

Literature Review of HIV-Positive Patient Care Studies which used Concepts from Theory of Reasoned Action

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Abstract

Twenty-three research studies regarding nurses or nursing students intention to care for HIV disease patients were reviewed. Studies on this issue were sporadic and not systematic. A majority of the studies were limited to one institution at one point in time. Convenience sampling was prevalent. Only 5 studies used random sampling (Jemmott III et al., 1992; Kelly et al., 1988; Planter & Foster, 1993; Scherer et al., 1989; Van Servellen et al., 1988). Consequently the findings of most studies can not be generalized to the population at large.

In addition, between 1985 and 1994, the emphasis on descriptive studies continued even though correlational and experimental studies were being conducted. The development of the body of knowledge on this issue is still in a primitive stage. Correlational or comparative studies reviewed rarely had a theoretical basis for the study questions. Only two studies were found that cited a theoretical basis (Laschinger & Goldenberg, 1993; Goldenberg & Laschinger, 1991).

A variety of attitude instruments were developed by investigators and used in their own studies. The constructs of the instruments were quite varied. For example, some studies identified fear as the attitude to be measured, while others measured opinion or intention as the attitude. None of the studies reviewed reported content, construct or convergent validity of the instruments.

Reliability data for most instruments used in the studies were either not reported or low. Such a lack of information limits the interpretation of the findings. Study findings were inconclusive. Some descriptive studies indicated that nurses or nursing students were willing to care for HIV disease patients, while others revealed they were not willing to do so. Three correlational studies examining the relationship between attitude and intention obtained inconsistent findings. Findings from one study (Jemmott et al., 1992) indicated a positive relationship, while others found no relationship between them (Cole & Slocumb, 1994; Jemmott et al., 1992).

Descriptive studies identified that families or friends stigmatization were the important factors. Only two correlational studies on this issue were found, but study findings were inconsistent (Laschinger & Goldenberg, 1993; Goldenberg & Laschinger, 1991).

Studies focusing on nursing students intentions or attitude were limited. Only 7 of the 23 research reviewed were conducted using nursing students (Lawrence & Lawrence, 1989; Lester & Beard, 1988; Mueller et al., 1992; Oerman & Gignac, 1991; Jemmott et al., 1992; Jemmott III et al., 1992; Wiely et al., 1988).

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This review leads to the conclusion that there is a need for study of this issue with nursing students as the target population. Studies with questions based upon a theoretical framework provide a basis for linking findings. In addition, reliable instruments and sophisticated statistical analysis are also needed when studying this topic.

Key words : *Health Care Providers, HIV-positive patient care, AIDS, Theory of Reasoned Action, Attitude, Belief, Intention*

Introduction

Human immuno deficiency virus disease, which usually progresses to Acquired Immuno-Deficiency-Syndrome (AIDS), has reached serious pandemic proportions in the world. The number of Adults and children living with HIV/AIDS is 34.3 million and 5.4 million people were newly infected by HIV/AIDS in 1999 through out the world (AEIGS, 2000). The National Institute of Health in Korea reported 811 people had been identified as HIV-positive persons since 1985 (National Institute of Health in Korea, 2000). However the actual number of HIV-positive persons, including unidentified cases, is assumed to be far greater than that reported.

Studies showed that health care providers seem hesitant to care for this type of patients. In fact, health care providers have been described as being reluctant or unwilling to engage in caring for HIV disease patients because of fear of transmission of the disease and social stigmatization against the disease (Blumenfield, Smith, Milazzo, Seropian, Wormser, 1987; Brenner & Kauffman, 1993; Campbell, Maki, Willnberg, & Henry, Prince, Beard, Ivey, & Lester, 1989; Van Servellen, Lewis, & Leake, 1988; Wiely, Acklin, & Barnard, 1990).

Nursing students also have been reported to have avoided carings for HIV positive persons (Lester & Beard, 1988; Wiely, Heath, & Acklin, 1988). In fact, when questioned, some nursing students responded that they would refuse, or hesitate to care for HIV disease patients when they were assigned to these patients (Wiely, Heath & Acklin, 1988). Lester and Beard (1988) found that nursing students claimed that they should have a right to refuse to care for HIV positive persons or HIV disease patients. This phenomenon, student hesitancy to care for HIV

disease patients, has drawn much attention from the nursing profession. Stating that nurses should provide equal care for all patients, the American Nurses Association (ANA, 1986) proclaimed that caring for HIV positive persons or HIV disease patients is an ethical responsibility of professional nurses. Consequently, a health problem such as AIDS or HIV positive status of patients should not result in a patient being discriminated against by the care giver.

Nursing in Korea is one of the core health care professions that educates the public about the prevention of HIV transmission and which cares for HIV disease patients. Given the current conflict situation, Korean nursing students, who are the future nursing professionals, should be prepared appropriately in their educational setting to work with HIV disease patients. The purpose of this study is to analyze and evaluate results of studies related to attitude, belief and intention of health care provides to care for HIV-positive patients and to assess the possible causes of this phenomenon for the purpose of effective educational interventions for the health care providers and nursing students.

An comprehensive on-line computer search using MEDLINE, the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and ERIC databases was conducted to identify relevant research studies and reference lists of recently published articles was another resources. The search key words were health care providers, nursing student, nurse, doctor, HIV/AIDS patient care, Theory of Reasoned Action, Intention, Attitude, belief. Criteria for inclusion were as follows : (1) research studies published from 1988 to 1996 (2) published in English (3) reporting the study findings (4) described health care provides' psycho-social

responses to caring the HIV- positive patient. Studies were excluded if they were the description of theory. The research studies are divided into two categories: medicine and nursing. Six research studies in medicine are reviewed, and 23 studies in nursing are further divided into three categories depending on their study designs: 12 descriptive, 9 correlational, and 2 experimental design studies. Each of the studies is reviewed in terms of its theoretical basis, methodology, instrumentation, findings, and conclusions.

Review of Research Literatures

1. Health Care Providers Attitude Toward AIDS Care

Feldmann, Bell, Stephenson, and Purifoy (1990) surveyed 227 medical students and 170 medical school faculty members at a university in Louisville to find out their attitudes toward AIDS. A descriptive comparative design was used. An instrument was developed by the investigators, but reliability of data were not reported. The authors concluded that 43.6% of the students and 50.6% of the faculty surveyed preferred to avoid care for HIV disease patients, that over one third of the respondents believed that medical personnel should have the right to refuse HIV disease patients care, and that students were more afraid of getting AIDS ($p < .05$) and more unwilling to care for HIV disease patients ($p < .05$) than faculty. Caution should be exercised in interpreting the study findings, since the return rate of the student groups (47%) was low, and reliability data for the instrument used were not reported. These findings were similar to those of Currey, Jonson, and Ogden (1990). These investigators surveyed 151 medical and dental students (separate sample size for each group not reported), 83 baccalaureate nursing students, 58 physician assistants, and 27 physical therapists at a Southwestern university to examine their willingness to care for patients with HIV. The investigators developed an instrument whose reliability score was not reported.

The authors reported that approximately half of the medical students and one third of the

nursing students indicated their unwillingness to care for HIV disease patients. Furthermore, over 75% of the respondents said that they would refuse to perform mouth-to-mouth resuscitation without universal precautions in an emergency situation. The authors concluded that a large number of the respondents were uncomfortable treating HIV disease patients. Interpretation of the study findings should be done cautiously because of the unreported reliability of the instrument.

Some studies, however, reported a high level of health care providers willingness to care for HIV disease patients. Tesch, Simpson, and Kirby (1990) surveyed 111 baccalaureate nursing students, 443 medical students, and 133 medical school applicants at a medical center in Wisconsin. The investigators found that a relatively small number of respondents (less than one quarter of each group) would refuse to care for HIV disease patients. The investigators pointed out the low reliability score of the instrument used as a limitation of the study. Generalizability of the study finding should be done cautiously.

A study by Bliswise, Grade, Irish, and Ficarroto (1991) surveyed 331 undergraduate and graduate nursing students and 219 medical students to examine the level of willingness to care for HIV disease patients. The investigator-developed instrument had a reported reliability coefficient of .92. The authors concluded that the respondents were willing to care for HIV disease patients ($M = 2.85/6$, $SD = 1.57$, 6 = unwilling), and had low intentions to change their profession ($M = 1.89$, $SD = 1.27$). The findings were limited to the study population because of convenience sampling.

Kelly, St. Lawrence, Smith, Hood, and Cook (1987) surveyed 157 randomly selected physicians in 6 different regions of the United States. An experimental design was employed to examine differences in the physicians level of willingness to engage in conversation based on the patients illness. Two different vignettes describing the condition of identical patients except for their illness (leukemia vs. HIV disease) were developed and distributed randomly to the sample. The authors concluded that the physicians were less

willing to have contact with HIV disease patients than with leukemia patients ($p < .05$). Interpretation of the study findings should be done cautiously because of the unreported reliability coefficient of the instruments used.

A similar finding was reported by Kelly et al. (1987) in a survey of 119 medical students in Mississippi using the same experimental design and the same instrument as with their previous study (Kelly et al., 1987). This study also reported a lower willingness score for contacting HIV disease patients than leukemia patients ($p < .05$). The major concern about the study, however, was unreported reliability of the instruments. Hence, the study findings can not be generalized.

Summary and Critique

Six studies regarding health care providers intentions to care for HIV disease patients were reviewed. Most studies found were descriptive in nature and used non-parametric statistics. None of the six studies used a theoretical basis to develop study questions, and study variables were not defined. Instrument psychometrics were questionable, since the majority of the studies did not report reliability data. Therefore, study validity was not assured. Most of the studies were specific to one institution, studied at one point in time, and used convenience sampling. Hence, generalizability of the study findings were limited to the study groups.

2. Nursing Professionals' Attitudes Toward AIDS Care

A. Descriptive studies

Twelve descriptive studies were found which used nurses and nursing students as subjects. Research reports examining one or more study variables addressed in this current study are included. Among the 12 studies, 10 studies used a simple descriptive design, and 2 studies used a descriptive comparative design.

1) Nursing Students.

Wiely, Health & Acklin (1988) studied 142 baccalaureate, masters, and RN/BSN nursing students at a university in Chicago to examine

the perceptions of risk of HIV exposure through clinical practice and attitude toward nursing care for HIV patients. An instrument developed by the investigators was used, but the reliability score of the instrument was not reported. Only limited study results were reported. According to the reported findings, over one third of the nursing students responded that they would refuse to care for HIV disease patients, and over half of them responded that they should have the right to refuse to care for HIV disease patients. The investigators concluded that nursing students indicated negative reactions to the HIV disease patients and that this negative reaction was atypical. However, this conclusion should be made cautiously because of the lack of information about the study procedures mentioned previously.

Lawrence and Lawrence (1989) conducted a comparative design study examining nursing students attitudes toward AIDS. Fifty nursing students were compared with three other groups comprising 60 RNs, 42 non-nursing college students, and 30 non-nurse adults. The investigator-developed questionnaire, with content validity evaluated, had reported reliability coefficients of .75 to .93. The nursing students attitudes were more negative than the nurse groups ($t = 2.4, p = .01, df = 108$). No significant differences in attitudes between nursing students and non-nursing college students were found. Based upon study findings, the authors recommended that there was a need to increase nursing students positive attitudes toward HIV disease patients. The reported instrument psychometrics allow confidence in the study findings, although the convenience sampling would suggest the need for caution in generalizing findings to other groups in the study population.

Oerman and Gignac (1991) studied attitude toward and willingness to care for HIV disease patients using 166 Canadian baccalaureate nursing students and faculty members. A descriptive comparative design was used to examine differences among 5 groups consisting of 27 freshmen, 46 sophomore, 47 junior, 27 senior nursing students, and 19 nursing faculty. The investigators developed an instrument with

reported reliability coefficients of .91 to .98. The investigators found that the senior students had the highest willingness score, and the sophomores had the lowest willingness score ($F(4, 143) = 2.94, p < .05$) among the five groups. Despite the high reliability of the instrument, the unequal and small sample size of each group raises questions about the credibility of the study results. Representativeness of the sample for the study population was also limited. Generalizability of the study findings, therefore, should be done cautiously.

2) Nurses.

Reed, Wise, and Mann (1984) studied 267 (18% return rate) health care workers comprised of nurses, technicians, orderlies, and managers in a large metropolitan hospital in terms of their willingness to care for HIV disease patients. An instrument was developed by the investigators, but reliability of data were not reported. The authors found that over 90% of the respondents would care for HIV disease patients. Only 3% of them would refuse to care for the patients with AIDS. The interpretation of the study findings should be done cautiously because of the low return rate and the representativeness of the sample was questionable. No reported reliability of the instrument also raises questions about the validity of the study findings. Furthermore, a mistake was noticed in that, on at least one item, there were more responses than subjects, and no explanation was identified ($N = 121 + 214 = 335 > 267$). This study was the only study regarding this issue conducted before 1985, soon after the AIDS epidemic was recognized.

Blumenfield et al. (1987) surveyed nurses in a medical center in Westchester County, New York at two different points in time (1983 and 1984). One hundred and seven nurses participated in 1983 and 191 in 1984. Data were collected using an investigator-developed 10 item questionnaire. No reliability data were reported. The authors concluded that generally, negative attitudes toward caring for the HIV disease patients were found at both data collection points. Subjects reported that they had concerns about being isolated by their families, friends, or personnel outside of the hospital, and that they had been

shunned by friends, neighbors, and families when it was learned that they worked with HIV disease patients. More than half of the subjects in both groups feared getting HIV disease from their patients, and over one third of both groups would ask for a transfer to another unit if assigned on a regular basis to care for HIV disease patients. Reliability data for the measurement, particularly in light of item construction, suggests caution in interpreting findings of the study.

Van Servellen, Lewis & Leake (1988) studied 1019 randomly selected nurses in California to examine attitudes related to AIDS. Though an instrument developed by the investigators was used. The reliability for the instrument was not reported. Study findings indicated that over a quarter of those surveyed believed that they were at high or moderate risk for catching AIDS from patients with AIDS. Nearly one quarter of the subjects responded that they absolutely would not care for the HIV disease patients. In addition, more than half of them responded that they should have a right to refuse to care for HIV disease patients. The investigators concluded that a substantial portion of nurses surveyed intended to refuse to care for the patients with AIDS. Since this study used random sampling, the results may be more safely applied to a larger population of nurses than results based on convenience sampling (Ficarrotto, Freeman, & Baj, 1991). The lack of reliability of data for the instrument, however, should be recognized as a major limitation of the study.

Scherer, Haughey & Wu. (1989) studied 581 randomly selected nurses in New York, where a high prevalence rate of HIV was reported, to examine fear, concerns about AIDS, and willingness to care for HIV disease patients. The investigators developed an instrument with reported reliability scores of .64 to .84 for the three sub-scales. Results indicated that half of the subjects feared catching HIV at work, and 49% of the nurses perceived that their families were concerned about their caring for HIV disease patients because of the danger of transmission of HIV at work. Despite the reported fear, only 9% of the respondents reported that they would refuse to care for HIV

disease patients. These somewhat conflicting results were explained with social desirability bias by Ficarrotto, Freeman & Baj (1991)). They addressed that some nurses might feel compelled to respond in a manner that is not truly reflective of their own thoughts, feelings, beliefs, and behaviors related to HIV, but rather in a manner consistent with social propriety (Ficarrotto, Freeman & Baj, 1991, p. 79).

Analysis of selected demographic data indicated that respondents with previous experience with HIV disease patients care showed less fear and concern ($t = 2.69$, $p = .0007$), and more willingness ($t = 3.64$, $p = .000$). Even though the investigators concluded that older nurses in this study had a less positive attitude toward caring for HIV disease patients ($r = -.13$, $p = .001$), were more fearful and concerned about providing care to the patients with HIV ($r = .10$, $p = .008$) than younger nurses, this interpretation should be done cautiously due to extremely small correlation coefficients. Although these relationships are statistically significant, they are not considered meaningful (Munro & Page, 1994). The investigators concluded that many nurses were fearful about contracting the disease and had concerns about the risk of being stigmatized by their significant other. Experiences in caring for HIV positive patients may decrease fear and concern and may increase positive attitudes toward the care. Random sampling and a reliable instrument allows confidence in interpreting and generalizing the study findings. The finding that age had a negative impact on the study variables must be questioned because of the extremely small correlation coefficients.

Alexander and Fitzpatrick (1991) used the same instrument developed by Scherer, Haughey and Wu (1989) in a survey of 136 registered nurses in a large Mid-western teaching and research hospital. Instrument reliability was not reported. The authors found that approximately half of the nurses feared catching HIV infection from their patients, that one third of them were worried about putting family, friends, and colleagues at risk of contracting AIDS, and that 40% of the nurses wanted the right to refuse to care. It should be noted that without reliability of data for the instrument, the interpretation of

findings should be done cautiously. Rae, Brown, and Calder (1992) also used the instrument developed by Scherer, Haughey and Wu (1989) and used by Alexander and Fitzpatrick (1991). Four hundred and thirty-one nurses in a hospital in Canada comprised the convenience sample. Fear and concerns about caring for HIV disease patients, and willingness to care for them were examined. Reported reliability scores for the instrument were .67 to .84. The investigators concluded that the nurses surveyed were fearful of catching HIV at work and concerned about caring for HIV disease patients. The authors pointed out that a low return rate (37%) might have resulted in participant bias. Generalizability of the study findings should be done cautiously.

Wiely, Heath and Acklin (1990) surveyed 323 RNs in a Mid-western city to examine fears and concerns about acquiring HIV infection at work. An HIV Impact Questionnaire was developed by the investigators, with a reported reliability coefficient of .76. A quasi-experimental design was used. Nurses who perceived themselves as being exposed to HIV at work comprised the experimental group; those who did not perceive themselves as being exposed to HIV at work comprised the control group. Sixty-four nurses reported that they were exposed to HIV at work, 77 nurses reported they were not, and 189 nurses reported they did not know. With the large number of nurses who perceived themselves as being exposed to HIV at work, investigators raised questions of the credibility of the nurses self perception. According to a definition of HIV exposure from the Centers for Disease Control (CDC), the investigators concluded that not all of the nurses in the experimental group could be real cases of HIV exposure. Some nurses in the experimental group had incorrect or exaggerated information about exposure to HIV at work. The investigators recommended that a clear definition of the study concept, such as HIV exposure, would be needed for both investigators and respondents. No further analysis of these data was conducted.

Campbell et al. (1991) studied 629 RNs in a hospital in Minnesota. Instruments borrowed from psychology, were used to measure subjects willingness to care for HIV disease patients and

attitude toward HIV disease patients. Reliability coefficients for the instruments ranged from .60 to .74. One quarter of the subjects reported that they tried to avoid taking care of HIV disease patients or touching their belongings, and 43% of the respondents indicated they would refuse to care for the patients. Over half of them claimed that they should have a right to refuse to care for the HIV disease patients. The investigators concluded that the perceived personal risk may be great enough to justify their refusal to care for HIV disease patients. Due to the low reliability data for the instruments, interpretation of the study findings should be done cautiously.

Brenner (1993) asked physicians and RNs in Los Angeles whether they were willing to perform mouth-to-mouth-resuscitation (MMR) to any patients in an emergency situation. Six scenarios (trauma, child, gay, elderly, women, and unknown victim) were presented, and yes/no answers were required. While 99% of the respondents would do MMR for a child, less than 20% of them would perform MMR for a gay person. Investigators concluded that generally, respondents were highly reluctant to perform MMR for a risk group. The perceived risk of acquiring HIV by the oral route determined the reluctance of rescuers to perform MMR. Furthermore, the gay population, a high risk group for acquiring HIV, tended to be more stigmatized by the health care providers than any other groups. Neither the return rate nor the reliability data of the instrument was reported. Hence, generalizability and interpretation of the findings are limited.

Planter and Foster (1993) examined AIDS related experience, knowledge about AIDS, attitude, and beliefs of 525 randomly selected RNs in Scotland. This study reported responses by gender, but no parametric statistics were used because of the large differences in sample size between the two gender groups (86% of female vs. 14 % of male). No reliability data were reported for the investigator-developed instrument. Thirty-five percent of the female subjects and 50% of the male subjects reported fearing work-place acquired HIV infection. More than a quarter of the females and 22% of the males asked for the right to refuse to work with HIV

disease patients. The investigators did not report conclusions for these analyses. The lack of reported reliability of the instruments limits interpretation of the study findings.

B. Correlational Study

Nine studies were reviewed. Six of the nine directly studied the relationship between attitude and intention, and three studies were on nursing students.

1) Nursing students.

Jemmott, Jemmott and Cruz-Collins (1992) studied 153 nursing students at a university in New Jersey to examine selected predictor variables of avoidance intention to care for HIV disease patients. No reliability data for the investigator developed-questionnaire were reported.

Twenty-six percent of the variance of the avoidance intention was accounted for by the four independent variables of knowledge about AIDS, perceived risk of HIV infection, negative attitudes toward homosexuals, and negative attitudes toward drug users. Knowledge about AIDS ($r = -.27, p < .001$) and negative attitudes toward drug users ($r = .21, p < .001$) were identified as predictor variables. The lack of reported reliability data for the instrument may raise questions concerning interpretation of the study findings.

Lester and Beard (1988) surveyed 177 baccalaureate nursing students in a university in Chicago to study the relationships among fear of AIDS, homo-phobia, knowledge about AIDS, and willingness to care for HIV disease patients. An instrument developed by the authors was used, but no reliability data for the instrument were reported. Over one third of the students responded that they should not be assigned to HIV disease patients, and 17% of the subjects would quit their jobs rather than care for HIV disease patients. Students who scored high in knowledge also scored high in fear ($r = .23, p < .01$), and they were reluctant to care for HIV disease patients ($r = .23, p < .01$). Students with a high fear score were less willing to care for HIV disease patients ($r = -.35, p < .01$). This study indicated that although the relationship was weak, the more the students knew about AIDS,

the more they feared being infected. The authors explained that the exaggerated risk may come from the media, which may give incorrect information about AIDS transmission. Lack of reliability data for the instrument used may raise questions of the validity of the study findings.

Mueller, Cerny, Amundson, and Waldron, (1992) surveyed 222 Canadian faculty and nursing students in a university to examine attitudes toward AIDS and intentions to care for HIV disease patients. Several instruments in psychology were used. Reliability data were not reported. In phase I, the differences between faculty and students were examined. The relationship between attitude and intention was examined in phase II, and attitude and behavioral intention of nursing students before and after one year of nursing education were compared in phase III. The authors concluded that faculty members had less fear and more intentions to work with HIV disease patients than students ($p < .50$). The relationship between attitude and intention was inconclusive, even though the authors reported a positive relationship between them. No p value for the correlation coefficient of the relationship was reported. No differences in attitude and intention before and after one year of nursing education were found.

Credibility of the study findings is questionable because, the unequal sizes of two sample groups (25 of faculty vs. 110 nursing students) raises questions in terms of the comparability of the groups. The lack of reliability data for the instruments also influences the credibility of the study.

2) Nurses.

Jemmott III, Freleicher, and Jemmott (1992) examined 496 randomly selected RNs who belong to the New Jersey State Nurses Association to identify variables that predicted the nurses intention to care for HIV disease patients. An instrument developed by Jemmott, Jemmott, and Cruz-Collins (1992) was used. No reliability data for the instrument were reported. Thirty-seven percent of variance in the intention scores was accounted for by the four independent variables -- knowledge about AIDS, perceived risk of HIV infection, negative attitude toward homosexuals,

and negative attitude toward drug users. The perceived risk of HIV infection had the strongest predictor variables ($r = .41, p < .0001$). Unlike nursing students in a previous study (Jemmott, Jemmott & Cruz-Collins 1992), negative attitude toward homosexuals and toward drug users were also identified as predictor variables ($r = .12, p < .0001$; $r = .12, p < .001$, respectively). Two studies conducted by Jemmott, Jemmott and Cruz-Collins (1992) and Jemmott III, Freleicher, and Jemmott (1992) used the same instrument with different populations, and resulted in different findings. As the investigators pointed out, the low reliability score for the instrument may limit the usefulness of the study findings. No theoretical basis for the relationships between predictor variables and criterion variable was found in either studies. These two studies did, however, propose clear research questions to be subjected to advanced statistical analysis.

Martindale and Barnett (1992) surveyed 45 nursing faculty at two associate degree nursing programs in a Mid-southern state to examine their knowledge about AIDS and attitudes related to AIDS. The investigators used an instrument developed by Lester and Beard (1988). A reliability coefficient for the instrument was not reported. The authors concluded that generally nursing faculty were willing to care for patients with HIV disease and had positive attitudes toward HIV disease patients care. It should be noted that the sample for this study was drawn from a rural area where AIDS prevalence was low. Consequently, findings may differ from a large metropolitan city with a high AIDS prevalence rate. Generalizability of the study findings is limited to the study group. In addition, the small sample size may introduce Type II error. Hence, interpretation should be done cautiously.

Cole and Slocumb (1994), using a sample of 322 RNs and licensed practical nurses at two South-Eastern New England Community hospitals, investigated their intentions to work with HIV disease patients. The mode of acquiring HIV (sex with men, sex with women, drug use and transfusion), comfort in caring for HIV disease patients, and fear were the selected predictor variables. An instrument with reliability scores of

.88 - .89 was developed by the investigators. The authors concluded that the mode of acquiring HIV did not influence respondents intentions to care for HIV disease patients. Generally, nurses surveyed were very willing to care for patients with HIV disease. Fear did not predict the respondents intentions. Nurses were not fearful about contracting HIV. Only personal comfort in caring for HIV disease patients was identified as a predictor variable for intentions. Because of the low return rate (39%), which may reduce the representativeness of the sample or introduce participant bias, interpretation and generalization of the study findings should be done cautiously.

The findings of three studies (Cole & Slocumb, 1994; Jemmott et al., 1992; Jemmott III et al., 1992) examining the relationship between fear (attitude) and intention were inconsistent. While Jemmott III et al. (1992) showed a significant positive relationship between the two variables of fear and intention, Colb & Slocumb (1994) and Jemmott et al. (1992) found no relationship between them.

Some investigators assumed that intentions were related to attitude toward gay and lesbian patients (Barrick, 1988), to knowledge about AIDS (Prince, Beard, Ivey, & Lester, 1989), or to prevalence rate of HIV disease patients (Kemppainen, Iriziry, Wiedema, Beneen, Fredericks, and Wilson, 1991). Barrick (1988) examined 208 health care providers including RNs, licensed vocational nurses, licensed psychiatric technicians, and orderlies in an urban hospital in California and found that subjects who had negative attitudes toward gay and lesbian patients were less willing to care for them ($r = .50, p < .01$). The generalizability of the study findings is limited to the study group. However, the high reliability scores of the instruments used suggest the findings are credible.

Prince, Beard, Ivey and Lester (1989) examined 134 prenatal nurses in five Mid-western hospitals using an instrument developed by Lester and Beard (1988) to determine whether knowledge about AIDS was related to intention. No significant relationship between knowledge and intention was found. Interpretation of the study finding should be done cautiously since the authors did not report the reliability coefficient of

the instrument.

Kemppainen, Lawrence, Lizarray, Weidema, Benne, Fredericks, and Wilson (1991) surveyed 581 RNs at five veterans medical centers across the United States to examine whether the nurses intention to care for HIV disease patients was related to the prevalence rate of HIV disease patients and the nurses educational preparation. An investigator-developed instrument was used. No reliability data for the instrument were reported. The authors concluded that the AIDS prevalence rate did influence nurses intentions to care for patients with HIV disease, but that their educational preparation did not affect the intention. Nurses in high AIDS prevalence hospital showed lower intention scores than nurses in moderate or low AIDS prevalence rate hospitals. The authors pointed out that their study finding was somewhat different from what they anticipated. They said previous experience with HIV disease patient care seemed to increase the nurses intentions to care for them. They explained these inconsistent findings saying that the sheer burden of HIV disease patient numbers in the high prevalence area may be a source of professional dissatisfaction if the working hours are consumed by technical patient care and highly educated nurses can only fulfill the technical role, forced to neglect the human aspects of nursing care that were stressed in their nursing education (Kemppainen et al., 1991, p. 114). Unreported reliability of data raises questions of possible measurement error, hence interpreting the study findings should be done cautiously.

C. Experimental Study

Kelly, St. Lawrence, Hood, Smith, and Cook (1988) surveyed nurses intentions to interact with HIV disease patients using 166 randomly selected RNs in continuing education programs at a state medical center. The investigators developed an instrument that included four vignettes describing the conditions of patients who had leukemia and were heterosexual, who had leukemia and were homosexual, who had AIDS and were heterosexual, and who had AIDS and were homosexual. No reliability data were reported. Subjects were randomly assigned to one of the

four scenarios. The authors concluded that nurses were more willing to care for patients with leukemia than with AIDS and more willing to care for heterosexual than homosexual patients. Furthermore, the interaction of disease and sexual orientation of the patients did not influence the subjects' intentions. Considering the unreported reliability data of the instruments used, interpretation of the study findings should be done cautiously.

Forrest and Murphy (1990) replicated Kelly, St. Lawrence, Hood, Smith, and Cook's study (1988) using the instruments developed and used by Kelly, St. Lawrence, Hood, Smith, and Cook (1988). Reliability data for the instruments were not reported. The sample consisted of 360 RNs employed in a large urban medical center in the Mid-Atlantic region of the United States. Two additional scenarios were added to the four from the original study. These were a scenario about an individual with leukemia who used drugs and an individual with AIDS who used drugs. Sixty respondents answered one of the 6 scenarios that were randomly distributed. The authors concluded that nurses were more willing to care for patients who had leukemia than who had AIDS and for patients who were non-drug users than drug users. In addition, sexual orientation of the patient did not affect the nurses' willingness to care for them. Furthermore, neither the interaction of the disease with sexual orientation nor the disease with drug use influenced the nurses' willingness to care for the patients. The unreported reliability of the study instruments was identified as limiting the interpretation of the study findings.

Summary and Critique

Twenty-three research studies regarding nurses or nursing students' intentions to care for HIV disease patients were reviewed. Studies on this issue were sporadic and not systematic. A majority of the studies were limited to one institution at one point in time. Further convenience sampling was prevalent. Only 5 studies used random sampling (Jemmott III, Freleicher, and Jemmott, 1992; Kelly, St. Lawrence, Hood, Smith, and Cook, 1988; Planter & Foster, 1993; Scherer, Haughey, and Wu, 1989;

Van Servellen, Lewis, and Leake, 1988). Consequently, the findings of most studies can not be generalized to the population at large. In addition, between 1985 and 1994, the emphasis on descriptive studies continued even though correlational and experimental studies were being conducted. The development of the body of knowledge on this issue is still in a primitive stage. Correlational or comparative studies reviewed rarely had a theoretical basis for the study questions. Only two studies were found that cited a theoretical basis (Laschinger & Goldenberg, 1993; Goldenberg & Laschinger, 1991). A variety of attitude instruments were developed by investigators and used in their own studies. The constructs of the instruments were quite varied. For example, some studies identified fear as the attitude to be measured, while others measured opinion or intention as the attitude. None of the studies reviewed reported content, construct, or convergent validity of the instruments. Reliability of data for most instruments used in the studies were either not reported or low. It must be noted that such a lack of information limits the interpretation of the findings. Study findings were inconclusive. Some descriptive studies indicated that nurses or nursing students were willing to care for HIV disease patients, while others revealed they were not willing to do so. Three correlational studies examining the relationship between attitude and intention obtained inconsistent findings. Findings from one study (Jemmott, Jemmott, and Cruz-Collins, 1992) indicated a positive relationship, while others found no relationship between them (Cole & Slocumb, 1994; Jemmott, Jemmott, and Cruz-Collins, 1992).

Descriptive studies identified that families or friends' stigmatization were the important factors. Only two correlational studies on this issue were found, but study findings were inconsistent (Laschinger & Goldenberg, 1993; Goldenberg & Laschinger, 1991). Studies focusing on nursing students' intentions or attitude were limited. Only 7 of the 23 research studies which were reviewed were conducted using nursing students (Lawrence & Lawrence, 1989; Lester & Beard, 1988; Mueller, Cerny, Amundson, & Waldron, 1992; Oerman & Gignac, 1991; Jemmott, Jemmott, & Cruz-Collins,

1992; Jemmott III, Freleicher & Jemmott, 1992; Wiely, Health & Acklin, 1988).

Conclusion

Study findings clearly indicated majority of the health care providers including nurses and nursing students were reluctant to care for HIV-positive patients. Fear of transmission of the HIV from the patients and concerns about being isolated by families or friends outside of the hospital were the major issues of those health care providers. Research with health care providers who have different cultural or ethnic group is needed. Those variables may be related to the perception of the caring for HIV-positive patients. Research study is also needed to identify the intervenable factors of the negative responses not only for the current health care providers but also the nursing students who are future nurses. Research study with theory guided or with reliable measurement tool is also needed to reflect the phenomenon accurately.

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