Research Article

Factors Affecting HIV/AIDS Stigma in Nursing Students

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Abstract. HIV/AIDS stigma is recognized as a barrier to prevention, treatment, the process of socialization, and support. Manifestations of HIV stigma include any prejudice, humiliation, or discrimination directed within the family, community, institution, discriminatory laws or policies, or through self-stigma (internalized). This study aimed to identify factors affecting HIV/AIDS stigma in nursing students. This study used a cross-sectional design with purposive sampling and was conducted in a nursing academy in East Jakarta, Indonesia. The sample was 153 respondents in the nursing academy. Data were collected using the International AIDS Questionnaire-Chinese Version (IAQ-C) to identify the knowledge of respondents and the AIDS-Related Stigma Scale to identify stigma. Data were analyzed using the Mann-Whitney test, Kruskal Wallis test, and Spearman correlation test. 85.6% of respondents were female, 37.9% were 3rd grade, 62.7% had no partner, 64.1% were quite religious, 94.44% were heterosexual, and 90.91% of the males and 93.73% of the females did not have any sexual experience. The mean age was 20.11 years, the mean knowledge score was 58.41, and the mean stigma score was 10.02. 87.58% of respondents knew information about HIV-AIDS from the internet. There was a significant relationship between sexual experience and HIV/AIDS stigma (p-value = 0.047), and between attitude and HIV/AIDS stigma (p-value = 0.007) in the nursing students. There was no significant impact of age (p-value = 0.298), gender (p-value = 0.397), relationship status (p-value = 0.769), or knowledge (p-value = 0.065). This study recommends improving nursing student attitudes to reduce HIV/AIDS stigma.

Keywords: HIV/AIDS, stigma, knowledge, attitudes, nursing student

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1. Introduction

Human Immunodeficiency Virus (HIV) is a virus that infects white blood cells and causes a decrease in human immunity. Acquired Immune Deficiency Syndrome (AIDS) is a collection of symptoms that arise due to decreased immunity caused by infection with HIV. HIV patients need antiretrovirals (ARVs) to reduce HIV in the body so they do not enter the AIDS stage. In contrast, people with AIDS need ARV treatment to prevent opportunistic infections with various complications [1]. Based on data from the United Nations Program on HIV and AIDS (UNAIDS) (2019), the African continent occupies the largest population of HIV infections in the world, as much as 25.7 million, then Southeast Asia as much as 3.8 million and the Americas 3.5 million [1].

Globally there are 37.7 million (30.2-45.1 million) people living with HIV, with 1.5 million (1-2 million) newly infected with HIV, of which 84% of people with HIV know their HIV status, 27, 5 million (26.5-27.7 million) people are already on antiretroviral therapy, deaths from AIDS are 680,000 (480,000-1,000,000), 79.3 million (55.9-110 million) people have been infected with HIV since the start of the epidemic, 36, 3 million (272.2-47.8 million) people died of AIDS since the start of the epidemic [2]. Key populations and their sexual partners account for 65% of all HIV infections globally. The population consists of sex workers and their clients, transgender people, gay men and men who have sex with men, injecting needle users). Drug users with injection needles occupy the group with the highest risk of getting HIV, followed by transgender women, sex workers, gay men, and men who have sex with men [2].

In Indonesia, HIV/AIDS cases tend to fluctuate wherein 2017, and there were 48,300 HIV cases; in 2018, there were 46,650 cases, and in 2019 there were 50,282 cases. Meanwhile, AIDS cases in 2017 were 10,488 cases; in 2018, there were 10,190 cases, and in 2019 there were 7,036 cases [1]. The three provinces with the highest HIV infections based on data from the Directorate General of P2P (HIV/AIDS and Sexual Transmitted Infection Information Systems) in 2019 are East Java, DKI Jakarta, and West Java. Meanwhile, the provinces with the lowest HIV infections were Gorontalo, West Sulawesi, and Jambi. Provinces with the highest number of AIDS cases are Central Java, Papua, and East Java. In contrast, the provinces with the lowest number of AIDS cases are South Kalimantan, Jambi, and East Nusa Tenggara [1]. The number of HIV infections by age group, were 25-49 years (70.4%), 20-24 years (15.3%), 15-19 years (3%), 5-14 years (0.9%) and less than 4 years (1.8%) [1].

Stigma refers to the state of a social group that creates an identity for a person or group based on physical, behavioral, or social characteristics that are perceived to deviate from the norms in the community [3]. Stigma is the result of a process in which five interrelated components are combined to produce stigma. The first component is that people identify and label individual differences. Although most individual differences are socially irrelevant, differences in skin color, intellectual level, and sexual preferences are prominent in many social contexts. A social selection process will determine whether a difference is considered relevant and consequent or not. The second component of stigma involves the stereotyping process by which the labeled person is associated with undesirable characteristics. In the third component, the group that does the labeling separates the stigmatized group. The fourth component is that people who are stigmatized experience discrimination and lose their status. The fifth

component is the exercise of power. The role of power is essential in situations where low power groups try to reverse stigmatization [4].

AIDS-related stigma is any prejudice, humiliation, and discrimination directed at People Living With HIV/AIDS (PLWHA) and individuals, groups, or communities associated with the PLWHA. Stigma on PLWHA hinders the process of socialization and even treatment because it makes them feel isolated and even considered as people who are insulted by their status as PLWHA. The stigma in the community regarding HIV and AIDS is a problem in anticipating the widespread transmission of this disease [1]. Stigma causes people with HIV not to want to consult, refuse health services, and be afraid to reveal their status. Several factors that influence the stigma of HIV/AIDS are knowledge, perception of PLWHA, age, gender, interaction with PLWHA, adherence to religion [5,6,7,8,9,10].

Good knowledge about HIV/AIDS, universal precautions, care, treatment, and support is needed to reduce stigma against PLWHA. Lack of knowledge can lead to negative attitudes related to HIV/AIDS. Therefore, nursing students need to have good knowledge and attitudes to reduce stigma against PLWHA and improve the quality of nursing care for PLWHA [11]. Nurses have a significant role in prevention and treatment efforts to reduce stigma and discrimination against PLWHA because nurses are the most significant number of health care providers. Therefore, it is crucial to know the HIV stigma of nursing students towards PLWHA and the factors that influence it to reduce stigma and discrimination related to HIV/AIDS, improve the skills of nursing students because they are the ones who will become nurses of the future. This study aims to identify factors affecting HIV/AIDS stigma in nursing students.

2. Methods and Equipment

2.1. Methods

2.2. Design

This was a descriptive study with cross-sectional design. The purpose of this study was to identify the factors influence HIV stigma in nursing students. This research was conducted at the Nursing Academy in East Jakarta in January-February 2020.

2.3. Sample

Sampling in this study will be carried out using a purposive sampling. All individuals who meet the inclusion and exclusion criteria during the research can be used as samples. The inclusion criteria of this research sample are Diploma nursing students who willing to be respondents. The number of samples that meet the inclusion criteria is 153 respondents.

2.4. Instrument

The data collection instruments used were the respondent characteristics questionnaire, the International AIDS questionnaire-Chinese Version (IAQ-C) questionnaire, sexual practice, and behavior questionnaire AIDS-Related Stigma Scale, and attitudes toward HIV/AIDS. The respondent's characteristic questionnaire includes patient demographic data (age, gender, religion), relationship status, religiosity, sources of information used by respondents to obtain information about HIV/AIDS, and with whom respondents discuss HIV/AIDS. The International AIDS questionnaire-Chinese Version (IAQ-C) was developed and validated by [12] for use with the Chinese population. This questionnaire measures four dimensions of HIV and AIDS, namely myths of transmission, awareness of factual knowledge, attitudes, and personal risks. Each item is rated on a 5-point Likert scale: 1 (strongly agree), 2 (agree), 3 (do not know), 4 (disagree), 5 (strongly disagree). Total scores on the IAQ-C ranged from 18 to 90, and subscale scores ranged from 7 to 35 for myth transmission, 5 to 25 for attitude, and 3 to 15 for personal risk and factual knowledge. Higher scores indicate a more positive and accurate view of HIV. Cronbach's alpha coefficient of this questionnaire is 0.76 [12]. This questionnaire has been translated into Bahasa by researchers and tested for validity on 30 nursing student respondents with a Cronbach alpha coefficient value of 0.789.

In the sexual practices and behavior questionnaire, respondents were asked to report their sexual behavior and practices based on the literature review considered important for this study. HIV stigma questionnaire was taken from the AIDS-Related Stigma Scales, which first developed by Kalichman [13] which were later developed by Okumu et al [14] into 13 (thirteen) question items. These question items include various attitudes towards People Living With HIV/AIDS (PLWHA) and HIV-related internalized stigma. Each item is rated on a four-point Likert scale, 1 (strongly agree), 2 (agree), 3 (disagree), 4 (strongly disagree). For question number 3,4, 6, 8, 10, and 11 were scored in reverse 1 (strongly disagree), 2 (disagree), 3 (agree), 4 (strongly agree).Then all scores are added up and

averaged to produce an overall score for each. The average score ranges from 1-13, where a higher score indicates less stigma associated with HIV. This questionnaire has been translated into Bahasa and has been tested for validity on 30 nursing student respondents with a Cronbach alpha coefficient of 0.714. Attitudes statements were scored "agree," "disagree," and "do not know." The overall attitude was determined by combining all the positive responses from 0 to 12 [15].

2.5. Procedures

The researcher's administrative procedure is first to apply for a research permit to the Director of the Nursing Academy. The research was conducted after obtaining a permit. After that, the researcher began to collect data using google forms. Before collecting data, the researcher introduces herself and explains the research to be carried out, including objectives, time, benefits, implementation, and rights of respondents. Researchers asked the willingness to become respondents via zoom. Respondents who are willing to participate are asked to sign an informed consent via a google form. The researcher gave the respondent's characteristics questionnaire, the International AIDS questionnaire-Chinese Version (IAQ-C), the HIV/AIDS information source questionnaire, and the sexual behavior questionnaire in a google form to the respondents to be filled in for $\pm$ 15 minutes. After the respondent finished filling out the questionnaire, the researcher checked the completeness of the questionnaire. If there is incomplete data, the researcher will ask the respondent to complete it.

Univariate analysis is used to explain the characteristics of each variable to be studied. In numerical data such as age, knowledge, HIV stigma, the univariate analysis used mean, median, standard deviation, percentile (min-max). At the same time, the univariate analysis was used on categorical data such as gender, semester, relationship status, religion, religiosity, sexual orientation, sexual experience using a frequency distribution with a percentage. In univariate analysis, the data normality test was conducted first to determine the type of bivariate analysis to be used. The normality test of the data used in this study is the Kolmogorov-Smirnov test. The result of normality test showed age, knowledge, stigma and attitude were not normal distributed. The bivariate analysis used was the Mann Whitey test, the Kruskal Wallis test, and the Spearman correlation test.

TABLE 1: Characteristic Respondent (N=153)

Variable		Frequency	Precentage
Gender	Male	22	14.4
	Female	131	85.6
	Total	153	100
Grade	1st grade	49	32.0
	2nd grade	46	30.1
	3rd grade	58	37.9
	Total	153	100
Relationship	No partner	96	62.7
	Having a partner	57	37.3
	Total	153	100
Religiousity	Not religious	4	2.6
	Less religious	0	0
	Quite religious	98	64.1
	Religius	44	28.8
	Very religious	7	4.6
	Total	153	100

TABLE 2: Characteristic of Age , Knowledge and Stigma (N=153)

Variable	Mean	Median	SD	Minimal-Maximal	95% CI
Age	20.11	20.00	1.25	18-23	19.91-20.31
Knowledge	58.41	60.00	9.71	19-76	56.85-59.97
Stigma	10.02	10.00	1.18	6-12.5	9.84-10.21
Attitudes	9.19	9.00	1.59	4-12	8.94-9.44

3. Results

Based on table 1, most respondents are female, in 3rd grade, have no partner, and are quite religious. Based on table 2, the average age was 20,11 years, the average knowledge score was 58,41, and the average stigma score was 10,02.

Based on table 3, the majority of respondents received information on HIV AIDS from the internet (87.58%), lecturers (76.47%), and nursing books (59.47%). Based on table 4, respondents were heterosexual (male 100% and female 94.44%) and did not have a sexual experience (male 90.91% and female 93.73%). Only 9% male respondents and 4.87% female respondents had a sexual experience. The types of sexual experiences were vaginal, anal and oral (4.5% male and 0.7% female), vaginal and oral (4.5% male and 1.4% female) and masturbation (6.4% female). Most respondents did not have a sexual partner, and only five respondents have 1-3 sexual partners. Respondent uses a condom in sexual intercourse, one respondent always uses a condom, two respondents often use a condom, and two respondents sometimes use a condom.

TABLE 3: Source of information (N=153)

Source of information	Precentage
Television	32.68
Internet	87.58
Lecture	76.47
Newspaper/magazine	15.03
Friend	42.48
Radio	3.92
Family	22.87
Health worker	55.56
Book	59.47
Others	25.49

TABLE 4: Sexual practices (N=153)

Behaviour	Male	Female
Sexual orientation		
Heterosexual	n=22 (100%)	n=136 (94.44%)
Others	0	n=8 (5.56%)
Sexual experience		
Yes	n=2 (9%)	n=9 (4.87%)
No	n=20 (90.91%)	n=135 (93.73%)
Type of sexual experience		
Vaginal, anal and oral	n=1 (4.5%)	n=1 (0.7%)
Vaginal and oral	n=1 (4.5%)	n=2 (1.4%)
Vaginal and masturbation	0	0
Masturbation	0	n=6 (4.17%)
Never	n=20 (90.91%)	n=135 (93.73%)
Number of sexual partner		
1	n=1 (4.5%)	n=1 (0.7%)
2 or 3	n=1 (4.5%)	n=2 (1.4%)
>3	0	0
No partner	n=20 (90.91%)	n=140 (97.9%)
Condom use		
Always	0	n=1 (33.33%)
Often	n=1 (50%)	n=1 (33.33%)
Sometimes	n=1 (50%)	n=1 (33.33%)
Never	0	0

TABLE 5: Bivariate analysis

No	Variable	p-value
1	Age	0.298
2	Gender	0.397
3	Relationship status	0.769
4	Sexual orientation	0.469
5	Sexual experience	0.047
6	Knowledge	0.065
7	Attitude	0.007

Based on table 5 there was a significant relationship between sexual experience (p-value= 0.047) and attitude (p-value = 0.007) with HIV/AIDS stigma in nursing student. There was not a significant relationship between age (p-value= 0.298), gender (p-value= 0.397), relationship status (p-value=0.769), sexual orientation (p-value= 0.469) and knowledge (p-value= 0.065).

4. Discussion

Most respondents in this study were female. The study conducted on postgraduate students [8,16], and on a young black adult in Southeastern city also found that most of the respondents were female[14]. In this study, the average age of the respondents was 20.11. This result in line with other studies which state that the majority of respondents are in the age range of 19-24 years [15], 18-22 years [16], 19-21 years [8]. The majority of respondents in this study had an average knowledge score of 58.41. It is in line with other research which showed that most respondents had high knowledge [11]. Other research found that HIV knowledge had been varying, it was high in some areas (like HIV transmission), and it was low in some areas (in prevention and control). Respondents who selected media as their source information had high knowledge [14].

The majority of respondents in this study had an average stigma score of 10.02. A high stigma score indicates that respondents have a low stigma on PLWHA. Another research also found that most nursing students have a low stigma against PLWHA [8,11]. Most young black adults in Southeastern cities had low HIV-related stigma [14]. In this study, majority respondents disagree their lives would not change very much when they tested positive for HIV. Respondents also disagree that the community should tell others if they have HIV, and agree that HIV positive would affect their social life, even if

they never told anyone. In contrast, another study found most respondents agree that the community should tell others if they have HIV [14].

Our respondents had positive attitudes toward PLWHA. It can be explained by their effort to seek information about HIV/AIDS from various sources. Most respondents received information on HIV AIDS from the internet, lecturers, and books. Sources of knowledge from the internet that are easily obtained contribute to knowledge about HIV among respondents. Different results were obtained where most of the sources of information on HIV AIDS were obtained from media such as TV, radio, newspapers; family and friends; and the internet, then religious institution [14,15].

In this study, the majority of respondents were heterosexual. Another study also found almost 90% of respondents are heterosexual [8]. In this study, five respondents had sexual intercourse, respondents almost always use condoms and sometimes use condoms. Different results from another study showed where most respondents sometimes use condoms during sexual intercourse [15]. From 616 respondents, most male and female respondents did not use a condom in their last sexual activity. The reason most respondents do not use condoms were condoms are not accessible, respondents think there is no need to use condoms, respondents do not like using condoms, sexual partners object, it is too expensive, and respondents use other tools [15]. Another study stated that 5.2% of respondents had sexual intercourse [17]. After controlling for age, a higher proportion of sexual encounters were found in male students, 39.0% who used condoms at the last sexual intercourse. Women used condoms more than men, with no significant difference. Sexual encounters in men students with two or more partners are higher than in female students [17].

The mean score of stigma in this study was relatively high (10.02, range score 1-13). High scores related to low HIV/AIDS stigma. In this study respondent were not willing to do social work with AIDS patients. This is similar to another research where according to the majority of respondents, they are not willing to work or study with HIV-infected friends [15,16]. There was no significant relationship between age, gender, relationship status, sexual orientation, and knowledge with HIV/AIDS stigma. Another study conducted by Kingori et al. (2017) found that gender and sexual orientation significantly correlate with HIV stigma. Women have a lower stigma than men, and students with a heterosexual orientation have a higher stigma than students with other sexual orientations [8]. In contrast, another study found a high stigma associated with the female gender [18].

In this study, age was not associated with stigma. Age group was not correlated with stigma, when it was evaluated as a continuous variable, the mean ages were 35.5 years

for high and 34.1 for lower stigma [18]. In contrast, there was association between age and HIV stigma, respondents with younger age positively associated with HIV stigma perhaps because of limitations knowledge of the disease [9].

In this study, there was no significant relationship between knowledge and stigma. Reversely, another research showed a significant relationship between knowledge and stigma towards PLWHA [6]. Another study also found relationship between a high level of knowledge and a lower HIV stigma among pharmacy and health science students in Guyana, South America [5]. Pharmacy students have excellent knowledge of HIV risk factors and modes of transmission but lack knowledge about the importance of HIV medication adherence and drug resistance. Health science students have good knowledge about HIV risk factors and treatment for HIV infection but lack knowledge about more complex HIV treatment issues such as adherence and drug resistance [5]. This is different from another research where the level of knowledge of the majority of respondents in the unfavorable category and stigmatization is 58 respondents (65.2%) [7]. There is no significant relationship between the level of knowledge and the stigma of PLWHA [7,8].

There was a significant relationship between sexual orientation and attitudes with HIV/AIDS stigma in nursing students. Negative attitudes towards PLWHA are significantly related with: female gender, living in a village (vs. urban environment), not know that PLWHA can live a healthy life, lack of knowledge about perinatal transmission, how HIV is not transmitted (eg casual contact). HIV treatment, and do not know PLWHA personally [18]. There is a significant relationship between knowledge and negative attitudes towards PLWH. Knowledge related to stigma includes lack of understanding of how HIV is not transmitted (especially through casual contact), the natural history of HIV infection (which may initially be asymptomatic), ART (including its potential benefits), and Mother To Child Transmission (MTCT) [18].

In caring for PLWHA, nursing students must overcome the fear of being infected and feel that they do not know enough about HIV/AIDS. Health education about HIV/AIDS helps reduce HIV/AIDS stigma and discrimination among health workers [11]. HIV stigma measures the burden on two factors: HIV blame and HIV shame. Factor associated with HIV blame were younger age (positively related) and educational and occupational attainment (inversely related). Factors inversely associated with HIV shame were educational attainment, HIV-positive status, and injecting drugs. At the same time, multiple sex partners were positively associated with HIV shame [9].

5. Conclusion

This study showed no significant relationship between age, gender, relationship status, sexual orientation, and knowledge with HIV/AIDS stigma. There is a significant relationship between sexual orientation and attitudes with HIV/AIDS stigma in nursing students. Nursing students are expected to have a good attitude to reduce HIV/AIDS stigma through this research. Educational institutions can hold HIV/AIDS elective classes to improve student attitudes towards HIV/AIDS.

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Conflict of Interest

The authors have no conflict of interest to declare.

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