

The Effect of the Peer Education for Adolescent in Improving Knowledge on HIV AIDS Prevention in Sleman Regency

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Abstract— One of the sustainable development goals (SDG) in 2030 is decreasing HIV AIDS epidemic in all country. The number of HIV AIDS incidence in Sleman Regency is the highest of all regions in the Province Yogyakarta with amount 915 from 2032 case in 2018. Adolescent are the most group which is infected HIV AIDS potentially and only few of them understand the transmission of HIV AIDS. Peer education is one of the solutions on health education to prevent the transmission of HIV AIDS. The aim of this research is to find out the effect of peer education in increasing knowledge about HIV AIDS prevention by adolescent. The type of the research is quasi experimental with pre-post and post-test control group design. The samples were 76 high school students selected by purposive sampling. The intervention group receives peer education and the control group receives lecture health education. Data were collected by questionnaires. The data analysis were performed by Wilcoxon and Mann Whitney test. Pre-test and post-test knowledge of peer education and the control group showed significant difference ($p=0,000$). There is a significant difference (0,000) average score of knowledge between peer education and control group after a given intervention. There is influence of the peer education for the improvement of adolescent knowledge HIV AIDS prevention.

Keyword: Peer Education, Knowledge, HIV AIDS prevention, Adolescent

1. INTRODUCTION

HIV AIDS is one of health problems that threaten many countries around the world. The incidence of HIV AIDS is like an iceberg phenomenon which is the number of people reported is less than the actual, so it requires serious handling. Acquired Immunodeficiency Syndrome (AIDS) is symptoms of a disease caused by the HIV virus that damage the human immune system, while the Human Immunodeficiency Virus is a virus that attacks the immune system of humans and it causes AIDS. HIV infection does not cause death directly, but the effects of immune deficiency can attack patients by opportunistic infections easily¹.

World Health Organization (WHO) reported globally that 36.9 million people lived with HIV by the end of 2017 and 940,000 people died from HIV AIDS infection in 2017. An estimated 0.8% of adults aged 15-49 years throughout the world lived with HIV, although the burden of the epidemic was various between countries and regions. This had become the world's attention to the development of HIV / AIDS so that it was a target for sustainable development or Sustainable Development Goal (SDG) to stop the HIV-AIDS epidemic in the world by 2030 in all countries².

The approach to control HIV AIDS is by changing risk behavior. The limited access to information that has an impact on the low understanding of HIV AIDS is the cause of the high transmission of HIV AIDS in the age group of adolescents. Health education and counseling is a concrete effort to increase the knowledge of adolescents related to HIV AIDS. It can prevent more teenagers from being involved at risk sexual behavior and drug abuse which are the main transmission of HIV AIDS.

Peer education is one of modifications in health education which involves peer groups and selects peer educators as educators. It aims to provide and to share information and discussions within the groups. Peer education can be identified as sharing experiences and mutual learning from a group of people who have similarities such as age, gender, culture or place of residence that are effective in increasing positive knowledge, attitudes and behaviors⁵. It makes peer education more effective in

schools because schools are well organized and easy to reach target groups because legally children must be present at school and conduct evaluations.

Environmental influences are strong to determine adolescent behavior. Self-determination of adolescents in behaving is influenced by pressure from peer groups strongly. Peer groups are the main reference source for adolescents in terms of perceptions and attitudes related to lifestyle. The role of peers gives a very dominant influence on HIV-AIDS prevention measures⁶. In this regard, there is a need for research to assess the influence of peer health education to improve education in HIV AIDS prevention efforts in adolescent groups.

2. MATERIALS AND METHOD

This research was a quantitative analytic study using a quasi-experimental design with pre-post and post-test control group design. This research is conducted to measure the effect of an intervention. The populations of this research were the students at Gama High School and Angkasa High School in Sleman Regency. The sample of 76 respondents were taken by purposive sampling technique with criteria for inclusion and exclusion determined by the researcher.

The samples were divided into 2 groups. The first group were 38 students in Gama High School. The sample in this group was given an intervention with peer education by 3 peer educator students who had been trained. The second group were 38 students in Angkasa High School as controls that given an intervention with the lecture method. In the peer educator intervention group, information was provided to improve understanding of HIV AIDS related and prevention efforts, so that they could pass on the information to their peers through lectures and non-formal discussions. Meanwhile, the control group was given an understanding of HIV AIDS and prevention efforts by the researchers. The instrument used in this research is a questionnaire that has been tested for validity and reliability. The data analysis was conducted by non-parametric statistical test namely Wilcoxon and Mann Whitney test.

3. RESULTS AND DISCUSSION

This research was attended by 78 respondents consisting of 38 respondents in the intervention group with peer education and 38 respondents with the non-intervention group with lectures as control group. From 38 respondents, the intervention groups with the peer education were dominated by the age group of 17 years as many as 16 respondents (42.1%), while the control group was dominated by the age group of 16 years as many as 24 respondents (62.3%). The gender in the peer education group were dominated by men as many as 24 respondents (63.2%) while the control group were dominated by men as many as 20 respondents (52.7%). Peer education respondents were dominated by science majors as many as 22 respondents (57.9%) and the Control group was dominated with the physical science as many as 24 respondents (63.1%). Distribution of respondent characteristics is presented in table 1.

Tabel 1. Socio-Demographic Characteristics of the Study Participants

Variable	Intervention group		Control Group	
	n	%	n	%
Age				
15	9	23,7	3	7,9
16	4	10,5	24	62,3
17	16	42,1	11	28,9
18	9	23,7	0	0
Sex				
Male	24	63,2	20	52,7
Female	14	36,8	18	47,3
Specialization group				
Physical Science	22	57,9	24	63,1
Social Science	16	42,1	14	36,9

Table 2. The Influence of the Peer Education Method and Lecture Method on the Knowledge of Respondents before and After Intervention

Variable	Peer Education		p Value*	Lecture		p Value*
	Pre	Post		Pre	Post	
Knowledge						
Mean	64,84	82,24	0,000	62,08	78,71	0,000
SD	8,28	4,05		6,63	3,53	
Median	65	83		61	78	
Range	(47-81)	(65-85)		(53-75)	(71-86)	

Note : p value* = Wilcoxon test

The Wilcoxon test results from the variables with peer education intervention were obtained at $p = 0,000$. Because the value of $p < 0,05$, there were statistically significant differences in the level of knowledge and attitudes between before and after the peer education intervention. From the results of calculations, it was also found that as many as 38 respondents increased significantly the knowledge score on the peer education intervention.

The level of knowledge before non-peer education method (lecture method) obtained mean of 62.08 with score range from 53 to 75 and after the intervention of the lecture method were obtained an average of 78.71 with a score range 71 - 86. The Wilcoxon test results from the two variables with the lecture method intervention were obtained at $p = 0,00$. Because the value of $p < 0,05$, there was a statistically significant difference in the level of knowledge and attitude between before and after the intervention of the lecture method. In the lecture intervention, the knowledge score increased by 37 respondents and 1 respondent with a fixed score. The distribution of the influence of peer education and lectures could be seen in table 2.

From Table 3, it was found the differences in peer education intervention. The score of mean level was 83.18, while the median 84.5 with a minimum value of 65 and a maximum score of 86. Meanwhile, the score of the lecture intervention score was 77.37 and the median score was 78 with a maximum value of 70 and a maximum value of 86. Based on the results of the Mann-Whitney statistical test, the value of $p = 0,000$ ($p < 0,05$) means that there were significant differences in the level of education between the peer education method and the lecture method.

Table 3. Differences in Increased Knowledge of Respondents about HIV / AIDS in Peer Education and Lecture Groups

Variable	Mean	Median (Min-Max)	p value*
Knowledge			
- Peer Education	83,18	84,5 (65-86)	0,000
- Lecture	77,37	78 (70-86)	

note : P value* = Mann-Whitney test

The results of this research showed that health education with the peer education method in adolescent groups was very useful in increasing knowledge of HIV AIDS prevention efforts. In this research, it was stated that there were significant differences between knowledge scores before peer education and after peer education ($p = 0,000$). The knowledge about HIV AIDS from the intervention group increased significantly during the post-intervention period. Similarly, the Wilcoxon test result with $p = 0,000$ ($p < 0,05$) means that there were significant differences too before lectures and after lectures related to HIV AIDS. Reproductive health counseling of the lecture method for adolescents on the prevention of HIV / AIDS (ABCDE) had an effect on increasing adolescent knowledge⁹.

However, when we were compared to the number of respondents, the score of HIV AIDS knowledge in the peer education method increased more than the lecture method. In the peer education, as many as 38 respondents increased their knowledge scores related to HIV AIDS prevention efforts, while in the lecture method there were 37 respondents with increased knowledge scores and 1 respondent with a

fixed knowledge score. If a different test with Mann Whitney was conducted, the mean knowledge of the peer education method was higher than the lecture method with $p = 0,000$, which means that there was a significant difference between peer education and the lecture method. The research showed the significant differences between the lecture method and the peer education method towards increasing colleague knowledge in HIV / AIDS prevention¹⁰.

Teenagers are a transitional age who experience biological, cognitive and social changes in emotions. At this age, they begin to develop new thoughts and to find out for changes that occur in themselves, so that the teenagers interact more with their peers. With the peer education health education methodology, adolescents are more helpful to find the efforts to prevent HIV AIDS transmission because HIV AIDS is one of diseases that have no cure until now.

During the peer education process, peer educators act as the role model for members of their peers. They aim to assist young people in developing the knowledge, attitudes, and skills that are necessary for positive behavior modification through the establishment of accessible and inexpensive preventive and psychosocial support.

The goal is that they help in straightening out information related to HIV AIDS prevention from myths that effect the perception of people related to transmission and sufferers of HIV AIDS, and as a reliable source of information in group members. Then the age group can form rules and a conformity¹¹.

HIV AIDS information patterns between peer education and lecture methods. In the peer education method, the communication pattern is very flexible because it uses the language and style of speech that is used daily in the group. Submission of information related to transmission and prevention of HIV AIDS can be presented in formal conditions, such as in class and informally in daily meetings. The atmosphere of the discussion is also open so that it gives an opportunity to discuss what is considered taboo, especially sex and HIV AIDS transmission that provides interest in listening to the group. Meanwhile, the pattern of the lecture method delivered by professional staff usually seems more rigid, so that the teenagers are more closed in conveying questions and ideas related to HIV AIDS.

Health education that explained by peer members may be accepted easily in the group that were sensitive and difficult to reach with conventional methods. Peer educators have the opportunity to contact their peers in everyday social interactions so that they can strengthen the learning process, increase additional opportunities for sharing information, and become role models of expected behavior. This is in line with Medley et al., From the results of the meta-analysis, it can be concluded that peer education interventions are associated with increased HIV knowledge significantly (OR = 2.28; 95% CI = 1.88-2.75). Meta-analysis shows that peer education programs in developing countries are effective enough to improve behavior⁷. The influence of the peer educator has an impact on the attitude taking of the group. They tend to choose the same attitude with their peers, so that they are not considered foreign by their group. Health education has a positive influence on awareness about HIV / AIDS and it increases knowledge on how to transmit and to prevent HIV / AIDS¹².

4. CONCLUSION

This research shows the influence of peer education on adolescents about health education of HIV AIDS prevention efforts. There are significant differences in the mean scores on differences in knowledge between peer education methods and lecture methods, even though both methods can increase the level of knowledge about HIV AIDS before and after intervention. The suggestions for this research are collaboration between the health office and schools to innovate related to modification of health education by implementing peer education methods as well as monitoring and evaluating the health education that has been conducted.

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