

HIV/AIDS monopoly games on increasing adolescent knowledge about HIV/AIDS



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ABSTRACT

Globally AIDS is the second leading cause of death in adolescents aged 10-19 years. This study is the focus to research the development of monopoly games as a health promotion media to increase adolescent knowledge about HIV/AIDS. The objective was to determine the effect of counseling using a monopoly game of HIV/AIDS on increasing adolescent knowledge about HIV/AIDS. The study is designed with quasi-experimental research. Study design with pretest-posttest with the control group. The study samples are 40 adolescents in 11th grade of Science Class I and 11th grade of Social Class I at Muhammadiyah 5 Senior High School for treatment group as well as 40 adolescent girls in 11th grade of Science Class II and 11th grade of Social Class II at Muhammadiyah 5 Senior High School for the control group in 2019. The sampling technique uses purposive sampling. Data collection uses a questionnaire to measure knowledge. Paired sample t-test in the treatment group (p-value = 0.000) and the control group (p-value = 0.002). There is an effect on increasing knowledge between the treatment group and the control group. Independent sample t-test shows a difference with p-value = 0.000. The mean value in the treatment group is 14,563 while the mean in the control group is 3.563 (14.563 > 3.563). Using the monopoly games of HIV/AIDS further increases adolescent knowledge about HIV/AIDS.

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INTRODUCTION

HIV still a health problem in the world. According to the United Nations Program on HIV and AIDS (UNAIDS) in 2017, 36.9 million people living with HIV at the end of 2017, 2.1 million people are new cases and 1.1 million died of AIDS.¹ Globally, AIDS is the second leading cause of death in adolescents aged 10-19 years. The AIDS-related death rate among adolescents aged 15-19 years showed more than doubled since 2000, with an average of 29 new cases of infection every one hour. Girls are particularly vulnerable,

approximately 65% of the new teen infections worldwide in 2015 were women.² Based on data from the Ministry of Health in 2016, the number of new cases of HIV positive and AIDS were reported from year to year tends to increase.³ DIY ranks 9th as the province with the most HIV/AIDS sufferers.⁴

The high incidence of HIV / AIDS can be caused by a lack of public knowledge about HIV / AIDS, so they can't prevent HIV / AIDS.⁵ Based on research by Nubed, Colins Kingoum, et al, entitled *Knowledge, Attitudes and Practices Regarding HIV/AIDS Among Senior Secondary School Students in Fako Division, South West Region, Cameroon*, states that students with high knowledge about HIV / AIDS have a positive attitude towards prevention HIV.⁶ One effort to increase knowledge about HIV / AIDS is through health education. Health promotion is delivered using the right promotional method is a strategic step in the effort to improve the health of the community.⁷ A preliminary study by sharing a simple questionnaire conducted in SMA Muhammadiyah 5 Yogyakarta found that knowledge about HIV / AIDS among adolescents in class XI still low. Lack of knowledge about HIV / AIDS among respondents who have been exposed to information about HIV / AIDS may occur because of the ineffective delivery of information. Therefore, the need for innovation in health promotion media that is more fun can be done independently, and not boring.

METHOD

This research is a quasi-experimental research with a pretest-posttest control group design. The sampling technique used in this research is purposive sampling appropriate inclusion and exclusion criteria. The number of samples in this study was 80 people who were divided into a control group and the experimental group. Respondents in this study were adolescent class XI SMA Muhammadiyah 5 Yogyakarta. Data processing techniques do with editing, scoring, coding, and data entry. This research has been approved by the Health Research Ethics Committee (KEPK) Health Ministry of Health Polytechnic Yogyakarta, the number is LB.01.01 / KE-01 / VII / 247/2019

RESULT

Characteristics of the 80 respondents describe the characteristics of adolescents in class XI SMA Muhammadiyah Yogyakarta 5.

Table 1. characteristics of Respondents

characteristics		Monopoly group of HIV / AIDS		Leaflet group	
		n	%	n	%
Dad Education	Basic	8	20.0	5	12.5
	secondary	22	55.0	20	50.0
	High	10	25.0	15	37.5
Mother education	Basic	8	20.0	9	22.5
	secondary	23	57.5	17	42.5
	High	9	22.5	14	35.0
Media exposures	Media	30	75.0	32	80.0
	Non-media	20	25.0	8	20.0
	Never	0	0	0	0
	total	40		40	

Table 1 shows that of the 40 respondents in group HIV / AIDS Monopoly Games, based on the father's education with the majority of respondents have a father's last education at the secondary level by 22 (55.0%) of respondents. Based on the mother's education the majority of respondents had a mother with the latest education that is at the secondary level by 23 (57.5%) of respondents. Based on media exposure, more

respondents get information about HIV / AIDS from the media than as many as 30 respondents (75.0%) with the details as much as 4 respondents television media, counseling by 5 respondents, and of the Internet as much as 21 respondents.

In the leaflet group, based on the father's education with the majority of respondents have a father's last education is at a medium level of 20 (50.0%) of respondents. Based on the mother's education the majority of respondents had a mother with the latest education that is at the secondary level by 17 (42.5%) of respondents. Based on media exposure, more respondents get information about HIV / AIDS from the media than as many as 32 respondents (80.0%), with the details as many as 12 respondents counseling media and on the internet as much as 20 respondents.

Table 2. Distribution of Knowledge Value of Respondents Before and After Given HIV / AIDS Monopoly Game and Leaflet

		n	Rang e	Min	Max	SD
Monopoly group of HIV / AIDS	<i>pre-test</i>	40	52.5	32.5	85.0	10.87
	<i>posttest</i>	40	37.5	60.0	97.5	9.80
Leaflet group	<i>pre-test</i>	40	47.5	37.5	85.0	11.90
	<i>posttest</i>	40	45.0	42.5	87.5	12.4

Results of the analysis showed that, in the HIV/AIDS monopoly game group, the minimum score was 32.5 and the highest score on the pretest of knowledge was 85.0, while the minimum score on the post-test 60.0 and the highest score of 97.5. In the group leaflets, the minimum score on the pretest of knowledge is 37.5 and the highest score on the pretest of knowledge equal to the highest pretest score of the HIV/AIDS monopoly game group is 85.0, while the minimum score on the posttest 42.5 and the highest score of 87.5.

Table 3. Mean Differences Knowledge Improvement in HIV/AIDS Monopoly game Group and Leaflets Group

Group		mean	Mean difference of pretest and posttest	p- value	t	95% confidence interval of the difference	
						lower	upper
Monopoly group of HIV / AIDS	<i>pretest</i>	67.62	14.56	.000	- 10.61	-17 337	-11 787
	<i>posttest</i>	82.18					
Leaflet group	<i>pretest</i>	65.50	3.56	.002	-3306	5.7419	- 1.3831
	<i>posttest</i>	69.06					

Based on the above table, it can be seen that the average score data pretest and posttest HIV / AIDS monopoly game groups are 67.62 and 82.18 with an average difference of pretest and post-test at 14.56. The results of the statistical test p-value = 0.000 (p-value of <0.05). It shows that the knowledge about HIV / AIDS in the treatment group was given counseling using HIV / AIDS Monopoly game there are significant knowledge differences between before (pretest) and after (posttest) counseling using HIV / AIDS Monopoly game.

The average value of pretest and posttest groups of leaflets are 65.50 and 69.06 with an average difference of pretest and post-test at 3.56. The results of the statistical test $p\text{-value} = 0.002$ ($p\text{-value}$ of <0.05). It shows that the knowledge about HIV / AIDS in the control group was given counseling using the leaflet also contained a significant difference between prior knowledge (pretest) and after (posttest) given extension using leaflets. Thus, in both groups, there was an influence on increasing knowledge from both the HIV/AIDS Monopoly game groups and leaflet groups.

Table 4. Effect of Extension Using Monopoly Game HIV / AIDS

Group	Difference Mean Increased Knowledge	<i>p-value</i>	t	95% confidence interval of the difference	
				lower	upper
Monopoly group of HIV / AIDS	14.56	.000	-6.30	-14.47	-7527
Leaflet group	3.56				

Based on the results of two different test calculations the average data presented in the table. 4 is known that the $p\text{-value}$ was 0.000. These results showed that $p\text{-value} < 0.05$, which means H_0 rejected and H_a accepted, meaning that there are real differences in the average value of knowledge between the treatment group and the control group.

From the table. 4, the difference in the mean values obtained in the HIV / AIDS monopoly game groups 14.563 while the mean difference in the leaflets group is 3,563. The difference in mean values HIV / AIDS monopoly game groups is greater than the difference between the mean value of leaflets groups, thus it can be said that the increased knowledge of adolescents about HIV / AIDS among adolescents given extension using the game of HIV / AIDS monopoly game is higher than adolescents are given education using leaflets.

DISCUSSION

Characteristics of respondents based on the results of this research note that all respondents are adolescents XI. The characteristics of respondents in this study are based on their father's education, mother's education, and media exposure as a source of information about HIV / AIDS. Based on respondents' education fathers and mothers in the treatment group or the control group showed that the majority of education at the secondary level. According to Soetjningsih, parental education is one important factor in child care providing information and education to children, so it can affect the individual's knowledge.⁸ In the treatment group and the control group the results showed that the majority of respondents use media such as the internet, counseling, and television as the most dominant source of information about HIV / AIDS. Media exposure is included in the factor information that would affect a person's knowledge.⁹

Statistical test results using paired sample t-test showed a difference in increased knowledge about HIV / AIDS before and after the simulated game. Earned $p\text{-value} = 0,000$, which means $p\text{-value} < 0.05$, meaning that there is a significant difference between knowledge before and after the simulated game of monopoly with HIV / AIDS. While the control group using leaflets obtained a $p\text{-value} = 0.002$. Based on statistical test use *independent sample t-test* $p\text{-value}$ obtained was 0.000, meaning that there is a real difference between the average value of the monopoly of knowledge of HIV / AIDS and groups of leaflets. The difference in the mean values monopoly groups HIV / AIDS 14.563, while the difference in the mean value in the group of 3,563 leaflets. The difference in mean values monopoly groups of HIV / AIDS is greater than the difference between the mean value of groups of leaflets, thus it can be said that the increased knowledge of adolescents

about HIV / AIDS among adolescents given extension using the game of monopoly on HIV / AIDS is higher than in adolescents are given education using leaflets.

Based on the analysis result that the leaflets have a smaller influence than the extension using the game of monopoly on HIV / AIDS. This is because, according to Ana Sidiq Fatimah, the leaflet has several drawbacks, namely a lack of feedback between the participant's counseling extension and leaflets will be useless if the target is not included inactive.¹⁰ learning media is a medium that carries messages or information, aims to have the intent pengajaran.¹¹ instructional or treatment group in this study are given treatment for the provision of counseling using monopoly game with HIV / AIDS. Counseling about HIV / AIDS through a simulation of the game with a game of monopoly HIV / AIDS applying the method of discussion. Their discussion in a game group will expand the horizons for exchanging opinions among the group members. The discussion in counseling on HIV / AIDS Monopoly game when players do get inquiries from the bank officer (counselor) or have to answer questions that are on the game board so that participants can actively participate in the game. This is consistent with Edgar Dale's cone theory which states that when a more concrete use of instructional media or with direct experience of the message (information) on the learning process is submitted by teachers to students will be well conveyed.¹² The discussion in counseling on HIV / AIDS Monopoly game when players do get inquiries from the bank officer (counselor) or have to answer questions that are on the game board so that participants can actively participate in the game. This is consistent with Edgar Dale's cone theory which states that when a more concrete use of instructional media or with direct experience of the message (information) on the learning process is submitted by teachers to students will be conveyed well.¹² The discussion in counseling on HIV / AIDS Monopoly game when players do get inquiries from the bank officer (counselor) or have to answer questions that are on the game board so that participants can actively participate in the game. This is consistent with Edgar Dale's cone theory which states that when a more concrete use of instructional media or with direct experience of the message (information) on the learning process is submitted by teachers to students will be good conveyed.¹²

Based on research conducted by Hanifa Azgi NA et al, said Simulation Game Method (SIG) has a higher influence on increased knowledge of adolescent women about reproductive health than counseling using audio-visual. SIG allows the instructor or facilitator in presenting the material and to increase the motivation because there are elements of competition and direct feedback.¹³

This is according to research conducted by Indramala Yulmi Saputri and Mahalul Azam entitled the effective methods of simulation game "Monopoly HIV" to the level of comprehensive knowledge of HIV / AIDS among adolescents in Semarang which states that using game simulation effective in improving the comprehensive knowledge of HIV / AIDS in adolescents in high school Kesatrian 1 Semarang.¹⁴ Another study conducted by Dwi Purnama Siregar et al, about Snake and Ladder Game Effectiveness Evaluation of HIV / AIDS on Increased knowledge about HIV / AIDS among high school students in the city, also explained that an increase in knowledge after the intervention using a game of snakes and ladders with HIV / AIDS.¹⁵ From both of these studies were conducted with the extension modifying a game into learning media is proven to increase knowledge of adolescents.

Extension using the Monopoly game can improve knowledge about HIV / AIDS among adolescents, due to the extension using the HIV / AIDS monopoly game which has been modified such that it can adapt to the characteristics of the target adolescent high school education. According to Mohammad Ali, one of the characteristics of young people is gregarious and groups.¹⁶ Therefore, in this game have to use the games are done in groups. Extension using the Monopoly game with HIV / AIDS received a positive response from the respondent. According to them these fun games. The positive side of this game one of which is the need for time is not limited in its implementation so that the game of monopoly with HIV / AIDS can be used to fill in free time when there is a loose teenager. In

addition to playing they can also be learned. According to the US Sadiman, health education using the game has various advantages that may allow for ease of learning. Various advantages game as a medium of learning among other fun and entertaining, enabling the active participation of students to learn, enabling their direct feedback that allows learning to be more effective.¹¹

CONCLUSION

There is an increased knowledge about HIV / AIDS in the HIV/AIDS monopoly game group as well as of leaflets groups. There is an influence of counseling using HIV / AIDS monopoly games on increasing adolescent knowledge about HIV / AIDS in SMA Muhammadiyah Yogyakarta 5. Extension using HIV / AIDS Monopoly game increased knowledge of adolescents about HIV / AIDS. For adolescents, are expected to be able to use HIV / AIDS monopoly game as a medium to increase knowledge about HIV / AIDS and play in their spare time. Researchers then expected to look for a longer time at the time of the study so that the game can be played with no rush and try to enhance the media of HIV / AIDS monopoly game in this study to be better.

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