Implementation and Evaluation of an HIV/AIDS Intervention Program to Improve Student Attitudes Toward Providing Care[1]

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This study was undertaken to describe and demonstrate the effectiveness of an HIV/AIDS Intervention Program (HAIP) designed to improve first-year pharmacy students' attitudes toward providing care to HIV-positive and/or AIDS (HIV/AIDS) patients. The HAIP involves an AIDS infected male discussing his condition with University of Georgia's first-year pharmacy students. During the HAIP, the patient reveals his feelings toward HIV/AIDS, the way the disease affects his life, the importance of medication therapy in managing his disease, and the role his pharmacist plays in his health care. To measure the value of the HAIP on students' attitudes toward providing care to HIV/AIDS patients, in April 1996, 1997, and 1998, each first-year student (n=309) was given the 18-item HIV/AIDS Attitude Scale for Pharmacy Students (HAS-PS) prior to and after the HAIP. Two-hundred and ninety students completed the pre and post HAS-PS surveys. Pair wise *t*-test with Bonforroni's adjustment were used to detect differences between students' pre-test and post-test scores for the HAS-PS. Students scored significantly higher on the HAS-PS after the HAIP (86.59±12.74) than before the HAIP (79.28±13.72), indicating more positive attitudes toward caring for HIV/AIDS patients (n=290; $P<0.05$). Results of the study document that the HAIP, a patient-centered program, was successful in improving students' attitudes toward providing care for HIV/AIDS patients.

INTRODUCTION

Acquired immunodeficiency syndrome (AIDS) was first recognized and described in the early 1980s when an unusual number of patients was reported as having Pneumocystis carinii pneumonia (PCP). AIDS, a clinical syndrome resulting from the human immunodeficiency virus (HIV), causes severe immunosuppression; thus, making patients susceptible to opportunistic infections such as PCP, malignancies, and other death inducing illnesses(1). AIDS has reached epidemic proportions and by 1993 more than 300,000 cases of AIDS had been documented and more than one million individuals were infected with HIV in the United States alone(2). Worldwide, the Joint United Nations Program on HIV/AIDS and the World Health Organization estimate that as many as 42 million people have been infected with HIV, and with each day 16,000 more individuals become infected. Today, HIV is one of the fastest growing infectious diseases in the world(3).

With the growing number of patients infected with HIV, the increased length of survival of HIV-positive patients, and the numerous, expensive, and complex medication regimens taken by HIV-positive and AIDS patients, there is a great need for pharmacists to be actively involved in the direct care of these individuals(2,4). Bozek and colleagues recently described the positive effects of pharmacist intervention on medication-use and cost in hospitalized HIV-positive patients(4). In this study, HIV-positive patients required more pharmacist interventions than HIV-negative patients with otherwise similar health status, and pharmacist intervention resulted in decreased medication costs. Although this study demonstrated the need for pharmacists to be involved in the direct care of HIV infected individuals, there are many factors that prevent pharmacists and other health care professionals from participating in HIV-positive patients'

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care including lack of knowledge concerning treatment, negative attitudes toward HIV infected individuals, fear of contagion, and fear of occupational exposure to HIV(4-9). Attitudes of health care professionals regarding HIV-positive patients may affect the quality of care they provide(6-9). Similarly, attitudes of future pharmacists toward HIV-positive patients may affect the quality of care that infected patients receive(5).

A literature search was conducted to identify studies describing programs or interventions that were implemented to develop positive attitudes among pharmacy students concerning provision of care to HIV-positive or AIDS patients. Although no studies were found regarding pharmacy students, one study described a course that influenced medical students' attitudes toward caring for AIDS patients(11). This study found that first-year medical students who took an elective course on AIDS (n=33) showed decreased negative attitudes toward AIDS patients in comparison with students who did not take the elective course (n=40). One explanation for the limited literature describing pharmacy students' attitudes toward caring for HIV-positive and/or AIDS (HIV/AIDS) patients may be the lack of a valid and reliable instrument prior to 1997 to measure pharmacy students' attitudes toward caring for this patient population.

In 1995, the investigators of this study decided to measure the effects of an HIV/AIDS Intervention Program that was conducted in the Clinical Applications II course (PHRM 3850) at the University of Georgia College of Pharmacy. At that time, no valid and reliable instruments existed to measure pharmacy students' attitudes toward caring for HIV/AIDS patients. Therefore, the investigators developed and cross-validated an instrument, the "HIV/AIDS Attitude Scale for Pharmacy Students" (HAS-PS)(10). Exploratory factor analysis identified two constructs, a nine-item factor labeled "working with AIDS/HIV patients" and a nine-item factor labeled "emotions toward people with AIDS/HIV," and found those constructs to be reliable. A cross validation study with confirmatory factor analysis provided additional evidence that the instrument is reliable and valid(10). Because it is important to foster the development of positive attitudes toward caring for HIV/AIDS patients, the purpose of this study was to determine the effectiveness of an intervention program in influencing pharmacy students' attitudes toward caring for HIV/AIDS patients. Specific objectives of the study were to: (*i*) describe the HIV/AIDS intervention program; (*ii*) determine if the program improved students' attitudes toward providing care for HIV/AIDS patients; and (*iii*) determine if there was a significant difference in the change of students' pre and post attitude scores by student's age, gender, marital status, professional pharmacy degree objective, the presence of pharmacy practice experience, and the particular HIV/AIDS Intervention Program (1996, 1997, and 1998) in which students participated.

THE HIV/AIDS INTERVENTION PROGRAM

The HIV/AIDS Intervention Program (HAIP) was initiated by the coordinator of the Clinical Applications II course (PHRM 3850) at the University of Georgia College of Pharmacy after polling the College's first and second year pharmacy students in 1995 to document if they knew anyone infected with HIV. Because less than 15 percent of the students indicated that they personally knew someone diagnosed with HIV, the increasing number of individuals being diagnosed with AIDS each year, and the complicated regimens involved in caring for this patient population, the course coordinator developed the HAIR In this intervention, an actual patient discussed with the class what it is like living with AIDS and the value of having a pharmacist involved in his health care. It was believed that a patient-centered educational program would be a better learning experience for students than a traditional lecture or case presentation of a simulated patient where the instructor would describe the disease state, the impact of the disease on the patient, and ultimately convey what the instructor thought life would be like with this disease and the role that the pharmacist should assume in delivering pharmaceutical care to HIV patients.

Each year, for three years (1996-1998), a three-hour HAIP occurs in the Clinical Applications II course. This course provides one semester-hour credit and is taught in the spring of the first year of the pharmacy curriculum. It involves patients coming to class and discussing their illness and how their illness affects their lives(12). The course was designed to introduce students to patients early in their formal pharmacy education with hopes of facilitating the development of their future.

The patient is approximately 35 years old and appears to be in good health in spite of having AIDS. He was first diagnosed with AIDS approximately seven years ago immediately after testing HIV-positive on a routine physical examination required for the purchase of life insurance. When first advised of his condition, the patient's CD4 cell count was already less than 10 cells/mm^3. The patient, a self-employed successful businessman, has been married to a non-HIV infected female for more than eight years, and the couple has no children. During the HAIP, the patient shares his life experience with the students including his social history, past and present medical and medication histories, and the importance of having his health care providers care for him. The patient's medication history includes expected routine medications for the management of AIDS such as zidovudine, ritonavir, zalcitabine, atovaquone, sulfamethoxazole and trimethoprim, and clarithromycin. The patient also discusses his feelings toward the disease, the way the disease affects his life, the importance of medical therapy, the impact of drug-related side effects, and the role his pharmacist plays in managing his medication regimens. Although, first-year pharmacy students at the College of Pharmacy have not received any formal didactic lectures on the individual medications involved in treating HIV/AIDS patients (*e.g.,* dose, side effects, monitoring parameters, etc.), by spring semester these students have participated in several lectures on the pathophysiology of HIV and AIDS and the medication classes used to manage this disease. Due to the students' limited knowledge about the specific medications used to manage AIDS patients, most of the patient's conversations with the students are focused on his personal experience living with AIDS.

Throughout the presentation, the patient emphasizes the importance of having a strong support system of knowledgeable and caring health professionals in treating

Table I. Demographic characteristics for the 1996,1997, and 1998 pharmacy student respondents

		Number of students (Percent)			
Characteristics	**Categories**	**1996-1998 first-year classes (n=295)**	**1996 first-year class (n=104)**	**1997 first-year class (n=100)**	**1998 first-year) class (n=91**
Gender	Female	173 (58.6)	57 (54.8)	62 (62.0)	54 (59.3)
	Male	122 (41.4)	47 (45.2)	38 (38.0)	37 (40.0)
Marital status	Single	250 (85.3)	92 (88.5)	80 (80.0)	78 (85.7)
	Married	43 (14.7)	12(11.5)	18[a] (18.0)	13 (14.3)
Degree objective	BS	67 (22.7)	35 (33.7)	15 (15.0)	17 (18.7)
	PharmD	228 (77.3)	69 (66.3)	85 (85.0)	74 (81.3)
Practice experience	Some	21 (74.9)	72 (69.2)	83 (83.0)	66 (72.5)
	None	74 (25.1)	32 (30.8)	17 (17.0)	25 (27.5)

[a]Two of the surveys did not have a response for this item in 1997.

and dealing with this disease, as well as the importance of strong family support. Demonstrating his strong family support, the patient's wife accompanied him to the 1997 HAIP and talked with the students about what it was like being the spouse of an individual infected with AIDS. After the 45 to 60 minute patient presentation, students are then allowed to ask the patient questions. The question and answer (Q & A) period usually lasts 60 to 75 minutes. The Q & A period duration has increased with each HAIP. In 1998 students questioned the patient for approximately 90 minutes. Since April 1996, the same AIDS patient has participated in the program.

METHODS

Instrument Administration

In April 1996, 1997, and 1998, one day before the HAIP was scheduled to take place, all students enrolled in the Clinical Application II course were asked to complete the 18-item HAS-PS. Students were asked to respond to each item by using a six-point Likert-type scale ranging from 1 = "strongly disagree" to 6 - "strongly agree". Additional questions concerning students' gender, age, pharmacy practice experience, and professional degree objective (whether the student was planning to pursue a doctor of pharmacy degree or a bachelor of science degree in pharmacy) were also asked. See Appendix for the HAS-PS.

Each year students were given the same instructions concerning survey completion which included completing and bringing the survey to class on the day of the HAIP, prior to the start of the program. Students were instructed to place his or her survey in an envelope and place the envelope under his or her chair while the patient was presenting. Immediately after the Q&A session, students were given another copy of the same survey instrument to complete. The post-survey was marked to prevent the investigators from mixing the item scores of the pre and post surveys. Students were then instructed to place the completed post-survey in the envelope with the pre-survey and to give the envelope to the coordinator of the course immediately after the HAIP. Student participation in the study was voluntary and the identity of the students was blinded to the investigators.

Statistics

All pre and post survey data from each year were entered into Microsoft Excel, checked for proper data entry, and later downloaded to SAS for analyses. Chi-square analyses were performed to detect if there were any differences in age, gender, marital status, professional degree objective and pharmacy practice experience of students by class year. Pairwise r-tests with Bonforroni's adjustment were used to detect if there were any differences between students' pre-test and post-test scores for the 18 items of the HAS-PS. Cronbach coefficient alpha was calculated by using the pre-intervention scores to determine the internal consistency of the scale and its two factors.

Multivariate analysis of covariance (MANCOVA) was performed to determine if there was a significant difference in the change of students' pre and post attitude scores by age, gender, marital status, degree objective, the presence of pharmacy practice experience, and the particular intervention year. Since the multivariate null hypothesis was rejected for the HAIP year covariate, ANCOVA (analysis of covariance) was used to compare response means differences between pre-test and post-test HIV/AIDS attitude scores by the particular HAIP.

RESULTS

A total of 104 (99 percent response rate), 100 (92.6 percent response rate), and 91 (94.8 percent response rate) students completed the pre or post-attitude surveys in 1996, 1997, and 1998, respectively. Student characteristics are presented in Table I. There were no statistical differences for gender, marital status, or the presence of pharmacy practice experience between students in the 1996, and 1998 class years ($P > 0.05$). However, fewer students selected the doctor of pharmacy degree as their objective professional degree in 1996 than in 1997 and 1998 ($x^2 = 11.3$, df=3, $P < 0.01$).

All 104 students in the 1996 class who returned the HAS-PS fully completed the pre and post attitude surveys. However, only 95 of the 100 students in the 1997 class turned in both (pre and post) surveys. Because two of the 91 students in the 1998 class did not complete one item on the pre and post surveys, the missing value for these four items were replaced by their corresponding pre-test and post-test 1998 mean scores. Responses of 290 student surveys were used to estimate the impact of the HAIP. The Cronbach coefficient alpha of the HAS-PS for the three combined years was 0.87 for the "working with AIDS/HIV patients" factor, 0.77 for the "emotions toward AIDS/HIV patients" factor, and 0.86 for the entire scale.

A statistically significant difference was found

Table II. Means and standard seviations of pre and post items and factor scores (n=290)

	Mean±SD		
	1996-1998 Pre score	1996-1998 Post score	*P* value
1. I would feel resentful if AIDS patients accounted for a significant part of my case load.[a,d]	4.44±1.42	4.95±1.12	0.0001[c]
2. I feel angry about the risk of AIDS which homosexuals have imposed on the straight community.[a,d]	4.02±1.74	4.33±1.62	0.0281
3. Given a choice, I would prefer not to work with AIDS patients.[c,d]	3.46±1.54	4.29±1.46	0.0001[c]
4. It is best to train a few specialists who would be responsible for the treatment of AIDS patients.[a,d]	3.41±1.46	3.35±1.59	0.6237
5. I would consider changing my professional specialty/position if it became necessary to work with AIDS patients.[a,d]	4.73±1.44	5.10±1.18	0.0007[c]
6. I would rather work with a better class of people than AIDS patients.[a,d]	4.67±1.43	5.17+1.16	0.0001[c]
7. I don't want those at higher risk for AIDS such as IV drug users and homosexuals as patients.[a,d]	4.13±1.57	4.63±1.42	0.0001[c]
8. If given a choice, I am willing to have a pharmacy practice that treats patients with HIV.[a]	4.11+1.41	4.70±1.31	0.0001[c]
9. If given a choice, I am willing to have a pharmacy practice that treats patients with AIDS.[a]	4.08±1.41	4.68±1.29	0.0001[c]
Total score for "Working with AIDS/HIV patients" factor	37.05±9.41	41.21±8.65	0.0001[c]
10. I often have tender, concerned feelings for people with AIDS.[b]	4.09±1.38	4.48±1.34	0.0005[c]
11. I sometimes find it hard to be sympathetic toward AIDS patients.[b,d]	4.01±1.52	4.27±1.48	0.0405
12. Psychological services should be made an integral part of the initial assessment of the HIV and/or AIDS patients' needs.[b]	4.58±1.36	5.00±1.17	0.0001[c]
13. The ethnic origin (race) of an AIDS patient should not influence my interaction with that patient.[b]	5.46±0.90	5.49±0.91	0.7485
14. The age of an AIDS patient should not influence my interaction with that patient.[b]	5.23±1.23	5.34±1.10	0.2715
15. If possible, any psychological stress on HIV and/or AIDS patients should be avoided.[b]	4.71±1.18	5.11±1.09	0.0001[c]
16. I believe pharmacy students can benefit from openly expressing their feelings about dealing with HIV.[b]	4.60±1.26	5.15±1.00	0.0001[c]
17. I believe pharmacists can benefit from openly expressing their feelings about dealing with HIV.[b]	4.60±1.24	5.04±1.05	0.0001[c]
18. HIV and/or AIDS patients should always be encouraged to retain hope.[b]	4.96±1.31	5.50±0.83	0.0001[c]
Total score for "Emotions toward people with AIDS/HIV" factor	42.23±6.84	45.38±6.16	0.0001[c]

[a]Item loading on factor "Working with AIDS/HIV patients."

[b]Item loading on factor "Emotions toward people with AIDS/HIV."

[c]There was a statistical difference ($P < 0.05/20$ which is equivalent to $P < 0.0025$) between the pre and post-scores for the "working with AIDS/HIV patients" factor items. The Bonferroni correction was applied to keep the overall alpha for 20 comparison tests at 0.05.

[d]Item scores were reversed.

between students' HAS-PS pre-score of 79.28+13.72 and their post-score of 86.59±12.74 (n=290; $P<0.05$; higher scores represent more positive attitudes toward caring for HIV/AIDS patients with the highest possible attainable score of 108). Additionally, Pairwise *t*-test with Bonferroni's adjustment demonstrated that students' scores significantly increased on almost all items (13 of 18 items) after the HAIP (n=290, $P<0.001$). Table II provides mean scores and standard deviations for the nine items of the "working" and the nine items of the "emotions" factors for the 1996 HAIP, 1997 HAIP, and 1998 HAIP. Year by year analysis of pre and post scores demonstrate that the HAIP had a consistent positive effect on students' HIV/AIDS attitude scores. Table III reports the pre and post HAS-PS scale factor scores ("working" and "emotions") and total scale scores for the 1996, 1997, and 1998 HAIP. Although changes in students' pre and post attitude scores did not significantly differ by gender, degree objectives, or prior pharmacy experience (MANCOVA Wilks' lambda $P>0.05$) for either of the two factors ("emotions" or "working"), changes in students' pre and post attitude scores differed significantly by the particular HAIP (MANCOVA Wilks' lambda = 92.7; df =2; $P< 0.001$) on both the "emotions" and "working" factors. A more detailed analysis of covariance showed a significant difference in the change of students' pre and post attitude scores on the "working" factor by class year between the 1996 and 1998 classes, and a significant difference in the change of students' pre and post-attitude scores on the "emotions" factor by class year between the 1996 and 1997 classes and the 1997 and 1998 classes ($P<0.05$). Overall, there was a significant difference only in the change of students' pre and post attitude scores for the entire HAS-PS (this includes both the "working" and "emotions" factors) between the 1996 HAIP and the 1998 HAIP and between the 1997 HAIP and 1998 HAIP ($P<0.001$). Pre and post factor mean scores for each of the 1996, 1997, and 1998 classes are presented in Table III.

Table III. Pre and post factor mean scores for each of the 1996,1997, and 1998 classes

Factors	Year(s)	Mean pre score ±SD	Mean post score ±SD	Change in mean pre and post score	*P* value associated with change in mean pre and post score
Total score for "Working with AIDS/HIV patients" factor	1996-1998	37.1±9.41	41.2±8.7	4.1	0.001
	1996	37.1+10.1	40.3±8.9	3.2[a]	0.015
	1997	38.4±10.1	42.4±8.2	4.0	0.001
	1998	35.6±8.8	40.9+8.8	5.3[a]	0.001
Total score for "Emotions toward people with AIDS/HIV" factor	1996-1998	42.2±6.8	45.4±6.2	3.2	0.001
	1996	40.9±7.0	44.0±6.1	3.1[b]	0.001
	1997	44.7±6.7	47.0±6.0	2.3[b]	0.001
	1998	41.1+6.1	45.2+6.0	4.1[b]	0.001
Total score for the entire HAS-PS	1996-1998	79.3±13.7	86.6±12.7	7.3[c]	0.001
	1996	78.0 +14.6	84.3+12.4	6.3[c]	0.001
	1997	83.1±13.4	89.5±12.5	6.4[c]	0.001
	1998	76.7±12.6	86.2±12.9	9.54[c]	0.001

[a]Change in mean pre and post scores are significantly different between the 1996 and 1998 students ($P<0.001$) for the "working with AIDS/HIV patients" factor.

[b]Change in mean pre and post scores are significantly different between the 1996 and the 1997 students ($P<0.05$) and between the 1997 and the 1998 students ($P<0.001$) for the "emotions toward people with AIDS/HIV" factor.

[c]Change in mean pre and post scores are significantly different between the 1996 and the 1998 students ($P<0.001$) and between the 1997 and 1998 students ($P<0.001$) for the total score for the entire HAS-PS.

DISCUSSION

Study results suggest that although most student participants had fairly positive HIV/AIDS attitude scores judged by the mean pre-HAIP score of 79.30, the mean post-HAIP score of 86.60 demonstrates a significant increase in students' attitude scores toward caring for HIV/AIDS individuals ($P<0.05$). Although attitude scores did not significantly differ by students' gender, age, presence of pharmacy work experience, and professional degree objective, the impact of the program did differ by the particular HAIR This impact is indicated by the increased change between the students' pre and post HAS-PS scores between the 1996 HAIP and the 1998 HAIP for the "working" factor ($P<0.01$), and increased change in scores between the 1996 HAIP and 1998 HAIP and between 1997 HAIP and 1998 HAIP for the "emotion" factor ($P<0.05$). The observed continuous increase in changes in the pre and post total HAS-PS scores with each succeeding year suggests the growing impact of the HAIP. See Table III for changes in factor scores for each class year.

The greater changes seen between the students' pre and post scores with each successive year of the HAIP may be due to two reasons. First, the coordinator of the course and the patient presenter may have been more comfortable presenting the material over the years. By the third year, the patient and the coordinator indicated that they had developed a routine presentation which has ensured that each had provided all the information they wanted to convey to the students. Second, the coordinator changed the format of the class in 1998 to enable students and the patient to spend more direct time interacting by decreasing the amount of time the coordinator spent reviewing the disease state to the students and increasing the duration of the Q&A period. It could be assumed that students found the later HAIPs more valuable and interesting since they had more time to talk to the patient and ask him questions about aspects of his condition in the later HAIPs compared to students in the 1996 HAIP. Although a content analysis of the HAIP between the years was not performed, the coordinator of the HAIP believes that the extension of the Q&A period may have influenced the overall content of the HAIP to be more tailored to the interested learning issues of the students. Whatever the underlying phenomena contributing to the continued effectiveness of the program, the course coordinators, the investigators of the study, the patient involved, and the students are pleased with the overall success of the HAIP.

One limitation of the study is that scores on the HAS-PS have not been correlated with actual student provision of pharmaceutical care activities in HIV patients. However, many students who have been involved in the HAIP and are currently in experiential training have commented to the coordinator of the Clinical Applications II course and to many other instructors at the College that the program was a profound experience. Students often recall the impact that it made on identifying the importance of practicing pharmaceutical care to all patient populations, but in particular, to HIV-positive patients. This further suggests that the HAIP positively influences students' willingness and desire to provide pharmaceutical care in the HIV patient population.

In an effort to assist faculty at other colleges of pharmacy with this type of intervention program, the authors have considered the potential for providing audio, video or transcript information concerning the actual patient involved in the University of Georgia's HAIP. However, because the patient has been afforded the utmost confidentiality, none of these methods has been adopted. Although we believe that using an actual patient to present to students has a more significant impact than videotapes of a patient or a lecture on HIV/AIDS by a health care professional, we do recognize that there may be a considerable amount of variability in the success of the program due to the particular patient presenting. Since we have been using only one type of presentation in our HAIP (an actual patient presenting) and only one patient throughout the existence of the program, we are unable to comment on the success of the program based on different types of presentation (*e.g.*, videotapes, actual patient presentation, audiotapes) and the use of different patients.

However, due to the success of the HAIP by using an actual patient, the authors encourage other faculty to develop such intervention programs in which actual patients provide education to pharmacy students that will positively influence their attitudes toward caring for HIV/AIDS patients.

CONCLUSIONS

The HIV/AIDS Intervention Program was successful in improving students' attitudes toward providing care for HIV/AIDS patients. By sharing the HIV/AIDS Intervention Program and the results of its effectiveness, the investigators hope that others will implement such educational programs. Results of this study document that by receiving patient-centered programs early in students' didactic pharmacy education, future pharmacis

ts may have an even greater desire to provide pharmaceutical care to patients.

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APPENDIX. SURVEY INCLUDING HIV/AIDS ATTITUDE SCALE FOR PHARMACY STUDENTS (HAS-PS) ADMINISTERED TO THE STUDENTS

Please use the scale below to respond to questions #1- #18.

	Strongly Disagree					Strongly Agree
	1	2	3	4	5	6
1. I would feel resentful if AIDS patients accounted for a significant part of my case load.	1	2	3	4	5	6
2. I feel angry about the risk of AIDS which homosexuals have imposed on the straight community.	1	2	3	4	5	6
3. Given a choice, I would prefer not to work with AIDS patients.	1	2	3	4	5	6
4. It is best to train a few specialists who would be responsible for the treatment of AIDS patients.	1	2	3	4	5	6
5. I would consider changing my professional speciality/position if it became necessary to work with AIDS patients.	1	2	3	4	5	6
6. I would rather work with a better class of people than AIDS patients.	1	2	3	4	5	6
7. I don't want those at higher risk for AIDS such as IV drug users and homosexuals, as patients.	1	2	3	4	5	6
8. If given a choice, I am willing to have a pharmacy practice that treats patients with HIV.	1	2	3	4	5	6
9. If given a choice, I am willing to have a pharmacy practice that treats patients with AIDS.	1	2	3	4	5	6
10. I often have tender, concerned feelings for people with AIDS.	1	2	3	4	5	6
11. I sometimes find it hard to be sympathetic toward AIDS patients.	1	2	3	4	5	6
12. Psychological services should be made an integral part of the initial assessment of the HIV and/or AIDS patients' needs.	1	2	3	4	5	6
13. The ethnic origin (race) of an AIDS patient should not influence my interaction with that patient.	1	2	3	4	5	6
14. The age of an AIDS patient should not influence my interaction with that patient.	1	2	3	4	5	6
15. If possible, any psychological stress on HIV and/or AIDS patients should be avoided.	1	2	3	4	5	6
16. I believe pharmacy students can benefit from openly expressing their feelings about dealing with HIV and/or AIDS patients.	1	2	3	4	5	6
17. I believe pharmacists can benefit from openly expressing their feelings about dealing with HIV and/or AIDS patients.	1	2	3	4	5	6
18. HIV and/or AIDS patients should always be encouraged to retain hope.	1	2	3	4	5	6

Please answer the following questions by writing in your response or checking the appropriate box.

19. Your Gender: ❑ Female ❑ Male
20. Your Age: _____(in years)
21. Your Marital Status: ❑ Single ❑ Married ❑ Divorced ❑ Widowed
22. Do you have any pharmacy practice experience? ❑ Yes ❑ No
23. What is your professional pharmacy degree objective? ❑B.S. in Pharmacy ❑ Doctor of Pharmacy