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The Relationship Between Adolescent Knowledge About HIV/AIDS and Stigma Toward PLWHA at the Faculty of Health Sciences

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ABSTRACT
HIV/AIDS is one of the Millennium Development Goals (MDGs) in the health sector, alongside efforts to combat Malaria and Tuberculosis (TB), with a focus on controlling the spread of new cases. One of the measures to control transmission is ensuring that people living with HIV (PLWHA) adhere to antiretroviral (ARV) treatment. Stigma refers to a negative attribute attached to an individual due to environmental influences. This stigma often leads to discrimination, which is defined as unjust treatment of individuals based on their actual or perceived HIV status or overall health condition. This study is a quantitative research using a descriptive correlational design with a cross-sectional approach. Data collection was conducted through questionnaires distributed via Google Form. The sample consisted of all first-year students of the Nursing Study Program, Faculty of Health Sciences, Catholic University od Santu Paulus Ruteng, totaling 129 participants. The sampling technique used was purposive sampling, with the inclusion criteria being: willingness to participate and being a first-year student preparing for clinical practice. A chi-square statistical test resulted in a p-value of 0.025, indicating a significant relationship between adolescent knowledge and stigma toward PLWHA. As future nurses, it is essential for nursing students to enhance their knowledge to avoid harboring negative stigma when providing care for PLWHA.

Keywords: Adolescents, HIV, Knowledge, Stigma

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INTRODUCTION

Human Immunodeficiency Virus (HIV) is a virus that directly attacks the immune system. As the virus progresses, it leads to a condition known as Acquired Immunodeficiency Syndrome (AIDS) (2). HIV/AIDS is one of the key focus areas of the Millennium Development Goals (MDGs) in the health sector, alongside the fight against Malaria and Tuberculosis (TB), with the goal of controlling the transmission and number of new cases. One of the main strategies for controlling transmission is ensuring that individuals living with HIV take antiretroviral (ARV) therapy regularly. ARV treatment helps reduce the viral load in people with HIV to prevent progression to AIDS, while for those already diagnosed with AIDS, ARVs help prevent opportunistic infections and related complications (1).

Every year, HIV/AIDS data continues to rise. According to UNAIDS Statistics 2011, 36.9 million people were living with HIV, with 2 million new infections and 1.2 million deaths from HIV/AIDS reported globally. In Indonesia, HIV cases peaked in 2019 with a total of 50,282 new cases. WHO data from 2019 showed that 78% of new HIV infections in the Asia-Pacific region occurred that year. The highest number of AIDS cases in the past eleven years occurred in 2013, with 12,214 cases reported. According to the Executive Report on

the Development of HIV/AIDS and Sexually Transmitted Infections (STIs) for Quarter 1 of 2022, by March 2022, 10,525 HIV-positive individuals had been identified out of 941,973 people tested. Of these, 8,784 received ARV treatment. Alor and Sumba ranked second and third, respectively, in reported HIV cases (3).

HIV/AIDS does not only affect adults, but many children and adolescents are also living with the disease. From 1987 to 2011, a total of 1,929 children and adolescents (aged <1–19 years) were reported to be infected with HIV (3). The yearly increase in HIV/AIDS cases is closely tied to stigma and discrimination in society toward people living with HIV/AIDS (PLWHA). Stigma refers to the negative labeling of individuals due to environmental and societal perceptions. This stigma often leads to discrimination, which involves unfair treatment based on one's actual or perceived HIV status or general health condition.

Stigma and discrimination are not only perpetuated by the general public with limited knowledge of HIV/AIDS but also by healthcare workers—including healthcare students. Stigma is a major concern for PLWHA, but improved knowledge can help shift public perception. Data from the Indonesian Ministry of Health shows that 75% of Indonesians aged 15–49 believe HIV can be transmitted through mosquito bites. This indicates the need to improve education on sexually transmitted infections through comprehensive reproductive health education starting in adolescence. Research also shows that individuals with higher levels of education tend to possess better knowledge about HIV/AIDS (3).

Although all age groups are at risk, adolescents and young adults aged 15–25 are more vulnerable to HIV infection. According to WHO and the Joint United Nations Programme on HIV/AIDS (UNAIDS), adolescents are at higher risk due to a lack of information, engagement in risky behaviors, and limited access to healthcare services, particularly those related to reproductive health (4). The stigma and discrimination experienced by children and adolescents differ significantly from that of adults, as adolescents are still undergoing physical, cognitive, and social development. They perceive and react to stigma differently (5).

Based on the above, this study aims to analyze the relationship between knowledge about HIV/AIDS and the stigma associated with it among adolescents at the Faculty of Health Sciences, specifically among nursing students preparing for clinical practice. As future nurses who will care for patients with various illnesses, including HIV/AIDS, it is crucial for these students to have accurate and comprehensive knowledge about HIV to prevent the formation of negative stigma toward affected individuals.

Preliminary interviews with first-year nursing students revealed misconceptions—such as beliefs that HIV is highly contagious through casual contact (e.g., living in the same house), and that people with HIV are immoral and therefore "deserve" the disease. The urgency of this research lies in its potential to assess the current level of adolescent knowledge and serve as a foundation for enhancing HIV/AIDS health education and promotion efforts, both among youth and the broader community.

METHODS

This study is a quantitative research with a descriptive correlational design using a cross-sectional approach (6). Data collection was carried out using questionnaires distributed via Google Forms. The study utilized two types of questionnaires: the first was a Knowledge About HIV/AIDS questionnaire using the KQ-18 instrument, and the second was a stigma questionnaire toward PLWHA using the Berger Stigma Scale.

The population in this study consisted of all first-year students and students who were about to begin clinical practice. The sampling technique used was purposive sampling, where the sample criteria were predetermined by the researchers. The inclusion criteria for the sample were: (1) willing to participate as a respondent, and (2) first-year students or students preparing for clinical placement.

A total of 129 respondents participated in this study. The research was conducted at the Faculty of Health Sciences, Catholic University of Saint Paul Ruteng, over the course of one week, from April 4 to April 8, 2024.

RESULTS AND DISCUSSION

The total number of respondents in this study was 129 participants. The following section presents data on the characteristics of the respondents:

Based on Table 1, the majority of respondents were 19 years old, accounting for 54 respondents (41.9%), while the smallest group was those over 21 years old, with only 1 respondent (0.8%).

Table 1. Distribution of Respondents by Age

Age (Years)	f	%
18	34	26.4
19	54	41.9
20	23	17.8
21	17	13.2
>21	1	0.7
Total	129	100

Table 2. Distribution of Respondents by Gender

Gender	f	%
Male	36	27.9
Female	93	72.1
Total	129	100

According to Table 2, the majority of respondents were female, totaling 93 respondents (72.1%), while male respondents accounted for 36 participants (27.9%).

Based on Table 3, most respondents had previously received information about HIV/AIDS, totaling 111 respondents (86.0%), while 18 respondents (14%) had never received such information.

According to Table 4, the majority of Level 1 students in the Nursing Study Program at the Faculty of Health Sciences had a moderate level of knowledge, with 67 respondents (51.9%), while the fewest fell into the low knowledge category, with 1 respondent (0.8%).

Table 3. Distribution of Respondents Based on Experience of Receiving Information about HIV/AIDS

Information	f	%
Ever	111	86.0
Never	18	14.0
Total	129	100

Table 4. Distribution of Respondents Based on Knowledge of HIV/AIDS

Knowledge	f	%
Good	61	47.3
Moderate	67	51.9
Less	1	0.8
Total	129	100

Table 5. Distribution of Respondents Based on Stigma Toward PLWHA

Stigma	f	%
High	11	8.5
Moderate	115	88.5
Low	3	2.3
Total	129	100

Table 5 shows that most respondents demonstrated a moderate level of stigma toward PLWHA, with 115 respondents (88.5%), while the lowest category was low stigma, with only 3 respondents (2.3%).

As shown in Table 6, the most frequent combination was moderate knowledge and moderate stigma, with 62 respondents, while the least frequent was low knowledge and low stigma, with only 1 respondent. Based on the Chi-square statistical test, a p-value of 0.025 was obtained, indicating that there is a significant relationship between adolescent knowledge about HIV and stigma toward PLWHA.

Based on the results of the study, most adolescents demonstrated a moderate level of knowledge, while a small proportion fell into the low knowledge category. Various studies have explored the knowledge levels of nursing students and adolescents regarding HIV/AIDS. According to Agung Nugroho, the majority of nursing students possessed moderate knowledge of the disease, which aligns with the findings of this study (7). Similarly, Lobang reported that high school students had an adequate level of knowledge (8). Research by Triwahyuni et al, which focused on health education programs, showed that knowledge increased after health promotion activities (9). This study specifically emphasized the importance of continuous education and awareness efforts to improve HIV/AIDS knowledge among nursing students and adolescents.

Study by Chanvatanak et al found that pre-clinical nursing students had moderate knowledge about HIV/AIDS but still exhibited negative attitudes toward the disease (10). This is supported by Matos et al, who reported that nursing and medical students had only basic knowledge regarding HIV prevention prophylaxis (11). However, this contrasts with findings by Dlamini et al, which reported high levels of knowledge among final-year undergraduate nursing students in Eswatini, although some gaps remained in understanding transmission and management (12). Study by Bonacaro et al also highlighted the presence of misconceptions and stigma among nursing students, despite generally positive attitudes toward patients with HIV/AIDS (13). These findings underscore the importance of improving education and training to ensure that nursing students possess both accurate knowledge and positive attitudes toward people living with HIV/AIDS.

The researcher assumes that the respondents, being first-year students, have not yet received formal instruction

Table 6. The Relationship Between Adolescent Knowledge About HIV and Stigma Toward PLWHA

Knowledge	Stigma				P-value
	Low	Moderate	High	Total	
Less	1	0	0	1	0.025
Moderate	0	62	5	67	
Good	2	53	2	61	
Total	3	115	11	129	

on disease pathophysiology. Thus, their knowledge is primarily based on information acquired through mass media or social media. Demographic data also revealed that some respondents had previously received information about HIV/AIDS. The researcher supports the view that enhancing education through health promotion is highly recommended to ensure that nursing students—who will one day care for patients with HIV/AIDS—possess sufficient knowledge and treat patients with empathy and professionalism.

The study results showed that most respondents exhibited moderate levels of stigma, indicating that students did not express overtly negative or extreme stigma. Numerous studies have explored the stigma nursing students harbor toward people living with HIV/AIDS (PLWHA). Study by Zolfegharzade et al found that many nursing students displayed discriminatory behaviors and fear of contracting the disease when caring for these patients (14). Similarly, Bonacaro et al reported that although students generally showed positive attitudes, many still held misconceptions and concerns regarding HIV (13). Studies by Fente et al and Suba both identified negative attitudes and discomfort among nursing students, despite adequate knowledge of the disease (15) (16). These findings highlight the urgent need for interventions aimed at addressing stigma and correcting misconceptions in nursing education.

Stigma among nursing students toward PLWHA remains a significant issue, particularly for those who fall into the moderate stigma category (17). This stigma can directly affect the quality of care provided, and therefore must be addressed. Developing a strong professional identity, building clinical competencies, and implementing comprehensive nursing care planning in clinical settings may help address this problem (18). Moreover, hospitals must ensure that all patients, including PLWHA, have their rights respected and fulfilled (19).

According to the researcher, the high proportion of students in the moderate stigma category may be influenced by their age—most respondents were 19 years old, an age still considered part of adolescence. At this stage, individuals are more susceptible to peer influence. Although many respondents had received information about HIV/AIDS, it did not necessarily translate into positive attitudes toward PLWHA. Therefore, proper education for nursing students is crucial to ensure that individuals with HIV/AIDS receive the same rights and quality of care as any other patient, free from discrimination.

The findings of this study revealed a significant relationship between nursing students' knowledge of HIV/AIDS and their level of stigma toward PLWHA. Most respondents demonstrated moderate knowledge and moderate stigma. Various studies have investigated the link between knowledge and stigma toward individuals living with HIV. Study by Alemi et al found that accurate knowledge of HIV transmission correlated with lower stigma among community leaders in Afghanistan, though this knowledge had little effect on stigma within families (20). Study by Chung et al further emphasized that knowledge is associated with reduced stigma, particularly among those with low self-efficacy in preventing sexually transmitted infections (21). Studies by Olapebga and Schleicher et al both affirmed that knowledge plays a critical role in reducing stigma, with Olapegba also identifying empathy and personal

experiences as important factors (22) (23).

Schleicher et al, in a study on African-American church communities, found that higher levels of religiosity were associated with lower HIV knowledge and higher stigma. These findings collectively reinforce the role of knowledge in reducing stigma, particularly when combined with efforts to dispel misconceptions and enhance self-efficacy (23).

Study by Situmeang et al found that education level, place of residence, exposure to mass media, and inclusion of HIV education in schools were significantly associated with stigma against PLWHA, while gender was not (24). In another study (Scarred, 2016), a Pearson correlation test yielded a coefficient of -0.890, indicating a very strong negative correlation between knowledge and stigma among Grade XI students at SMKN VI Surabaya. A significance value of $\alpha = 0.00$ (<0.005) with a 95% confidence interval confirmed a meaningful relationship between knowledge and stigma: the lower the knowledge, the higher the stigma.

These findings suggest that increasing knowledge about HIV/AIDS among nursing students can significantly reduce stigma and enhance the quality of care provided to PLWHA. Study by Dias et al reported that while adolescents generally had high levels of knowledge about HIV transmission, misconceptions still existed and contributed to stigma (25). Study by Pramanik et al emphasized the need for broader HIV/AIDS education and awareness, particularly among adolescent girls (26). Studies Barker et al and James et al both stressed the role of knowledge in stigma reduction— Barker et al showed that improved knowledge decreases stigma, and James et al found that HIV knowledge mediates the relationship between HIV testing history and stigma (27) (28).

The researcher concludes that sufficient knowledge can reduce stigma against PLWHA. Since the respondents in this study were first-year students who had not yet received formal coursework on HIV, many exhibited negative attitudes associating HIV with promiscuity and drug use. Therefore, increasing knowledge among nursing students is essential to ensure they provide compassionate, stigma-free care to PLWHA in the future.

LIMITATIONS

This study is limited by the number of respondents, as the sample size may not adequately represent the overall stigma held by health science students toward people living with HIV/AIDS (PLWHA).

RESEARCH ETHIC

This study adhered to ethical principles, including obtaining informed consent, ensuring anonymity, and maintaining mutual confidentiality. Ethical clearance and permission were also obtained from the Head of the Kupang City Health Office.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest related to this study.

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CONCLUSION

Most respondents demonstrated a sufficient level of knowledge, and the majority were categorized as having moderate levels of stigma. Statistical analysis revealed a significant relationship between adolescents' knowledge and their stigma toward PLWHA at the Faculty of Health Sciences, Catholic University of Santu Paulus Ruteng. As future nurses, it is essential for nursing students to enhance their knowledge in order to avoid negative stigmatization when providing care for individuals living with HIV/AIDS.

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