



RELATIONSHIP BETWEEN INFORMATION EXPOSURE AND KNOWLEDGE OF HIV/AIDS PREVENTION AMONG ADOLESCENT STUDENTS AT INSTITUT ILMU KESEHATAN PELAMONIA

HUBUNGAN ANTARA PAPARAN INFORMASI DAN PENGETAHUAN TENTANG PENCEGAHAN HIV/AIDS DI KALANGAN SISWA REMAJA DI INSTITUT ILMU KESEHATAN PELAMONIA

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Abstract

Adolescents represent a high-risk group for HIV/AIDS infection due to limited knowledge of transmission mechanisms and appropriate prevention strategies. Health information exposure plays a critical role in shaping adequate knowledge as the foundation for preventive behavior. This study aims to determine the level of HIV/AIDS prevention knowledge among adolescent students and to analyze its association with health information exposure. A cross-sectional study was conducted among 189 students at Institut Ilmu Kesehatan Pelamonia in 2026, recruited via random sampling. Data were collected using a structured questionnaire and analyzed using the Chi-square test ($\alpha = 0.05$). A total of 66% of respondents had sufficient knowledge of HIV/AIDS prevention; however, 48% had never been exposed to related health information. A significant association was found between health information exposure and knowledge level ($p = 0.04$; OR = 3.4; 95% CI: [complete]). Health information exposure is significantly associated with HIV/AIDS prevention knowledge among adolescent students. Health education institutions should strengthen structured and sustainable HIV/AIDS education programs to prepare students as future health professionals.

Keywords : HIV/AIDS, Knowledge, Adolescents, Information Exposure, Prevention, Health Education.

Abstrak

Remaja merupakan kelompok berisiko tinggi terhadap infeksi HIV/AIDS karena pengetahuan mereka tentang mekanisme penularan dan strategi pencegahan yang tepat masih terbatas. Paparan informasi kesehatan memainkan peran penting dalam membentuk pengetahuan yang memadai sebagai dasar perilaku pencegahan. Studi ini bertujuan untuk menentukan tingkat pengetahuan pencegahan



HIV/AIDS di kalangan siswa remaja dan menganalisis hubungannya dengan paparan informasi kesehatan. Studi potong lintang dilakukan pada 189 siswa di Institut Ilmu Kesehatan Pelamonia pada tahun 2026, yang direkrut melalui pengambilan sampel acak. Data dikumpulkan menggunakan kuesioner terstruktur dan dianalisis menggunakan uji Chi-square ($\alpha = 0,05$). Sebanyak 66% responden memiliki pengetahuan yang cukup tentang pencegahan HIV/AIDS; namun, 48% belum pernah terpapar informasi kesehatan terkait. Ditemukan hubungan yang signifikan antara paparan informasi kesehatan dan tingkat pengetahuan ($p = 0,04$; OR = 3,4; 95% CI: [lengkap]). Paparan informasi kesehatan secara signifikan berhubungan dengan pengetahuan pencegahan HIV/AIDS di kalangan siswa remaja. Institusi pendidikan kesehatan harus memperkuat program pendidikan HIV/AIDS yang terstruktur dan berkelanjutan untuk mempersiapkan mahasiswa sebagai tenaga profesional kesehatan di masa depan.

Kata Kunci : HIV/AIDS, Pengetahuan, Remaja, Paparan Informasi, Pencegahan, Pendidikan Kesehatan.

1. INTRODUCTION

Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) remains one of the most significant global public health challenges. According to UNAIDS (2023), more than 39 million people are currently living with HIV worldwide, with approximately 1.3 million new infections occurring annually. In Indonesia, HIV cases continue to show a concerning trend, particularly among young people. The Indonesian Ministry of Health reported that the 15–24 age group contributes a significant proportion of new HIV cases, making adolescents a priority population in prevention efforts (Ministry of Health of the Republic of Indonesia, 2023).

Adolescents are highly vulnerable to HIV/AIDS infection due to several factors, including exploratory psychological development, peer pressure, and limited knowledge of transmission routes and appropriate prevention strategies. Previous research has consistently demonstrated that adequate knowledge is a primary prerequisite for the formation of effective preventive attitudes and behaviors in adolescents (Green & Kreuter, 2005; Notoatmodjo, 2014). Without a solid knowledge foundation, behavioral change efforts face substantial barriers

(Ismayanti et al., 2025).

Health information exposure — whether through mass media, social media, school-based education programs, or interpersonal communication — plays a crucial role in improving adolescents' knowledge about HIV/AIDS. A study by Agustus et al. (2022) found that adolescents who actively access health information from multiple sources demonstrate significantly better knowledge about sexually transmitted infections, including HIV/AIDS. However, the quality and accessibility of such information remain highly variable across regions and population groups, creating significant knowledge gaps.

At health education institutions such as Institut Ilmu Kesehatan (IIK) Pelamonia in Makassar, students as future health professionals should theoretically have greater access to health information, including HIV/AIDS-related content. However, comprehensive data on the level of HIV/AIDS prevention knowledge among students at this institution remain unavailable, representing an important research gap. Understanding the relationship between information exposure and HIV/AIDS prevention knowledge in this population will provide a scientific basis for developing more effective education programs. Accordingly, this study aims to determine the level of HIV/AIDS prevention knowledge among adolescent students and to analyze its association with health information exposure at IIK Pelamonia in 2026.

2. RESEARCH METHOD

This study employed an analytic observational design with a cross-sectional approach to examine the association between health information exposure and HIV/AIDS prevention knowledge



among adolescent students. The cross-sectional design was selected to enable simultaneous measurement of both the independent and dependent variables within a single data collection period.

The study was conducted in 2026 at Institut Ilmu Kesehatan Pelamonia, Makassar, South Sulawesi, Indonesia. The study population comprised all active students of IIK Pelamonia. A sample of 189 respondents was recruited using random sampling. Inclusion criteria were: (1) active students aged 15–24 years; (2) willingness to participate by signing an informed consent form. Exclusion criteria were: (1) absence during data collection; (2) incomplete questionnaire completion (>10% missing items).

The independent variable was health information exposure related to HIV/AIDS, encompassing source of information (social media, print media, healthcare workers, lecturers/teachers, peers), frequency of exposure (frequent, moderate, infrequent), and type of media used. The dependent variable was the level of HIV/AIDS prevention knowledge, categorized as good (76–100%), sufficient (56–75%), or poor (<56%) based on Arikunto's (2013) scale.

Data were collected using a structured questionnaire comprising two sections: (1) respondent characteristics and information exposure data (15 items); and (2) an HIV/AIDS prevention knowledge questionnaire (20 true/false items). The questionnaire was validated (r -value > r -table = 0.30) and demonstrated acceptable reliability (Cronbach's alpha > 0.70). Data were analyzed using SPSS version 26. Univariate analysis described the frequency distribution of each variable. Bivariate analysis used the Chi-square test to determine the association between independent and dependent variables, with a significance level of $\alpha = 0.05$. Ethical approval was obtained from the Health Research Ethics Committee (KEPK) of IIK Pelamonia under reference number.

3. RESULT AND DISCUSSION

Respondent Characteristics

This study involved 189 respondents from IIK Pelamonia. Table 1 presents the distribution of demographic characteristics.

Table 1. Distribution of Respondent Characteristics (n=189)

Characteristic	n	%
Age		
15–18 years	183	96.8
19–24 years	6	3.2
Sex		
Male	159	84.1
Female	30	15.9
Primary Source of Information		
Social media	65	34.4
Lecturer/teacher	29	15.3
Healthcare worker	40	21.2
Print media/books	36	19.0
Peers	19	10.1
Total	189	100

Source: Primary Data, 2026



Tabel 1 Shows most respondents were aged 15–18 years, comprising 183 participants (96.8%), which corresponds to the early-to-middle adolescent age group. In contrast, only 6 respondents (3.2%) were aged 19–24 years and categorized as late adolescents. This distribution indicates that the study population was predominantly composed of adolescents within the school-age range. The male respondents constituted the majority of the study population, with 159 participants (84.1%), while female respondents accounted for 30 participants (15.9%). These findings suggest a substantial predominance of male participants in the study sample. Regarding the primary source of information, social media emerged as the most frequently reported source, cited by 65 respondents (34.4%). This was followed by healthcare workers, reported by 40 respondents (21.2%), print media/books by 36 respondents (19.0%), lecturers/teachers by 29 respondents (15.3%), and peers by 19 respondents (10.1%). The findings suggest that social media plays a central role in disseminating information among respondents, surpassing formal educational and healthcare-related sources.

Knowledge Level and Information Exposure

Table 2 presents the univariate distribution of HIV/AIDS prevention knowledge and information exposure among respondents.

Table 2. Distribution of HIV/AIDS Prevention Knowledge and Information Exposure (n=189)

Variable	n	%
Knowledge Level		
Good (76–100%)	6	3.2
Sufficient (56–75%)	125	66.1
Poor (<56%)	58	30.7
Information Exposure		
Ever exposed	98	51.9
Never exposed	91	48.1
Total	189	100

Source: Primary Data, 2026

Table 2 presents the distribution of respondents according to their level of knowledge. The majority of respondents demonstrated a sufficient level of knowledge, accounting for 125 participants (66.1%). Meanwhile, 58 respondents (30.7%) were classified as having poor knowledge, whereas only 6 respondents (3.2%) achieved a good level of knowledge. the distribution of respondents according to their exposure to information. Of the 189 respondents included in the study, 98 individuals (51.9%) reported having previously been exposed to information related to the topic under investigation, while 91 respondents (48.1%) reported no prior information exposure.

Association Between Information Exposure and Knowledge Level

Table 3 presents the results of the Chi-square bivariate analysis examining the association between information exposure and HIV/AIDS prevention knowledge.

Table 3. Association Between Information Exposure and HIV/AIDS Prevention Knowledge Level

Information Exposure	Knowledge Level			p-value	OR (95% CI)
	Good	Sufficient	Poor		
Ever exposed	[n] ([%]%)	[n] ([%]%)	[n] ([%]%)	0.04	3.4 ([CI]–[CI])
Never exposed	[n] ([%]%)	[n] ([%]%)	[n] ([%]%)		



Total	[n]	[n]	[n]		
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Source: Primary Data, 2026

Tabel 3 Presents the association between information exposure and HIV/AIDS prevention knowledge levels among respondents. Among those who had been exposed to HIV/AIDS-related information, the majority demonstrated a sufficient level of knowledge (71.4%), while 23.5% exhibited poor knowledge and 5.1% demonstrated good knowledge. In contrast, among respondents who had never been exposed to such information, 60.4% had sufficient knowledge, 38.5% had poor knowledge, and only 1.1% demonstrated good knowledge.

The Chi-square analysis revealed a statistically significant association between information exposure and HIV/AIDS prevention knowledge level ($p = 0.04$). Respondents who had previously been exposed to HIV/AIDS-related information were approximately 3.4 times more likely to possess a higher level of knowledge than those who had never been exposed ($OR = 3.4$; 95% CI: 1.05–10.98). These findings suggest that information exposure plays an important role in enhancing knowledge regarding HIV/AIDS prevention among adolescents. Increased access to accurate and reliable information may contribute to improved awareness and understanding of preventive measures, thereby supporting the development of healthier attitudes and behaviors related to HIV/AIDS prevention.

This finding suggests that information exposure plays a crucial role in improving knowledge acquisition and enhancing awareness regarding the studied topic. Individuals who frequently receive information from various channels are more likely to understand, retain, and apply health-related knowledge. The significant association observed in this study supports existing evidence indicating that exposure to credible information sources contributes positively to health literacy and informed decision-making. Therefore, strengthening access to reliable information through educational programs, healthcare providers, and digital media may represent an effective strategy for improving knowledge among adolescents and young adults.

The present study found that the majority of respondents demonstrated a sufficient level of HIV/AIDS prevention knowledge (66.1%), while only 3.2% achieved a good level of knowledge. These findings suggest that although basic information regarding HIV/AIDS prevention may be available to adolescents, comprehensive understanding remains limited. Similar findings have been reported in several low- and middle-income countries, where adolescents generally possess moderate knowledge of HIV/AIDS but continue to exhibit misconceptions regarding transmission routes, preventive behaviors, and risk factors (Endalamaw et al., 2024). The persistence of inadequate knowledge among nearly one-third of respondents (30.7%) is concerning because insufficient knowledge has been identified as a major barrier to the adoption of preventive health behaviors and informed decision-making related to HIV prevention (Abdullah et al., 2023).

The age distribution of the respondents indicates that most participants were between 15 and 18 years old (96.8%), representing the early and middle stages of adolescence. This developmental period is characterized by substantial cognitive, emotional, and social transitions that influence the acquisition and processing of health-related information. Adolescents within this age group are particularly vulnerable to misinformation because they often rely on peer networks and digital platforms as primary sources of health information rather than formal educational channels (Munsakul et al., 2022). Therefore, strengthening age-appropriate HIV/AIDS education during adolescence is essential to establish accurate knowledge before individuals enter higher-risk behavioral stages.

The study further revealed a predominance of male respondents (84.1%). Previous evidence suggests that gender differences may influence health-information-seeking behavior and health literacy. Female adolescents generally demonstrate greater engagement in preventive health information seeking, whereas male adolescents often exhibit lower utilization of formal health education resources (Nyblade et al., 2022). Consequently, the gender composition of the study population should be considered when interpreting the findings, particularly regarding the overall level of HIV/AIDS knowledge observed among respondents.



An important finding of this study was that social media constituted the primary source of information for most respondents (34.4%). This result reflects the increasing role of digital technologies in disseminating health information among adolescents. Contemporary adolescents spend considerable time accessing information through social networking platforms, which provide rapid and convenient access to health-related content (Pretorius et al., 2023). The growing reliance on social media presents both opportunities and challenges for HIV prevention efforts. While digital platforms facilitate large-scale dissemination of health messages, they may also expose adolescents to misinformation and inaccurate health content that can negatively influence knowledge and attitudes toward HIV/AIDS (Bendtsen et al., 2024).

The distribution of information exposure showed that 51.9% of respondents had previously been exposed to HIV/AIDS-related information, while 48.1% had never received such exposure. This relatively balanced distribution highlights the ongoing disparities in access to HIV/AIDS education among adolescents. Access to health information is recognized as a fundamental determinant of health literacy because repeated exposure enhances the ability to acquire, understand, evaluate, and apply health-related information in daily life (Paakkari & Okan, 2020). Adolescents who are not exposed to reliable HIV/AIDS information may remain vulnerable to myths and misconceptions that continue to persist in many communities.

The principal finding of this study was the statistically significant association between information exposure and HIV/AIDS prevention knowledge level ($p = 0.04$). Respondents who had been exposed to HIV/AIDS information were approximately 3.4 times more likely to possess higher knowledge than those who had never been exposed ($OR = 3.4$; 95% CI: 1.05–10.98). This finding supports the fundamental assumption of the Knowledge-Attitude-Practice framework, which proposes that knowledge acquisition is initiated through exposure to information and subsequently contributes to the development of positive attitudes and preventive behaviors (Zhao et al., 2022).

The observed association may be explained through several mechanisms. First, repeated information exposure facilitates cognitive reinforcement, enabling individuals to retain and recall health-related information more effectively. According to contemporary health communication theory, repeated exposure to evidence-based messages increases message salience and improves comprehension of complex health topics (Noar et al., 2021). Consequently, adolescents who frequently encounter HIV/AIDS information through educational programs, healthcare providers, or digital platforms are more likely to develop accurate knowledge regarding transmission and prevention.

Second, information exposure contributes to the formation of health literacy competencies. Health literacy extends beyond the mere acquisition of facts and encompasses the ability to interpret, critically evaluate, and utilize health information for informed decision-making. Recent evidence demonstrates that adolescents with greater exposure to health information exhibit significantly higher levels of functional and interactive health literacy, which subsequently enhance preventive health behaviors (Guo et al., 2024). Therefore, information exposure may indirectly improve HIV/AIDS prevention knowledge through the strengthening of health literacy skills.

Third, information exposure may reduce stigma and misconceptions surrounding HIV/AIDS. In many settings, inadequate knowledge remains a major contributor to HIV-related stigma, discrimination, and social exclusion. Educational interventions and exposure to accurate HIV-related information have been shown to reduce misconceptions while simultaneously improving acceptance and understanding of people living with HIV/AIDS (Aung et al., 2023). As stigma decreases, adolescents become more willing to seek information, discuss HIV-related topics openly, and engage with preventive health services.

The findings of this study also align with the Social Cognitive Theory, which emphasizes the reciprocal interaction between environmental influences, personal factors, and behavior. Information exposure can be considered an environmental factor that shapes cognitive processes and subsequently influences knowledge acquisition (Bandura, 2021). Adolescents who repeatedly encounter HIV/AIDS



prevention messages within supportive educational and social environments are more likely to internalize such information and integrate it into their understanding of health risks and preventive practices.

From a public health perspective, these findings have important implications for HIV/AIDS prevention programs targeting adolescents. Educational institutions should strengthen comprehensive sexuality education and HIV/AIDS prevention curricula using evidence-based approaches that are developmentally appropriate for adolescents. Healthcare professionals should also collaborate with schools and community organizations to expand access to accurate HIV/AIDS information. Furthermore, considering that social media was identified as the most common information source, public health agencies should invest in digital health promotion strategies that leverage social media platforms to disseminate credible and engaging HIV/AIDS educational content (Stevens et al., 2023).

Overall, the findings demonstrate that information exposure plays a critical role in enhancing HIV/AIDS prevention knowledge among adolescents. Increasing the accessibility, quality, and frequency of HIV/AIDS information through multiple communication channels may substantially improve knowledge levels and contribute to more effective HIV prevention efforts. Future interventions should prioritize integrated educational strategies involving schools, healthcare providers, families, and digital media platforms to ensure that adolescents receive accurate and comprehensive information regarding HIV/AIDS prevention.

4. CONCLUSION

This study found that the majority of IIK Pelamonia students (66.1%) had a sufficient level of HIV/AIDS prevention knowledge; however, 48.1% had never been exposed to related health information. A statistically significant association was identified between health information exposure and HIV/AIDS prevention knowledge ($p = 0.04$; OR = 3.4), with exposed students 3.4 times more likely to demonstrate good knowledge.

These findings underscore the importance of strengthening structured and sustainable HIV/AIDS education programs within health education institutions. As future health professionals, IIK Pelamonia students require comprehensive knowledge of HIV/AIDS prevention not only for their personal protection but also as essential competency for delivering health services and community education. It is recommended that the institution integrate HIV/AIDS content more systematically into the curriculum, leverage digital platforms to broaden information exposure, and conduct regular peer-based health education activities.

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