

KNOWLEDGE AND ATTITUDES OF NURSING STUDENTS AND FACULTY ABOUT AIDS

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In Canada, as of February 1988, there were 1517 cases of AIDS reported, the first case in 1982. There have been 821 AIDS-related deaths, and an estimated 50,000 to 100,000 Canadians are infected with AIDS (McLeod & Silverthorn, 1988). Eighty-two percent of these cases are male homosexuals and bisexuals (Beaufoy, Goldstone & Riddell, 1988).

Nursing students, along with other health care workers, have been found to be fearful of AIDS patients and unwilling to care for them (Barrick, 1988; Lester & Beard, 1988; Wiley, Heath & Acklin, 1988). Some studies have shown that greater knowledge about AIDS is related to more positive attitudes among health care providers toward AIDS patients (Lawrence & Lawrence, 1989; Turner, Gauthier, Ellison & Greiner, 1988; Wertz, Sorenson, Liebling, Kessler & Heeren, 1987). Nursing students, as future health care providers for the growing number of AIDS patients, should be provided with accurate information about AIDS, as well as be taught procedures to avoid transmission of AIDS. Strategies must also be available for students to explore their feelings about caring for patients with AIDS, and to develop a value system that recognizes the inherent worth and dignity of the individual.

Years of research have been devoted to the study of attitudes and attitude change. Attitudes are conceptualized frequently as consisting of three inter-related components: cognitive, information and related beliefs about the individual or concept; affective, the emotional or subjective feelings that accompany attitudes; and conative, referring to one's stance as to the way in which persons should be treated in specific social contexts (Wrightsmann, 1977, p. 319). These three components of attitudes are significant in teaching students about AIDS and preparing them to work effectively with persons with AIDS. Teaching methods should provide for knowledge acquisition - the cognitive component; examination by each of the students of their emo-

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tional or subjective feelings associated with care of the patient, the affective component; and evaluation by the students of their own beliefs and position taken as to the way AIDS patients should be treated in the health care system and society at large. Rosenberg and Hovland (1960) recommended integration of these components in teaching that is intended to improve knowledge and change attitudes.

Using this model in terms of AIDS education, Chitty (1989) proposed that students need essential information about AIDS; opportunities to observe role models, examine their own beliefs and feelings about care of the AIDS patient and engage in other teaching strategies to promote affective learning; and experience in the direct care of AIDS patients. Experience in the care of persons with AIDS, either through clinical practice involving interaction with clients and others in the clinical field or through simulated experiences, provides opportunity for learners to acquire knowledge and more importantly, examine their own values and beliefs as they are involved in care of the client. Experience is essential for students to test out their beliefs and explore their own feelings from a value, ethical or moral perspective as well as cognitive (Reilly & Oermann, 1985, p.237).

Only a few research studies have been conducted with nursing students to determine their knowledge level about AIDS and attitudes towards individuals with AIDS; related research with nursing faculty is even more scarce. The purpose of this study was to examine nursing students' and faculty's knowledge about AIDS and attitudes toward persons with AIDS.

Literature Review

During the past few years, research has been conducted on the knowledge and attitudes toward AIDS of various health care providers: a few of these studies have focused on nursing students.

Lester and Beard (1988) surveyed 177 baccalaureate nursing students; they found that students who are highly fearful of AIDS patients are less willing to care for them and do not want to be assigned to these patients. In spite of the fact that 97% of the students said AIDS patients deserved the same care as any other patient, only 33% were willing to provide that care and 36% reported that they should not be assigned to care for them.

Lawrence and Lawrence (1989) surveyed 182 subjects: 60 registered nurses, 50 baccalaureate nursing students, 42 non-nursing college students and 30 non-nurse adults. The results indicated that registered nurses had more knowledge and more positive attitudes toward AIDS than nursing students. Liberal arts college students had more knowledge and more positive attitudes about AIDS than non-nurse adults; nursing students did not differ

significantly from liberal arts students in their attitudes about AIDS. An additional finding was that nurses prepared at the graduate level had more knowledge and positive attitudes about AIDS than nurses with only entry-level preparation. The study indicated that persons with more knowledge about AIDS had more positive attitudes toward AIDS (Lawrence & Lawrence, 1989, p. 98).

Wiley, Heath and Acklin (1988) surveyed master's, RN-BSN completion and baccalaureate nursing students to determine their appraisals of their own risk of HIV exposure through clinical practice, and their attitudes toward selected issues regarding nursing care of HIV positive patients. Fifty-four percent reported that nurses should be permitted to refuse assignment to these patients. Forty-five percent of the undergraduates, 40% of the RN/BSN and 21% of the master's students stated that they would definitely or probably refuse to care for AIDS patients. All reported concern about exposure and use of precautions to protect themselves. Bowd and Loos (1987), in their study of undergraduate nursing students and registered nurses in Canada, also found that most respondents believed they should be free to choose whether to care directly for an AIDS patient; proportions ranged from 47% for registered nurses to 76% for Year I students.

André (1988) found that 33% of the nurses surveyed would refuse to give care to a patient with AIDS, 36% would not do CPR, and 57% would delay initiating CPR until a protective airway device became available. Blumenfield, Smith, Milazzo, Seropian and Wormser (1987) found similar attitudes among nurses. They reported that less than 20% would do CPR on AIDS patients. Eighty-five percent believed that pregnant nurses should not care for AIDS patients. In ICU, 70% would transfer to another unit if they had to care for an AIDS patient regularly.

With these findings in mind, the following hypotheses were formulated for the study.

1. Nursing students with more knowledge about AIDS will have more positive attitudes toward AIDS patients.
2. Nursing faculty with more knowledge about AIDS patients and experience with them will have more positive attitudes about AIDS.

In the research, "Knowledge" represented information about AIDS, including awareness of the symptoms of AIDS, epidemiology or risk factors associated with the transmission of the virus and precautionary techniques recommended by the Centers for Disease Control in caring for patients with AIDS. "Attitudes" included feelings and beliefs about having to care for at-risk persons, willingness to accept an assignment to care for a patient with AIDS, opinions about whether health care workers should be given the

option to refuse to care for patients with AIDS and perceived risk of contracting AIDS.

Method

A descriptive-correlational design was used; nursing students and faculty who agreed to participate in the research completed an instrument on their knowledge of and attitudes toward AIDS. The population consisted of all four levels of BScN students and nursing faculty at a mid-size urban university in Canada. A total of 166 subjects participated in the research, including 27 Year I nursing students, 46 Year II students, 47 Year III students, 27 Year IV students and 19 nursing faculty. The faculty included both full- and part-time instructors. Full-time faculty were prepared educationally at the master's level with at least half also holding doctoral degrees. Faculty who were part-time had either bachelor's or master's degrees in nursing. The geographic area in which the study was conducted had 63 reported cases of AIDS from 1984 to the present (Windsor-Essex County Health Unit, 1990). Participation in the research was voluntary; confidentiality and anonymity were assured. The study was done in Fall, 1989.

Instrument

The instrument was the "AIDS Knowledge and Attitudes Assess Test" developed by Lawrence and Lawrence (1989) with permitted modifications. Parts I, II and III measure the knowledge component. Part I consists of 27 questions about disease typology, Part II consists of 13 items relating to the application of facts to technical practice and Part III has ten questions relating to communication skills. The questions in Part III reflect an acceptance or rejection of persons with AIDS, based on selected knowledge about AIDS and its effects on the individual. The items are weighted; the most accepting response is given a three and the most rejecting response a zero. Part IV on attitudes toward AIDS consists of 20 items and uses a Likert-type scale with weighted responses: the most positive response is rated a three and the least positive response a zero. This section deals with attitudes and focuses on issues such as AIDS testing and human rights of persons with AIDS. A specific score on the subject's willingness to care for and have contact with persons with AIDS is calculated by using nine questions in the instrument that address this issue.

Three questions in the instrument were modified to update it in terms of statistics related to AIDS, and to make the questions pertinent to Canadians. Two of these questions on characteristics of the population affected by AIDS were updated, according to 1989 statistics. The third question was modified to reflect health care financing in Canada rather than the United States.

Content validity was established by the developers of the instrument. Lawrence and Lawrence (1989) reported that content validity for the Assess Test was determined by a panel of nurse experts with graduate preparation in medical-surgical nursing and psychiatric nursing. All members of the panel had experience with infection control and had worked with persons with AIDS and their families. All experts agreed with the scoring and weighting of the items. Internal consistency was determined using Kuder-Richardson 21. The Kuder-Richardson 21 ranged from .91 to .98 (Lawrence & Lawrence, 1989).

Results

One hundred and sixty-six individuals participated in the study. Nineteen did not provide demographic information, thus 147 cases were used to describe the characteristics of the sample. Forty-one (28%) were under 20 years of age, 83 (56%) were between 21 to 30, 12 (8%) were between 31 to 40 and 11 (8%) were over forty years. One hundred and forty-three (97%) were female and 4 (3%) were male. Religious background included 60 (41%) subjects who were Roman Catholic, 53 (36%) who were Protestant, 3 (2%) who were Jewish and 22 (15%) who indicated other religious groups; nine (6%) subjects had no religious affiliation.

Table 1
Demographic Data

	Year I N%	Year 2 N%	Year 3 N%	Year 4 N%	Faculty N%
Knows a homosexual:					
No	18(72%)	16(48%)	23(52%)	9(33%)	7(41%)
Yes	7(28%)	17(52%)	21(48%)	18(67%)	10(59%)
Knows someone with AIDS:					
No	25(100%)	31(94%)	42(95%)	22(81%)	15(88%)
Yes	0	2(6%)	2(5%)	5(19%)	2(12%)
Knows an IV drug user:					
No	22(88%)	27(82%)	38(86%)	22(85%)	13(76%)
Yes	3(12%)	6(18%)	6(14%)	4(15%)	4(24%)
Taken care of someone with AIDS:					
No	22(92%)	30(91%)	34(80%)	20(74%)	8(47%)
Yes	2(8%)	3(9%)	9(20%)	7(26%)	9(53%)
Read about AIDS:					
No	2(8%)	1(3%)	0	1(4%)	0
Yes	23(92%)	32(97%)	42(100%)	26(96%)	17(100%)

Note. N=147 for demographic data

Seventy-three (50%) subjects knew a person who was a homosexual; only 11 (7%) knew someone personally with AIDS. Twenty-three (16%) of the participants knew someone who used IV drugs. Thirty (20%) subjects had experience caring for someone with AIDS. Most of the respondents (96%) had read literature about AIDS (see Table 1).

For the total sample, the disease typology mean score (Part I) was 16.5 out of a maximum of 27. The technical practice score (Part II) was 7.6 out of a total possible score of 13. The communication skills score (Part III) was 26.2 out of a maximum of 30. These three combined mean scores gave a total knowledge score of 50.6 out of a total score of 70. Faculty had the highest total knowledge score of 54. The attitudes mean score (Part IV) was 38.5 out of a maximum possible score of 60. The willingness to care for or have contact with persons with AIDS mean score was 17.5 out of a possible score of 23 (see Table 2).

Table 2

Means and Standard Deviations of AIDS Assess Test for Total Sample

Area of Test	Maximum Score	M	SD
Disease typology	27	16.5	3.0
Technical practice	13	7.6	1.7
Communication skills	30	26.2	2.7
Total knowledge	70	50.6	5.1
Attitude	60	38.5	5.0
Willingness to care for or have contact with persons with AIDS	23	17.5	2.6

Note. Maximum score=total score possible

Some deficiencies in knowledge of disease typology of AIDS were identified when examining the frequencies of correct and incorrect answers. Only 41% of the sample knew that AIDS was a syndrome of infections and neoplasms. Surprisingly, only 14% knew that anal sex is the highest risk factor for developing AIDS. Sixty-six percent of the respondents reported that it was necessary to isolate AIDS patients from other clients.

In technical practice, only 40% could correctly identify precautions to be taken when doing venipunctures and how to disinfect reusable equipment. Interestingly, as a group, 61% indicated that without hesitation they would do mouth-to-mouth resuscitation on an individual found on the street,

although more than half of the Year II students and faculty reported that they would wait for protective equipment before starting CPR.

Although communication scores were generally high, a mean score of 26.2 out of a possible 30, there were a few areas of note. One question dealt with responding to the concerns expressed by a homosexual that others could tell that he had AIDS. For this question, only 13.8% of the respondents chose an answer that would encourage the person to verbalize his concerns. The other responses discouraged further dialogue. There were no differences between the five groups for this item, which could indicate a general uneasiness among the subjects to deal with the concerns of individuals with AIDS.

In the attitudes section, while 88% of the respondents believed AIDS was not transmitted through social contact, only 74% agreed that people with AIDS should be allowed to go to public schools and colleges. Willingness to care for someone with AIDS was generally high for all five groups. For the sample as a whole, 92.1% reported no reservations about babysitting a baby with AIDS; 5.5% were willing to do so but would question personal risk; and 2.4% of the respondents were unwilling to babysit an infant with AIDS. When asked if a person with AIDS should be allowed to use public facilities, 65.6% of the sample responded that the person should always be allowed to use public washrooms, but 35.4% had reservations about this practice.

Pearson r was used to examine relationships between the knowledge and attitude scores. The total knowledge mean score, consisting of the three combined scores for Parts I to III of the instrument, was used for the analysis. A significant relationship, although weak, was found between knowledge and attitudes for the total sample ($r=.15$, $p<.05$). Subjects with more knowledge about AIDS expressed more positive attitudes toward persons with AIDS.

Chi-square test was used to examine relationships among selected demographic variables. A relationship was found between knowing a homosexual and age ($\chi^2=17.99$, $df=4$, $p=.001$), taking care of a person with AIDS and age ($\chi^2=11.62$, $df=4$, $p<.05$) and taking care of a person with AIDS and level of student within the nursing program ($\chi^2=16.60$, $df=4$, $p=.002$). Older participants, students in upper levels of the nursing program, and faculty were more likely to know a homosexual and to have taken care of someone with AIDS. Other relationships were not statistically significant.

Differences in scores on knowledge, attitude and willingness to care for or have contact with a person with AIDS for subjects who knew a homosexual, knew someone with AIDS and cared for someone with AIDS and those who did not were examined with t tests. Subjects who knew a homosexual had significantly higher total knowledge scores than those who did not ($t=2.08$, $df=119$, $p=.04$). Similarly, significant differences also existed between the

groups on scores on willingness to care for or have contact with persons with AIDS ($t=2.26$, $df=135$, $p=.03$). Subjects who knew a homosexual reported greater willingness to care for or have contact with persons with AIDS. There were no differences, however, in attitude scores.

Discussion

The hypotheses formulated for this study were partially supported. For the total sample, the mean knowledge score was 50.6 out of a maximum of 70. The mean attitude score was 38.5 out of a total score of 60. A significant relationship was found between knowledge of and attitudes about AIDS. This finding is consistent with a recent study by Lawrence and Lawrence (1989) in which increased knowledge about AIDS was related to more positive attitudes toward AIDS patients.

Knowledge scores for understanding AIDS disease typology (Part I) and technical practice (Part II) were low, with most participants achieving only slightly more than half correct. With communication skills (Part III), subjects' scores were high. With attitudes (Part IV) however, the mean score was relatively low for the sample as a whole and for different levels of students and faculty. The instrument is designed so that higher scores represent more positive attitudes about AIDS. The mean score for willingness to care for or have contact with persons with AIDS was 17.5 out of a maximum of 23. These scores were also consistent across groups.

When examining demographic variables, three relationships were found to be significant. Knowing a homosexual increased with age; having taken care of someone with AIDS increased with both age and level in the nursing program. We expected that experience with homosexuals and persons with AIDS would decrease fears and promote more positive attitudes toward AIDS patients, but this was not supported in the study. Findings revealed significant differences in scores on knowledge and willingness to care for or have contact with persons with AIDS between subjects who knew a homosexual and those who did not. Attitude scores, however, did not differ between these groups nor between subjects who knew someone or cared for someone with AIDS and those who did not. Barrick (1988) suggested that an educational component designed to normalize relations with homosexual patients was central to efforts aimed at increasing nurses' willingness to care for patients with AIDS. This is particularly important in Canada since 82% of all AIDS patients are homosexuals and bisexuals (Beaufoy, Goldstone & Riddell, 1988).

In the nursing program in which the participants were enrolled, a formal lecture of two hours is given on AIDS. Students receive this instruction in the second year of the program. The content of the lecture includes the

epidemiology of AIDS; the effects of AIDS on the client, family, nurse and community; nursing care of the patient and family; prevention and health education; use of support groups; and associated ethical issues. Chitty (1989), in her survey of 366 schools of nursing in the United States, reported that 72% devoted between 1 and 5 hours of didactic instruction to AIDS; the content covered in responding schools was similar to that taught in the nursing program in which this research was conducted. While lecture is appropriate for increasing knowledge about AIDS, it is more than likely ineffective for attitude change. Imperato, Feldman, Nayeri and DeHovitz (1988) reported that a one-hour lecture did not make a significant difference in perception of risks or beliefs relating to the care of AIDS patients.

Along with providing students with information about AIDS and care of the person with AIDS, nursing faculty are faced with the need to assist students in examining their own attitudes toward persons with AIDS and dealing with fears associated with caring for them. Kelly, Lawrence, Hood, Smith and Cook (1988) reported that formal teaching, discussion groups, attitude exercises and the use of mentors are effective methods for changing attitudes. Wertz, Sorenson, Liebling, Kessler and Heeren (1987) recommended lecture followed by a question and answer period to increase both knowledge about AIDS and positive attitudes toward AIDS patients. Other appropriate teaching strategies are value clarification techniques, which enable learners to identify for themselves the values that guide their actions; values inquiry, designed to assist individuals in discovering value and moral dimensions in situations encountered, such as ones involving AIDS patients and families; and discussion of ethical and moral issues related to care of HIV-seropositive patients (Reilly & Oermann, 1985; Wiley, Heath & Acklin, 1988).

In addition to limited content on AIDS in the nursing program, the majority of students and half of the faculty group had no experience in caring for patients with AIDS; only a few students and faculty knew someone who had contracted AIDS. This lack of experience more than likely influenced their attitudes. Clinical practice, other experiences in working with patients with AIDS and simulated learning experiences assist students in acquiring knowledge and provide for affective learning. Direct care of AIDS patients, visits by students to AIDS clinics, home visits, interviews of patients and families, simulations, videotaping and other experiential activities are appropriate strategies for AIDS education. Lev (1986) reported that completion of an elective course in hospice nursing led to decreased fears of death and dying, as well as to fewer avoidance behaviours toward dying, psychiatric, alcoholic and AIDS patients. It was suggested that the clinical component of visits to a dying patient and family may have shifted students' attitudes. A nursing elective on AIDS is an option for schools desiring to emphasize care of this patient population and prepare students for future practice. Regardless

of the teaching strategies selected, more research is needed on the effectiveness of specific teaching methods in AIDS education, particularly in terms of attitude change. Nursing research on affective teaching methods is limited and tends to focus on one-time measurement of attitude change and other related outcomes (Oermann, 1990). Nursing education studies must examine the effectiveness of different teaching methods over time on knowledge and attitudes associated with care of the AIDS patient.

This study was limited to one setting, thereby limiting generalizability. In addition, a convenience sample was used. Participation among Year I nursing students was low, possibly because of the timing of the study.

Further research is needed on the attitudes of nursing students and faculty toward AIDS patients. Continued study on the willingness of students and faculty to work with patients who have AIDS, and variables affecting this, is indicated. There also is a need to examine how best to implement changes in the curriculum to improve attitudes toward AIDS patients of both students and faculty, and acquire the knowledge base needed for care of these patients.

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RÉSUMÉ

Les connaissances et les attitudes des étudiants infirmiers et des enseignants envers le SIDA

Les recherches précédentes ont démontré que les étudiants infirmiers et d'autres professionnels en santé sont souvent craintifs et peu disposés à soigner des patients qui ont le SIDA. Il semble avoir un lien entre les connaissances du SIDA et les attitudes envers les patients qui ont le SIDA. Dans cette étude, les connaissances et les attitudes des étudiants infirmiers et des enseignants envers le SIDA ont été examinées utilisant le *AIDS Assess Test* développé par Lawrence et Lawrence (1989). Il y avait 166 sujets qui ont participé à cette recherche, incluant quatre niveaux d'étudiants infirmiers et enseignants, d'une université canadienne, urbaine, d'importance moyenne. Pour examiner les liens entre les résultats du test d'attitudes, et des connaissances, on a utilisé le Pearson r . Un lien statistiquement significative a été trouvé entre les connaissances des sujets et leurs attitudes envers les patients qui ont le SIDA. L'étude a démontrée le manque de connaissances des étudiants infirmiers et la faculté au sujet du SIDA, les aspects techniques de soin mesuré par le *AIDS Assess Test*; et le lien entre les connaissances et les attitudes. Ceci indique qu'il faut des recherches supplémentaire, particulièrement en ce qui concerne les méthodes d'enseignement pour les étudiants assistants en acquérant les connaissances dont on a besoin pour le soin des patients du SIDA et en développant un système de valeurs pour le soutien des patients et leur famille.