Original Article

Stigma toward People Living with HIV/AIDS: A Survey among Nursing Students in Aceh, Indonesia

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ABSTRACT

OBJECTIVE: To evaluate the stigma level among nursing students towards People living with HIV/AIDS.
METHODOLOGY: This research adopted a descriptive cross-sectional design, with the target population comprising all students in the Bachelor of Nursing Science Program in Banda Aceh and Aceh Besar, totalling 896 individuals, and a sample size of 369. The inclusion criterion was active student status in the current semester. The exclusion criterion was absence at the time of data collection. Proportional random sampling was used, and data collection was conducted in August 2022. The research instruments consisted of a demographic questionnaire and the Indonesian version of the Spanish HIV Stigma Scale (SHASS).
RESULTS: The majority of the participants were aged 20 years old (25.2%), first-year students (35.2%), and female (89.4%). As many as 70.3% of the total participants had attended HIV-related lectures. The mean stigma score reported by the students was 104.45±14.85, with 12.7% of respondents reporting low stigma, 77.0% moderate stigma, and 10.3% high stigma.
CONCLUSION: The stigma exhibited by the nursing students falls within the moderate level, urging the implementation of educational approaches to reduce the stigma associated with HIV/AIDS.

KEYWORDS: Aceh, AIDS, HIV, nursing students, PLWHA

INTRODUCTION

Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) remains a global health challenge, and Indonesia is particularly affected, with a concerning number of people living with HIV/AIDS (PLWHA). According to the Information System HIV-AIDS report in December 2019, approximately 377,564 PLWHA in Indonesia were aware of their HIV-infected status[1]. The AIDS epidemic model (AEM) data for 2021 estimates around 526,841 individuals living with HIV and approximately 27,000 new cases in Indonesia, with 40% of new infections occurring among women. Unfortunately, achieving optimal outcomes for HIV cases, particularly among women, children, and adolescents, remains a challenge. Only 79% of people living with HIV are aware of their HIV status, with only 41% of those receiving treatment and 16% achieving viral suppression[2].

Notably, HIV cases are increasingly dominated by young individuals, with recent data indicating that approximately 51% of new HIV cases are detected among adolescents. Additionally, there are concerning figures of HIV cases among children aged 12 years and below, with 12,533 reported cases. The non-key population of women is estimated to contribute the most significant proportion of new HIV infections from 2020 to 2024 (35,400; 35% of the total projection), followed by men who have sex with men (35,200; 35%), sex workers' clients (14,000; 14%), non-key population men (11,900; 12%), female sex workers (3,400; 3%), injection drug users (1,400; 1%), and transgender individuals (500; 0.5%)[3].

One particular province in Indonesia, Aceh, has also experienced a significant number of HIV cases. It ranks 18th among provinces in terms of HIV patients, with a total of 9,855 cases[4]. In 2019 alone, there were 174 new cases reported, and by 2021, the number had increased to 2,021 cases, comprising 1,270 HIV patients and 751 AIDS patients, with 717 individuals receiving HIV/AIDS treatment. Banda Aceh has the highest number of reported cases, with 302 patients. The primary factors contributing to the spread of HIV and AIDS in Aceh are unprotected sex, transmission from pregnant mothers to infants, needle sharing among drug users, and multiple exposures to contaminated needles[5].

In addition to the physical challenges faced by PLWHA, the issue of stigma poses a significant burden. The current coronavirus pandemic has aggravated the burden on this population[6], underscoring the importance of addressing stigma. Stigma arises due to a lack of accurate understanding among the general population about HIV/AIDS and PLWHA[7]. Some PLWHA have experienced being ostracized by family, peers and the wider community. Some PLWHA face poor health care and mental illness[8].

Negative stigma has direct implications on treatment success[9] and is one of the hindrances in combating HIV/AIDS cases[10]. A study revealed that individuals experiencing negative stigma were 21% less likely to seek healthcare and social services and 35% less

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likely to adhere to treatment[11]. Stigma leads to concealment of HIV-positive status and reluctance to seek healthcare, resulting in delayed treatment, increased mortality risk, and further HIV transmission within communities. Despite scientific advancements, stigma and discrimination associated with HIV/AIDS persist as significant barriers to effective HIV interventions[12].

The stigma faced by PLWHA does not come only from the general public, but also from health care providers. Research by Nyblade et al. stated that health workers stigmatize PLWHA by distinguishing them from other patients when providing services at health facilities. Starting from direct rejection, treatment provided below service standards, including verbal and physical violence. One of the things that happened was making PLWHA wait longer to receive services or handing over care to more junior nurses on the nursing team [13]. Fauk NK 2021[14] in his qualitative study in Indonesia of 92 PLWHA (52 women and 40 men) and 20 health care providers in Yogyakarta and Belu found that stigma and discrimination against PLWHA were reflected in negative labeling, separation of personal property, and rejection of PLWHA and their treatment by health services, family members and the community. Stigma originating from healthcare facilities can reduce trust levels and compliance with healthcare services[15].

Stigma can also come from potential health care providers, namely, nursing students. In general, nursing students still have misconceptions, negative attitudes, and reluctance to care for PLWHA[16]. Negative attitudes are often linked to the fear of contracting the disease when providing care to PLWHA[17]. According to a study conducted on nursing students in Turkey, 43.5% said that, given the choice, they would not like to work with HIV patients. A total of 86.6% gave the best alternative is to train some specialists who are responsible for caring for AIDS patients[18].

Acceptance and support from healthcare providers play a critical role in combating stigma. Nursing students, as future healthcare professionals, are vital in providing care and support for PLWHA. However, studies have identified the presence of stigma and discriminatory attitudes among healthcare students, including nursing students[19,20]. To address stigma effectively, it is crucial to understand its origins and manifestations within this specific population. In Aceh Province, researchers have not yet found any studies on the stigma of nursing students to PLWHA, who will be the future caregivers of PLWHA. This needs to be explored further, as Aceh is a province with a significant increase in HIV incidence. Therefore, this research aimed to identify and examine the stigma arising among nursing students in Aceh, Indonesia, and its implications for the care of PLWHA.

METHODOLOGY

This study employed a quantitative cross-sectional design and focused on nursing students enrolled in the Bachelor of Nursing (BN) Science Program in Banda Aceh and Aceh Besar, comprising a total population of 896 individuals. The inclusion criterion was active student status in the current semester. The exclusion criterion was absence at the time of data collection. The sample size of 360 was determined using the Cohen, Manion, and Morrison table, with a 95% confidence interval and an alpha level of 0.05. To account for potential dropouts, the sample size was increased to 369. Proportional random sampling was utilized as the sampling method.

Data collection took place in August 2022. The research activity began with providing comprehensive information to prospective respondents about the purpose and implementation of the research. Prospective respondents who agreed to participate signed an informed consent form. After the respondent expressed consent, the researcher provided a Google Form link for the respondent to complete, with a completion time of about 15-20 minutes. The research adhered to ethical guidelines and received clearance from the Faculty of Nursing, with research ethics approval number 113001200722.

The research instrument included a questionnaire on demographic data and a questionnaire on stigma towards HIV/AIDS. This study employed the Spanish HIV Stigma Scale (SHASS), previously developed and validated in Puerto Rico by Diaz in 2009. The questionnaire was translated into Indonesian in 2021. Initially, the questionnaire was translated into a foreign language and underwent cross-cultural adaptation (CCA) for validity testing in the Indonesian version. Validity and reliability testing yielded valid and reliable results for the 39 questions across 11 domains of HIV/AIDS stigma, with a value of $r > 0.2$ and an Alpha> 0.7 [21].

The stigma questionnaire consisted of 39 questions rated on a Likert scale from 1 (strong agreement) to 4 (strong disagreement). Scoring was performed by assigning ratings of 1-2-3-4 for favorable questions. Recoding was performed for items 10, 23, 24, and 25, which were unfavorable questions, by reversing the scoring from 1-2-3-4 to 4-3-2-1. The score range was 39-156, with higher scores indicating greater levels of negative behavior towards PLWHA[21]. The average respondent score was 104.45, which was used as the cut-off for categorizing stigma level as 'high', 'moderate', or 'low'.

Descriptive analysis was conducted using Microsoft Excel (Redmond, WA, United States). Frequencies (n) and percentages (%) were calculated for the categorical data. The distribution of characteristics was based on the level of stigma score (low, moderate, and high). Stigma scores were computed to determine the mean, standard deviation (SD), and 95% confidence interval (CI).

RESULTS

The majority of respondents (89.4%) were 19-25 years old; 89.4% were female; most (35.2%) were first-year

students; 70.3% had attended lectures on HIV; and 66.1% had attended training on HIV. **(Table I)**

Table I: Characteristics of respondents (n=369)

Characteristics	n (%)
Age, year	
≤ 18	39 (10.6)
19-25	330 (89.4)
Sex	
Male	39 (10.6)
Female	330 (89.4)
Study year	
First-year	130 (35.2)
Second-year	85 (23.0)
Third-year	98 (26.6)
Fourth-year	56 (15.2)
Lecture about HIV	
Yes	261 (70.3)
No	108 (29.7)
Training about HIV	
Yes	125 (33.9)
No	244 (66.1)

Table II: Stigma score based on characteristics

Character-istics	n (%)	Mean±SD	Possible score	CI 95%	p
Stigma		104.45±14.85	39.0-156.0	103.13-106.18	
Low	47 (12.7)				
Moderate	284 (77.0)				
High	38 (10.3)				
Age, year					
≤ 18		107.59±12.6		103.45-111.90	0.168
19-25		104.28±14.3		102.61-105.88	
Sex					
Male	106.97±9.5		104.31-108.22		0.103
Female	104.34±13.6		101.52-106.74		
Study year					
First-year	106.69±13.8		104.23-108.93		0.197
Second-year	104.01±12.5		101.64-106.57		
Third-year	103.67±15.4		100.80-106.92		
Fourth-year	102.45±14.8		98.31-106.14		
Lecture about HIV					
Yes	103.69±14.3		101.88-105.49		0.040
No	106.90±13.8		104.28-109.48		
Training about HIV					
Yes	104.45±13.5		102.77-106.13		0.737
No	104.98±15.5		102.12-107.58		

The mean stigma score was 104.45±14.85, within the questionnaire range of 39.0-156.0. There was a significant difference in the mean stigma score between students who had attended HIV classes and those who had not (p = 0.040). There was no significant difference in mean stigma scores between those aged ≤ 18 years and 19-25 years (p 0.168), between males and females (p 0.103), between years of study (p 0.197), and between those who had received training and those who had not (p 0.737). These data are presented in **Table II.**

Based on the stigma domain, the scores of each domain are as follows. First domain at mean score 10.37±2.2, the second domain at mean score 11.75±2.3, the third domain at mean score 7.51±1.1, the fourth domain at mean score 11.59±2.4, the fifth domain at mean score 10.87±2.4, the sixth domain at mean score 5. 56±1.5, the seventh domain at mean score 9.54±1.7, the eighth domain at mean score 10.66±2.4, the ninth domain at mean score 11.0±2.9, the tenth domain at mean score 10.6±2.4, and the eleventh domain at mean score 5.17±1.3. The mean stigma score by domain is shown in **Table III**.

Table III: Stigma score based on domain (n=369)

Domain	Mean±SD	Possible score	CI 95%
Limited rights of PLWHA	10.37±2.2	4.0-16.00	10.15-10.60
PLHIV are required to disclose their serostatus	11.75±2.3	4.0-16.00	11.52-11.99
Responsibility for infection	7.51±1.1	3.0-12.00	7.40-7.62
Lack of productivity of PLHIV	11.59±2.4	4.0-16.00	11.35-11.85
Personal characteristics of PLHIV	10.87±2.4	4.0-16.00	10.63-11.16
Fear of infection	5.56±1.5	2.00-8.00	5.41-5.73
Emotions associated with HIV/AIDS	9.54±1.7	4.0-16.00	9.38-9.72
Proximity to death	10.66±2.4	4.0-16.00	10.40-10.91
Actions to control PLWHA	11.0±2.9	4.0-16.00	10.70-11.34
PLWHA as a vector of infection	10.6±2.4	4.0-16.00	10.34-10.85
Signs of HIV/AIDS body symptoms	5.17±1.3	2.00-8.00	5.02-5.31

DISCUSSION

The mean score of stigma given by students is 104.45±14.85; the minimum and maximum scores of the questionnaire are 39-156. The stigma category based on the mean value of 104.45 is low stigma in 12.7% of respondents, moderate stigma in 77.0% of respondents and high stigma in 10.3% of respondents. This result is consistent with previous research among dental students in Bandung, which also found that 19.8% of respondents had high stigma and 80.2% had low stigma. The mean stigma was 3.53 on a questionnaire with a possible score range of 1-6. The study also found that 47.9% of respondents did not want to live in the same community as PLWHA. Researchers assume that this condition occurs because of uncertainty about living with PLWHA in a

single community, possibly influenced by several personal considerations and opinions [22].

A slightly different study was conducted on 594 nursing students in Europe. Data were collected using the AIDS Attitude Scale (AAS). The mean score was 39.01±10.63 on the questionnaire, with a possible score of 15-90. The results showed that students' attitudes towards PLWHA were relatively positive. However, the majority of them showed fear of interacting with HIV patients in clinical practice settings and expressed some concerns about nursing being a high-risk profession. Students who showed positive attitudes towards HIV/AIDS had a great influence on their willingness to care for HIV/AIDS patients. Although they were exposed to different teaching and learning experiences, a significant proportion of the respondents believed that the presence of HIV/AIDS made nursing a high-risk profession for infection[18].

Stigma among respondents aged ≤ 18 years was higher than among respondents aged 19-25 years, although the difference was not statistically significant (p = 0.168). The results of the analysis in this study show that the higher the age of students, the lower the stigma towards PLWHA. This is because the age of 19-25 years is the initial phase, and this age has formed the ability to make logical decisions that lead to healthy behavior. However, another study stated that there was no significant relationship between age and stigma in children with HIV-AIDS[23].

This study found that students with female gender have lower stigma, with a mean score of 104.34 ± 13.6, than students with male gender, with a mean score of 106.97 ± 9.5. Stigma among male respondents is higher than among female respondents, although the difference is not statistically significant (p = 0.103). Research conducted in Bandung, dental students also showed that 50% of men were highly stigmatized towards PLWHA, while only 18% of women were highly stigmatized. The weakness of their study is that the number of male respondents is very small, making it difficult to represent [24]. A different study was conducted in the Bulukumba district in Indonesia, which found that male health care providers who negatively stigmatized PLWHA were 33.3%, while women were 42.3%. But the statistical results showed no significant difference [24]. Gender may influence individuals' stigmatization of PLWHA, but the difference is not significant.

Stigma in the first year of college respondents is higher than the respondents of the class above, although statistically there is no significant difference (p = 0.197). Students who attended college in the first year had a higher stigma score (mean of 106.69 ± 13.8) than those who attended in the second, third, or fourth year. Based on research conducted on nursing students in Turkey, namely 162 students from the UK, 246 from Italy and 186 from Greece, which explains that the attitude of nursing students in the first year is a negative attitude towards caring for HIV individuals. This is due to the lack of education and knowledge in the undergraduate program[18]. For this reason, there must be other sources of information obtained by students about HIV/AIDS. Research conducted in Jakarta showed relatively low stigma among Diploma of Nursing students, with a mean score of 10.02 on a questionnaire score of 1-13. The study recruited student respondents from the first to third year of study; the majority (37.9%) of respondents were in the third year of study. According to the researcher, this is because the respondents had already obtained sources of information about HIV from the internet (87.58%), lecturers (76.47%), and nursing books (59.47%)[7].

Stigma among respondents who have attended lectures on HIV/AIDS is lower than among respondents who have not attended lectures. This difference is statistically significant (p < 0.046). Stigma towards HIV can be caused by a lack of knowledge about HIV/ AIDS. This is supported by research conducted with 49 nursing students in Bandung who attended HIV/ AIDS lectures using the case-based learning method. Student stigma before the lecture was categorized of unfavorable stigma towards PLWHA by 61.2%. After the lecture, students' stigma towards PLWHA decreased to 12.2% or less, and most (71.4%) stated that they could accept PLWHA in their community[25]. Our study aligns with a study using a blended learning method with 100 nurses of a public health centre in Bandung, which found that respondents in the intervention group could significantly reduce stigma and discrimination related to HIV/AIDS[26]. Another study stated that out of 186 nursing students in Greece, as 28.77% had a high level of fear of HIV/AIDS transmission, resulting in a negative attitude towards caring for PLWHA. Therefore, additional education is needed to overcome the fear of transmission and negative feelings[18].

Based on research conducted on nursing students in Turkey, namely 162 students from the UK, 246 from Italy and 186 from Greece, which explains that the attitude of nursing students in the first year has a negative attitude towards caring for PLWHA due to a lack of education and knowledge in undergraduate programs[18]. For this reason, there must be other sources of information obtained by students about HIV / AIDS. Sources of knowledge include seminars, workshops, field trips and early clinical exposure.

The results of this study found that respondents stigmatized PLWHA due to fear of infection, with a mean of 5.56±1.5 on a possible score range of 2.00-8.00. These results are in line with the results of Fauk NK 2021[14] research in Yogyakarta and Belu in Indonesia, which reported that health care providers in the two regions personally stigmatized and discriminated against PLWHA for fear of contracting HIV. Research conducted in 322 health care providers in the Bulukumba district showed that 54% of them were afraid of people with HIV/AIDS. According to the

researchers, incomprehension and lack of knowledge about HIV/AIDS often lead to fear of PLWHA[24].

The fear of PLWHA that emerges is largely an exaggeration. As we know, transmission can occur through various means, including unprotected sexual intercourse, blood transfusions, needle sharing, as well as transmission from an HIV-positive mother to her baby during pregnancy[27]. According to the Joint United Nations Program on HIV/AIDS on 2022, the distribution of HIV cases based on risk populations globally in 2021 was as follows: clients of sex workers and sexual partners from at-risk populations (25%), men who have sex with men and other males who engage in sex with males (21%), sex workers (12%), people who inject drugs (10%), transgender women (2%), and other populations accounting for 30%[28].

This present study is among the first studies exploring the level of stigma among future healthcare providers in a highly prevalent HIV/AIDS province in Indonesia. Nonetheless, this study focused on a specific population, thereby limiting the generalizability of the findings. Moreover, the data insufficiency did not allow us to perform analytical statistics to identify any association or correlation. Gender may be a determinant of stigma, but the imbalance in the number of male and female participants limits this interpretation. This study did not include potentially contributing factors, such as socioeconomic status and cultural beliefs. As we employed a self-reporting questionnaire, results might be biased because the students are concerned about judgment or societal expectations, potentially affecting the accuracy of the findings. The overreliance on the questionnaire is also a limitation of this study, as uncovered aspects could be better analyzed through in-depth interviews or other qualitative approaches.

CONCLUSION

In conclusion, this study suggests that the nursing students in Aceh have a moderate level of stigma toward PLWHA. Those with minimum exposure to HIV/AIDS-focused education were likely to have a high stigma. Further, these students were found to have a misconception about HIV/AIDS that engaging in sexual intercourse with multiple partners is the direct cause of transmission. These findings underscore the urgent need to implement comprehensive, targeted educational interventions for nursing students to enhance their knowledge, dispel misconceptions, and foster non-stigmatizing attitudes. By prioritizing the development and implementation of robust HIV/AIDS educational programs, it may contribute to the reduction of stigma and improved healthcare outcomes among PLWHA.

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AUTHOR CONTRIBUTION

Syarif H: Conceived the presented idea and corresponding author, collected data, and supervised the findings of this work.
Jufrizal J: Developed the theory and performed the computations.
Ahyana A: Collecting data, training the enumerators, and verifying analytical methods.
Halifah E: Collecting data and training the enumerators
Kiftia M: Collecting data and verifying analytical methods.
Syabandi AZB: Collecting data
All authors discussed the results and contributed to the report and final manuscript.

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