Under graduate nursing students’ knowledge and attitude toward people living with human immunodeficiency virus/ acquired immunodeficiency syndrome

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ABSTRACT

Background: Human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) has become one of the significant public health problems in the world. Research regarding HIV/AIDS among nursing professionals is limited from India. Aim: The aim was to assess nursing student’s knowledge and attitude toward people living with HIV/AIDS. Methods: A descriptive cross-sectional design was adopted among conveniently selected under graduate nursing students (n = 172) using self-reported questionnaires. Results: The overall mean knowledge (38.05 ± 4.91) and attitude score (51.26 ± 6.2) indicate that majority of the students have good knowledge (77.6%) and moderately favorable attitudes (67.4%) toward HIV/AIDS patients. However, statistically significant differences were observed between age (P < 0.001, P < 0.019) education (P < 0.34, P < 0.01) and experience in taking care of HIV/AIDS patients (P < 0.01, P < 0.01) with knowledge and attitude. Conclusion: Though, a majority of nursing students had adequate knowledge, few students hold discriminatory attitudes toward people with HIV/AIDS. These findings indicate that there is an urgent need to improve the level of knowledge and attitudes among nursing students toward HIV/AIDS as they have a key role in prevention, care and treatment in their future career as nurses.

Key words: Acquired immunodeficiency syndrome, attitudes, human immunodeficiency virus, India, nursing students

INTRODUCTION

Human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) has become one of the significant public health problems in the world. AIDS is a fatal illness caused by a retro virus known as the HIV that breaks down body’s immune system, leaving the person vulnerable to a host of life-threatening opportunistic infections, neurological disorders, and unusual malignancies. Further, it affects the mental health and social relationships of carriers and asymptomatic patients. According to recent estimation, there are 2.08 million people living with HIV (PLHIV) in India. Nurses play a major role in the care for HIV/AIDS patients and require current knowledge and skills to ensure that they are able to provide high quality, effective care to PLHIV and AIDS. Further, attitude of health workers in relation to HIV is an important determinant of their willingness to care and the quality of the care they will render to HIV patient. However, previous research identified discriminatory attitudes, misconceptions...
and lack of HIV knowledge among nurses toward patients with HIV and AIDS. Unfortunately, negative attitudes about HIV not only prevent health care providers from delivering optimal healthcare but also decreases PLHIV’s willingness to access healthcare and together can perpetuate health inequities among PLHIV. In India, as in many other countries, people with HIV frequently encounter discrimination. A number of studies conducted in India during the past 2 years reported high levels of stigmatization and discrimination against PLHIV/AIDS. Among the health care professionals, nurses and nursing students are an important component of the health care delivery system. Research indicates lack of knowledge among nursing students. However, majority of studies have shown that attitudes among nursing students toward people infected with HIV were generally positive. On the other hand, few of the studies indicate negative attitudes among nursing students toward HIV/AIDS patients. Further, it is important to understand nursing students’ knowledge and attitudes toward PLHIV because the educational preparation of nurses has been known to affect the attitudes and the effectiveness of the care provided to PLHIV. Thus, the present study was aimed to assess nursing student’s knowledge of HIV/AIDS and attitude toward them and their willingness to treat patients living with HIV and AIDS.

**METHODS**

This was a descriptive study carried out among undergraduate nursing students at a college of nursing in Bangalore, South India from March to April 2014.

The study sample was selected through convenient sampling technique. The study criteria included: nursing students from 2nd-, 3rd to 4th-year of Bachelor of nursing course and those who were willing to participate in the study. Nursing students from 1st year were excluded since they didn’t have enough theoretical and clinical exposure to HIV/AIDS patients. There were 259 students enrolled in to the Bachelor of nursing course, out of them 186 students were eligible to participate in the study. However, 14 questionnaires were subsequently discarded as they were incomplete. Hence, 172 completed questionnaires were analyzed with 92.4% response rate.

**Instruments**

The questionnaire had three components; (1) the student sociodemographic questionnaire, (2) the HIV/AIDS knowledge questionnaire and (3) the HIV/AIDS attitude questionnaire.

1. The demographic form elicited information on five aspects of the participants’ background: Age, religion, family’s monthly income, place of residence, and year of their nursing course. Two closed-ended questions were included regarding their experience in caring of HIV/AIDS patients and whether they heard of HIV/AIDS. If yes, source of information about HIV/AIDS disease.

2. The HIV/AIDS Knowledge Questionnaire was used to measure students’ knowledge regarding HIV/AIDS. This was a previously validated questionnaire developed by Abolfotouh based on review of the literature. This section consisted of 49 statements that assessed 5 domains; cause of AIDS (5 statements), nature (16 statements), mode of transmission (15 statements), treatment/control (5 statements), and groups at high risk (8 statements). Students were asked to mark the correct answer for each question (yes, no or don’t know). On each question, 1 point was awarded for a correct answer and 0 point for an incorrect choice or no response. Total scores for each student therefore ranged from 0 to 49. Students with higher scores had greater HIV/AIDS knowledge and were more willing to take care of people with HIV/AIDS.

3. The HIV/AIDS Attitude Questionnaire This part consisted of 19 statements to measure nursing students’ attitude toward HIV/AIDS in 3 domains namely (a) attitudes toward people living with AIDS (PLWA; 10 statements), (b) attitudes toward care (4 statements), and (c) attitudes toward precautionary measures (5 statements). Attitude toward AIDS was measured on a 4-point Likert-type scale, with 4 indicating strongly agree, and 1 indicating strongly disagree. Higher score indicates better attitudes toward HIV/AIDS patients.

This scale was used for the present study because it is simple to use and has good psychometric properties (α = 0.88). A pilot study was conducted among 20 students and found that this tool was feasible to administer among Indian Nursing students.

**Procedure**

The above said questionnaires were distributed to batches of students separately at various times, in a group setting in common places like the lecture halls. One author (DM) verbally explained the aims and method of the research and how to complete the questionnaires. The willing participants then completed both questionnaires in about 20 min.

**Ethical considerations**

After obtaining permission from the administrators of the college, researchers informed the study participants about the purpose of the study’s aims and procedures and invited them to participate. After students agreed to participate verbally, the researcher gave them the confidential questionnaire. Data collection tools contained no identifying information and thus individual responses confidential.
The data were analyzed using statistical software and results were presented in narratives and tables. The percentage of respondents with positive responses was calculated for each question. The total for each section was calculated as the average of the percentage of correct responses. The relationship between knowledge, attitude scores, and sociodemographic variables were tested using correlation, t-tests, or a one-way analysis of variance. Statistical significance was assumed at \( P < 0.05 \).

**RESULTS**

The study sample comprised of women undergraduate nursing students \( (n = 172) \) from 2nd year (42.4%), 3rd year (41.9%) and 4th year (15.7%) of Bachelor of Nursing course. The mean age of the participants was 19.37 ± 0.73 (mean [M] ± standard deviation [SD]) and mean income was 1.8 ± 2.31 (M ± SD). Almost all of the participants had heard about HIV/AIDS (99.4%), and 80.2% of the participants agreed that they had come across a person with HIV/AIDS during their clinical postings. Nearly three-fourth (73.8%) of the students reported that mass media (Television, Newspaper, Magazines posters, movies) was the major source of information about HIV/AIDS, followed by nursing teachers (12.7%) [Table 1].

Responses to the knowledge questions showed that students had adequate knowledge related to causes of HIV/AIDS as most of the students answered correctly (4.43 ± 0.70). Concerning the questions related to nature of HIV/AIDS, the mean score (12.3 ± 2.13) indicate that participants had adequate knowledge regarding the nature of HIV/AIDS disease. Unfortunately, nearly more than one-third of the participants opined that “blood donation” swimming in the same place where an infected person swims, being exposed to infected persons who coughs or spits and bite of mosquito can give AIDS. However, the mean score of this domain suggests (11.6 ± 2.46) a moderate level of knowledge regarding the mode of transmission of HIV/AIDS. The mean score for treatment domain of 3.41 ± 1.34 indicate adequate knowledge among the nursing students. Similarly, majority of the students recognized that prostitutes (83.1%), homosexuals (87.2%), and people with multiple sexual partners (90.7%) are the high-risk group to acquire AIDS disease. The mean score (6.25 ± 1.32) also suggests that participants had adequate knowledge in this domain. The overall mean score of the knowledge about HIV/AIDS (38.05 ± 4.91) indicating a good level of knowledge among nursing students [Table 2].

Responses of the participants’ attitudes toward HIV/AIDS were diverse [Table 3]. More than two-third of the participants disagreed that “HIV/AIDS is a threat to health workers” (66.8%). However the mean score (27.02 ± 3.21) indicates that nursing students hold moderately favorable attitudes toward patients with HIV/AIDS. Nursing students had favorable attitudes toward care of PLWAS as more number of them agreed that Health workers are duty bound to treat all patients irrespective of their status (62.7%) and “patients with AIDS have the right to receive care as other diseases” (63.9%). The mean score (13.89 ± 2.39) indicate reasonably fair attitudes toward precautionary measures toward PLWAS. Nonetheless, the overall attitudes mean
score (51.26 ± 6.32) suggests that nursing students had moderately favorable attitudes toward persons with HIV/AIDS. The Pearson Correlation Coefficient test revealed that a negative relationship existed between attitudes and knowledge (r = −0.862; P < 0.01) toward HIV/AIDS patients.

Table 4 revealed statistically significant difference between age of the students with the knowledge (P < 0.001) and attitudes (P < 0.019). Older participants had better knowledge and attitudes toward HIV/AIDS patients. Similarly, a significant difference was found between students from 3rd to 4th year BSC Nursing and 2nd year students regarding knowledge (P < 0.034) and attitudes (P < 0.01) toward PLWAS. Students who had come across patients with HIV/AIDS had better knowledge (P < 0.01) and favorable attitudes (P < 0.01) than students who had not provided care to the patients with HIV/AIDS.

**DISCUSSION**

The present study demonstrated that nursing students had a moderate level of knowledge. However, there were deficiencies in the knowledge about HIV and that misconceptions existed about the spread of HIV. This is consistent with previous reports. In the present study, nearly three-fourth (73.8%) of the students reported that mass media (television, newspaper, magazines posters, movies) was the major source of information about HIV/AIDS, followed by nursing teachers (12.7%). These findings were in line with previous published studies. These findings suggest that mass media tool has reached to most of the population and may be utilized properly to create awareness about HIV/AIDS.

Attitudes of nursing students toward caring for people with HIV/AIDS are of vital importance since they become the future practicing nurses. While majority (67.4%) of the participants were positive, 32.6% of the students had negative attitudes toward HIV/AIDS patients. These findings were consistent with a recent study carried out among nursing students from Saudi. These findings were inconsistent with the studies that found negative attitudes and unwillingness to care for AIDS patients. However, more than half of the students agreed that AIDS virus carriers can share a room with noninfected patients’, and gloves should not be worn when touching a patient with AIDS. Similar findings were observed in studies from developing countries. Negative attitudes about HIV among nursing students and health care providers likely contribute to the prevalence of health disparities in PLWH. Thus, it is critical to identify factors linked with positive or negative attitudes toward HIV among nursing students and to rectify them during their training period. Furthermore,

| Table 3: Distribution of the student’s attitudes about HIV/AIDS |
|---------------------|-----------------|-----------------|
| Domains             | Mean ± SD       |-----------------|
| Attitudes toward patients with AIDS | 27.02±3.21       |-----------------|
| Attitudes of respondents toward care of PLWAS | 10.33±2.51       |-----------------|
| Attitudes toward precautionary measures toward PLWAS | 13.89±2.39       |-----------------|
| Over all attitude mean score | 51.26±6.35       |-----------------|

| Table 4: Relationship between the mean score of knowledge and attitudes with the student’s year of education |
|---------------------|-----------------|-----------------|
| Variable            | Group           | Knowledge Mean ± SD | P    | Attitude Mean ± SD | P    |
| Age                 | Below 20 (n=97) | 36.92±5.13          | 0.001*| 50.27±6.55          | 0.019*|
|                     | Above 20 (n=75) | 39.50±4.21          | 0.389 | 52.53±5.71          | 0.699 |
| Background          | Rural (n=118)   | 38.27±5.06          | 0.034*| 48.33±5.72          | 0.019*|
|                     | Urban (n=54)    | 37.57±4.61          | 0.389 | 51.13±6.35          | 0.699 |
| Year of education   | 2nd year (n=73) | 37.01±5.37          | 0.034*| 51.31±6.21          | 0.699 |
|                     | 3rd year (n=72) | 38.51±4.56          | 0.389 | 51.53±6.19          | 0.699 |
|                     | 4th year (n=27) | 39.62±3.92          | 0.389 | 52.28±6.29          | 0.699 |
| Come across a person with HIV/AIDS | Yes (n=138) | 38.48±3.62          | 0.019*| 51.87±6.19          | 0.009*|
|                     | No (n=34)       | 36.29±5.67          | 0.034*| 48.76±6.10          | 0.009*|

AIDS = Acquired immunodeficiency syndrome, HIV = Human immunodeficiency virus, SD = Standard deviation, *Significance level at P < 0.05
studies indicate that negative attitudes toward PLWA can interfere with the quality of nursing care and can cause stress to nurses and patients alike.\[11\] Nonetheless, the overall attitudes mean score (51.26 ± 6.32) suggests that nursing students had moderately favorable attitudes toward persons with HIV/AIDS.\[34\]

Unlike previous findings,\[35\] in the present study a negative relationship existed between attitudes and knowledge ($r = -0.862$; $P < 0.01$) toward HIV/AIDS patients. These findings were in agreement with previous study that showed increased scores parallel with student grade ($F = 26.925$; $P = 0.000$) and age (Chi-square [K-W] = 35.117; $P = 0.000$).\[11\] Similar to present study findings, earlier studies indicate that students who had previous experience in caring for an AIDS patient had higher scores of knowledge and better attitudes toward HIV/AIDS patients.\[11,19,21,36\] In addition, a majority of studies conducted among nursing students and registered nurses showed the gaps in HIV/AIDS knowledge and expressed the need for more education.\[13,14,36,37\] Thus, it is recommended that a comprehensive training of the nursing students be done, to promote a good delivery of accurate information on HIV/AIDS to meet the physical and psychological needs of patients with HIV/AIDS.

**Limitations**

The present study has certain limitations such as cross-sectional design, convenience sample, women undergraduates and small sample size. Further, the study sample was restricted to one university. Thus, findings of the present study cannot be generalized. Future studies could include a larger, randomized sample from more geographically diverse nursing students and qualitative studies such as focus group discussions could be helpful to understand in depth about this issue.

**CONCLUSION**

Nursing students in the present study had adequate knowledge and favorable attitudes toward caring people with HIV/AIDS. However, a number of misconceptions with discriminatory attitudes among few participants cannot be ignored. These findings were of great concern, because there is an urgent need to improve the level of knowledge and attitudes among nursing students toward HIV/AIDS as they have a key role in prevention, care and treatment in their future career as nurses. Further, continuous educational programs also are needed to improve their knowledge and competence in providing culturally sensitive rights-based approach care to HIV/AIDS patients.

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