducted on 51 BSN students and nursing faculty, following an AIDS education program. A comparative group testing on age and variability in cumulative grade point averages (GPAs) was conducted after randomly assigning students to groups A and B. Group A was assigned as the control condition who received a lecture on AIDS given by a faculty member with

expertise on AIDS. The treatment condition labeled as group B received a lecture on a structured controversy issue stating: "All nurses who provide patient care should be expected to provide care for persons with AIDS." Utilizing independent *t*-tests, the faculty predicted that students would believe more strongly that working with people with AIDS would involve working with people who had been actively living a homosexual lifestyle than what the students actually believed. When the two groups were compared, students in group B were more positive than group A in structured controversy and were significantly more positive on individual attitude and belief items on the questionnaire. Faculty perceptions of these nursing students' beliefs and attitudes were less positive than the students' actual beliefs and attitudes. The questionnaire on measurement of intention, attitude, behavioral beliefs, and evaluation of outcomes of providing care for PWAs was based on Ajzen and Fishbein's (1980) Theory of Reasoned Action (TRA). The outcome of the study supported the said theory.

Laschinger and Goldenberg (1993) survey of 141 subjects to predict behavioral intentions of practicing nurses to care for patients with HIV or AIDS. The study was to test the applicability of the Ajzen-Fishbein's TRA. The study was conducted in a large, urban teaching hospital in a central Canadian province. The subjects depicting a 51% response rate were divided into two groups based on the question whether or not they were likely to care for HIV-positive patients in a hospital setting. The intenders (n-126) and nonintenders (n-15) groups were compared on individual behavior and normative belief items. The questionnaire included subscales designed to measure TRA constructs,

items to determine common sources of information about AIDS, demographics, and open-ended questions to elicit nurses subjective concerns about caring for HIV-positive patients in a hospital setting. Consistent with the theory, they found nurses' attitudes and subjective norms were significant predictors of intentions to care for persons who are HIV positive. Results showed numerous significant differences which explained salient beliefs associated with differences in intentions to care for HIV positive patients. The two groups also differed markedly in behavioral beliefs as to the degree of risk to themselves, their families, and other patients. The subjects' perception of the effect of their caring for HIV positive patients and their relationships with family and friends also differed significantly. The differences in this aspect, however, were less marked than were those relating to fear of contagion. Both group agreed that caring for HIV positive patients did not affect job-related factors such as their relationships with co-workers and future job opportunities. Regarding normative beliefs, i.e., perceived expectations of family and close friends, the intender group had higher normative expectations than the nonintenders.

Although previous studies did not focus on the effects of AIDS education programs on the attitudes of nurses' toward AIDS patients, researchers recognized the need to target specific educational and training interventions to be included, such as transmission and prevention. They also recommended HIV-related topics to explore feelings, attitudes, beliefs, and behavioral intentions to care for AIDS patients. Laschinger & Goldenberg (1993) also recognized and advocated the need to conduct further theory-based research

and testing interventions to change practicing nurses' attitudes and beliefs about AIDS.

Flaskerud (1988) identified nurses' educational needs regarding HIV/AIDS infection in a national survey. The results indicated over 80% of the respondents lack information in the areas of AIDS symptomatology, assessment, transmission in the workplace, precautions for health care workers, psychosocial care and legal and ethical issues-- including the rights of health care workers and the rights of AIDS patients. In this survey, 80% of the nurses preferred continuing education programs, professional journals, newspapers, magazines, television, and radio. As a result of this survey, Flaskerud (1989) launched a comprehensive education program for nurses based on the AIDS-related education needs assessment. The survey was conducted among 125 nurses who participated in a one-day conference held at a major medical center in southern California. The subjects were given a pretest, post-test (administered immediately after the conference), and a post 3 months retest (a second post-test). Results of the pretest/posttest in both knowledge and attitudes showed significant differences, supporting the effectiveness of the educational program in changing the knowledge levels and attitudes of the participants. However, the post-test and retest did not indicate any significant differences. Findings support the researcher's interpretation that changes in knowledge and attitudes has been sustained 3 months after the conference. Changes in knowledge and attitudes resulting from intentional learning occurs through the association of images. This form of learning or acquisition of knowledge include problem solving and insight (Koestler, 1964). Utilizing different modalities in teaching-

learning process such as questions-discussion, sharing of real-life experiences and role playing are stimulators to the learner's awareness of what changes are occurring.

Effectiveness in the change of attitudes can be attributed through other types of teaching methods such as: repetitive learning and demonstration, attitude examination exercises, role modeling, use of audio-visual media, discussion groups, and experiential components as opposed to the traditional method of lecture presentation (Flaskerud, Lewish, & Shin, 1989).

It is very important that health care workers keep abreast of the changes and current information regarding HIV/AIDS. New findings regarding this devastating disease continue to evolve affecting human lives. Health care workers need accurate information about HIV/AIDS to keep a sense of objectivity when discussing the disease with others, and provide effective and appropriate support for persons with AIDS and for their families (Tarantola, 1989).

Brown et al., (1990) studied 319 undergraduate students from a baccalaureate nursing program located in western Canada. A pretest, posttest design was used to identify changes in nursing student's knowledge and attitudes following an AIDS workshop. Although the study was conducted in Canada, the questionnaire developed by Scherer, Haughey, & Yow-Wu (1989) was validated in the United States. According to the results, there were significant knowledge and attitude changes following the AIDS education workshop intended for these subjects. Eighty three percent of the participants on the pretest, indicated they had attempted on their own, to increase their knowledge



about AIDS and the related nursing care by means of conferences, seminars, articles in professional and non-professional journals, and talking with colleagues. On the pretest, these students scored higher by 8% than those students who indicated that they had not sought such learning opportunities. On the posttest, the score rose to 94%, of those who had "learned by other means," an indication that the workshop motivated some students to learn more about the disease.

As a whole, attitudes were generally positive on the pretest and more so, on the posttest. In this study, AIDS education program had a positive influence on attitudes of the subjects. The use of AIDS education programs to foster positive attitudes toward AIDS and individuals with AIDS, is supported by the findings.

## **SUMMARY**

Questions as to whether continuing education programs are effective in changing the knowledge, attitudes and behaviors of nurses and other health care providers are often asked. Based on the literature reviewed, positive outcomes have evolved from AIDS education programs that benefited nurses and other health care providers and people with AIDS. Changes in knowledge and attitudes were observed to be retained overtime.

## **THEORETICAL FRAMEWORK**

Ajzen and Fishbein (1980) have introduced a theory of reasoned action (TRA) based on the assumption that human beings are usually quite rational and make systematic use of the information available to them. The theory accounts for how individuals make decisions about performing certain behaviors. It is believed that

volitional behavior is predicted from a person's intention to perform that behavior.

According to the theory, a person's behavioral intention is a function of two basic factors: (a) attitude toward performing the behavior in question, and (b) subjective norms or a person's perceptions of the expectations of significant others with regard to performing the behavior. The theorists also believed that attitudes are a function of beliefs. A person's attitude lies on his behavioral beliefs that performing a given behavior will lead to mostly positive outcomes and will hold a favorable attitude toward performing the behavior, while a person whose behavior leads to negative outcomes will hold an unfavorable attitude. According to the Theory of Reasoned Action, changes in beliefs result in behavioral change. This implies that in order to influence behavior, the person has to be exposed to information which will produce changes in their beliefs. Education as an external variable indirectly influence changes in the person's beliefs according to Ajzen and Fishbein's Theory of Reasoned Action.

The notion of belief occupies a central role in the conceptual framework. How the person's belief about an object or a situation is described as perceived through probabilistic relation between that object or situation and some attributes. According to Ajzen and Fishbein (1975), the terms "objects" and "attributes" are referred to "any discriminate aspects of the individuals's world. Thus a physical object, a person, an institution, a behavior, a policy, an outcome, a trait, etc., may all constitute either to the "object" of a belief or its attribute."

Attempts to bring about change invariably involve exposure to new information

about some object, behavior, issue or event. Exposure to new information can be presented through education. The foundation on which the ultimate effectiveness of any influence attempt, rests on the exposure to new information through education which eventually influence changes in a person's beliefs. Attitude as described is a person's positive or negative evaluation of a psychological object, in this case the given behavior. Behavioral beliefs are salient beliefs about the consequences of performing the behavior, and the evaluation of those outcomes. Subjective norm is determined by perceived pressure from important others and is influenced by the person's normative beliefs (beliefs held by important others) and by motivation to comply (Ajzen & Fishbein, 1980). Behavioral intention is derived from the combination of personal and interpersonal factors, personal beliefs, and perceived beliefs of important others.

Theoreticians such as Dewey and Bentley (1949) and Von Bertalanffy (1950) developed the hypothetical construct on the basic model of human behavior. "Our basic model of human behavior is that the individual is in transaction with every element in his total environment." The individual is in transaction with himself and all other objects in his environment through his biological, psychological and social systems (Miller, 1967). According to Rosenberg (1965) consistency between one's beliefs and feelings with respect to an object make it possible to develop a stable, action-directed orientation toward the object (Ajzen, 1988). The immediate determinant of a given behavior in the Ajzen and Fishbein's conceptual framework is the intention to perform that behavior. When individuals believe a behavior will result in valued consequences and that people

important to them consider the behavior to be worthwhile, they are likely to execute that behavior (Laschinger & Goldenberg, 1993). In order to decide on the appropriate strategy in influencing behavioral change, Ajzen and Fishbein also believe that it is very important to determine the relative importance of attitudes and subjective norms in the prediction of behavioral intention. However, an influence attempt that succeeds in changing intentions may not always lead to behavioral change. According to Ajzen and Fishbein (1980), the relation between an external variable and behavior can be mediated in a number of ways. This relation is mediated by the determinants of the normative components.

Presumably, AIDS education program enhances nurses' knowledge about HIV/AIDS and alters their attitudes towards the care of HIV-positive/AIDS patients. The changes that AIDS education program might effect on the nurses attitudes toward HIV-positive/AIDS patients can either be positive or negative. It is reasonable to predict that nurses who have participated in an AIDS education program will have a more positive attitude outcome than those nurses who have not had the program experience.

Lack of knowledge of the disease could be associated with a negative attitude toward HIV-positive/AIDS patients. Nevertheless, the outcome of the AIDS education program or the lack of knowledge of the disease on the nurses' attitudes and behaviors can also be otherwise. Differences in salient beliefs could affect nurses attitudes. If the AIDS education program influenced the kind of salient beliefs nurses hold about HIV-positive/AIDS patients, this would account for the obtained relation between AIDS education and nurses' attitudes toward the care of HIV-positive/AIDS patients. To

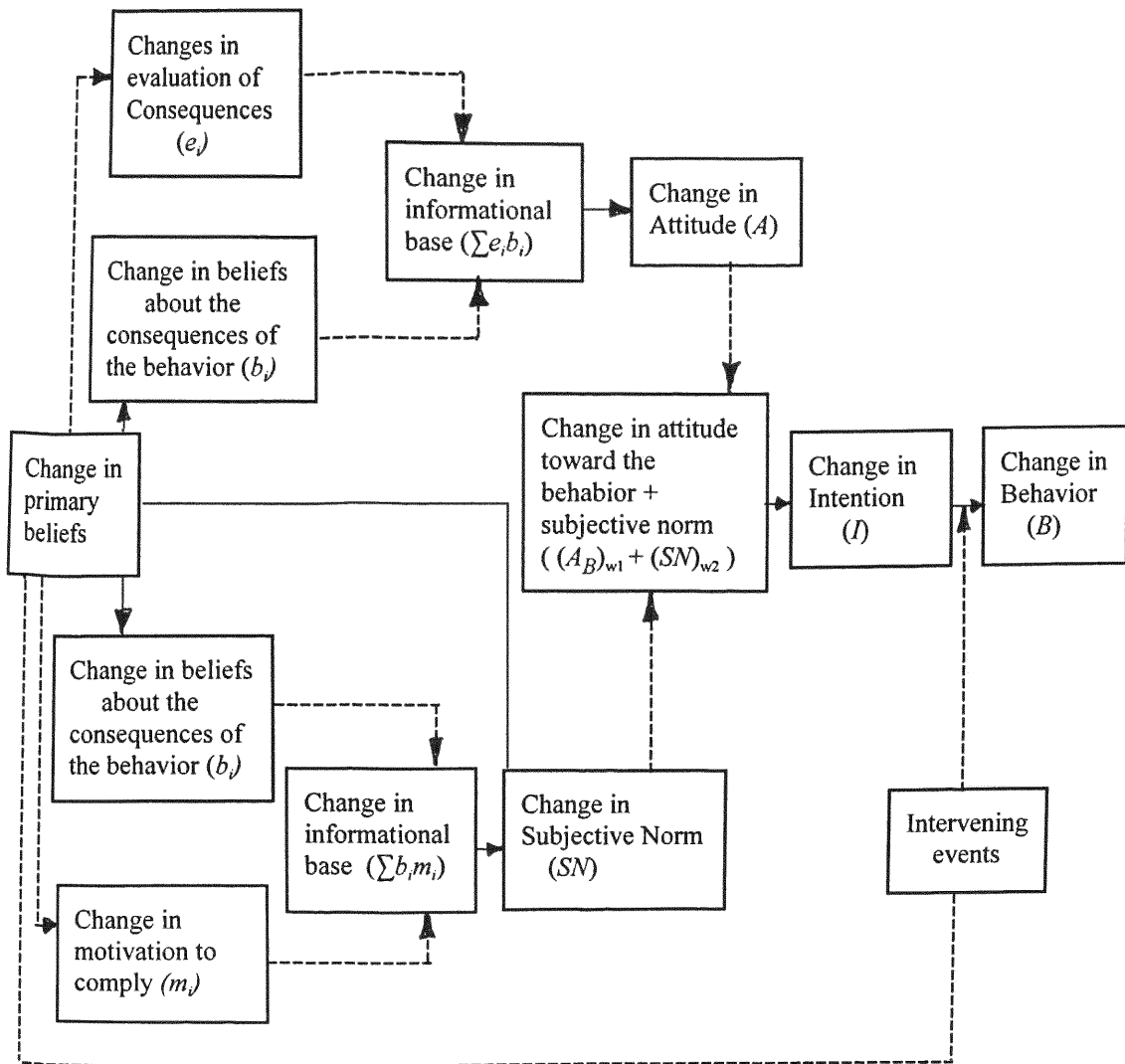
change the nurses' behavior, the influence attempt should be directed at the intention to perform that behavior. However, to change the nurses' intention, it would be necessary to focus on attitude toward the behavior or subjective norms. Influencing primary beliefs about the attitude object or the evaluation of its attributes can result changes in attitude toward the behavior, or any other attitude.

## **BASIC GUIDELINES FOR CHANGE**

Ajzen and Fishbein (1976) developed the following principles of change:

1. *The effects of an influence attempt on change in a dependent variable depend on its effects on the primary beliefs underlying that variable.* The emphasis in this principle is directed toward the need for careful selection of informational items and target beliefs. The likelihood that a change in target beliefs will have the desired effects on the immediate determinants of the dependent variable and on the dependent variable itself, the target beliefs which constitute primary beliefs or that are related to the primary beliefs be selected. In order to produce the desired changes in primary beliefs, informational items are provided by the influencing agent which may lead to changes in receiver's corresponding proximal beliefs. Changes in these proximal beliefs are expected to influence certain target beliefs that are assumed to be directly or indirectly related to the dependent variable. The influence attempt may also have impact effects on external beliefs. Success of the influence attempt depends on the changes in proximal and external beliefs which lead to changes in primary beliefs.

The chain of effects is illustrated in Fig. 1.0



-----May influence

\_\_\_\_\_ Is equal to, or may influence

Figure 1.0 Relations between change in primary beliefs and change in different dependent variables.

Adapted from Fishbein, M. & Ajzen, I. (1975). Belief, Attitude, Intention, and Behavior: An introduction to theory and research. Reading, Massachusetts: Addison-Wesley Publishing Company.

2. *The effects of an influence attempt on change in a dependent variable are ultimately the result of changes in proximal beliefs and impact effects.* Influence attempt by the investigator may produce changes in proximal or external beliefs that are related to primary beliefs, even though an inappropriate assumptions about the determinants of the dependent variable are made. The investigator may attempt to change the attitude of the person toward the object of the behavior in order to change his intention to perform a given behavior.

3. *The effects of an influence attempt on change in beliefs, attitudes, intentions, and behaviors depend, in that order, on an increasing number of intervening processes.* The relationship between an influence attempt and change in proximal beliefs has the smallest number of intervening steps. When the dependent measure of change involves an inferential belief, the number of intervening steps are increased. Increased in intervening processes occurs between an influence attempt and behavioral change.

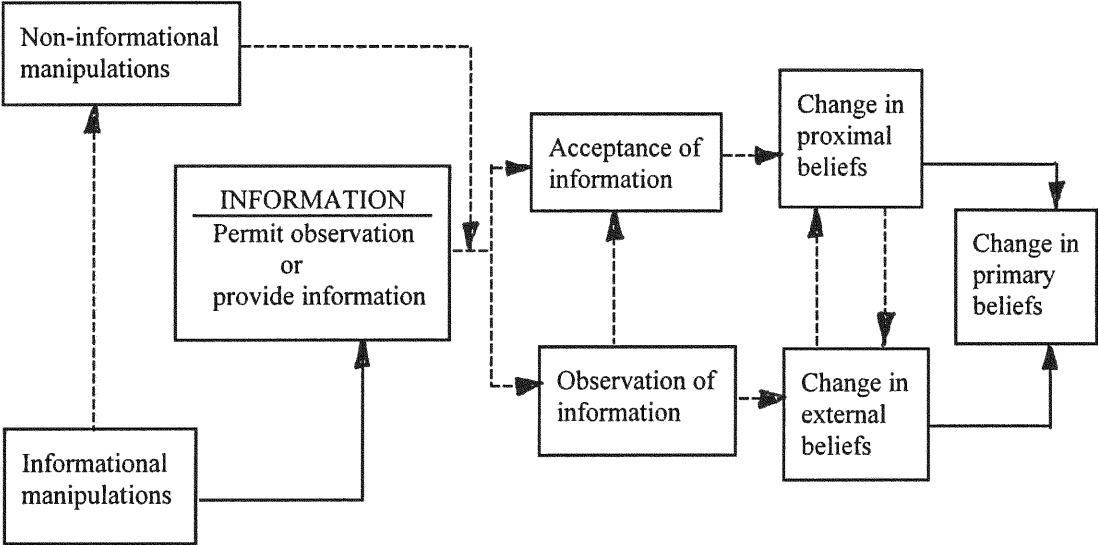
## **EFFECTS OF EXPERIMENTAL MANIPULATIONS**

4. *An experimental manipulation can affect the amount of change in a dependent variable only in the extent that it influences amount of change in proximal and external beliefs.* In this principle, an influence attempt exposes the subjects to some informational items. Amount of change in the proximal and external beliefs to the extent that they affect observation of this information or its acceptance are influences by experimental manipulations. The kind and amount of information to which the subjects are exposed may have direct effect with experimental manipulations. The degree to which these

informational items are perceived and accepted, affect the amount of change in the proximal and external beliefs. The farther the dependent variable removed from the proximal and external beliefs, the greater the number of possibilities of a breakdown in the effect. Changes in proximal or external beliefs and changes in the dependent variable are intervened by many links (see Fig. 2.0). Therefore, simple systematic effects on change in inferential beliefs, attitudes, intentions, or behaviors cannot be expected by manipulations designed to influence change in a dependent variable.

**INFLUENCE ATTEMPT**

**INTERVENING PROCESS**



- - - - - May influence  
 \_\_\_\_\_ Is equal to, or may influence

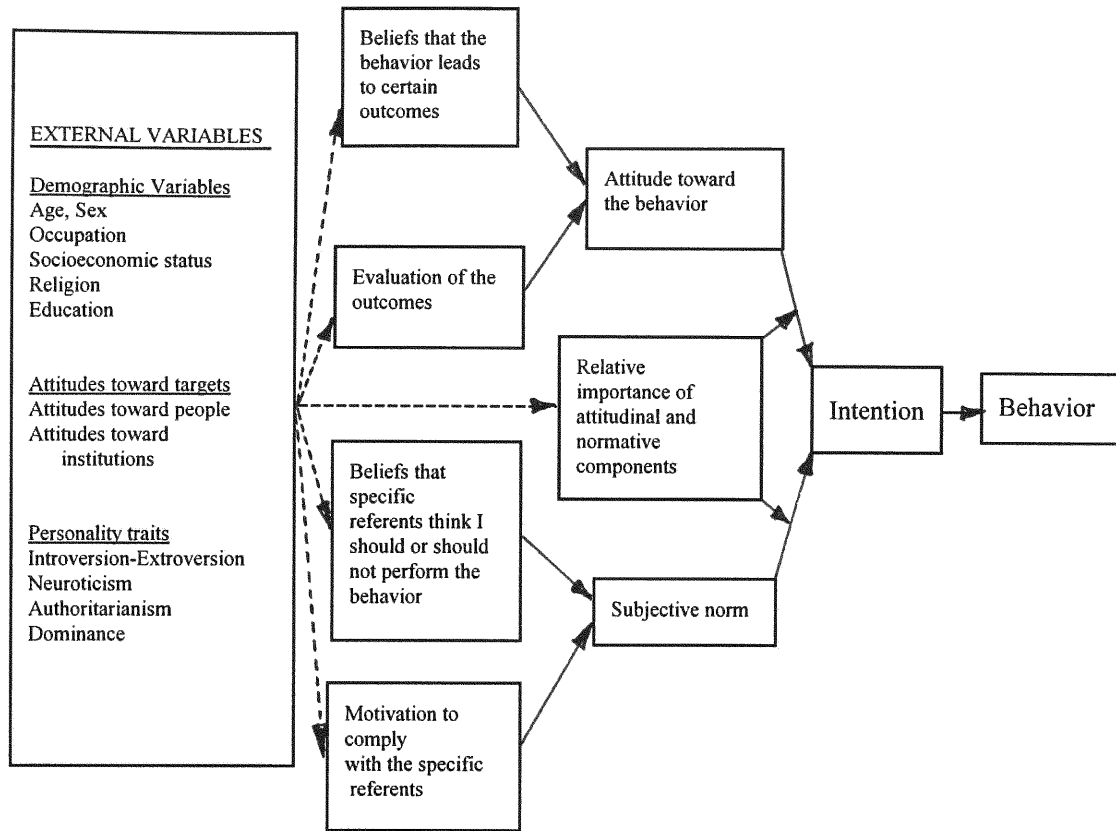
Figure 2.0 Processes intervening between presentation of information and change in primary beliefs.

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Adapted from Fishbein, M. & Ajzen, I. (1975). Belief, Attitude, Intention and Behavior: An introduction to theory and research. Reading, Massachusetts: Addison-Wesley Publishing Company.



The Ajzen and Fishbein Theory of Reasoned Action with indirect effects of external variable on behavior is represented by the following diagram:



----- Possible explanation for observed relations between external variables and behavior (Indirect)

\_\_\_\_\_ Stable theoretical relations linking beliefs to behavior (Direct)

Figure 3.0 The Ajzen-Fishbein Theory of Reasoned Action showing the effects of beliefs and external variables on behavior

Adapted from Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice Hall.

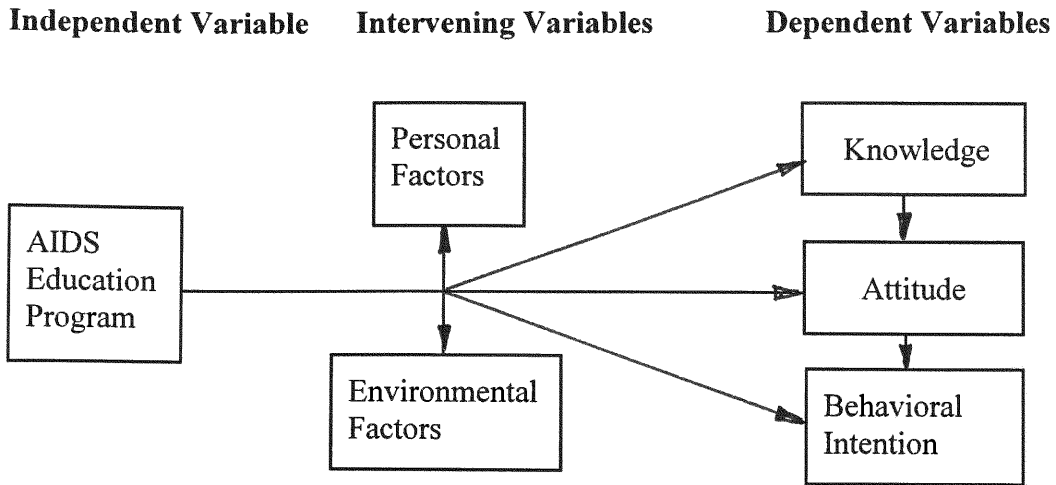


Figure 4.0 Factors that may influence nurses' knowledge, attitude, and intention to behave toward patients with HIV/AIDS.

### **HYPOTHESES**

1. Nurses' knowledge regarding HIV/AIDS on posttest will improve significantly compared to pretest knowledge after the AIDS education program.
2. Nurses in the treatment group subjected to the AIDS Education program will report more positive attitude and intention to behave toward patients with HIV/AIDS, than the control group that did not attend the program.
3. Nurses' sociodemographic variables will have significant correlation with their attitudes and intention to behave toward patients with HIV/AIDS.

### **RESEARCH QUESTION**

To what extent is the effect of interaction of AIDS education and sociodemographic variables with pretest/posttest changes in nurses' knowledge, attitudes, and intention to behave toward HIV-positive/AIDS patients?

## **CHAPTER III**

### **METHODOLOGY**

#### **RESEARCH DESIGN**

A pretest/posttest control group design was used in this study to assess the effect of AIDS education and sociodemographic variables on nurses' knowledge, attitudes, and intention to behave toward HIV/AIDS patients. Pretest and posttest data were collected from both experimental and control groups, but only the experimental group was involved in the planned AIDS education program (Treatment Factor) as described below.

The Treatment Factor: The study used the AIDS Education Program designed by the hospital's nurse epidemiologist based on the Florida Aids Law of 1988 and in compliance with the Florida Board of Nursing requirements for license renewal. The program comprised of three (3) segments of video presentation depicting the lives of individuals and their families afflicted by HIV/AIDS. In between the video presentation, a lecture/discussion pertinent to the subject matter was presented by the nurse epidemiologist. The details of the AIDS Education Program are presented in the Appendix C. Four (4) AIDS Education classes were held at different times during the day to accommodate subjects who worked other shifts. Those who attended the AIDS Education Program received two (2) contact hours.

#### **SETTING**

The study was conducted at an acute care hospital located in Ft. Lauderdale, Florida. It is a large medical center hospital serving the urban community of diverse

middle age and the elderly population of west Broward County. Although the hospital has no designated AIDS unit, on occasion, patients in their 20s, 30s, and 40s who are either HIV-positive, or diagnosed with AIDS are admitted. These patients are placed in any of the five medical-surgical units depending on the medical services required or bed availability.

The nursing units have a bed capacity of 35-40 beds, each being staffed by a clinical manager/coordinator, registered nurses (RNs), licensed practical nurses (LPNs), patient care assistants (PCAs) and a unit secretary. Patients are mostly retired elderly on Medicare, however, the population surrounding the hospital comprises large groups of low-income families on Medicaid. In the past year, the number of admissions for patients with HIV/AIDS has gradually increased. This increase indicates that the incidence of people getting infected in the community is continuing to rise which tremendously impacts the health care facility and health care professionals.

## **SAMPLE AND SAMPLING METHOD**

The sample for this study was comprised of 90 nurses (RNs & LPNs) who were employed in the hospital. The sample consisted predominantly of female, white/non-Hispanic, married, Catholic and associate degree in nursing holders. Although females predominantly represented the sample in both groups, 15 males voluntarily participated in this study. Both genders were equally distributed in each group. The subject's sociodemographic and personal characteristics were not comparatively represented, however, they were equally distributed in each group. Majority of the samples worked in

medical and surgical units. Frequency distribution of subjects such as age, number of years in occupation, and number of times the subjects had attended an AIDS Education Program were not determined, however their mean, minimum and maximum values for each group were obtained. Subjects in both groups had a mean of five years in their job, and a mean of three times attendance to an AIDS education program. Their mean ages were 33 and 37 years old respectively. Asian/Pacific Islander was the least represented among the ethnic groups. These nurses worked in any one of the five designated medical-surgical/telemetry units.

The subjects were recruited through flyers posted in these units after approval of the research protocol was obtained from the Florida International University Review Council and the hospital's chief nursing officer. Since this investigation used the pretest-posttest control group design, it involved experimental, as well as control subjects who were randomly selected.

The simple-random sampling by lottery was employed in the selection of subjects. Each group had 45 subjects. A code number was assigned to each subject in the study and no names or any identifiable marks were used. The subjects with odd numbers were arbitrarily assigned to the control group, and those with even numbers were assigned to the experimental group. The experimental subjects participated in a two-hour AIDS Education Program. Subjects in the control group were told that they will receive the AIDS Education Program after the study was completed.

## **INSTRUMENT**

The instrument developed by Flaskerud (1989) "HIV/AIDS: Clinical Management in the Nineties" (pretest and posttest) to measure knowledge and attitudes was used. The instrument consists of 47 knowledge and 23 attitude items eliciting "YES" or "NO" answer. The knowledge scale which measures knowledge of AIDS transmission, risk groups, cofactors, symptoms, sexual history-taking, and precautions for health care workers yielded a Cronbach's alpha coefficient of 0.83 (Flaskerud, 1989). The attitude scale yielded an alpha coefficient of 0.62, measuring attitudes toward the major transmission groups defined by the Centers for Disease Control and nurses' willingness to care for AIDS patients. To score the tests on nurses' knowledge and attitude toward patients with HIV/AIDS, respective assigned numerical points were added to obtain the subjects' overall score. The subject received one (1) point each, for every correct answer in the knowledge items and one (1) point for each positive response in the attitude items.

The pretest and posttest behavioral intention questionnaire "HIV/AIDS: Intention to Care" (20 items), developed by the investigator, was used to measure nurses' behavioral intention to care for patients with HIV/AIDS. The questionnaire was reviewed and approved by the thesis committee for this study. This tool was pilot tested on ten randomly selected subjects for content validity. These subjects were senior nurses who had attended prior AIDS Education Programs 3-6 times since AIDS continuing education was required by the Florida Board of Nursing for license renewal. They were asked to critique each item and requested to answer all the questions honestly. Results of the

subject's responses showed 90.3% strong agreement and 9.7% agreement to care for HIV/AIDS patients. There were no recommendations received from the subjects to change any component of the questionnaire. The nurses who participated in the pilot study were excluded from the actual study, but allowed to attend the AIDS Education program.

Nurses' intention to behave toward HIV-positive/AIDS patients was scored on a 5-point Likert Scale (1= strongly disagree; 2= disagree; 3= neither agree/disagree; 4= agree; 5= strongly agree). The interpretation of the test scores is as follows:

<b><u>Knowledge Test:</u></b>	<b><u>Range of Score:</u></b>
Very Knowledgeable	37.51 - 47.00
Knowledgeable	28.21 - 37.50
Fairly Knowledgeable	18.81 - 28.20
Not Knowledgeable	9.41 - 18.80
Indifferent	0 - 9.40

<b><u>Attitude Test:</u></b>	
Positive	17.26 - 23.00
Moderately Positive	11.51 - 17.25
Fairly Positive	5.76 - 11.50
Negative	0 - 5.75

<u>Intention to Behave Test:</u>	<u>Range of Score:</u>
Very Strong	4.01 - 5.00
Strong	3.01 - 4.00
Moderate	2.01 - 3.00
Weak	1.00 - 2.00

## **DATA COLLECTION**

Subject recruitment and data collection were started after approval was obtained from the Institutional Review Board (IRB). The subjects were recruited through flyers posted in the five medical-surgical/telemetry units of the hospital and were informed that participation was voluntary and that they could withdraw at any time. A written consent was obtained from the participants prior to the study. The participants were assured that their responses would be kept confidential and be used for research only. Due to the subject's variable work schedule, the pretest was conducted at different times for three days in order to reach all the subjects who volunteered to participate. The investigator personally distributed the coded pretest questionnaires to the subjects in the classroom and in the clinical areas. The subjects were given 10-15 minutes to answer the questionnaires. The subjects, who answered the pretest tool in the classroom, immediately returned the completed questionnaires to the investigator. Those who completed the questionnaires in the clinical area were picked-up personally by the investigator or dropped-off by the subjects in the Clinician's Office. No questionnaires were given out unless the subject signed the informed consent and understood the



purpose of the study.

## **METHOD OF DATA ANALYSIS**

The raw data were initially entered into a master table, organized according to demographics and the main variables under study. To characterize the sample, the demographic data were analyzed using measures of central tendency and dispersions. To determine if all the indices and sociodemographic variables were normally distributed, the Kolmogorov-Smirnov Goodness of Fit Test was employed. Performing this test pre-determines the appropriate statistical tests to be utilized. The standard deviations were utilized to determine the dispersions of the means obtained for the different tests in the experiment. The *t*-tests (one-tailed/two-tailed) were employed to determine the significance of the differences between paired groups of subjects as well as the experimental versus the control group. The significance level was set at  $p=0.05$ .

For Hypotheses # 1 and # 2, the nonparametric Mann-Whitney U Test/Wilcoxon Matched-Pairs Signed-Ranks Test was utilized, an equivalent to the parametric correlated or independent samples *t*-test. The Mann-Whitney U Test was used because of the unequal distribution of variables of two samples. This test takes into account the magnitude and direction of the difference for each pair.

To answer Hypothesis # 3, the Pearson Product-Moment Correlation Coefficient (Pearson's *r*) in combination with Spearman Correlation Coefficients were employed with significance level set at  $p=0.05$ . They were used to test the relationships between gender, age, ethnicity, educational attainment, number of years in occupation, number of AIDS

Education Program attended, and pretest/posttest knowledge, attitude, as well as intention to behave toward patients with HIV/AIDS in both groups. To answer the research question, a one-way analysis of variance (ANOVA) was used to examine the interaction of sociodemographic variables with pretest/posttest changes in nurses' knowledge, attitude, and intention to behave toward patients with HIV/AIDS.

## **CHAPTER IV**

### **PRESENTATION OF FINDINGS**

The subjects were categorized according to gender, age, marital status, ethnicity, religion, education attainment, number of years in occupation, nursing unit assigned, and number of AIDS Education attended. This chapter displays the distribution and sociodemographic characteristics of the subjects and tabular presentation of results. A computer-processed statistical package, SPSS (Statistical Package for the Social Sciences) was used to analyze the data. The presentation of findings was sequentially organized according to the order of the hypotheses and the research question under investigation. Because of some maldistribution of the subjects' sociodemographic characteristics in both groups, parametric and nonparametric statistics were employed. In all of the hypothesis testing, the .05 level of probability was utilized.

Among the 120 medical-surgical/telemetry nurses who were randomly selected and approached to participate in this study, 90 volunteered, giving a response rate of 75%. The subjects were randomly assigned even or odd numbers; the even numbers being arbitrarily assigned as experimental and the odd numbers, control.

#### **CHARACTERISTICS OF THE SAMPLE**

The experimental group included 37 females and 8 males with mean age of 33 years. Thirty-one were married, 8 were never married, 5 were divorced, and 1 was separated. There were 25 White non-Hispanics, 14 Black or African American/non-Hispanic, 5 White Hispanic/Latino, and 1 Asian/Pacific Islander. Their educational

attainment included 13 vocational/technical certificates, 25 associate degree, 1 diploma, and 6 bachelor's degree holders. The mean average for longevity in occupation was 5 years. Regarding the number of AIDS Education Programs attended by the participants, the mean average was 3 times. Their religious affiliation included: 31 Catholics, 6 Protestants, 2 Jewish, 2 None, 4 Other. Their distribution as to unit assignment includes: 15 medical, 12 surgical, 8 orthopedic, 6 telemetry and 4 oncology.

The control group, on the other hand, included 38 females and 7 males and their mean age was 34 years old. Among these subjects, 27 were married, 4 were never married, 12 were divorced, and 2 were separated. There were 23 White/non-Hispanics, 16 Blacks or African American, and 6 White Hispanic/Latino. Their educational attainment composed of 8 vocational or technical certificates, 32 associate degrees, and 5 bachelor's degree holders. The mean average for number of years in occupation was 5 years, and the number of AIDS Education Programs attended was 3 times respectively. The subjects' religious affiliation included: (a) 31 Catholics, (b) 5 Protestants, (c) 5 Jewish, (d) 2 None, (e) 2 Other. Their unit assignment composed of: (a) 14 medical, (b) 12 surgical, (c) 8 orthopedic, (d) 6 oncology and (e) 5 telemetry. Majority of the subjects (75%) did not respond to the question whether they know of someone (family member or friend) who was HIV-positive or has AIDS. Because of the low response, the data pertaining to this question was eliminated and consequently no analysis was done.

**Table 1.** Personal Characteristics of Experimental versus Control Subjects:

Characteristic	Experimental (N=45)		Control (N=45)	
	f	%	f	%
<b>Gender</b>				
Female	37	82%	38	84%
Male	8	18%	7	16%
<b>Age</b>				
Range	18 (min-24/max-42)		23 (min-24/max-47)	
Mean	33 years		37 years	
<b>Ethnicity/Race</b>				
White/Non-Hispanic	25	56%	23	51%
Black/African-American	14	31%	16	36%
Hispanic/Latino	5	11%	6	13%
Asian/Pacific Islander	1	2%	0	0%
<b>Marital Status</b>				
Married	31	69%	27	60%
Never Married	8	18%	4	9%
Divorced	5	11%	12	27%
Separated	1	2%	2	4%
<b>Religious Affiliation</b>				
Catholic	31	69%	31	69%
Protestant	6	13%	5	11%
Jewish	2	4%	5	11%
None	2	4%	2	4%
Other	4	9%	2	4%

As depicted in Tables 1 and 2, the frequency distribution of both study groups were comparable in gender, ethnicity/race, primary unit assignment and religious affiliation. The subjects were predominantly female, White/non-Hispanic, married and Catholic. Majority of the subjects worked in the medical-surgical unit. The mean and range of the subjects' age were obtained showing some differences between the groups. There were

no differences in the groups' means in terms of years in occupation and number of AIDS education programs attended.

**Table 2.** Sociodemographic Characteristics of Experimental and Control Subjects

Characteristic	Experimental (N=45)		Control (N=45)	
	f	%	f	%
<b>Educational Attainment</b>				
Vocational/Technical	13	29%	8	18%
Diploma	1	2%	0	0%
Associate degree	25	56%	32	71%
Bachelors degree	6	13%	5	11%
<b>AIDS Education Programs Attended</b>				
Range	4 (min-2/max-6)		3 (min-2/max-5)	
Mean	3 times		3 times	
<b>Years in Occupation</b>				
Range	8 (min-2/max-10)		13 (min-1/max-14)	
Mean	5 years		5 years	
<b>Primary Unit Assignment</b>				
Orthopedic Unit	8	18%	8	18%
Surgical Unit	12	27%	12	27%
Medical Unit	15	33%	14	31%
Oncology Unit	4	9%	6	13%
Telemetry Unit	6	13%	5	11%

## FINDINGS RELATING TO THE HYPOTHESES

Descriptive and inferential statistics were used to examine both groups' AIDS knowledge, attitude, and behavioral intention levels toward patients with HIV/AIDS.

**HYPOTHESIS 1:** Nurses' knowledge regarding HIV/AIDS on posttest will improve significantly compared to pretest knowledge after the AIDS education program.

Table 3 shows the pretest and posttest means, standard deviations, minimum and maximum scores for AIDS knowledge levels for the control and experimental groups. Subjects in both groups improved their knowledge level regarding HIV/AIDS on posttest, however, the experimental group yielded significantly higher scores than the control group after the AIDS Education Program.

**Table 3.** Descriptive statistics on AIDS Knowledge of the Subjects at Pretest and Posttest: Control versus Experimental.

	AIDS KNOWLEDGE LEVEL							
	CONTROL (N=45)				EXPERIMENTAL (N=45)			
	Mean	SD	Minimum Score	Maximum Score	Mean	SD	Minimum Score	Maximum Score
<b>Pretest</b>	35.42	4.57	22	41	36.18	2.59	30	43
<b>Posttest</b>	38.16	2.32	32	43	43.09	1.26	40	45

As shown in Table 4, comparing the change in the control and experimental group's mean scores from pretest to posttest, both groups showed some knowledge gain about HIV/AIDS. The control and experimental group's mean differences were 2.74 and 6.91, respectively. The experimental group's mean difference in knowledge gain from pretest to posttest was two times greater than the control group. The probability level were both below .05 supporting the hypothesis, that nurses' knowledge regarding HIV/AIDS on posttest will improve significantly compared to pretest knowledge after the AIDS Education Program.

**Table 4.** Comparison Between Control and Experimental Groups on Changes in AIDS Knowledge from Pretest to Posttest.

CHANGE IN KNOWLEDGE LEVEL						
Study Group	Mean		Mean Diff.	<i>t</i> -value	<i>df</i>	<i>p</i>
	Pretest	Posttest				
<b>Experimental</b>	36.18	43.09	6.91	18.20	44	.000*
<b>Control</b>	35.42	38.16	2.74	<sup>a</sup> -4.3470	44	.000*

\* $p < .05$ , significant

<sup>a</sup> $z$  A nonparametric statistic, Wilcoxon Matched-Pairs Signed-Ranks Test was used. The subjects' sociodemographic characteristics in the control group related to their knowledge about HIV/AIDS were not normally distributed.

**HYPOTHESIS 2.1:** Nurses in the experimental group subjected to the AIDS Education Program will report more positive attitude toward patients with HIV/AIDS than the control group that did not attend the program.

Table 5 shows changes in both groups' attitude toward patients with HIV/AIDS. Concerning attitudes toward patient's with HIV/AIDS, the experimental group gained a mean difference of 2.80 attitude change, and the control group gained .91 points only. The difference between the two groups was found significant at  $p = .0001$ . These findings lend support for Hypothesis 2. Narrow dispersion of the means between the control and experimental groups' pretest and posttest were noted, indicating homogeneity in both groups' attitude. The experimental group who scored low on pretest (M-17.69), scored



higher on posttest (M-20.49) than the control group (M-18.17, 19.62 respectively). The experimental group continued to gain higher attitude change than the control group which showed that the experimental group improved their attitude level after the AIDS Education Program.

**Table 5.** Descriptive Statistics on the Subjects' Attitude Level at Pretest and Posttest: Control versus Experimental.

	ATTITUDE LEVEL							
	CONTROL (N=45)				EXPERIMENTAL (N=45)			
	Mean	SD	Minimum Score	Maximum Score	Mean	SD	Minimum Score	Maximum Score
<b>Pretest</b>	18.71	1.41	15	21	17.69	1.99	13	21
<b>Posttest</b>	19.62	1.05	17	22	20.49	1.06	18	22

Table 6 compares the mean difference in attitude change in both groups. In this analysis, the experimental group showed a more positive attitude than the control group. The experimental group's mean difference was nearly twice as much as the control group, supporting the hypothesis that nurses who attended the AIDS Education Program will have a more positive attitude than the control group who did not attend the program. The two study groups differed significantly at  $p=.000$ .

**Table 6.** Comparison between Control and Experimental Groups on Changes in Attitude from Pretest to Posttest.

CHANGE IN ATTITUDE LEVEL						
Study Group	Mean		Mean Diff.	<i>t</i> -value	<i>df</i>	<i>p</i>
	Pretest	Posttest				
<b>Experimental</b>	17.69	20.49	2.8	<sup>a</sup> -5.5332	44	.000*
<b>Control</b>	18.17	19.62	1.45	-3.9395	44	.000*

\* $p \leq .05$ , significant

<sup>a</sup> A nonparametric statistic, Wilcoxon Matched-Pairs Signed-Ranks Test was used. The subject's sociodemographic characteristics in both groups relative to their attitude toward HIV/AIDS were not normally distributed.

**HYPOTHESIS 2.2:** Nurses in the experimental group subjected to the AIDS Education Program will report a more positive intention to behave toward patients with HIV/AIDS, than the control group that did not attend the program.

As depicted in Table 7, the control group showed higher in minimum score in their intention to behave (76) than the experimental group (57) in pretest, and continued to edge the experimental group in posttest (81 and 78 respectively). Both groups obtained the maximum score of 100 points in posttest. The experimental group however, significantly yielded greater gain than the control group in mean behavioral intention (BI) score from pretest to posttest, indicating the positive effects of the AIDS Education Program.

**Table 7.** Descriptive Statistics on the Subjects' Behavioral Intention at Pretest and Posttest: Control versus Experimental.

	BEHAVIORAL INTENTION LEVEL							
	CONTROL (N=45)				EXPERIMENTAL (N=45)			
	Mean	SD	Minimum Score	Maximum Score	Mean	SD	Minimum Score	Maximum Score
<b>Pretest</b>	90.36	5.24	76	98	85.11	10.38	57	99
<b>Posttest</b>	93.47	5.03	81	100	94.69	4.52	78	100

Table 8 depicts changes in both groups' behavioral intention to care for patients with HIV/AIDS. Again, the control group scored higher than the experimental group in pretest but scored inversely in posttest. The experimental group continued to excel in posttest as shown by the mean difference of 9.6, gaining over three times more than did the control group. The change in both groups' behavioral intentions were significant at  $p=.000$ .

Although the subjects in both groups showed positive change in all three outcome measures, namely, knowledge, attitude, and intention to behave toward patients with HIV/AIDS, the experimental group yielded a greater positive change, indicating the positive effects of the AIDS Education Program. Based on the study findings, it is reasonable to conclude that the AIDS Education Program improved nurses' knowledge, attitude, and intention to behave toward patients with HIV/AIDS. These findings lend support to Hypothesis 2.2.

**Table 8.** Comparison between control and experimental groups on changes in behavioral intention from pretest to posttest.

CHANGE IN BEHAVIORAL INTENTION LEVEL						
Study Group	Mean		Mean Diff.	t-value	df	p
	Pretest	Posttest				
<b>Experimental</b>	85.11	94.69	9.6	9.13	44	.000*
<b>Control</b>	90.36	93.47	3.1	4.40	44	.000*

\* $p \leq .05$ , significant

**HYPOTHESIS 3:** Nurses' sociodemographic variables will have significant correlation with their attitudes and intention to behave toward patients with HIV/AIDS.

To determine the correlation among the nurses' sociodemographic variables with their attitudes, and intention to behave toward patients with HIV/AIDS, the data were analyzed according to study groups and as an entire group. Both the Pearson's  $r$  and Spearman Correlation Coefficients were employed with level of significance set at .05.

Analysis of data in Table 9 showed no significant correlation among the experimental groups' age, level of education, number of years in occupation and the number of AIDS Education Program attended with pretest and posttest attitude, and intention to behave toward patients with HIV/AIDS. These findings revealed the subjects' sociodemographic characteristics did not have any influence on their pretest and

posttest attitudes and intention to behave toward patients with HIV/AIDS.

**Table 9.** <sup>a</sup>Correlation Between the Subjects' Sociodemographic Variables with Pretest and Posttest Attitude and Intention to Behave Toward Patients with HIV/AIDS in the Experimental Group.

Characteristic (Experimental Group)	Attitude				Intention to Behave			
	Pretest		Posttest		Pretest		Posttest	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Age	.0591	.700	.1669	.273	.0427	.781	.1454	.341
Level of Education	-.1031	.500	.0867	.571	.1497	.326	.1450	.342
No. of years in Job	.1151	.452	-.0143	.926	-.1137	.457	-.0435	.777
No. of AIDS Education Program Attended	.0047	.976	.1596	.295	-.2458	.104	-.2088	.169

$p \leq .05$

<sup>a</sup>Pearson Product-Moment Coefficient of Correlation (Pearson's *r*) was used.

With the exception of the control group's level of education which tended toward significant correlation ( $p=.053$ ) with posttest attitude, pretest and posttest attitude and intention to behave showed no significant correlation with age, number of years in occupation and number of AIDS Education Program attended, and pretest education level. The results of this coefficient correlation are presented in Table 10.

**Table 10.** Correlation Between the Subjects' Sociodemographic Variables with Pretest and Posttest Attitude and Intention to Behave Toward Patients with HIV/AIDS in the Control Group.

Characteristic (Control Group)	Attitude				Intention to Behave			
	Pretest		Posttest		Pretest		Posttest	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Age	.0022	.988	.0974	.525	.0145	.925	.0722	.614
Level of Education	.0150	.922	.2901	.053	-.0103	.947	-.1170	.444
No. of years in Job	-.1265	.408	.0804	.600	.0693	.651	.1561	.306
No. of AIDS Education Program Attended	-.1642	.281	.0133	.931	.0659	.667	-.0828	.589

$p \leq .05$

Table 11 depicts the correlation of the entire group's pretest and posttest attitudes, and intention to behave with the specific sociodemographic variables. Again, no significant correlations among the variables were found. The probability levels were all above the set level of .05.

**Table 11.** <sup>a</sup>Correlation between the subjects' sociodemographic variables with pretest and posttest attitude and intention to behave toward patients with HIV/AIDS in the entire group.

Characteristic (Entire Group) (N=90)	Attitude				Intention to Behave			
	Pretest		Posttest		Pretest		Posttest	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Age	.0389	.716	.1073	.314	.0370	.729	.1016	.341
Level of Education	-.0232	.828	.1195	.262	.1294	.224	.0036	.973
No. of years in Job	-.0047	.965	.0295	.782	-.0176	.869	.0794	.457
No. of AIDS Education Program Attended	-.0984	.356	.1302	.221	-.1681	.113	-.1234	.247

$p \leq .05$

<sup>a</sup>Pearson Product-Moment Coefficient of Correlation (Pearson's *r*) was used.

Therefore, it is reasonable to conclude that the sociodemographic characteristics of the subjects in the control and experimental groups, did not have any influence in their attitudes and intention to behave toward patients with HIV/AIDS.

**RESEARCH QUESTION:** To what extent is the effect of interaction of AIDS Education and sociodemographic variables with pretest and posttest changes in nurses' knowledge, attitudes, and intention to behave toward patients with HIV/AIDS?

Using a one-way ANOVA, the interaction of AIDS Education and sociodemographic variables with pretest and posttest changes in nurses' knowledge,

attitudes, and intention to behave toward patients with HIV/AIDS were examined.

Because of the maldistribution of the subjects' sociodemographic characteristics in the experimental group, the primary unit assignment was the only sociodemographic variable examined.

The data to show the interaction of AIDS Education and primary unit assignment is displayed in Table 12. Using the degree of freedom (*df*) as coordinates to locate the critical values of F (2.3720, 1.5242 respectively) at a probability level of .05, it showed that the critical value of F is 2.61. Since both pretest and posttest F Values were lower than the critical value, it is not confirmed that changes in pretest and posttest knowledge of the nurses in the experimental group were related to their primary unit assignment.

**Table 12.** Interaction of AIDS Education and Primary Unit Assignment with Pretest and Posttest Changes in Nurses' Knowledge about HIV/AIDS.

Pretest Knowledge						Posttest Knowledge				
Source of Variance	SS	<i>df</i>	MS	F	<i>p</i>	SS	<i>df</i>	MS	F	<i>p</i>
<b>Between Group</b>	56.4778	4	14.1194	2.3720	.0685	9.2111	4	2.3028	1.5242	.2136
<b>Within Group</b>	238.1000	40	5.9525			60.4333	40	1.5108		
<b>Total</b>	294.5778	44				69.6444	44			

$p \leq .05$



Table 13 depicts changes in the experimental groups' pretest and posttest attitude in relation to their primary unit assignment. Using the *df* 4 and 40 as coordinates to locate the critical values of F at .05 level, the F values for pretest/posttest attitudes (.5308 and 2.2144) were lower than the critical value (2.61) Therefore, no significant relationships claimed between the AIDS Education Program with primary unit assignment and nurses' pretest/posttest attitude changes.

**Table 13.** Interaction of AIDS Education and Primary Unit Assignment with Pretest and Posttest Changes in Nurses' Attitudes Toward Patients with HIV/AIDS.

Pretest Attitude						Posttest Attitude				
Source of Variance	SS	<i>df</i>	MS	F	<i>p</i>	SS	<i>df</i>	MS	F	<i>p</i>
<b>Between Group</b>	8.7528	4	2.1882			8.9278	4	2.2319		
				.5308	.7138				2.2144	.0847
<b>Within Group</b>	164.8917	40	4.1223			40.3167	40	1.0079		
<b>Total</b>	173.6444	44				49.2444	44			

$p \leq .05$

Again, as depicted in Table 14, the F values for pretest and posttest behavioral intention were .7986 and .7653 respectively. Using the same degree of freedom as coordinates, the critical value for both is 2.61. It was apparent that there were no differences between the groups and corresponding changes in pretest/posttest behavioral

intention scores nor significant interaction with their primary unit assignment.

**Table 14.** Interaction of AIDS Education and Primary Unit Assignment with Pretest and Posttest Changes in Nurses' Intention to Behave Toward Patients with HIV/AIDS.

Pretest Behavioral Intention						Posttest Behavioral Intention				
Source of Variance	SS	df	MS	F	p	SS	df	MS	F	p
<b>Between Group</b>	350.8861	4	87.7215			63.8111	4	15.9528		
				.7986	.5332				.7653	.5541
<b>Within Group</b>	4393.5583	40	109.8390			833.8333	40	20.8458		
<b>Total</b>	4744.4444	44				897.6444	44			

$p \leq .05$

## OTHER FINDINGS

The data was further analyzed to determine the pretest/posttest relationships among the main variables under study, namely: (a) knowledge, (b) attitude, and (c) intention to behave. In this analysis, the Pearson's  $r$  was used to determine whether there was a relationship between pretest/posttest knowledge, attitude, and intention to behave among the control, experimental, and the entire group.

Table 15 shows the pretest/posttest relationships between knowledge, attitude, and intention to behave among the experimental subjects. There is a significant correlation between pretest attitude and posttest attitude ( $p=.001$ ), pretest intention to behave and

posttest knowledge ( $p=.037$ ), and pretest and posttest intention to behave ( $p=.000$ ).

Although there was a significant change in the pretest and posttest knowledge among the experimental group, in this study, the result tended toward significant correlation ( $p=.068$ ).

**Table 15.** Pretest and Posttest Relationship Between Knowledge, Attitude, and Intention to Behave Toward Patients with HIV/AIDS in the Experimental Group.

	Knowledge		POSTTEST Attitude		Intention to Behave	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
<b>PRETEST</b>						
<b>Knowledge</b>	.2743	.068	.2000	.188	.1857	.222
<b>Attitude</b>	-.1706	.263	.4850	.001*	.0776	.612
<b>Intention to Behave</b>	.3124	.037*	-.0692	.652	.8395	.000*

\* $p \leq .05$ , significant

In the control group, the data in Table 16 shows a more consistent and significant relationship between pretest-posttest knowledge, pretest-posttest attitude, and pretest-posttest intention to behave. There were no other significant relationships noted among the variables under investigation.

**Table 16.** Pretest and Posttest Relationship Between Knowledge, Attitude, and Intention to Behave Toward Patients with HIV/AIDS in the Control Group.

	Knowledge		POSTTEST Attitude		Intention to Behave	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
<b>PRETEST</b>						
<b>Knowledge</b>	.6322	.000*	-.1603	.293	.0704	.646
<b>Attitude</b>	.0768	.616	.5083	.000*	.0644	.674
<b>Intention to Behave</b>	.1922	.206	.0374	.807	.5743	.000*

\* $p \leq .05$ , significant

The relationship between pretest and posttest knowledge, attitude, and intention to behave as an entire group is shown in Table 17. The data shows that there is a significant relationship between the entire group's pretest and posttest knowledge, pretest attitude and posttest knowledge, pretest and posttest attitude, and pretest and posttest intention to behave.

The above findings revealed some significant relationship between pretest and posttest knowledge, attitude, and intention to behave toward patients with HIV/AIDS among specific groups. The findings continued to support the Theory of Reasoned Action.

**Table 17.** Pretest and Posttest Relationship Between Knowledge, Attitude, and Intention to Behave Toward Patients with HIV/AIDS in the Entire Group.

	Knowledge		POSTTEST Attitude		Intention to Behave	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
<b>PRETEST</b>						
<b>Knowledge</b>	.4082	.000*	.0133	.901	.1184	.266
<b>Attitude</b>	-.2461	.019*	.3211	.002*	.0269	.782
<b>Intention to Behave</b>	-.1267	.234	-.1459	.170	.6150	.000*

\* $p \leq .05$ , significant

## CONCLUSIONS

Based on the study findings, it was evident that the experimental group performed better than the control group. The experimental group scored better on all three outcome measures namely: knowledge, attitude, and intention to behave toward patients with HIV/AIDS. The experimental group, who participated in an AIDS Education program, significantly improved in knowledge, attitude, and intention to behave toward patients with HIV/AIDS. It is reasonable to conclude that the AIDS Education program reinforced nurses' knowledge, attitude, and behavioral intention to care for patients with HIV/AIDS.

The findings of this study support the hypotheses that nurses' knowledge regarding HIV/AIDS on posttest will improve significantly compared to pretest knowledge after the

AIDS Education Program; that those nurses' who have participated in the AIDS Education Program will report a more positive attitude, and intention to behave toward patients with HIV/AIDS than those who have not. Findings did not reveal any significant relationship between sociodemographic variables and nurses' attitudes and intention to behave toward patients with HIV/AIDS. Furthermore, the result of the study fail to demonstrate evidence showing the interaction effects of AIDS Education and sociodemographic variables upon pretest/posttest changes in nurses knowledge, attitude, and intention to behave toward patients with HIV/AIDS.

Other findings revealed that there were some significant correlations between pretest and posttest knowledge, attitude, and intention to behave toward patients with HIV/AIDS among the experimental, control and the entire group. In this study, the AIDS Education Program was found to be a determining factor of changes in the three key variables under study.

## **CHAPTER V**

### **DISCUSSION OF FINDINGS, IMPLICATION, LIMITATIONS, AND RECOMMENDATIONS**

The AIDS Education program utilized in this study was specifically designed and conducted in an acute care setting which provides care to patients with HIV/AIDS. The facility has no dedicated unit specific to care for patients with HIV/AIDS. The program was developed in compliance with the Florida AIDS Law of 1988 and the Florida Board of Nursing requirements for RNs and LPNs license renewal.

In this study the program coordinator utilized a combination of video tapes and lecture/discussion strategies. Previous AIDS Education Programs conducted in this facility were presented using solely the traditional lecture and discussion methods. The presentation of HIV/AIDS information using both strategies may have caused significant changes in the subject's knowledge levels, attitudes, and behavior. The strategy of employing an AIDS Education program among the subjects in the experimental group influenced positive changes not only in their knowledge level, but also in their attitude and behavioral intention. The groups' behavioral intention to care for patients with HIV/AIDS increased from moderate intention to strong intention. The results indicate a marked reduction in their hesitation to interact with HIV-positive/AIDS patients, fear of contagion, and anxiety of being assigned to these patients. The results further strengthened the subject's desire and concern, assuring that patients with HIV/AIDS will receive the same level of quality care as other patients. The subjects in the experimental

group made the greatest gain in knowledge with consequent changes in their attitude and behavior. Significant changes were noted in attitude and behavioral intention to care for patients with HIV/AIDS among the subjects in the experimental group. The changes were below the significance level of .05. These changes may have been influenced by the content of the AIDS Education program presented. The program content included information regarding issues on disease transmission, HIV-positive/HIV patients' real life experiences, concerns, frustrations and fears that were very explicit. A segment portraying an exploration of the caregiver's feelings, negative and positive encounters and experiences dealing with HIV+/AIDS patients may also have contributed to this change. The subjects in the control group on the other hand, although made a small gain in knowledge without being exposed to the AIDS Education program, the change was not as significant as the experimental group. Changes in attitude and behavioral intention to care for patients with HIV/AIDS among the subjects as an entire group in the experimental group were noted, and found to be significant ( $p=.000$ ,  $p=.000$  respectively), below the significance level of .05.

Guided by the Theory of Reasoned Action (TRA), the positive outcome of the study particularly among the subjects in the experimental group, further strengthened the Ajzen and Fishbein's basic principles for change among the dependent variable. The theory further provides a useful conceptual framework for studies using interventions to change knowledge, attitude, and behavioral intention. The TRA is based on the assumption that human beings are usually quite rational and make systematic use of information available



to them. Ajzen and Fishbein (1980) strongly believe that efforts to make behavioral changes should be directed toward the belief salient to the group, and "persuasive communication designed to change intentions should contain information linking the behavior to various positive outcomes" (Ajzen & Fishbein, 1980, p.225). It also accounts for individuals making decisions about performing certain behaviors. The person's attitude lies in his behavioral beliefs that performing a given behavior will lead to mostly positive outcomes and will hold a favorable attitude toward performing a behavior, while a person whose behavior leads to negative outcomes will hold an unfavorable attitude. Changes and beliefs may also result in behavioral change and in order to influence behavior, the individual has to be exposed to information that will produce changes in their beliefs.

In this study, the AIDS Education program was used as the independent variable. The AIDS Education program was successful in changing the AIDS-related pretest/posttest knowledge, attitudes, and behavioral intention of nurses to care for patients with HIV/AIDS. The subjects in the experimental group, overall, showed significant differences in their pretest/posttest knowledge, attitude, and behavioral intention.

This study confirms the positive effects of an AIDS Education program on nurses' knowledge, attitude, and behaviors toward patients with HIV/AIDS revealed in previous studies (Flaskerud, 1989; Pederson, 1990). It also supports the outcome of the study conducted by Flaskerud (1989), measuring the effectiveness of an AIDS Education

Program in changing nurses' knowledge and attitudes. Predicting behavioral intention of nurses to care for patients with HIV/AIDS, the result of this study also supports Laschinger and Goldenberg's studies (1993). Findings showed that nurses' attitudes and subjective norms are significant predictors of behavioral intention, which is consistent with the Theory of Reasoned Action.

When the subjects were categorized according to their sociodemographic characteristics, changes in their knowledge, attitude, and behavioral intention levels were found to have no significant correlations. This indicates that although the groups differed in some ways, their sociodemographic characteristics were not influential in changing their knowledge, attitude and behavioral intention. The control group on the other hand, although some changes have occurred, did not perform as well as the experimental group. Furthermore, the positive results of the outcome measures supported the hypotheses, and answered the research question. The degree of change on the dependent variables among the subjects in the experimental group, was affected by the impact brought upon by the treatment or the extent of manipulation performed on the independent variable, which in this case, the AIDS Education program. The effectiveness of an AIDS Education Program on bringing about positive changes in nurses' knowledge, attitude, and behavioral intention to care for patients with HIV/AIDS, is evident in this study, providing empirical validation of the Theory of Reasoned Action.

## **IMPLICATIONS FOR NURSING**

Nurses' are increasingly participating and making important contributions to research

in different aspects of HIV/AIDS care. Nurses' participatory efforts are greatly needed at this time of crisis to modify unfavorable outcome measures at its early stage.

The study has implications for a patient care delivery system particularly among this patient population. Knowing and understanding nurses' knowledge, attitude, and behavioral intention to care for patients with HIV/AIDS will provide hospital administrators an understanding of nurses' concerns, fears and limitations. This will guide nursing administrators to develop guidelines in modifying policies and procedures specific to HIV/AIDS care. This study has also implications for hospital administrators in decision making to establish a dedicated unit specific to patients with HIV/AIDS. Although the effectiveness of the use of audio/visual versus traditional lecture/discussion method was not explored in this study, nursing educators may use the results in program content planning, implementation and future research.

Other implications to nursing include: (a) provision of quality care by knowledgeable and positively competent nurses and, (b) provision of a non-judgmental and non-discriminatory care to patients with HIV/AIDS. Nurses need to keep abreast with the current trends and issues about the disease, and how to care for patients with HIV/AIDS. In order for the nurse to intelligently disseminate the HIV/AIDS information to the patient, he or she must be knowledgeable about the disease. Since there is no known cure for AIDS at the present time, education plays a very important role in the prevention of the spread of the disease. The AIDS education experience may help clarify critical issues, dispel myths and beliefs about the disease, allay nurses' anxieties and

overcome prejudices toward people afflicted by HIV/AIDS.

## **LIMITATIONS**

This study has the following limitations:

1. The setting was in a single demographic area in which the subjects in the experimental and control groups interact and hence, the possibility of subject contamination cannot be ruled out.
2. Lack of homogeneity in the groups' sociodemographic characteristics resulting in failure to establish normal distribution of the subjects in both study groups.
3. Because of time constraints, the researcher was not able to perform a two (2) to three (3) months retest post-treatment as previously proposed.

## **RECOMMENDATIONS**

1. A similar study should be conducted on a larger scale of nursing population in a different demographic setting. The sample should include nurses directly involved in the care of patients with HIV/AIDS, in a setting where there is a dedicated unit for HIV-positive/AIDS patients.
2. A similar study should be conducted utilizing and comparing the effects of two teaching methodologies, ie., traditional (lecture/discussion) versus video presentation.
3. The study should be replicated and attention should be directed to long-term effect of the AIDS Education program, ie., 6 months to 1 year.
4. To ascertain its validity and reliability, further testing should be conducted on the

behavioral intention tool "HIV/AIDS: Intention to Care".

5. For future studies, research design should be tightened by better control of data collection schedule.



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## Appendix A

# HIV/AIDS UPDATE FOR NURSES & OTHER HEALTH CARE PROFESSIONALS: CLINICAL MANAGEMENT IN THE NINETIES

### PRETEST

This survey is being conducted to obtain data regarding the effects of AIDS education program on nurse's knowledge, attitudes and intention to behave toward HIV-positive/AIDS patients in the hospital. The study is part of a masters level requirement for Cezar D. Dumago, Jr., R.N.,C., BSN. ARNP, a student enrolled in the Graduate Program in Nursing at Florida International University.

The survey takes about 7-10 minutes to complete. Please answer the questions as frankly and fully as possible. **This survey is anonymous and confidential.** Please do not write your name anywhere on these pages. Answering this survey is voluntary. You may stop at any time and there is no penalty. I appreciate your participation.

If you need additional information about the survey, please contact Cezar D. Dumago, Jr. at (305) 735-6000 extension 4255 or Dr. Luz Porter (advisor for this project) at (305) 940-5971.

**Direction: Please indicate your agreement or disagreement with the following statements by placing a check (✓) mark on the line under the appropriate response heading for each item.**

	<u>YES</u>	<u>NO</u>	For office use only
1. In the general population, HIV is commonly spread through:	<u>      </u>	<u>      </u>	
a. Sexual transmission	<u>      </u>	<u>      </u>	<u>      </u> /01
b. Transmission by food handlers	<u>      </u>	<u>      </u>	<u>      </u> /02
c. Perinatal transmission	<u>      </u>	<u>      </u>	<u>      </u> /03
d. Airborne transmission	<u>      </u>	<u>      </u>	<u>      </u> /04
e. Transmission in the water supply	<u>      </u>	<u>      </u>	<u>      </u> /05
f. Intravenous transmission	<u>      </u>	<u>      </u>	<u>      </u> /06
2. The groups defined by the Centers for Disease Control as major transmission categories are:	<u>      </u>	<u>      </u>	
a. Homosexual or bisexual males	<u>      </u>	<u>      </u>	<u>      </u> /07
b. Donors of blood or blood products	<u>      </u>	<u>      </u>	<u>      </u> /08
c. I.V. drug users	<u>      </u>	<u>      </u>	<u>      </u> /09
d. Hemophiliacs	<u>      </u>	<u>      </u>	<u>      </u> /10
e. Infants born to mothers infected with the virus	<u>      </u>	<u>      </u>	<u>      </u> /11
f. Lesbians	<u>      </u>	<u>      </u>	<u>      </u> /12
3. AIDS is more common in the African American and Latino heterosexual population than in the white heterosexual population.	<u>      </u>	<u>      </u>	<u>      </u> /13
4. Co-factors which increase the risk of HIV infection are:	<u>      </u>	<u>      </u>	
a. Coincident infection with sexually transmitted diseases	<u>      </u>	<u>      </u>	<u>      </u> /14
b. Sharing Marijuana	<u>      </u>	<u>      </u>	<u>      </u> /15
c. Anal-receptive intercourse	<u>      </u>	<u>      </u>	<u>      </u> /16
d. Over-use of antibiotics for infectious diseases	<u>      </u>	<u>      </u>	<u>      </u> /17
e. Repeated sexual or IV exposure to infected persons	<u>      </u>	<u>      </u>	<u>      </u> /18
f. Malnutrition	<u>      </u>	<u>      </u>	<u>      </u> /19
g. Coincident infection with HBV(Hepatis B Virus)	<u>      </u>	<u>      </u>	<u>      </u> /20

PRETEST

Please indicate your agreement or disagreement with the following statement by placing a check(✓) mark on the line under the appropriate response heading for each item.

		<u>YES</u>	<u>NO</u>	For office use only
5. The following could be signs or symptoms of possible HIV infection/AIDS:				
a.	Loss of memory and concentration	_____	_____	_____ /21
b.	Tremor	_____	_____	_____ /22
c.	Weight loss	_____	_____	_____ /23
d.	Diarrhea	_____	_____	_____ /24
e.	Cough	_____	_____	_____ /25
f.	Difficulty breathing	_____	_____	_____ /26
g.	Swollen glands	_____	_____	_____ /27
h.	Fevers	_____	_____	_____ /28
i.	Blurred visions	_____	_____	_____ /29
j.	Cholelithiasis	_____	_____	_____ /30
k.	Depression	_____	_____	_____ /31
l.	Chronic fatigue	_____	_____	_____ /32
6. When taking a sexual history, it is important to ask about:				
a.	Number of sexual partners	_____	_____	_____ /33
b.	Gender of sexual partners	_____	_____	_____ /34
c.	Current level of sexual activity	_____	_____	_____ /35
d.	Type of sexual activity (oral/anal/other)	_____	_____	_____ /36
e.	Number of anonymous sexual partners	_____	_____	_____ /37
f.	Number of sexual partners in the last year	_____	_____	_____ /38
g.	History of sexually transmitted diseases	_____	_____	_____ /39
h.	Use of birth control pills	_____	_____	_____ /40
7. Transmission of HIV infection in the workplace can occur through:				
		<u>YES</u>	<u>NO</u>	
a.	Needle-stick injuries	_____	_____	_____ /41
b.	Prolonged skin contact with blood	_____	_____	_____ /42
c.	Skin-to-skin contact	_____	_____	_____ /43
d.	Sneezing or coughing	_____	_____	_____ /44
e.	Mouth-to-mouth resuscitation	_____	_____	_____ /45
f.	Caring for a homosexual patient	_____	_____	_____ /46
8. Nurses should be allowed to refuse to care for patient with AIDS in the following circumstances:				
		<u>YES</u>	<u>NO</u>	
a.	Any circumstances	_____	_____	_____ /47
b.	The nurse is pregnant	_____	_____	_____ /48
c.	The nurse is immuno-suppressed her/himself	_____	_____	_____ /49
d.	The nurse is HIV infected	_____	_____	_____ /50
e.	The nurse disapproves of the patient's life style	_____	_____	_____ /51
f.	No circumstances	_____	_____	_____ /52

Please indicate your agreement or disagreement with the following statements by placing a check(✓) mark on the line under the appropriate response heading for each item.

- |                                                                                                                                       | <u>YES</u> | <u>NO</u> | For office use only |
|---------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|---------------------|
| 9. I have refused to take care of a patient with HIV infection/AIDS.                                                                  | _____      | _____     | _____ /53           |
| 10. Nurses and other health care workers have a right to know if a patient is HIV infected.                                           | _____      | _____     | _____ /54           |
| 11. Patients have a right to know if a nurse or other health care is HIV infected.                                                    | _____      | _____     | _____ /55           |
| 12. HIV testing should be mandatory for all persons coming to a hospital for surgery.                                                 | _____      | _____     | _____ /56           |
| 13. I am uncomfortable taking care of a patient with AIDS because.                                                                    | <u>YES</u> | <u>NO</u> |                     |
| a. AIDS may involve drug use                                                                                                          | _____      | _____     | _____ /57           |
| b. AIDS may involve homosexuality                                                                                                     | _____      | _____     | _____ /58           |
| c. AIDS may involve death                                                                                                             | _____      | _____     | _____ /59           |
| d. I could become infected                                                                                                            | _____      | _____     | _____ /60           |
| 14. I have taken care of a patient with HIV infection/AIDS in the last six(6) months.                                                 | _____      | _____     | _____ /61           |
| 15. Hospitals can offer psychosocial support to nurses caring for persons with AIDS by:                                               | <u>YES</u> | <u>NO</u> |                     |
| a. Formulating clear guidelines for infection control and teaching these                                                              | _____      | _____     | _____ /62           |
| b. Providing mental health consultation services and support groups for nurses                                                        | _____      | _____     | _____ /63           |
| c. Formulating clear guidelines regarding the obligation to treat and communicating these                                             | _____      | _____     | _____ /64           |
| d. Changing the assignment of nurses who object to caring for AIDS patients                                                           | _____      | _____     | _____ /65           |
| e. Providing clear guidelines for resuscitation orders                                                                                | _____      | _____     | _____ /66           |
| f. Providing follow-up and treatment for nurses with needlestick injuries                                                             | _____      | _____     | _____ /67           |
| g. Setting up a special care unit for AIDS patients and using voluntary nurse assignment to these units                               | _____      | _____     | _____ /68           |
| 16. The Public Health Service and the Centers for Disease Control give the public accurate information about the transmission of HIV. | _____      | _____     | _____ /69           |
| 17. There is an effective vaccine for HIV that is currently being tested.                                                             | _____      | _____     | _____ /70           |



**PRETEST**

	<u>YES</u>	<u>NO</u>	For Office Use Only
18. I personally know someone who			
a. is HIV-positive	_____	_____	_____ /71
b. has AIDS	_____	_____	_____ /72
19. If the answer to 18 a. is "YES", the person is a:			
a. personal friend	_____	_____	_____ /73
b. relative	_____	_____	_____ /74
20. If the answer to 18 b. is "YES", the person is a:			
a. personal friend	_____	_____	_____ /75
b. relative	_____	_____	_____ /76

**Number of previous Continuing Education courses taken on AIDS** \_\_\_\_\_ /77-78

**Your present Primary Assignment is to what Clinical Unit?**  
(Choose ONE and circle the corresponding number)

- 1 Orthopedic Unit
- 2 Surgical Unit
- 3 Medical Unit
- 4 Oncology Unit
- 5 Ambulatory Surgery Unit
- 6 Other (specify) \_\_\_\_\_ /79-80

**Number of Years in Present Nursing Occupation** \_\_\_\_\_ /81-82

**Please indicate your highest level of nursing education (choose ONE and circle the corresponding number)**

- 1 Vocational/Technical Certificate (LPN)
- 1 Diploma
- 2 Associate degree
- 3 Bachelors degree
- 4 Masters degree
- 5 Doctorate degree \_\_\_\_\_ /83

**Sex:**

- 1 Female
- 2 Male \_\_\_\_\_ /84

**Marital Status:**

- 1 Married
- 2 Never Married
- 3 Widowed
- 4 Divorced
- 5 Separated \_\_\_\_\_ /85

Age (at last birthday): \_\_\_\_\_

\_\_\_\_\_/86-87

**Religion:**

- 1 Catholic
- 2 Protestant
- 3 Jewish
- 4 None
- 5 Other (specify) \_\_\_\_\_

\_\_\_\_\_/88

**Ethnic/Racial/Cultural Group:**

- 1 White, non-Hispanic
- 2 Black or African American/non-Hispanic
- 3 Hispanic/Latino
- 4 Asian American/Pacific Islander
- 5 American Indian or native American
- 6 Other (specify) \_\_\_\_\_

\_\_\_\_\_/89

Please indicate your zip code in the space provided \_\_\_\_\_

\_\_\_\_\_/90

**Thank you for your time !**

# HIV/AIDS UPDATE FOR NURSES & OTHER HEALTH CARE PROFESSIONALS: CLINICAL MANAGEMENT IN THE NINETIES

This survey is being conducted to obtain data regarding the effects of AIDS education program on nurses' knowledge, attitudes and intention to behave toward HIV-positive/AIDS patients in the hospital. The study is part of a masters level requirement for Cezar D. Dumago, Jr., R.N.,C.. BSN, ARNP, a student enrolled in the Graduate Program in Nursing at Florida International University.

The survey takes about 7-10 minutes to complete. Please answer the questions as frankly and fully as possible. **This survey is anonymous and confidential.** Please do not write your name anywhere on these pages. Answering this survey is voluntary. You may stop at any time and there is no penalty. I appreciate your participation.

If you need additional information about the survey, please contact Cezar D. Dumago, Jr. at (305) 735-6000 extension 4255 or Dr. Luz Porter (advisor for this project) at (305) 940-5971.

**Direction: Please indicate your agreement or disagreement with the following statements by placing a check (✓) mark on the line under the appropriate response heading for each item.**

If I am assigned to care for HIV/AIDS patient, I would:

	Strongly Agree	Agree	Neither Agree/ Disagree	Disagree	Strongly Disagree
1. Attend to the HIV/AIDS patient's needs the same way I treat other patients.	_____	_____	_____	_____	_____
2. Provide emotional support by staying with the patient and talking to him/her.	_____	_____	_____	_____	_____
3. Protect the patient from acquiring nosocomial or any opportunistic infection by applying universal precautions.	_____	_____	_____	_____	_____
4. Wash my hands before and after taking care of patient the same way as when I handle non-HIV/AIDS patient.	_____	_____	_____	_____	_____
5. Wear gloves in every situation where there might be spillage of patient's blood.	_____	_____	_____	_____	_____
6. Perform CPR if the patient had a cardiac or respiratory arrest.	_____	_____	_____	_____	_____
7. Red bag all items that were in contact with the HIV/AIDS patient.	_____	_____	_____	_____	_____
8. Resheath needles after use.	_____	_____	_____	_____	_____
9. Provide minimum care.	_____	_____	_____	_____	_____
10. Minimize direct skin to skin contact with the patient.	_____	_____	_____	_____	_____
11. Visit the patient less frequent.	_____	_____	_____	_____	_____

**Please indicate your agreement or disagreement with the following statement by placing a check(✓) mark on the line under the appropriate response heading for each item.**

	Strongly Agree	Agree	Neither Agree/ Disagree	Disagree	Strongly Disagree
12. Wear mask and gown every time I go into the patient's room.	_____	_____	_____	_____	_____
13. Make the patient comfortable by not withholding patient's pain medication.	_____	_____	_____	_____	_____
14. Keep my distance from the patient at all times.	_____	_____	_____	_____	_____
15. Request for change of clinical assignment.	_____	_____	_____	_____	_____
16. Exchange assignment with another nurse.	_____	_____	_____	_____	_____
17. Discuss the assignment with my immediate superior.	_____	_____	_____	_____	_____
18. Totally refuse the assignment.	_____	_____	_____	_____	_____
19. Walk off my job.	_____	_____	_____	_____	_____
20. Resign from my job.	_____	_____	_____	_____	_____

**Thank you for your time!**

# HIV/AIDS UPDATE FOR NURSES & OTHER HEALTH CARE PROFESSIONALS: CLINICAL MANAGEMENT IN THE NINETIES

POSTEST

This is a follow-up survey after the AIDS Program to obtain data regarding the effects of AIDS education on nurse's knowledge, attitudes and intention to behave toward HIV-positive/AIDS patients in the hospital. The study is a part of a masters level requirement for

Cezar D. Dumago, Jr., R.N., C., BSN, ARNP, a student enrolled in the Graduate Program in Nursing at Florida International University.

The survey takes about 7-10 minutes to complete. Please answer the questions as frankly and fully as possible. **This survey is anonymous and confidential.** Please do not write your name anywhere on these pages. Answering this survey is voluntary. You may stop at any time and there is no penalty. I appreciate your participation.

If you need additional information about the survey, please contact Cezar D. Dumago, Jr. at (305) 735-6000 extension 4255 or Dr. Luz Porter (advisor for this project) at (305) 940-5971.

**Direction: Please indicate your agreement or disagreement with the following statements by placing a check(✓) mark on the line under the appropriate response heading for each item.**

- |                                                                                                                          |            |           |                     |
|--------------------------------------------------------------------------------------------------------------------------|------------|-----------|---------------------|
| 1. In the general population, HIV is commonly spread through:                                                            | <u>YES</u> | <u>NO</u> | For office use only |
| a. Sexual transmission                                                                                                   | _____      | _____     | _____ /01           |
| b. Transmission by food handlers                                                                                         | _____      | _____     | _____ /02           |
| c. Perinatal transmission                                                                                                | _____      | _____     | _____ /03           |
| d. Airborne transmission                                                                                                 | _____      | _____     | _____ /04           |
| e. Transmission in the water supply                                                                                      | _____      | _____     | _____ /05           |
| f. Intravenous transmission                                                                                              | _____      | _____     | _____ /06           |
| 2. The groups defined by the Centers for Disease Control as major transmission categories are:                           | <u>YES</u> | <u>NO</u> |                     |
| a. Homosexual or bisexual males                                                                                          | _____      | _____     | _____ /07           |
| b. Donors of blood or blood products                                                                                     | _____      | _____     | _____ /08           |
| c. I.V. Drug users                                                                                                       | _____      | _____     | _____ /09           |
| d. Hemophiliacs                                                                                                          | _____      | _____     | _____ /10           |
| e. Infants born to mothers infected with the virus                                                                       | _____      | _____     | _____ /11           |
| f. Lesbians                                                                                                              | _____      | _____     | _____ /12           |
| 3. AIDS is more common in African American and Latino heterosexual population than in the white heterosexual population. | <u>YES</u> | <u>NO</u> |                     |
|                                                                                                                          | _____      | _____     | _____ /13           |
| 4. Co-factors which increase the risk of HIV infection are:                                                              | <u>YES</u> | <u>NO</u> |                     |
| a. Coincident infection with sexually transmitted diseases                                                               | _____      | _____     | _____ /14           |
| b. Sharing Marijuana                                                                                                     | _____      | _____     | _____ /15           |
| c. Anal-receptive intercourse                                                                                            | _____      | _____     | _____ /16           |
| d. Over-use of antibiotics for infectious diseases                                                                       | _____      | _____     | _____ /17           |
| e. Repeated sexual or I.V. exposure to infected persons                                                                  | _____      | _____     | _____ /18           |
| f. Malnutrition                                                                                                          | _____      | _____     | _____ /19           |
| g. Coincident infection with HBV(Hepatitis B virus)                                                                      | _____      | _____     | _____ /20           |

Please indicate your agreement or disagreement with the following statement by placing a check(✓) mark on the line under the appropriate response heading for each item.

		<u>YES</u>	<u>NO</u>	For office use only
5.	The following could be signs or symptoms of possible HIV infection/AIDS:			
a.	Loss of memory and concentration	_____	_____	_____/21
b.	Tremor	_____	_____	_____/22
c.	Weight Loss	_____	_____	_____/23
d.	Diarrhea	_____	_____	_____/24
e.	Cough	_____	_____	_____/25
f.	Difficulty breathing	_____	_____	_____/26
g.	Swollen glands	_____	_____	_____/27
h.	Fever	_____	_____	_____/28
i.	Blurred vision	_____	_____	_____/29
j.	Cholelithiasis	_____	_____	_____/30
k.	Depression	_____	_____	_____/31
l.	Chronic fatigue	_____	_____	_____/32
6.	When taking a sexual history, it is important to ask about:	<u>YES</u>	<u>NO</u>	
a.	Number of sexual partners	_____	_____	_____/33
b.	Gender of sexual partners	_____	_____	_____/34
c.	Current level of sexual activity	_____	_____	_____/35
d.	Type of sexual activity (oral/anal/other)	_____	_____	_____/36
e.	Number of anonymous sexual partners	_____	_____	_____/37
f.	Number of sexual partners in the last year	_____	_____	_____/38
g.	History of sexually transmitted diseases	_____	_____	_____/39
h.	Use of birth control pills	_____	_____	_____/40
7.	Transmission of HIV infection in the workplace can occur through:	<u>YES</u>	<u>NO</u>	
a.	Needle-stick injuries	_____	_____	_____/41
b.	Prolonged skin contact with blood	_____	_____	_____/42
c.	Skin-to-skin contact	_____	_____	_____/43
d.	Sneezing or coughing	_____	_____	_____/44
e.	Mouth-to-mouth resuscitation	_____	_____	_____/45
f.	Caring for a homosexual patient	_____	_____	_____/46
8.	Nurses should be allowed to refuse to care for a patient with AIDS in the following circumstances:	<u>YES</u>	<u>NO</u>	
a.	Any circumstances	_____	_____	_____/47
b.	The nurse is pregnant	_____	_____	_____/48
c.	The nurse is immuno-suppressed her/himself	_____	_____	_____/49
d.	The nurse is HIV infected	_____	_____	_____/50
e.	The nurse disapproves of the patient's life style	_____	_____	_____/51
f.	No circumstances	_____	_____	_____/52

Please indicate your agreement or disagreement with the following statements by placing a check(✓) mark on the line under the appropriate response heading for each item.

	<u>YES</u>	<u>NO</u>	For office use only
9. I have refused to take care of a patient with HIV infection/AIDS.	_____	_____	_____ /53
10. Nurses and other health care workers have a right to know if a patient is HIV infected.	_____	_____	_____ /54
11. Patients have a right to know if a nurse or other health care worker is HIV infected.	_____	_____	_____ /55
12. HIV testing should be mandatory for all persons coming to a hospital for surgery	_____	_____	_____ /56
13. I am uncomfortable taking care of a patient with AIDS because:	<u>YES</u>	<u>NO</u>	
a. AIDS may involve drug use	_____	_____	_____ /57
b. AIDS may involve homosexuality	_____	_____	_____ /58
c. AIDS may involve death	_____	_____	_____ /59
d. I could become infected	_____	_____	_____ /60
14. I have taken care of a patient with HIV infection/AIDS in the last six(6) months	_____	_____	_____ /61
15. Hospitals can offer psychosocial support to nurses caring for persons with AIDS by:	<u>YES</u>	<u>NO</u>	
a. Formulating clear guidelines for infection control and teaching these	_____	_____	_____ /62
b. Providing mental health consultation services and support groups for nurses	_____	_____	_____ /63
c. Formulating clear guidelines regarding the obligation to treat and communicating these	_____	_____	_____ /64
d. Changing the assignment for nurses who object to caring for AIDS patients	_____	_____	_____ /65
e. Providing clear guidelines for resuscitation orders	_____	_____	_____ /66
f. Providing follow-up and treatment for nurses with needlestick injuries	_____	_____	_____ /67
g. Setting up a special care unit for AIDS patients and using voluntary nurse assignment to these units	_____	_____	_____ /68
16. The Public Health Service and the Centers for Disease Control give the public accurate information about the transmission of HIV.	_____	_____	_____ /69
17. There is an effective vaccine for HIV that is currently being tested.	_____	_____	_____ /70

18. I personally know someone who	<u>YES</u>	<u>NO</u>	For Office Use Only
a. is HIV-positive	_____	_____	_____ /71
b. has AIDS	_____	_____	_____ /72
19. If the answer to No. 18 a. is "YES", the person is a:	<u>YES</u>	<u>NO</u>	
a. personal friend	_____	_____	_____ /73
b. relative	_____	_____	_____ /74
20. If the answer to No 18 b. is "YES", the person is a:	<u>YES</u>	<u>NO</u>	
a. personal friend	_____	_____	_____ /75
b. relative	_____	_____	_____ /76
Number of previous Continuing Education courses taken on AIDS _____			_____ /77-78

**Your present Primary Assignment is to which Clinical Unit?  
(Choose ONE and circle the corresponding number)**

- 1. Orthopedic Unit
- 2. Surgical Unit
- 3. Medical Unit
- 4. Oncology Unit
- 5. Ambulatory Surgery Unit
- 6. Other (specify) \_\_\_\_\_ /79-80

**Number of Years in Present Nursing Occupation \_\_\_\_\_ /81-82**

**Please indicate your highest level of education (choose ONE and circle the corresponding number)**

- 1. Vocational/Technical Certificate (LPN)
- 2. Diploma
- 3. Associate degree
- 4. Bachelors degree
- 5. Masters degree
- 6. Doctorate degree \_\_\_\_\_ /83

**Sex**

- 1. Female
- 2. Male \_\_\_\_\_ /84

**Marital Status**

- 1. Married
- 2. Never Married
- 3. Widowed
- 4. Divorced
- 5. Separated \_\_\_\_\_ /85



For Office Use Only  
\_\_\_\_\_/86-87

Age (at last birthday): \_\_\_\_\_

**Religion:**

- 1. Catholic
- 2. Protestant
- 3. Jewish
- 4. None
- 5. Other (specify) \_\_\_\_\_

\_\_\_\_\_/88

**Ethnic/Racial/Cultural Group:**

- 1. White, non-Hispanic
- 2. Black or African American/non-Hispanic
- 3. Hispanic/Latino
- 4. Asian American/Pacific Islander
- 5. American Indian or native American
- 6. Other (specify) \_\_\_\_\_

\_\_\_\_\_/89

Please indicate your zipcode in the space provided: \_\_\_\_\_

\_\_\_\_\_/90

**Thank you for your time!**

# HIV/AIDS UPDATE FOR NURSES & OTHER HEALTH CARE PROFESSIONALS: CLINICAL MANAGEMENT IN THE NINETIES

This survey is being conducted to obtain data regarding the effects of AIDS education program on nurses' knowledge, attitudes and intention to behave toward HIV-positive/AIDS patients in the hospital. The study is part of a masters level requirement for Cezar D. Dumago, Jr., R.N.,C., BSN, ARNP, a student enrolled in the Graduate Program in Nursing at Florida International University.

The survey takes about 7-10 minutes to complete. Please answer the questions as frankly and fully as possible. **This survey is anonymous and confidential.** Please do not write your name anywhere on these pages. Answering this survey is voluntary. You may stop at any time and there is no penalty. I appreciate your participation.

If you need additional information about the survey, please contact Cezar D. Dumago, Jr. at (305) 735-6000 extension 4255 or Dr. Luz Porter (advisor for this project) at (305) 940-5971.

**Direction: Please indicate your agreement or disagreement with the following statements by placing a check (✓) mark on the line under the appropriate response heading for each item.**

If I am assigned to care for HIV/AIDS patient, I would:	Strongly Agree	Agree	Neither Agree/ Disagree	Disagree	Strongly Disagree
1. Attend to the HIV/AIDS patient's needs the same way I treat other patients.	_____	_____	_____	_____	_____
2. Provide emotional support by staying with the patient and talking to him/her.	_____	_____	_____	_____	_____
3. Protect the patient from acquiring nosocomial or any opportunistic infection by applying universal precautions.	_____	_____	_____	_____	_____
4. Wash my hands before and after taking care of patient the same way as when I handle non-HIV/AIDS patient.	_____	_____	_____	_____	_____
5. Wear gloves in every situation where there might be spillage of patient's blood.	_____	_____	_____	_____	_____
6. Perform CPR if the patient had a cardiac or respiratory arrest.	_____	_____	_____	_____	_____
7. Red bag all items that were in contact with the HIV/AIDS patient.	_____	_____	_____	_____	_____
8. Resheath needles after use.	_____	_____	_____	_____	_____
9. Provide minimum care.	_____	_____	_____	_____	_____
10. Minimize direct skin to skin contact with the patient.	_____	_____	_____	_____	_____
11. Visit the patient less frequent.	_____	_____	_____	_____	_____

**Please indicate your agreement or disagreement with the following statement by placing a check(✓) mark on the line under the appropriate response heading for each item.**

	Strongly Agree	Agree	Neither Agree/ Disagree	Disagree	Strongly Disagree
12. Wear mask and gown every time I go into the patient's room.	_____	_____	_____	_____	_____
13. Make the patient comfortable by not withholding patient's pain medication.	_____	_____	_____	_____	_____
14. Keep my distance from the patient at all times.	_____	_____	_____	_____	_____
15. Request for change of clinical assignment.	_____	_____	_____	_____	_____
16. Exchange assignment with another nurse.	_____	_____	_____	_____	_____
17. Discuss the assignment with my immediate superior.	_____	_____	_____	_____	_____
18. Totally refuse the assignment.	_____	_____	_____	_____	_____
19. Walk off my job.	_____	_____	_____	_____	_____
20. Resign from my job.	_____	_____	_____	_____	_____

**Thank you for your time!**

## Appendix B

### **INFORMED CONSENT**

My name is Cezar D. Dumago, Jr., R.N., C., ARNP. I am a graduate student at Florida International University School of Nursing. I am conducting a study designed to investigate the effects of AIDS education program on the attitudes of nurses toward HIV/AIDS patients. This study has been approved by the Institutional Review Board (IRB) of Florida International University and Florida Medical Center.

Approximately one hundred(100) subjects will be accepted to participate in the study. If you agree to participate in this study, you will be given a questionnaire (Pretest). After the pretest, the subjects will be randomly assigned to the treatment (N=50) or control (N=50) group. A week after the pretest, the participants in the treatment group will be given a two-hour AIDS workshop. A posttest will be administered immediately after the workshop. Your participation in the AIDS Workshop will earn you two (2.0) contact hours. A follow-up questionnaire (Retest) will be given to all the participants two (2) months later. All information provided will be held with strict confidentiality.

Participation in this research is totally voluntary. You are free to withdraw at any time during the study without penalty, any data provided at this time will be eliminated.

If you need additional information about the survey, please contact Cezar D. Dumago, Jr., at (305) 735-6000 extension 4255 or Dr. Luz S. Porter (advisor for this project) at (305) 940-5971.

I acknowledge that I have been informed of, and understand the nature and purpose

of this study, and hereby consent to participate. I also acknowledge that I am over  
eighteen (18) years of age.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix C

# **AIDS EDUCATION PROGRAM FOR HEALTH CARE EMPLOYEE PROGRAM DESCRIPTION, OBJECTIVES, METHODOLOGIES AND LEARNING ACTIVITIES, AND PROGRAM OUTLINE DESCRIPTION**

This program was developed specifically for the nurse and other health care professionals who are in practice to provide knowledge related to the acquired immunodeficiency syndrome (AIDS) with respect to risks, concerns, and practical applications. The two (2) hour program features didactic and workshop sessions that will allow discussion, audience participation, and question/answer periods. The workshop will provide practical skills that apply to patient care.

### **TEACHING STRATEGIES**

1. Lecture/discussion
2. Use of overhead transparency film
3. Questions and answers after each video
4. Video presentation in 3 modules:
  - Module 1: Overcoming Fear
  - Module 2: Disease Overview
  - Module 3: Protecting yourself and the patient

### **OBJECTIVES**

Upon completion of the program, the participants will be able to:

1. State how HIV (human immunodeficiency virus) can be transmitted, prevented and controlled.
2. Explain basic needs, care, and treatment for persons infected with HIV.
3. Identify Risky and Safer Behaviors.
4. Establish an awareness of attitudes and behaviors associated with HIV infection and AIDS.

# **AIDS EDUCATION PROGRAM FOR NURSES AND OTHER HEALTH CARE**

## **EMPLOYEES**

### **PROGRAM OUTLINE**

- I. Description of HIV Infection/AIDS
  - A. The AIDS epidemic
  - B. Basic Immunology and Virology
  - C. Definition and stages of the disease
  - D. Epidemiology of HIV infection
  - E. Clinical Care
  - F. HIV counseling, testing and partner notification
- II. Transmission of HIV
  - A. Sexual.
  - B. Blood and Blood products
  - C. Perinatal transmission.
  - D. Non-transmission facts
- III. Prevention and Control
  - A. Sexual
    - 1. Abstinence
    - 2. Monogamy
    - 3. Safer Sex
  - B. Nonsexual



1. Abstinence from Intravenous Drug use (IDU)
  2. Substance abuse rehabilitation
  3. Clean needles and syringes
- C. Perinatal
- D. Universal Precautions
- IV. Attitude and Behavior Change
- A. Conquer fear through knowledge and education
  - B. Personalize safer behaviors
  - C. Maintain overall healthy lifestyles
- V. Florida Medical Center Policies and Procedures
- A. Workplace Issues
    1. Working with HIV/AIDS patients
    2. Personnel with AIDS/HIV infection
    3. Testing of Personnel/Patients
    4. Confidentiality issues/Informed consent
  - B. Infection control in the workplace
- VI. Legal Issues
1. Confidentiality
  2. Informed consent
  3. Non-discrimination
  4. Case reporting by physician

## References

AIDS Alert (1991-1994). 6-9 (1-12), Atlanta: Georgia, American Health Consultants, Inc.

Centers for Disease Control (1991). Recommendations for prevention of transmission of human immunodeficiency virus and hepatitis B virus to patients during exposure-prone invasive procedures, 40 (RR-8).

Centers for Disease Control (1989). Guidelines for prevention of transmission of human immunodeficiency virus and hepatitis B virus to health care and public safety workers, 38 (6).

Centers for Disease Control (1987). Recommendations for prevention of HIV transmission in healthcare settings, 36 (6).

DeVita, V.T., Hellman, H., & Rosenberg, S.A. (1988). AIDS: Etiology, diagnosis, treatment and prevention. New York, NY: J.B. Lippincott Company.

Flaskerud, J.H. & Ungvarski, P.J. (1994). HIV/AIDS: A guideline to nursing care. Philadelphia, PA: W.B. Saunders Company.

Florida Statute Number 381 (1988). (With revisions from 1989, 1990, and 1991.)

U.S. Department of Health and Human Services, Centers for Disease Control (1990). HIV/AIDS Surveillance.

U.S. Department of Labor and Human Services (1991). Blood and bloodborne pathogens. Final Rule 29 CFR Part 1910.1030, Federal Register.

Appendix D

**FLORIDA INTERNATIONAL UNIVERSITY  
UNIVERSITY RESEARCH COUNCIL (URC)**

**APPLICATION FOR APPROVAL OF RESEARCH INVOLVING HUMAN  
SUBJECTS**

1. **PROJECT TITLE:** "EFFECTS OF AIDS EDUCATION PROGRAM ON NURSES'  
KNOWLEDGE, ATTITUDES AND INTENTION TO BEHAVE TOWARD HIV-POSITIVE  
/AIDS PATIENT."
  
2. **PRINCIPAL INVESTIGATOR:** CEZAR D. DUMAGO, JR. SS#: 196-58-9533  
Address: 9340 N.W. 35th Manor, Sunrise, Florida 33351 Phone #: (305) 742-2757  
Position: [ ] Faculty [  ] Graduate Student [ ] Undergraduate Student [ ] Other (Specify)\_\_\_\_\_
  
3. **FACULTY SUPERVISOR (if PI is a student):** Luz S. Porter, PhD, RN, Professor
  
4. **STATUS OF PROJECT REVIEW:**  
[  ] New Project [ ] Revision of previously approved project [ ] Continuation of approved project
  
5. **BRIEF DESCRIPTION OF SUBJECTS:**  
Number of subjects: Approximately one hundred (100), fifty (50) nurses in the treatment group and fifty (50) nurses in the control group  
Check all of the following categories that describe your research subjects:  
[  ] Males  
[  ] Females  
[ ] Minors (under 18 years old)  
[ ] Students (Please Specify): \_\_\_\_\_  
[ ] Persons With Physical Disabilities (Please Specify): \_\_\_\_\_  
[ ] Persons With Mental/Psychological Disabilities (Please Specify): \_\_\_\_\_  
[ ] Persons With Physical or Mental Health Problems (Please Specify): \_\_\_\_\_  
[  ] Persons With No Known Disabilities and No Known Health Problems  
[ ] Prisoners

[ ] Pregnant women, fetuses, fetal material or placenta (Please Specify): \_\_\_\_\_

[ ] Persons In Some Type of Program (Please Specify): \_\_\_\_\_

[✓] Other Pertinent Information (Please Specify): Medical-Surgical nurses employed at an acute care hospital in Broward County.

**6. TYPE OF REVIEW REQUESTED (See pages 6 & 7 of the Information for Experimenters booklet):**

[ ] Exempt: Category #(s): \_\_\_\_\_

[✓] Expedited Review: Category #(s): 9

[ ] Full URC Review (Can be neither Exempted nor Expedited)

**7. RESEARCH OBJECTIVES:**

7.1 To identify nurses' attitudes toward people with HIV/AIDS.

7.2 To determine if HIV/AIDS education changes the nurses' knowledge, attitudes and intention to behave toward people with HIV/AIDS.

7.3 To determine if the effect of HIV/AIDS education on nurses' knowledge, attitudes and behavior change is enhanced or deterred by personal attitudes, specifically,

7.3.1 Gender

7.3.2 Age

7.3.4 Ethnicity

7.3.5 Marital Status

7.3.6 Religion

7.4 To test the applicability of the Ajzen-Fishbein Theory of Reasoned Action in predicting the indirect effect of education as external variable on the behavioral intentions of nurses.

**8. SUBJECT RECRUITMENT:**

8.1 Convenience sampling method. The subjects must fulfill the following criteria:

8.1.1 Subject must be LPN or RN licensed to practice in the State of Florida.

8.1.2 Subject must be employed at an acute care hospital in Broward County.

8.1.3 Subject must be working in any of the four(4) Medical-Surgical units at an acute care

hospital in Broward County.

**9. BENEFITS:**

- 9.1 This research will enhance nurses' knowledge of HIV/AIDS.
- 9.2 The research will determine the existing knowledge, attitudes and behavioral intentions of nurses toward people with HIV/AIDS.
- 9.3 The HIV/AIDS education may improve nurses' attitudes and behavior, and provide a non-judgmental, non-discriminatory quality care of people with HIV/AIDS.
- 9.4 The educational experience will help allay nurses' anxiety, clarify misunderstanding of the disease, prejudices toward people afflicted by HIV/AIDS.

**10. INFORMED CONSENT:**

- 10.1 Due to the nature of the program content, informed consent will be obtained in written form and in English for each subject participating in this research.
- 10.2 Potential subjects will be told about the nature of the study and the subject's participation.
- 10.3 See attached informed consent form.

**11. CONFIDENTIALITY OF DATA:**

- 11.1 A code number will be assigned to each subject in the study and no names or any identifiable marks will be used.
- 11.2 Data collected will be handled only by the principal investigator and statistician who is expert in data analysis.
- 11.3 Findings will be reported in terms of group phenomena and will never be identifiable to a specific individual subject.
- 11.4 When the research is completed, the data will be secured in a locked file for at least one(1) year to safeguard confidentiality.

**12. METHOD AND PROCEDURE:**

- 12.1 Collection of data will begin once approval has been obtained from the appropriate review committee.
- 12.2 The purpose of the data collection will be explained briefly to the potential subjects to

elicit interest in participation.

- 12.3 Subjects will be informed that they may drop out of the research at anytime without questions asked.
  - 12.4 Subjects will also be informed that if they drop out at the middle of the study, any data collected then will be destroyed and be not included in the final data analysis.
  - 12.5 Informed consent form will be given to the subjects to read. Signature will be obtained after the subject has read the informed consent. Any question by the subject will be clarified at this time.
  - 12.6 A pretest will be administered to the subjects at the Inservice Education classroom a week prior to participation in the AIDS education workshop.
  - 12.7 A two(2) hour workshop will be presented by the Nurse Epidemiologist who is expert in the field. The workshop will include lecture, group discussion, audiovisual presentation, and question and answer sessions.
  - 12.8 A post-test will be administered immediately after the workshop.
  - 12.9 The subjects will be debriefed as to the purpose, confidentiality of data, and availability of summary of findings upon the request by the subject.
  - 12.10 A two-month follow-up retest will be administered to the same subjects who initially participated and took the post-test. The questionnaires will be mailed or personally distributed to the subjects.
  - 12.11 The subjects will be given one(1) week to complete and return the questionnaires.
- 13. STIMULUS MATERIALS:** See attached copies of all questionnaires and HIV/AIDS Educational Workshop content/coverage.
- 14. RISKS TO SUBJECTS:**
- 14.1 There will be no physical contact, social repercussions, financial demands, or any legal risks incurred by the subjects.
  - 14.2 There is a potential emotional, psychological distress involved especially during the AIDS education

workshop/group discussion.

- 14.3 The emotional and psychological impact and risk are not greater than what the subjects face in their normal life. To minimize psychological and emotional risks, the subjects will be informed that they need not answer any questions that may be emotionally and psychologically distressing to them.

INSTITUTIONAL REVIEW BOARD APPROVAL FORM

FLORIDA INTERNATIONAL UNIVERSITY  
University Park Campus  
Miami, Florida 33199

This is to certify that the program listed below has been reviewed and approved/denied by the Institutional Review Board (IRB) in accordance with the requirements of 45 CFR 46, including its relevant subparts.

Principal Investigator/Project Director: Cezar D. Dumago, Jr.

Title of Application: Effects of AIDS Education Program on the Attitudes and Behaviors of Nurses Towards HIV-Positive/AIDS Patient.

Agency Submitted to: \_\_\_\_\_

Proposal Identification Number (if available): \_\_\_\_\_

Certificate of IRB:

\_\_\_\_\_ Date of IRB Review and Approval/Denial

\_\_\_\_\_ Full Board Review    XX Expedited Review

Comments: Approved conditional on providing phone number to contact a specific researchers on informed consent form. Also, provide information on approximate number of subjects in study on informed consent form.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Any problems should be immediately brought to the attention of the IRB Council

The Official signing below certifies that the information on this form is correct and the institution assumes responsibility for assuring future reviews, approvals, and submissions of certification.

  
\_\_\_\_\_  
Karl G. Kroeck, Chairperson,  
IRB Committee

July 28, 1995  
\_\_\_\_\_  
Date



**Graduate Studies Bulletin  
Announcements**

**Florida International University**  
*Division of Graduate Studies*

**Master's Thesis Defense  
Abstract**

**EFFECTS OF AN AIDS EDUCATION PROGRAM ON NURSES' KNOWLEDGE,  
ATTITUDES AND INTENTION TO BEHAVE TOWARD PATIENTS WITH  
HIV/AIDS**

by

**Cezar Derla Dumago, Jr.**

This pretest/posttest control group study design sought to determine the effects of an AIDS education program on nurses' knowledge, attitudes and intention to behave toward HIV-positive/AIDS patients. The study, based on Ajzen and Fishbein's Theory of Reasoned Action (TRA), was conducted on a sample of 90 nurses (exp=45 Ss; con=45 Ss), randomly selected from among those employed in one large medical center in South Florida. Only the experimental group participated in a 2-hour AIDS education program. Data were analyzed using descriptive and inferential statistics, which included *t*-tests for non-independent samples and Pearson's correlation coefficients. Significance level was set at  $p \leq .05$ . Pretest findings revealed both groups were moderately knowledgeable about AIDS, and moderately positive in attitude and intention to care for HIV/AIDS patients. Whereas both groups made significant gains in posttest scores, the experimental group yielded significantly higher scores than the control group in all three outcome measures, supporting the hypotheses. The subjects when categorized according to their sociodemographic characteristics, changes in their knowledge, attitude, and intention levels were found to have no significant correlations. The effectiveness of an AIDS Education Program on bringing about positive changes in nurses' knowledge, attitude, and behavioral intention to care for patients with HIV/AIDS, is evident in this study, providing empirical validation of the Theory of Reasoned Action (TRA).

**Date:** November 29, 1995

**Department:** Nursing

**Time:** 09:00 A.M.

**Major Professor:** Dr. Luz A. Porter

**Place:** Florida International University (North Miami Campus)  
University Library Conference Room