



**HIV/AIDS PREVENTION THROUGH POCKETBOOK TO INCREASE KNOWLEDGE AND ATTITUDES AMONG ADOLESCENTS**

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**ABSTRACT**

Adolescent reproductive health is a health condition that concerns to reproductive system, functions, and processes owned by adolescents. HIV attacks the immune system then AIDS is a symptom of reduced self-defense caused by the entry of HIV. Objective: to determine the effect of communication, information, and education methods using pocketbooks to increase adolescents' knowledge and attitudes about health as a preventive effort for HIV/AIDS at SMA Negeri 4 Semarang. Method: This quantitative research used the quasi-experimental method with one group pre-post test design. The sampling technique was a total sampling of 52 students. The instrument used was a questionnaire measuring the knowledge and attitude of adolescents. Results: statistical tests using the Wilcoxon Test with a Paired T-test. The majority of those aged 15-18 years (69%) and dominated by women (52%) showed that before the intervention with education using pocketbook, the level of knowledge was good and sufficient at 50% each. After the intervention, there was an increase in good knowledge to 73.1%. Before the intervention, the majority of respondents had a good attitude of 65.4% but after the intervention, there was an increase to 73%. Bivariate analysis showed the effect of pocketbook media on increasing knowledge and attitudes of adolescents about HIV/AIDS with a p-value of 0.116 and 0.023, respectively. Conclusions: Using pocketbooks significantly improves adolescents' knowledge and attitudes regarding HIV/AIDS, highlighting their effectiveness in conveying health information.

Keywords: adolescents; health communication; health education; HIV/AIDS; pocket book

**How to cite (in APA style)**

Fajrin, R., Kurniawati, Y. T., Loreнна, M., & Setianingsih, A. (2024). HIV/AIDS Prevention through Pocketbook to Increase Knowledge and Attitudes Among Adolescents. *Indonesian Journal of Global Health Research*, 6(S6), 1307-1314. <https://doi.org/10.37287/ijghr.v6iS6.4899>.

**INTRODUCTION**

Adolescence is a transition period from childhood to adulthood. The process of reaching adulthood is usually marked by changes in both physical and psychological aspects. Changes in physical aspects occur quickly, and drastically and culminate in the reproductive organs. Reproductive organs require special care. Good knowledge and care are determining factors in maintaining reproductive health (Phongluxa et al., 2020; Pradnyandari et al., 2019). Adolescent reproductive health refers to the overall well-being of the reproductive system, function, and processes experienced by adolescents. It is crucial to provide special attention to adolescents as they are an integral part of the population (Pradnyandari et al., 2019). According to the World Health Organization (WHO), reproductive health refers to a state of physical, mental, and social well-being to the reproductive system. It is not merely the absence of disease or disability; rather, it encompasses all aspects connected to the functions and processes of reproduction (Marlina et al., 2018). For adolescents, maintaining healthy reproductive practices is crucial, as this is when their reproductive organs begin to develop and become active (Meidiastuti et al., 2022)

HIV attacks the immune system, leading to decreased immunity and increased susceptibility to opportunistic infections. Acquired Immune Deficiency Syndrome (AIDS) is a set of symptoms resulting from this weakened immune response (Dinkes Jateng, 2021). While opportunistic infections are usually not dangerous, they can be fatal for people living with

HIV/AIDS (PLWHA) due to their compromised immunity (P2P Kemenkes RI, 2017). Globally, Africa has the highest number of HIV/AIDS cases at 25.7 million, followed by Southeast Asia with 3.8 million and the Americas with 3.5 million. To address the high incidence in Southeast Asia, Indonesia needs to enhance awareness of HIV/AIDS transmission and infection (Widiastuti & Fibriana, 2022) Indonesia faces a complex HIV/AIDS epidemic, characterized by a wide distribution and a large population (Kemenkes RI, 2020). As of September 2020, the epidemic remained concentrated among specific populations across 514 districts and cities in all provinces. According to the Ministry of Health's report on HIV/AIDS development, a total of 409,857 HIV cases and 127,873 AIDS cases have been reported cumulatively (Kemenkes, 2021)

Central Java Province ranks fifth in terms of the highest number of HIV and AIDS cases in Indonesia, following DKI Jakarta, East Java, Papua, and West Java. According to the Central Java Health Profile, the number of HIV cases decreased from 2,749 in 2020 to 2,708 in 2021. A higher prevalence of HIV was observed in men, with 66.4% of cases compared to 33.6% in women. The majority of HIV cases in Central Java were found in the 25-49 age group. Similarly, the number of AIDS cases decreased from 1,549 in 2020 to 835 in 2021. Among AIDS sufferers, men represented 65.6% of the cases while women accounted for 34.4%. The highest proportion of AIDS cases for both genders was observed in the 30-39 age group (Dinkes Jateng, 2021) Efforts to prevent and control HIV/AIDS in Indonesia are undertaken by both the government and the community, supported by various funding sources from local governments and community initiatives (Kemenkes, 2020). Comprehensive service approaches involve promotion and prevention efforts, as well as establishing a supportive program environment for treatment and care services. These efforts contribute to strengthening the health system at the facility, regional, and national levels (Kemenkes, 2023).

The use of media for teaching adolescent reproductive health in textbooks, modules, and learning materials is still limited. The large size, weight, and lengthy sentences often deter students from engaging with this material. To enhance students' understanding of topics related to reproductive health and early marriage, a practical resource is needed (Yana et al., 2024). One of the practical resources such as a pocketbook. A pocketbook should be compact enough to carry and read anywhere, with content that is easy to understand (Chairani, 2022). Additionally, an attractive design complemented by illustrations and color can significantly improve students' reading experience. Pocketbook health promotion media positively influences knowledge about adolescent reproductive health at MAN 1 Blitar City (Wulansari et al., 2021). This study raises the question of whether Information, Education, and Communication (IEC) through pocketbook media can effectively increase adolescents' knowledge and attitudes about health, particularly in efforts to prevent HIV/AIDS. This can be achieved by providing health education on various topics, including reproductive health maintenance, adolescent development during puberty, the impacts of pornography, unwanted pregnancies and abortions, and information about HIV/AIDS and sexually transmitted infections. Eventually, this study aim is to identify characteristics of adolescents about HIV/AIDS knowledge and attitude and then assess the impact of pocketbook media on adolescents' knowledge and attitudes about HIV/AIDS.

## **METHOD**

This study employed a quantitative approach using a one-group pretest-posttest design. A single group of 52 female students from Class XI at SMA Negeri 4 Semarang received treatment after a pretest to assess initial conditions. This design allows for a comparison of results before and after the treatment, enhancing accuracy (Anggreni, 2022). Data was

collected using a questionnaire to measure the adolescents' knowledge and attitudes, following specific sampling criteria. In this study, the researcher will conduct a validity test of the questionnaire instrument and the pocketbook media used for expert lecturers in the field of HIV/AIDS and expert lecturers in the field of questionnaire instrument validity test and conduct an expert test of the learning pocketbook media that will be used for expert lecturers in the field of health promotion. This questionnaire has a reliability value with a Cronbach Alpha of 0.8.

## RESULT

Table 1.  
Characteristics of Respondents

Factors	f (%)
Age	
early adolescence (12-15 years old)	7 (13)
middle adolescence (15-18 years old)	36 (69)
late adolescence (18-21 years old)	9 (17)
Gender	
male	25 (48)
female	27 (52)
Total	52 (100)

As shown in Table (1), from 52 respondents can be seen that most of the respondents' ages are Middle Adolescents (15-18 years) as many as 36 (69%) and the gender with the largest number is female at 27 (52%).

Table 2.  
Distribution of Knowledge Before and After Education with Pocket Book

Knowledge level	Pre-test	Post-test
	f (%)	f (%)
Good	26 (50)	38 (73.1)
Moderate	26 (50)	14 (26.9)
Poor	0 (0)	0 (0)

Based on Table (2), as many as 52 respondents before the intervention with pocketbook media education showed that most respondents had a good and sufficient level of knowledge, namely 50%. After being given an educational intervention with pocketbook media, it showed that there was an increase in knowledge where respondents who had a good level of knowledge were 38 respondents (73.1%).

Table 3.  
Distribution of Attitudes Before and After Education with Pocket Book

Attitude level	Pre-test	Post-test
	f (%)	f (%)
Good	47 (65.4)	38 (73.0)
Moderate	5 (32.7)	14 (27.0)
Poor	0 (0)	0 (0)

According to Table (3), among the 52 respondents surveyed before receiving education through pocket book, 65.4% demonstrated a good attitude. After the educational intervention using pocket book media, there was a notable decrease in the number of respondents with a good attitude, as only 38 respondents (73.0%) maintained that positive outlook.

Table 4.  
Differences in Adolescent Knowledge about HIV/AIDS Before and After Being Given Education Using Pocket Book

Knowledge variables	N	Positive Ranks	Negative Ranks	Ties	P-value
Pre-test	52	33	14	5	0.116
Post-test					

Based on the T-Test, there were changes in values before and after the intervention. Positive Ranks with a value of 33 means that 33 respondents experienced an increase in value from pre-test to post-test, Negative Ranks with a value of 14 means that 14 respondents had lower post-test values than the pre-test values and Ties with a value of 5 means that there were 5 samples that had the same pre-test and post-test values. The p-value obtained based on the T-Test was 0.116 (p-value > 0.05). This shows the influence of pocketbook media on adolescent knowledge about HIV/AIDS. Although the p-value > 0.05, the positive results in 33 respondents indicate an important practical influence of the use of pocketbooks as a medium for counseling. This study can lead to recommendations for improving media or delivery methods, such as adjusting content to be more interesting and relevant to adolescents, or using a multimedia approach to support information delivery.

Table 5.  
Differences in Adolescent Attitudes about HIV/AIDS

Attitude variables	N	Positive Ranks	Negative Ranks	Ties	P-value
Pre-test	52	17	27	8	0.023
Post-test					

According to the T-test results, we observed value changes before and after the intervention. The Positive Ranks value of 17 indicates that 17 respondents experienced an increase in their scores from the pre-test to the post-test. Conversely, the Negative Ranks value of 27 signifies that 27 respondents had lower post-test scores compared to their pre-test scores. Additionally, there were 8 cases classified as Ties, where the pre-test and post-test scores remained the same. The p-value obtained from the T-Test is 0.023 (p-value < 0.05), which demonstrates that pocketbook significantly influences adolescents' knowledge about HIV/AIDS.

## DISCUSSION

According to data from the study titled "Communication, Information, and Education (IEC) with Pocketbook on Increasing Knowledge and Attitudes of Adolescents About Health as an Effort to Prevent HIV/AIDS at SMA Negeri 04 Semarang," the majority of respondents are middle adolescents aged 15-18 years, totaling 36 individuals, or 69% of the sample. This indicates that this age group is crucial for the IEC program, as they are in a key developmental phase where their knowledge and attitudes toward health can be effectively shaped (Sawyer & Azzopardi, 2018). The early adolescent group (ages 12-15) comprises 7 individuals (13%), while the late adolescent group (ages 18-21) includes 9 individuals (17%). Although these groups have fewer participants than middle adolescents, they still play an important role in HIV/AIDS prevention efforts. Early adolescents are transitioning to more mature phases of development, and the information provided can better prepare them for this change. Meanwhile, late adolescents are on the brink of young adulthood, where their health attitudes and behaviors become more established, influencing their long-term decisions.

The characteristics of respondents in this study are seen from the age variable, where most respondents are aged 15-18 years. Age is a factor that influences a person's knowledge. A person with sufficient age will have a good mindset and experience so that their knowledge will improve with age. In this study, the distribution of respondents' gender included 25 males (48%) and 27 females (52%). This data indicates a fairly balanced representation between the

genders, which is essential to ensure that Information, Education, and Communication (IEC) programs can effectively reach and address the needs of both groups. The slightly higher number of females may reflect a greater level of participation or a heightened awareness of health issues among female adolescents (Rahmawati et al., 2020; Wanira et al., 2018). This gender balance is crucial, as males and females have different needs and perspectives regarding health and HIV/AIDS risks. Therefore, IEC programs must consider these differences to ensure that the messages conveyed are relevant and effective for everyone (Germaine et al., 2021; Udoudom et al., 2023). Pocketbooks used as IEC media are expected to provide appropriate and useful information that can enhance knowledge and foster positive attitudes toward HIV/AIDS prevention efforts among adolescents at SMA Negeri 04 Semarang.

As one gets older, one's mindset and comprehension will develop, so that the knowledge gained will also increase. This result is in line with the previous research which states that age affects one's comprehension and mindset (Liu et al., 2024). The older one gets, the more one's comprehension and mindset develop, so that the knowledge gained will also increase (Budiyati et al., 2022). Based on the analysis results presented in Table 4, there were notable changes in adolescents' knowledge about HIV/AIDS before and after they received education through pocketbooks. Out of 52 respondents, 33 showed an increase in knowledge (Positive Ranks), 14 experienced a decrease in knowledge (Negative Ranks), and 5 did not have any change in their knowledge (Ties). The p-value of 0.116 indicates that this difference is not statistically significant. However, the number of respondents who experienced an increase in knowledge was greater than those who experienced a decrease, suggesting a positive effect of using pocketbooks. The use of pocketbooks appears to have effectively increased the knowledge of most respondents. This indicates that pocketbooks can be a valuable tool for conveying health information to adolescents (Sugiyarto et al., 2023). The increase in knowledge is crucial for HIV/AIDS prevention efforts, as a good understanding of the topic is the first step in developing healthy attitudes and behaviors. Although the results are not statistically significant, they are still meaningful in the context of adolescent health education. Further research with a larger sample size may be necessary to obtain more conclusive results. Knowledge is derived from a person's perception of an object, which is typically gained through personal experience or information from others. One effective way to provide information to teenagers is by encouraging them to read pocketbooks. Knowledge is acquired through the human senses, including sight, hearing, smell, taste, and touch (Notoatmodjo, 2014)

Research indicates that students' knowledge, which was initially low, improves significantly after they receive information. Health promotion media effectively increases adolescents' knowledge (Murtiyarini et al., 2017). Additionally, knowledge will be enhanced after using a pocketbook (Astuti et al., 2020). Then, in this study revealed that respondents exhibited enhanced knowledge about HIV/AIDS after being provided with a pocketbook, highlighting the positive impact of such materials on their understanding. Pocket books serve as a medium for delivering health messages through text and images, tailored to the audience's conditions and needs. This format allows for clear and detailed communication of messages. In the realm of education and research, the effectiveness of pocketbooks can be compared to other technologies in fostering thinking, institutional development, management, and learning applications. The results in Table 5 show a significant change in adolescent attitudes toward HIV/AIDS after education with pocketbooks, indicated by a p-value of 0.023. Of the 52 respondents, 17 had increased positive attitudes, while 27 had decreased attitudes, and 8 showed no change. This suggests that pocketbook education effectively enhances adolescents' knowledge and attitudes about HIV/AIDS. Such resources are easier to understand and

remember, helping prepare them to address HIV/AIDS-related issues. This aligns with previous studies that support the effectiveness of pocketbooks in promoting positive attitudes among adolescents.

## **CONCLUSION**

The majority of respondents in the study were middle adolescents aged 15-18 years, making up 69% of the total. This age group is crucial for health education programs. Pocketbooks, as a form of Information, Education, and Communication (IEC) media, are expected to enhance knowledge and positive attitudes toward HIV/AIDS prevention among adolescents at SMA Negeri 04 Semarang. Research indicates that using pocketbooks significantly improves adolescents' knowledge and attitudes regarding HIV/AIDS, highlighting their effectiveness in conveying health information.

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