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The Effect of E-Module *TRIAD Kesehatan Reproduksi Remaja* (KRR) on HIV Self-Efficacy in Preventing HIV Vulnerable Behaviour

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Abstract

Human Immunodeficiency Virus (HIV) infection is one of the three threats to reproductive health in adolescents (*TRIAD Kesehatan Reproduksi Remaja*). In order to reduce this risk to adolescents, a strategy is needed to prevent this problem by providing education through electronic modules or e-modules. Education with e-modules is expected to increase adolescent self-efficacy in preventing HIV risk behaviour. This study purpose was to determine the effect of education through e-module on changes in self-efficacy to prevent HIV risk behaviour in adolescents. This quantitative study used a single group pretest-posttest research design. The sample in this study were VIII grade junior high school students at one of the private schools in Bandung Regency which consisted of several classes by providing education using e-modules. There were 40 students involved in this research. Sampling was done using non-probability sampling using convenience sampling technique. The intervention given to students was education about the dangers of HIV and risk behaviours using E-Module of *TRIAD Kesehatan Reproduksi Remaja*. Meanwhile, the instrument used in the study was the self-efficacy assessment instrument for the prevention of HIV-risk behaviour. The results of the study found that there was a change in the scores of self-efficacy in the prevention of HIV risk behaviour in students, before and after education through e-modules. Therefore, it can be concluded that e-module is effective in increasing adolescent self-efficacy. The results of this study become recommendations for academics and practitioners who are involved in the health sector for adolescents to implement an intervention to prevent risky behaviours that threaten adolescents, especially in relation to HIV/AIDS problems.

e-module, HIV, risk behaviour, self-efficacy, students

Keywords:

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INTRODUCTION

Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) is a risk in adolescent problems. HIV/AIDS is also part of the three dangers that can threaten reproductive health in adolescents or *TRIAD Kesehatan Reproduksi Remaja* (TRIAD KRR), apart from involvement in drug use and sexuality issues. Adolescents are the age group most vulnerable to HIV infection. The incidence of HIV among adolescents in Indonesia, namely the 15-19 age group is quite high. In 2018, the incidence of HIV infection was recorded as 1,434 cases. Meanwhile, 261 new cases emerged in early 2019 (Kementerian Kesehatan RI, 2019).



The high risk of HIV infection in adolescents comes from daily interactions and also knowledge about HIV/AIDS. The World Health Organization in 2017, noted that young people who have good knowledge of HIV disease are 34% of the world's population. In addition, as many as 26% of the population of young women and 33% of boys who know the transmission mechanism of HIV / AIDS infection (World Health Organizations, 2017).

Increasing one's knowledge about a disease needs to be done as an effort to prevent the occurrence of the disease. However, self-confidence in dealing with situations where disease transmission is likely is more important. Adolescents can make efforts to prevent HIV infection if they have accurate knowledge about HIV. In addition, this knowledge also needs to be supported by self-confidence to prevent HIV infection. Individuals with high self-efficacy can act and make choices by utilizing all the knowledge and abilities they have. Conversely, individuals with poor self-efficacy, less confident and also have a pessimistic in dealing with problems. Both knowledge and self-efficacy are complementary components and have an impact on a person's behaviour (Depp et al., 2005).

The behaviour of adolescents at risk for HIV infection may be a sexual relationship before marriage, see video pornography, drug use, and the use of tattoo needles (Wilandika, 2019). These behaviours are also included in the TRIAD KRR problem. Therefore, these risky behaviours that may be done by adolescents need to be handled properly. Strategies or efforts to develop self-efficacy in strengthening HIV prevention prone behaviour that begins first with an increase in HIV-related knowledge itself. The use of e-modules can improve one's knowledge so as to obtain a good learning outcome (Astalini et al., 2019).

Efforts to strengthen the self-efficacy of adolescents in preventing their involvement in activities at risk of HIV infection can be done by changing knowledge through health education. Health education can be carried out with a variety of approaches, such as approaches to individuals directly or through the family environment, society and even through the use of technology (Wilandika, 2017b). Meanwhile, the strategies used to implement health education can be facilitated through the use of e-modules or interactive digital modules.

The high incidence of HIV/AIDS among adolescents is a very worrying phenomenon. Therefore, a prevention strategy is in the form of strengthening self-confidence in avoiding various HIV risk behaviours. Self-confidence or self-efficacy can be increased by increasing knowledge through various means such as providing education with e-modules or digital modules. There are no studies that have looked at the impact of the application of e-modules on changes in self-efficacy in preventing HIV infection-prone behaviour. Thus, this study aims to determine the effect of the E-Module of TRIAD Kesehatan Reproduksi Remaja on changes in self-efficacy in adolescent groups regarding the prevention of HIV-prone behaviour. The question of this study is how the influence of E-module TRIAD KRR on self-efficacy prevention of HIV vulnerable behavior in adolescents.

METHODS

The research design of this research uses quantitative approach through single group pre-test - post-test. A total of 40 junior high school students of class VIII were involved in this study. The junior high school student comes from a private school in Bandung Regency. Sampling was done using non-probability sampling using convenience sampling technique. The treatment given was education about the dangers of HIV, HIV risk behaviours, and prevention of HIV risk behaviours. The education was given using the E-

Module of *TRIAD Kesehatan Reproduksi Remaja*. Education through e-module is done only once to students.

Data is obtained directly from student through measurements on pre-test and post-test. The instrument used in the study was self-efficacy assessment in the prevention of HIV risk behaviour (*Penilaian Efikasi Diri dalam Pencegahan Perilaku Berisiko HIV - EDP2B-HIV*) (Wilandika, 2017a). The EDP2B-HIV instrument consists of three dimensions of self-efficacy which refer to Bandura's Self-Efficacy Theory. This dimension includes the level of difficulty of the task, the stability of beliefs, and the extent of behaviour (Bandura, 2010). Student self-efficacy was measured through 21 statement items. This assessment instrument reflects six aspects of prevention of HIV behaviour, including: (1) prevention of premarital sexual behaviour; (2) prevention of pornography; (3) prevention of drug involvement; (4) prevention of using needle tattoos; (5) the ability to discuss safe sexual relations; and (6) the ability not to ignore the partner's HIV status (Wilandika, 2017a).

Data analysis was performed on data from pre-test and post-test. Hypothesis testing using the Wilcoxon test, with a significance level of 5% (95% confidence level). However, before testing the hypothesis, the pre-test and post-test data are first tested for normality and homogeneity of the data. This study has received ethical approval Number 65/KEP/02/STIKes-AB/IV/2020 from the Research Ethics Committee of Sekolah Tinggi Ilmu Kesehatan 'Aisyiyah Bandung.

RESULTS & DISCUSSION

Results

Junior high school students in this study are members of the community who live in Bandung Regency. Most of the students (62.50%) were female. Junior high school students are in the age range of 13-14 years, where most (57.5%) are 14 years old. All junior high school students are Muslim.

Table 1. Pre-test and Post-test scores of Student's Self Efficacy

	Pre-test	Post-test
N	40	40
Mean	69.6	83.5
Median	75	82.5
Mode	73.5	89.0
Std. Deviation	2.8	1.7
Minimum	24.0	69.0
Maximum	95.0	83.5

Based on table 1 above, it is known that there is an increase in the average efficacy score of all students involved in the study. The mean self-efficacy score at the start of the measurement was 69.6 and changed to 83.5 at the end of the measurement. This shows an increase in the mean score of self-efficacy in preventing HIV risk behaviour in junior high school students after being given information through the e-module by 13.9.

Table 2. Test of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-test	.205	40	.001	.898	40	.002
Post-test	.160	40	.011	.915	40	.006

Table 3. Test of Homogeneity

	F (Levene' Statistic)	Sig.
Pre-test – Post-test	1.730	0.112

Before testing the hypothesis, this study conducted a normality and homogeneity test of the data. The results of the normality test (Table 2) found that the significance value of the Kolmogorov test for the pre-test data was 0.001 and the significance value of the post-test data was 0.011. The two significance values are smaller than .05, it can be concluded that the data group is not normally distributed. Meanwhile, based on Table 3, it can be seen that the data homogeneity significance value of .112 is greater than .05, so the data group is homogeneous.

Based on the results of the normality test, because the research data are not normally distributed, then test to determine whether there is difference in the average measurements of the pre-test and post-test study, the test is performed using non-parametric test Wilcoxon test. The test results can be seen in the following tables.

Table 4. Pre-Test and Post-Test Scores Difference of Student's Self Efficacy

	N	Mean Rank	Sum of Ranks
Negative Ranks	14	11.07	155.00
Positive Ranks	24	24.42	586.00
Ties	2	-	-
Total	40	-	-

Based on table 4 above, it is known that there are (positive ranks), between the students' self-efficacy scores at the beginning of the measurement and the end of the measurement. Where there were 24 students who showed an increase in self-efficacy scores at the end of the measurement with an average score of 24.42. Meanwhile, there were also 14 people who showed a decrease in their self-efficacy score at the end of the measurement with an average score of 11.07 (negative ranks). Besides this, it was also found that there were 2 students who had the same score at the start and end of the measurement (ties).

Table 5. Test Result of Hypothesis

	Post-test – Pre-test
Z	-3.127 ^b
Asymp. Sig. (2-tailed)	.002

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Based on Table 5 above, the results of the hypothesis analysis using the Wilcoxon test, found the Asymp value. Sig. (2-tailed) of 0.002, or less than 0.05. This indicates that there is a significant difference between the pre-test and post-test results. Thus, it is concluded that there is an effect after education through the E-Module of *TRIAD Kesehatan Reproduksi Remaja* on the self-efficacy of HIV prevention behaviour in adolescent groups.

Discussion

The involvement of adolescents in various HIV-vulnerable behaviours is one of the causes of the increasing incidence of HIV among adolescents. Various activities that are at risk of HIV are an entry point for HIV disease among adolescents. HIV susceptible behaviour can include unsafe sexual activity, promiscuity, use of illegal drugs, especially drug injectors, and the use of tattoo needles (Wilandika, 2019). In addition, the ability of adolescents to cope with negative peer pressure to engage in HIV risk behaviour is still lacking (Andrew et al., 2020). Therefore, every teenager must be able to take precautions so as not to become involved in these HIV-vulnerable behaviours.

One of the aspects that will determine the success of an adolescent in preventing HIV-prone behaviour is supported by how strong the self-efficacy for the prevention behaviour is. As explained in Bandura's theory (2010) which states that self-efficacy determines how much effort must be made to carry out an activity, how long the person can last when facing obstacles, and how tough the person is in dealing with adverse situations. Therefore, efforts to prevent HIV infection-prone behaviour can be carried out with high confidence if the individual has high self-efficacy.

However, a teenager who has high self-efficacy in preventing HIV-prone behaviours does not necessarily mean that he or she knows what is being done to prevent these HIV risk behaviours. This is because self-efficacy is an internal belief about what can be done or learned, but that does not mean knowing what to do (Schunk & Pajares, 2009). Therefore, to increase one's self-efficacy, it must also begin with strengthening information or increasing knowledge.

This study intends to determine changes in the self-efficacy of HIV-susceptible behaviour prevention in adolescents, especially junior high school students, through the provision of education with the e-module. The results of the study found that there was an effect of *TRIAD Kesehatan Reproduksi Remaja* E-Module on the level of self-efficacy of students. This is evidenced by the results of different tests on the pre-test and post-test scores which show a significance value of 0.002 which means less than .05. In addition, seen from the results of the final measurement, there was an increase in the mean score of HIV risk behaviour prevention efficacy among junior high school students after being given information through the E-Module of *TRIAD Kesehatan Reproduksi Remaja* by 13.9.

The results of this study revealed that students had confidence in the prevention of HIV risk behaviour, after obtaining information through e-modules. E-modules have an impact in increasing learning motivation. As stated by Wentzell et al. (2018) in his research on electronic-based learning found that this approach can improve students' understanding of training materials and also increase students' analytical skills and confidence. Moreover, e-modules that focus on process skills have an effect on increasing student motivation. As in one of the studies regarding the impact of e-modules on the student learning process, which found that after learning through e-modul, student motivation in learning physics science increased. This is because e-modules are considered by students as learning media that are not boring, internet-based, and interactive (Perdana et al., 2017).

On the other hand, if seen from the ease in using e-module technology, self-efficacy also plays an important role in the practice of using the technology. Where self-efficacy affects one's attitude in interpreting one's ability and openness to interact with the

technology (Brauner et al., 2010). Self-efficacy is a factor that determines one's achievement and attitude (Ata & Baran, 2011). Therefore, if students perceive that the e-module is a technology that is easy to use, then this will also have an impact on its success in using it. So that the ultimate goal of the existence of the e-module can be fully achieved.

Meskipun tujuan penelitian ini tercapai, tetapi masih terdapat keterbatasan penelitian yang ditemukan. Penelitian ini menguji efektifitas e-modul pada siswa SMP kelas VIII saja, sehingga tidak dapat digeneralisir. Dengan demikian diperlukan pengujian lebih luas untuk melihat efektifitas e-modul terhadap keseluruhan jenjang siswa SMP tersebut. Although the objectives of this study were achieved, there were still limitations in this study. This study tested the effectiveness of the e-module only in one class, so it cannot be generalized. Thus, wider examiners are needed to see the effectiveness of the e-module on the entire level of the junior high school students.

CONCLUSION

The use of e-modules as an educational medium has an impact on the self-efficacy of adolescents in preventing HIV-vulnerable behaviour. This is evidenced by the results of statistical tests which show a significance value of .002, which means that the alternative hypothesis is accepted. So it can be concluded that there is an effect of using the E-Module of TRIAD Kesehatan Reproduksi Remaja on the self-efficacy of HIV risk behaviour prevention. The E-Module of TRIAD Kesehatan Reproduksi Remaja facilitates adolescents to be able and confident in their ability to take various precautions to overcome behaviours that are vulnerable to HIV infection. This increase in self-efficacy can increase willingness and motivation so that each individual is able to recognize the various dangers or negative impacts of engaging in activities that threaten their health, especially HIV risk activities such as free sex, injecting drug use, pornography, and the use of unnecessary needle tattoos. sterile. Meanwhile, based on the results of this study can be formulated further research that is to examine how the influence of this E-Module TRIAD KRR on behavior changes prevention of the dangers of engaging in activities that threaten their health, especially HIV risk activities such as free sex, injecting drug use, pornography, and the use of unnecessary needle tattoos more broadly.

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