The Effects of an AIDS Education Program on the Knowledge and Attitudes of Physical Therapy Students

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Authors’ contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

AIDS (acquired Immunodeficiency syndrome) is a fast spreading pandemic with global affection and has affected lives of multitudes in recent years. The purpose of this paper was to determine the effect of an AIDS education program on physical therapy students’ knowledge about AIDS, attitudes towards people with AIDS and willingness to treat AIDS patients. A sample of 50 physical therapy students’ aged 22 to 28 volunteered to participate in this study. All subjects were pretested and posttested together with an AIDS study questionnaire. The subject group demonstrated an improvement in knowledge about AIDS (56%) and positive attitudes towards AIDS patients (16%), although the students’ willingness to provide services for AIDS patients remained unchanged following the AIDS education program. Further study of other levels of physical therapists or physical therapy students, measurement of actual clinical behaviours and comparisons of different educational interventions are needed.

Keywords: AIDS; India; knowledge; attitudes; AIDS study questionnaire; physical therapy students.
1. INTRODUCTION

AIDS is one of the most complex yet endemic diseases around the world. According to WHO, globally, 36.9 million people were living with AIDS at the end of 2017 [1].

Ever since AIDS was first identified in India, instances of AIDS have been reported in all states and territories. According to National AIDS Control Organization of India, the prevalence of AIDS in India in 2015 was 0.26%.

Based on this information, many healthcare providers are advocating a team approach in treating AIDS patients.

In India, as in many other countries, people with AIDS frequently encounter discrimination when seeking and receiving health care services, with serious adverse consequences for their physical and psycho-social wellbeing [2]. The knowledge and attitudes of healthcare workers in relation to AIDS is an important factor influencing the willingness and ability of people with AIDS to access care, and the quality of the care they receive.

Several authors have identified the role of physical therapists' in treating the impairments associated with AIDS. In a study conducted by Pullen S et al in 2014, the effects of physiotherapy have been emphasized on AIDS patients [3]. Another study conducted by K Mkandla, H Myezwa, E Musenge in Zimbabwe in the year 2016, showed that progressive resisted exercises had a positive effect on the quality of life of people living with HIV-associated polyneuropathy [4]. Adequate healthcare and physical therapy services have a profound effect on improving the quality of life of patients living with AIDS.

Some studies have been conducted on physicians, nurses and dentists to examine their knowledge about AIDS, attitudes towards these patients and willingness to treat them [5,6,7]. Minimal information can be found regarding this topic for physical therapists’ or physical therapy students’ in India. This study is conducted to examine the physical therapy students’ knowledge about AIDS, attitudes towards AIDS patients and willingness to care for AIDS patients. The research hypothesis for this study is that AIDS education will improve knowledge, attitudes and willingness.

2. MATERIALS AND METHODS

2.1 Subjects

A sample of 50 physical therapy students volunteered to take part in the study, out of which 18 students were part of the post-graduate course in physical therapy and 32 were undergoing internship. The sample consisted of 6 male subjects and 44 female subjects with an age range of 22-28 years. Consent was taken from the subjects prior to participating in the study.

The State University of New York Buffalo School of Nursing AIDS study questionnaire modified for a physical therapy population was used which included a 79-item pre-test instrument and a 77-item post-test instrument [8]. In the pre-test questionnaire, there were 10 items on the subjects’ demographic characteristics and other general information, 34 items on knowledge about AIDS, 30 likert scale items on attitudes towards caring for patients with AIDS and 5 likert scale items in the willingness section depicting clinical situations in which the subjects were asked to respond on their willingness to each clinical scenario described. The posttest questionnaire had similar questions as the pretest, without duplication of the demographic characteristics.

2.2 AIDS Education Unit

The seminar was of 3 hours, and consisted of two major content areas. In part one, information was presented on the human immune system, the AIDS virus, the effects of AIDS virus on the immune system, AIDS epidemiology, immunopathology, manifestations and complications, modes of infection and other secondary infection, methods of universal precautions and isolation techniques. In part two, focus was on the physical therapy management of the various impairments caused due to AIDS virus, clinical scenarios and examples depicting how physical therapy can help in improving the quality of life of patients living with AIDS.

2.3 Procedure

The effects of an AIDS education program were determined by a pretest posttest experimental design. Following the completion of consent forms, the subject group completed the pretest. After one week, the group attended the AIDS education program. One week after the AIDS education program, the subject group completed
the posttest. There was no time limit given to complete the questionnaire but the group completed each testing session in about 45 minutes, and the AIDS education unit was completed in a single 3 hour seminar.

2.4 Data Analysis

The numerical data gathered via pre-test and post-test instruments was entered and analyzed via the SPSS/PC software program. The pretest and posttest results of the group were analyzed for descriptive information by item analysis via frequencies and means. Total section scores of section 2 to 4 were analyzed via means and standard deviations. Paired t test was used to determine if there was any significant change in the knowledge, attitudes and willingness. Correct responses on section 2 items were totaled at the pre-test and the post-test. Likert scale items in section 3 concerning subjects attitudes towards patients with AIDS were worded negatively, hence, lower the subjects total scores, more negative their attitudes towards patients with AIDS. The items were totaled and presented as a mean total score for each testing session. Likert scale items in section 4 concerning subjects’ willingness to treat patients with AIDS were worded positively, hence, lower the subjects’ total score, more willing they were to treat patients with AIDS. These items were also totaled and presented as a mean total score for each testing session.

3. RESULTS

Results from this study to determine the knowledge, attitudes and willingness to provide care to patients with AIDS at the pretest and posttest are as follows-

3.1 Knowledge about AIDS

At the pre-test, the mean total for knowledge about AIDS was 18.5±3.97. After the AIDS education program the mean total was found to be 28.18±2.97 at the posttest.

3.2 Attitudes towards Patients with AIDS

Mean total for attitudes towards patients with AIDS at the pretest was 120.92±20.94. It increased to 134.68±12.83 at the posttest.

3.3 Willingness to Treat Patients with AIDS

Pretest willingness mean total score was found to be 10.69±3.17, whereas posttest willingness mean total score was 11.53±4.84.

Paired t test was used for comparison between pretest and posttest results for all the three variables studied. Results show that P-value for knowledge was found to be statistically significant (P=.000) and the P-value for attitudes was also statistically significant (P=.000). However, the P-value for willingness to treat...
AIDS patients was found to be not significant ($P=.365$).

This shows that, although there is significant improvement in the knowledge and attitudes towards AIDS patients, there is lack of willingness to treat patients living with AIDS, post AIDS education.

4. DISCUSSION

This study was designed to evaluate the influence of an AIDS education program offered to physical therapy students on their knowledge about AIDS, their attitudes toward people with AIDS, and their willingness to provide care for people with AIDS.

4.1 Knowledge about AIDS

Lack of AIDS knowledge was observed in the students at the time of the pretest. For example, 34% of the subjects at the pretest believed that AIDS could be transmitted by saliva, urine and tears. This indicated that knowledge about AIDS
in the studied population was inadequate. The subjects showed an improvement in their knowledge of AIDS immunopathology, modes of transmission of HIV, etiology and risk factors post the educational intervention. There was a 56% increase in the knowledge after the AIDS education program. Another study conducted by Held on physical therapy students in 1993 showed similar results [8]. The options for the questions in this section were true, false and not sure.

Some examples of questions asked in the knowledge section are-

1. There is no cure for AIDS.
2. All homosexuals have AIDS.
3. All people who get AIDS die from the disease.
4. AIDS can be transmitted by casual contact with persons who have this disease.
5. Masks should be routinely worn when caring for a person with AIDS.
6. Sexual transmission of AIDS can occur in both homosexual and heterosexual relationships.

At the pre-test, the correct responses on section 2 (knowledge about AIDS) ranged from 9 to 27 (X=18.5, SD=3.97) for the subject group. After the AIDS seminar, the knowledge about AIDS ranged from 20 to 33 (X=28.1, SD=2.97). The students showed an improvement in their knowledge scores following the AIDS education seminar.

4.2 Attitudes towards AIDS Patients

The attitudes towards AIDS patients in the physical therapy students changed by 16% at the posttest from the pretest. The more the subjects disagreed with the negatively worded items in this section, the more positive their attitudes were towards patients living with AIDS. This would be reflected in a higher mean score.

More than 50% participants also claimed that they have previously cared for a patient suffering from AIDS. Key items in this section included the right to refuse to care for a patient with AIDS, isolating AIDS patients, worrying about putting family and friends at risk if cared for AIDS patient, and assigning physical therapists to care on a voluntary basis only.

The options for questions in this section were strongly agree, agree, undecided, disagree and strongly disagree.

Examples of some items in this section are as follows-

1. I am/would be fearful of contracting AIDS when caring for patients with this disease.
2. I should have the right to refuse to care for a patient with AIDS.
3. I would prefer not to provide care to a patient with AIDS because of the hopelessness of the prognosis.
4. I do not feel it is worthwhile for me to expend my time and energy caring for an AIDS patient who is dying.
5. I feel more sympathetic towards patients who acquire AIDS from blood transfusions than from illegal use of IV drugs.
6. I feel more sympathetic towards patients who contract AIDS because of blood transfusions than those who contract it because of the nature of their sexual practices.

Before the AIDS education seminar, the total scores on section 3 (attitudes) of the pre-test ranged from 51 to 168 (X=120.9, SD=20.94). Attitude scores after the AIDS education seminar ranged from 110 to 160 (X=140.3, SD=12.83).

4.3 Willingness to Treat AIDS Patients

Willingness to treat AIDS patients showed a decline by 8% in spite of the intervention. The more the subjects agreed with the positively worded items in this section, the more willing they were to treat patients who have AIDS. This would be reflected in a lower mean score.

Key items in the willingness section constituted of questions which tested the subjects' willingness in treating AIDS patients for gait training, chest physical therapy, home program for tone reduction, etc. These findings highlight a lack of understanding regarding universal precautions. The negative attitudes towards these patients seem to have been resolved owing to the intervention, however, the group did not report an increased willingness, probably because AIDS is a life threatening contagion and there is a stigma in the society surrounding AIDS. The results found in this study are in agreement with another study conducted on physical therapy and occupational therapy students in State University of New York by Balogun et al. in 1998 [9].

Options for this section included strongly agree, agree, undecided, disagree and strongly disagree.
Examples of items in this section are-

1. Willingness to treat patients who have AIDS referred for gait training and therapeutic exercise.

2. Willingness to treat patients who have AIDS referred for chest physical therapy.

3. Willingness to treat child who has AIDS referred for chest physical therapy and developmental program.

4. Willingness to treat patient with AIDS having skin lesions and pain.

5. Willingness to treat patient having AIDS referred for home physical therapy program of exercise and tone reduction.

At the pre-test, section 4(willingness) scores ranged from 5 to 17(\(X=10.7, \text{SD}=3.17\)) for the subject group. At the post-test, total scores for willingness to treat AIDS patients ranged from 5 to 25(\(X=11.4, \text{SD}=4.84\)).

Our findings suggest that the AIDS education program may assist in influencing students’ attitudes toward people with AIDS but does not alter their willingness.

As the AIDS epidemic expands, physiotherapists’ will be called upon to deliver competent, compassionate care to patients. Interactive AIDS education seminars can contribute to increased knowledge and good attitudes in order to provide care for AIDS patients [10].

5. CONCLUSION

The results of our study indicate that knowledge about AIDS and attitudes towards people with AIDS among physical therapy students improved after the AIDS education seminar.

However, willingness to provide care for these patients remained unchanged. We conclude that “willingness to treat AIDS patients” is a more difficult construct to change.

ETHICAL APPROVAL AND CONSENT

Ethical clearance was sought and obtained from the institutional ethical committee of MGM College of Physiotherapy. Following brief explanation about the study to the participants, a written and informed consent was also taken.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES


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