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Preparing Every Nurse to become an HIV Nurse

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Abstract

Background—There are currently over 1.2 million people in the United States living with HIV, and that number is increasing. Because persons infected are living longer, they must deal with numerous comorbidities complicated by underlying HIV disease. This may require frequent healthcare visits. The majority of new nurses will not be working in positions focused on HIV care, however many nurses will find themselves called upon to care for patients living with HIV regardless of their employment setting. Unfortunately, as the HIV/AIDS epidemic has faded from the headlines, HIV/AIDS education has decreased in most nursing schools, and undergraduate students receive minimal education about HIV/AIDS. Many nursing students nearing graduation report feeling unprepared to care for patients with HIV. This lack of preparation results from lack of knowledge, which can perpetuate fear and stigmatizing attitudes towards people living with HIV.

Aim of the study—The purpose of this study was to gauge the impact of utilizing speakers living with HIV, and HIV healthcare professionals in preparing undergraduate nursing students to care for patients living with HIV.

Research method—To assess HIV-related knowledge and attitudes of undergraduate nursing students we used a quantitative, descriptive pretest-posttest design. Nonparametric related samples tests and Wilcoxon signed-rank tests were conducted to compare knowledge and attitudes of HIV and persons living with HIV, in undergraduate nursing students before and after an HIV educational experience.

Conclusions—There was a significant difference in the overall scores in HIV knowledge after the education experience ($p = .000$). Questions related to stigma on the HIV/AIDS Questionnaire for Health Care Providers also revealed statistically significant improvement. Results suggest the benefits of incorporating this curriculum addition as a method of HIV education into the undergraduate curriculum may make a tremendous impact on student readiness to care for persons with HIV.

Keywords

HIV; Stigma; Education; Nursing students

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Introduction

Background

There are currently over 1.2 million people in the United States living with HIV, and that number is increasing. Because persons infected are living longer, they must deal with numerous comorbidities complicated by underlying HIV disease. This may require frequent healthcare visits. The majority of new nurses will not be working in positions focused on HIV care, however many nurses will find themselves called upon to care for patients living with HIV regardless of their employment setting. Unfortunately, as the HIV/AIDS epidemic has faded from the headlines, HIV/AIDS education has decreased in most nursing schools, and undergraduate students receive minimal education about HIV/AIDS. Many nursing students nearing graduation report feeling unprepared to care for patients with HIV. This lack of preparation results from lack of knowledge, which can perpetuate fear and stigmatizing attitudes towards people living with HIV.

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The purpose of this study was to gauge the impact of utilizing speakers living with HIV, and HIV healthcare professionals in preparing undergraduate nursing students to care for patients living with HIV.

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To assess HIV-related knowledge and attitudes of undergraduate nursing students we used a quantitative, descriptive pretest-posttest design. Nonparametric related samples tests and Wilcoxon signed-rank tests were conducted to compare knowledge and attitudes of HIV and persons living with HIV, in undergraduate nursing students before and after an HIV educational experience.

Conclusions

There was a significant difference in the overall scores in HIV knowledge after the education experience ($p = .000$). Questions related to stigma on the HIV/AIDS Questionnaire for Health Care Providers also revealed statistically significant improvement. Results suggest the benefits of incorporating this curriculum addition as a method of HIV education into the undergraduate curriculum may make a tremendous impact on student readiness to care for persons with HIV.

Background

More than 30 years into the HIV epidemic stigma remains a major barrier to obtaining quality healthcare for persons living with HIV (Earnshaw & Smith, et al., 2013). Stigma is defined as “a set of negative and often unfair beliefs that a society or group of people have about something (Stigma, Merriam-Webster). The National HIV/AIDS Strategy for the United States has four stated goals: reduce new infections; increase access to care and improve health outcomes; reduce HIV-related health disparities and health inequalities; and achieve a more coordinated national response to the HIV epidemic (White House Office of National AIDS Policy, 2015).

Nurses, including new graduates, can and should play a crucial role in supporting these critical goals. In order to accomplish this, educators must equip nursing students with knowledge and understanding about HIV and people living with HIV. Clinical skills related to HIV/AIDS patient care can be taught in many undergraduate courses, however reducing stigmatizing behavior toward these patients may best be accomplished by personalizing HIV. Studies have shown that one of the barriers to providing quality healthcare is stigmatizing behaviors from healthcare workers directed at patients living with HIV (Earnshaw & Smith, et al., 2013). This stigma often occurs when healthcare workers are unfamiliar with HIV, or are uncomfortable caring for patients because of exaggerated fears regarding risk of exposure in the workplace (Magnus et al., 2013; Pickles et al., 2009). Nurses and other healthcare providers sometimes see patients with HIV in a negative light, equating an HIV/AIDS diagnosis with perceived bad behaviors, including injection drug use, homosexuality, and promiscuity (Stringer et al., 2016). Thus, educators must develop curricula that offers students the opportunity to interact with persons working with, and living with HIV (Guth, et al., 2000).

Previous work has found that stigmatizing attitudes from healthcare workers results in decreased medication adherence, decreased retention in care, and an increase in the number of new HIV infections (Katz et al., 2013; Sweeney, & Venable, 2016). These factors also contribute to a decrease in quality of life and an increase in morbidity and mortality for this vulnerable patient population (Earnshaw & Lang, et al., 2015; Holzemer, et al., 2009; Stringer et al., 2016). The National HIV/AIDS strategy calls for care that is free from stigma and discrimination, yet the lack of progress on this front tells us that increased education and innovative education strategies are necessary to accomplish this goal.

The purpose of this study was to determine the effect of utilizing HIV professionals and persons living with HIV as expert speakers as a means of increasing undergraduate nursing students' readiness to provide high-quality care for patients living with HIV/AIDS.

Method

We assessed HIV-related knowledge and attitudes of undergraduate nursing students at an urban nursing school in the Midwest. We used a quantitative, descriptive pretest-posttest design. Nonparametric related samples tests and Wilcoxon signed-rank tests were conducted to compare knowledge and attitudes of HIV and persons living with HIV, in undergraduate nursing students before and after an HIV educational experience. Quantitative data were analyzed using IBM SPSS Statistical Software Version 22.

Sample

A total of 29 undergraduate nursing students took part in this HIV/AIDS education experience, and data was collected on 28. One student declined to sign the informed consent that would allow her data to be used in the analysis. Seventy-five percent of the participants were between the ages of 25 and 39, and 25% were age 40 or older. Ninety-three percent were female, and 7% were male. Sixty-four percent, to their knowledge, had never met anyone who was living with HIV. Only 1 student had participated in any HIV training or education prior to this experience (Table 1).

Instruments

Quantitative instruments included an HIV knowledge questionnaire (HIV-KQ-18), and items from the HIV/AIDS Questionnaire for Health Care Providers and Staff (International Planned Parenthood Federation/Western Hemisphere Region). The HIV-KQ-18 is a self-administered instrument designed to measure a person's HIV-related knowledge (Carey & Schroder, 2002). The HIV KQ-18 was designed to be used in a range of settings, including clinical, educational, and public health, and was derived from the longer HIV-KQ-45. In initial testing the instrument was found to be sensitive to knowledge changes resulting from educational components. Strong test-retest reliability was found ($r = 0.83$). The instrument consists of 18 true-false questions with the additional choice of "I don't know." Higher summary scores equate with greater HIV-related knowledge, the maximum possible score is 18. The survey takes about 10 minutes to complete.

The HIV/AIDS Questionnaire for Health Care Providers and Staff was developed to test knowledge, attitudes and practices related to HIV/AIDS among persons working with this patient population. The questionnaire was developed and tested by the International Planned Parenthood Federation/Western Hemisphere Region, and its findings have been used to guide future programming and to develop programs for staff in order to improve health services related to HIV/AIDS. There were a total of 55 questions, including questions related to attitude towards people living with HIV, and HIV knowledge. Responses included true/false, multiple choice, and Likert scale options. This questionnaire takes about 15 minutes to complete. This questionnaire was chosen because of its healthcare focus, and the mix of knowledge and attitude questions were well-suited for undergraduate nursing students.

Ethical Considerations

Approval to conduct this research study was granted by the University's Institutional Review Board. Participation in the study was voluntary. All students were provided an information sheet explaining the study, and at the final class returned the sheet into an envelope that was then sealed, and remained sealed and unopened until final grades were reported. Students that consented for their data to be used initialed the information sheet prior to placing it in the envelope. Those that preferred their information not be used returned the sheet without initialing.

Intervention

The educational experience focused on speakers who were experts in the field of HIV, both by working in the field and/or living with HIV. Speakers included an HIV case manager, a pharmacist specializing in HIV medications, a registered nurse working in an HIV clinic, and an HIV research nurse. Persons living with HIV included an African American male who has been living with HIV for nearly 30 years, and a transgendered female living with HIV for the past 19 years. Prior to meeting with the speakers, students were shown the film: "And the Band Played On," which provided an introduction to the early years of the epidemic, when little was known about the disease or how it was transmitted. People with HIV/AIDS faced certain death, with no cure and no effective medications. Once diagnosed, persons faced immense stigma and discrimination. The current crop of nursing students were

not yet born during the early years of the AIDS crisis, and many are unaware of the history and the social and political fallout that resulted from this epidemic.

Students also heard from a case manager who explained how new patients are first entered into care, and the difficulties of keeping patients engaged in care and adherent to their medications (Figure 1). The case manager provided information about physical and mental health services available for patients. Contact information for the various local AIDS Service Organizations was provided to the students. An HIV pharmacist spoke with the students about available antiretroviral therapy (ART), drug resistance and drug interactions. The pharmacist spoke about improvements in ART since the first medications, and the advantages of single-dose regimens available for patients. An HIV clinic nurse spoke about the need to monitor numerous comorbidities in addition to treating the patient's HIV disease; the importance of spending time educating patients about HIV transmission; and the nurse's role in retaining patients in care. An HIV research nurse spoke about current HIV research studies being conducted, including medication studies, comorbidity studies, aging studies, and the long-term effects of HIV and HIV medications.

Speakers that were living with HIV discussed the evolution of HIV care over the years. They also discussed the fear and worry they felt when switching from an effective antiretroviral medication regimen to newer medications with less side effects that were easier to tolerate. They shared stories about good and bad experiences they encountered during healthcare visits, and offered suggestions to the students about effective strategies for caring for patients living with HIV. The speakers also shared the feelings they experienced when they were first diagnosed with HIV, instances where disclosing their HIV status was difficult for them, and how their status affected their employment, friendships, and relationships.

Students were encouraged to ask questions, with the understanding that the speakers could choose whether or not to answer personal questions. Students were very respectful of the speakers, and asked questions related to the speaker's experiences with disclosure, safer sex practices, fear of transmitting the virus to others, and the difficulties of having to take medications on a daily basis. Both the students and the speakers were able to share their respective thoughts on these difficult topics in a setting that was comfortable and safe.

Results

Despite students being in their final year of an undergraduate nursing program, prior to the education intervention 29% felt unprepared to care for patients with HIV, 64% felt somewhat prepared, and only 7% of participants felt totally prepared to care for this patient population. After the 6-week experience 54% of participants felt totally prepared to care for patients living with HIV, 46% felt somewhat prepared, and there were no students who felt unprepared to provide care.

There was a significant difference in the overall scores on the HIV-KQ-18, with scores significantly higher on the posttest ($p = .000$). The maximum score on the HIV-KQ-18 is 18, the overall score prior to the education experience was a mean of 14.3 ($SD = 3.2$) and after the experience the mean score was 16.9 ($SD = 1.5$). Individual items are displayed with

mean percentages correct on the pretest and posttest, and the mean percentage improvement between the two scores, p values are also shown for all items. No items had lower scores on the posttest compared to the pretest. There were four items that were unchanged between the pretest and posttest, with two of those items reporting scores of 100% on both pre- and posttest, and the other two reporting scores of 93 and 96 on both tests. These high scores indicate students came into the experience with some knowledge on those HIV-related topics (Table 2).

Several questions on the HIV/AIDS Questionnaire for Health Care Providers that related to stigma revealed statistically significant improvement after the education experience. The questions used a 4-point Likert scale ranging from strongly agree to strongly disagree. Using the Wilcoxon signed-rank test we saw the educational experience elicited statistically significant changes with the following statements: “An HIV-positive woman has the right to become pregnant” ($Z = 2.416$, $p = .013$); “I would be willing to care for a family member who had AIDS in my home” ($Z = 2.486$, $p = .013$); “I would feel comfortable sharing a bathroom with a person I knew had HIV/AIDS” ($Z = 2.968$, $p = .003$); “If I found out that a food or vegetable vendor was HIV-positive, I would feel comfortable buying from him/her” ($Z = 2.120$, $p = .034$). Table 3 provides descriptive statistics for these stigma-related questions, in addition to the questions where the change was not significant.

Discussion

Results of this study suggest that undergraduate nursing students possess little knowledge about care for persons living with HIV, and that those students would benefit from receiving additional HIV education from experts in the field and from people living with HIV. HIV experts offer the chance to provide the most up-to-date information available, while persons whose lives are affected by HIV can personalize the experience of living with HIV as a means to educate and de-stigmatize this disease and the persons living with it in the eyes of future healthcare providers.

HIV is a unique disease in that the stigma surrounding it negatively affects care, decreases retention to care and adherence to life-saving medications. Stigma from healthcare workers has been identified as one reason patients are not retained in care (Mak, et al., 2015). As the HIV treatment cascade shows, (Figure 1) far too many people are not retained in care and are therefore untreated (Giordano, 2015). With an emphasis on treatment as prevention, entering and retaining patients in care provides the best opportunity to get and keep patients virally suppressed, and therefore less likely to transmit the virus to others (Skarbinski, et. al., 2015).

Results of this study reflect the unfortunate reality that stigmatizing attitudes held by healthcare workers towards persons living with HIV are still commonplace. The results also indicate significant positive changes in student’s attitudes and knowledge after a minor addition to the curriculum. It is concerning that the majority of students at this nursing school were not exposed to a curriculum that included HIV-experiences from the viewpoint of health care providers and persons living with HIV, and that students may embark on their nursing careers with stigmatizing attitudes and a lack of HIV knowledge. This could result

in their providing suboptimal care for patients living with HIV. A next step would be to expand this experience to incorporate all nursing students prior to graduation.

Comments from students involved in this educational intervention confirm that hearing from knowledgeable speakers, especially those living with HIV, had a profound effect on the students and was invaluable in decreasing stigma and alleviating fears of caring for persons living with HIV. Many AIDS Service Organizations provide speakers if requested, and results from this study suggest that the benefits of incorporating this method of HIV education into the undergraduate nursing curriculum may make a tremendous impact on student readiness to care for persons with HIV upon graduation.

Limitations

Although this was a small study from a single institution, the author believes the findings could have relevance to other institutions involved in nursing education. Future studies would benefit from incorporating larger sample sizes and multiple schools of nursing. The design of this study did not allow for a control group to directly compare utilizing expert speakers to an intervention without expert speakers, however the impact of the speakers living with HIV on the students was profound, and it was thought that depriving some students of this experience would have a detrimental effect on their readiness to care for patients living with HIV.

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Highlights

- Traditional undergraduate nursing curriculum does not provide adequate preparation for nurses to care for patients living with HIV
- An addition to undergraduate curriculum is proposed to increase readiness to care for this growing patient population
- The addition of HIV experts: Living with and Working with HIV presents opportunity to improve learning
- Post-test results present statistically significant improvements in both knowledge and attitude of undergraduate nursing students towards HIV and persons living with HIV, and an increase in feelings of readiness to care for patients with HIV

Figure 1.
HIV Treatment Cascade

Table 1

Study Entry Demographics

Variable	Total (%)
Age	
25–29	21 (75)
40 and older	7 (25)
Gender	
Female	26 (93)
Male	2 (07)
Had Met Someone Living with HIV	
Yes	18 (64)
No	10 (36)
Prepared to Interact with HIV patients	
Very Prepared	2 (07)
Somewhat Prepared	18 (64)
Unprepared	8 (29)
Had Previous HIV Training	
Yes	1 (04)
No	27 (96)
Had Heard of ART	
Yes	23 (82)
No/Not Sure	5 (18)

Table 2

HIV-KQ-18 Scoring

Item #	Statement	(% Correct) Pretest	(% Correct) Posttest	(%)Improvement	p
1	Coughing and sneezing DO NOT spread HIV	79	96	17	.063
2	A person can get HIV by sharing a glass of water with someone who has HIV	68	93	25	.016
3	Pulling out the penis before a man climaxes/cums keeps a woman from getting HIV during sex	96	100	04	1.00
4	A woman can get HIV if she has anal sex with a man	86	100	14	.125
5	Showering or washing one's genitals/private parts, after sex keeps a person from getting HIV	82	100	18	.063
6	All pregnant women infected with HIV will have babies born with AIDS	79	100	21	.031
7	People who have been infected with HIV quickly show serious signs of being infected	100	100	00	1.00
8	There is a vaccine that can stop adults from getting HIV	82	100	18	.063
9	People are likely to get HIV by deep kissing, putting their tongue in their partner's mouth, if their partner has HIV	64	96	32	.012
10	A woman cannot get HIV if she has sex during her period	96	96	00	1.00
11	There is a female condom that can help decrease a woman's chance of getting HIV	68	82	14	.289
12	A natural skin condom works better against HIV than does a latex condom	43	64	21	.070
13	A person will NOT get HIV if she or he is taking antibiotics	93	93	00	1.00
14	Having sex with more than one partner can increase a person's chance of being infected with HIV	100	100	00	1.00
15	Taking a test for HIV one week after having sex will tell a person if she or he has HIV	71	96	25	.016
16	A person can get HIV by sitting in a hot tub or a swimming pool with a person who has HIV	79	93	14	.289
17	A person can get HIV from oral sex	75	96	21	.070
18	Using Vaseline or baby oil with condoms lowers the chance of getting HIV	75	89	14	.125
	Total Scores	79	94	15	.000

Table 3

Stigma-Related Questions

Statement:	Strongly Agree % Pre/Post	Somewhat Agree % Pre/Post	Somewhat Disagree % Pre/Post	Strongly Disagree % Pre/Post
An HIV-positive woman has the right to become pregnant	57/86	39/14	4/0	0/0
An HIV-positive teacher should be allowed to teach	86/96	11/4	4/0	0/0
Most people infected with HIV were infected because of irresponsible behavior	0/4	21/11	57/68	21/18
I would be willing to care for a family member who had HIV in my home	64/82	21/18	11/0	4/0
If I were infected with HIV and told my partner he would leave me	14/4	46/26	21/56	18/16
I would feel comfortable sharing a bathroom with a person I knew had HIV/AIDS	29/57	57/43	11/0	4/0
If I found out that a food or vegetable vendor was HIV positive, I would feel comfortable buying from him/her	25/57	32/21	32/14	11/7
AIDS is God's punishment for immortality	0/0	0/0	11/7	89/93