

## ORIGINAL RESEARCH

# Knowledge gaps on HIV/AIDS among a group of nursing students in Sri Lanka

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## ABSTRACT

**Objective:** Prevalence of HIV is low in Sri Lanka. However, the incidence is rising gradually. Reducing stigmatization and discrimination of people living with HIV is important in health care settings. Nurses who have an important role in caring for HIV patients should have good knowledge to achieve this. The aim of this study was to identify the specific areas of knowledge deficit on HIV/AIDS among 2nd year nursing student in Sri Lanka.

**Methods:** In-depth analysis of the knowledge component of the pretest responses of a study assessing the effectiveness of AIDS education program on nursing students' AIDS knowledge and AIDS attitudes in Sri Lanka.

**Results:** The results show poor knowledge of HIV and important knowledge gaps in areas of modes of transmission of HIV, mother to child transmission and universal precautions. Very high percentage believed they are at higher risk of contracting HIV due to the nature of their job, while the knowledge on post-exposure prophylaxis was poor.

**Conclusions:** Correction of these knowledge gaps and improving knowledge on HIV/AIDS among nursing students is very important as they are going to be future nurses and they have a very important role in reducing the discrimination and stigmatization of people living with HIV.

**Key Words:** HIV/AIDS, Nursing, Student, Knowledge

## 1. INTRODUCTION

### 1.1 Background

HIV (Human Immunodeficiency Virus) infection is a serious infection occurring worldwide. According to the Foundation for AIDS Research, it is estimated that 36.7 million people were living worldwide with HIV in 2016. 1.8 million people became newly infected with HIV in the same year. Since identifying HIV infection, 35 million have died of Acquired Immunodeficiency Syndrome (AIDS) related illnesses out of 76.1 million people who have contracted HIV.<sup>[1]</sup> Annual Report of National STD (Sexual Transmitted Disease) AIDS control program of Sri Lanka has reported that the preva-

lence of HIV in Sri Lanka is less than 0.1% in 2016, but is increasing steadily.<sup>[2]</sup>

Nurses perform an important role in the prevention of HIV and AIDS by delivering treatment and care for people living with HIV infection (PLHIV).<sup>[3]</sup> Therefore, they should be proficient in providing care and resolving health related problems of HIV/AIDS patients. However, some research indicates that nurses have refusal attitudes and poor knowledge<sup>[4]</sup> on HIV/AIDS, and reluctance to care for PLHIV.<sup>[5]</sup> This has resulted in unacceptable quality of nursing care as well as stigmatization and discrimination against PLHIV.<sup>[6]</sup>

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Correct knowledge and attitudes of Nursing students on HIV and AIDS are very essential as they will be the nurses in the future.<sup>[7,8]</sup>

Many studies have been done in several parts of the world to assess the knowledge of HIV/AIDS of nurses and nursing students. A study conducted in Calcutta shows that the majority of nursing student had inadequate knowledge and misconceptions especially with relate to the pathogenicity of HIV/AIDS, mode of transmissions, methods of prevention and signs and symptoms of the disease.<sup>[9]</sup> The results of another study performed in Turkey shows that student nurses have misconceptions and poor knowledge on HIV/AIDS.<sup>[10]</sup>

An Egyptian study which was done to examine the knowledge, attitudes, and perception on HIV/AIDS among undergraduate nursing students and postgraduate nursing staff<sup>[3]</sup> revealed that some important misconceptions regarding the mode of transmission. Nearly half of them, from both groups, believed that HIV can be transmitted by a mosquito and also thought that HIV can be transmitted by sharing utensils. Furthermore, this study showed that 63.6% of postgraduate nurses were not aware that HIV can be transmitted through breastfeeding.<sup>[3]</sup> The result of a study performed in Fiji showed that the majority of participants (77.6%) were terrified of catching HIV through their clinical practice.<sup>[4]</sup> Furthermore, 86.66% felt that additional precautionary measures are necessary when caring for HIV/AIDS patients. A study done in India found that 68.88% of health care workers felt that they are at risk of contracting HIV/AIDS,<sup>[5]</sup> while another study showed a high degree of fear of contracting HIV through their occupation and lack of safety in giving injections although 75% of nurses have practiced universal precautions.<sup>[11]</sup> It further showed 70% of nurses had needle stick injuries previously, but post-exposure prophylaxis was not available for them.

In Sri Lanka, researchers found that considerable discrimination of PLHIV seems to take place at healthcare institutions.<sup>[7]</sup> A study on nursing officers indicated that fear of HIV transmission is one of the reasons for stigmatizing patients with HIV.<sup>[8]</sup>

Like many other countries, in Sri Lanka, nurses are deeply involved in compassionate nursing care. Often they are the first contact point. Therefore, it is very important to improve the AIDS knowledge of nurses on the modes of transmission. This will include addressing common myths as well. Therefore, it is important to identify the gaps in the knowledge of nursing students as the training programs can be made to address the identified gaps. Hence, this in-depth analysis of knowledge on HIV/AIDS of the second-year nursing students was done.

## 1.2 Purpose of the study

The purpose of this study was to identify knowledge gaps in HIV among a group of student nurses in Sri Lanka.

## 2. METHODOLOGY

### 2.1 Research design

This is a posthoc analysis of a randomized controlled pretest-posttest study, which was done to assess the Effectiveness of AIDS education program on nursing students' AIDS knowledge and AIDS attitudes in Sri Lanka.<sup>[12]</sup> This study showed poor knowledge in domains mentioned below. However, the specific areas of knowledge gaps were not assessed in it as the objective was to assess the improvement of knowledge and attitude on HIV/AIDS by the AIDS education program. The present study is designed for detailed analysis of pretest knowledge of these students, which was not done previously.

### 2.2 Study setting and study sample

National School of Nursing, Sri Jayawardenapura, Sri Lanka was selected as the study setting. 129 nursing students, the total number of students in the second year, were recruited to the study. They were studying in the final semester of their second year. The methodology of the randomized control pretest-posttest study is described elsewhere.<sup>[12]</sup> In this study, all the responses given in the knowledge scale of pre-test of the previous study were analyzed.

### 2.3 Measurement scales

The self-reported questionnaire was used in this study. It was built with structured close-ended, multiple-choice questions. The questionnaire contained:

**Part A:** Socio-demographic characteristics (bio-data information) which included sex, age and school year.

**Part B:** HIV/AIDS Knowledge scale which was developed by Eckstein<sup>[13]</sup> which is subdivided into four domains:

- Antiretroviral treatment and management of HIV
- Course and manifestations
- Transmission
- Prevention of HIV and occupational risk of HIV

AIDS knowledge scale had 38 questions. For every correct answer 1 point was given while if the answer was incorrect or don't know 0 point was given. Maximum mark was 38.

### 2.4 Data collection and data analysis procedure

This study was evaluated and approved by the Ethical Review Committee of the Faculty of Medicine, University of Colombo and Ethical Review Committee of the Inje University, the Republic of Korea. Purpose of the study was explained and written consent was taken from participants

prior to the commencement of the study. Participants were also explained that their participation was voluntary, and they have the right to refuse to participate. Data analysis was carried out by using the Statistical Package for Social Science (SPSS) for WIN 18.0.

### 3. RESULTS

#### 3.1 General characteristics

Age range of the participants was between 20 and 26 years. All were female student nurses (N = 129, 100%) and were studying in the same academic year.

#### 3.2 Nursing students' AIDS knowledge

The total mean score of the knowledge scale was 17.44 (3.98) out of 38. Mean score of the knowledge on course and manifestations of HIV subscale was 4.86 (2.18) out of 14. Knowledge on HIV transmissions subscale mean score was 6.63(1.52) out of 9. A mean score of 4.60 (1.47) out of 10 was shown on the subscale of knowledge of HIV prevention and occupational risk. The mean score of antiretroviral treatment and management of HIV and subscale was 1.35 (1.3) out of 5.

There were many erroneous beliefs regarding HIV transmission among participants. The question that HIV is a highly contagious illness was marked as correct by 90% of the participants showing their poor knowledge. Knowledge of the modes of transmission was poor. 64.19% believed that HIV could be contracted through mouth to mouth resuscitation. 36.05% and 26.67% thought that HIV could be transmitted through mosquito bites and body fluids (saliva, sweat, and tears) respectively. About 25% of the student incorrectly thought that HIV can be spread by casual contact.

Knowledge on HIV transmission through blood transfusion was good, but still, 16.44% of participants did not believe that the receiving blood transfusion has a risk. Many gaps were identified in the knowledge of the mother to child transmission. 81.24% incorrectly believed that babies born to all pregnant women infected with HIV will acquire AIDS. 74% did not know that HIV could be passed from mother to child through breastfeeding. 63% incorrectly believed that risk of contracting hepatitis B is lower than the risk of contracting HIV following needle stick injuries. On the other hand, 41% incorrectly answered to the statement of 'people with HIV can be asymptomatic, although still infectious'.

74% wrongly believed that occupational risk of acquiring HIV/AIDS infection is high among health workers. 60% of students said wearing gloves and gowns are necessary when dealing with HIV infected patient. 40% believed that it is necessary to wear gloves when checking the temperature of a patient with HIV.

About 83% did not know about the benefit of post-exposure prophylaxis. On the other hand, half of the study participants had the wrong belief that "immediately recapping is helpful to prevent accidental injury from HIV contaminated needle".

### 4. DISCUSSION

Such beliefs and incorrect knowledge among nursing students will impede providing quality nursing care. This present study revealed that nursing students had various misconceptions regarding HIV. There were deficiencies in the knowledge about the transmission of HIV. These findings are similar to findings in other countries.<sup>[10,11,14]</sup> Their results showed that nursing students have a large knowledge gap: generally, knowledge of universal precautions among all students was poor. Their knowledge of the mode of transmission of HIV/AIDS is inadequate.<sup>[3,15]</sup> Nurses do not take necessary precautions because of these misbeliefs. Lack of adherence to universal precautions due to such misconceptions is a major problem among health care workers. Nurses put themselves at higher risk when doing erroneous procedures due to inadequate knowledge. On the other hand, actions taken due to inadequate knowledge will lead to discrimination and stigmatization of people living with HIV. Therefore, correcting this type of misconceptions by educational programs will help to improve standard of nursing care and reduce discrimination as well.

### 5. CONCLUSION

This study has shown that HIV/AIDS knowledge among nursing students is highly inadequate and it has identified the knowledge gaps. Addressing and correction of these gaps is important, as it will reduce the discrimination and stigmatization of PLHIV. Treating PLHIV is very important, as winning them and regularly following them up with antiretroviral treatment is important in improving their health as well as reducing the spread of HIV.

### CONFLICTS OF INTEREST DISCLOSURE

There is no conflict of interest.

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