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THE EFFECT OF HEALTH EDUCATION WITH PROACTIVE COGNITIVE GAME TO TEENAGER KNOWLEDGE ABOUT HIGH RISK OF EARLY MATRIMONY

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ABSTRAK

Fenomena social terkait hamil sebelum menikah kini semakin marak di Bogor. Pada 2013, 1.626 pasangan menikah dini karena hamil dengan rentang usia 16-19 tahun. Pasangan remaja ini masih dalam usia sekolah. Untuk membantu remaja mengatasi masalah tersebut dapat dilakukan melalui pemberian pendidikan kesehatan reproduksi, dengan metode pembelajaran yang beragam. Game kognitif proaktif merupakan metode pembelajaran praktis untuk meningkatkan pengetahuan remaja tentang kesehatan reproduksi. Penelitian ini bertujuan untuk mengetahui pengaruh pendidikan kesehatan dengan metode game kognitif proaktif terhadap pengetahuan dan sikap remaja tentang risiko tinggi pernikahan dini. Desain penelitian ini adalah Quasi-eksperimental dengan pre-post test design menggunakan control group dengan intervensi menggunakan metode game kognitif proaktif. Sampel diambil dengan teknik purposive. Kriteria inklusi adalah remaja usia 15-19 tahun, siswa kelas XI-XII. Kuesioner pengetahuan dan sikap digunakan untuk mengukur variabel. Data dianalisis menggunakan uji Mann-Whitney. Pengambilan data dilakukan pada Agustus 2018. Terdapat perubahan rata-rata pengetahuan pada kelompok intervensi sebesar 4 poin, dari 24,53 pada pre-test menjadi 28,28. Sedangkan perubahan nilai hanya terjadi 1 poin dari 20,50 menjadi 21,73 pada nilai post-test pada kelompok kontrol. Ada pengaruh pemberian pendidikan kesehatan melalui permainan kognitif proaktif terhadap pengetahuan remaja tentang dampak pernikahan dini dengan p-value <0,05. Saran: perlu ditingkatkan aplikasi metode yang interaktif dan menarik dalam memberikan penyuluhan kesehatan bila sasarannya adalah remaja agar hasilnya efisien.
Kata kunci: kesehatan reproduksi, pernikahan dini, game kognitif proaktif

ABSTRACT

The social phenomenon of getting pregnant before getting married is now increasing in Bogor. In 2013, 1,626 couples were early matrimony because of pregnancy with an age range of 16-19 years. This young couple is still at school age. To help teenagers solve these problems is through reproductive health education, with learning methods variety. Based on the study, the proactive cognitive game method is a practical learning method to increase teenagers' knowledge of reproductive health.

This study aims to determine health education's effect with proactive cognitive game methods on teenagers' knowledge and attitudes about the high risk of early matrimony. This study's design is a Quasi-experimental pre-post test design with a control group with the intervention using the proactive cognitive game method. Use a purposive sampling technique. The inclusion criteria were teenagers 15-19 years, students of class XI-XII. Knowledge and attitude questionnaire used to measure variables. Data analyzed using the Mann-Whitney test. Data collected in August 2018.

There was a change of knowledge's mean in the intervention group by 4 points, from 24.53 at the pre-test to 28.28. The change in value occurred only 1 point from 20.50 to 21.73 at the post-test value in the control group. There is an effect of providing health education through proactive cognitive games to teenager knowledge about the impact of early matrimony with p-value <0.05. Suggestion: it is necessary to increase interactive and exciting methods in providing health education when the target is a teenager to have results efficiently.
Key Words: reproductive health, early matrimony, game cognitive, proactive

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BACKGROUND

The social phenomenon of getting pregnant before getting married is now increasing in Bogor. In 2013 1,626 couples were doing early matrimony because of pregnancy before marriage with range age 16-19 years and 8,130 married couples, of which 20% were married at the age of 19-20 years. This young couple is still at school age. The average age for males is under 19 years and for females under 16 and 17 years. Early sexual intercourse associated with the occurrence of STDs, unplanned pregnancy, depression, dropping out of school, having multiple sexual partners, and unsafe sexual intercourse (without the use of contraceptives).[1]

Fitria's study in 2016 showed that at YZA High School, 30% of respondents at the school had the sexual activity before marriage, 10% of respondents had premarital sex, 51.6% of respondents have a lack of knowledge related to sexual activities. These conditions can increase the risk of early matrimony among teenagers, increasing the mortality and morbidity of pregnant women.[2] For this reason, further intervention needs in reproductive health education, especially about the high risk of early matrimony.

Understanding reproductive health needs to be given by parents to their children. Thus the children do not step up sexual intercourse that leads to early matrimony. Early matrimony results in the loss of the child's right to have a good life.[3] Those who should enjoy their school years and get -good education must give up their studies because of marriage. Therefore it needs to be emphasized to parents to apply the right values in the family. If proper education has given early, then the opportunity for children to meet a bright future is also more incredible.[4]

One effort can help teenagers solve their reproductive health problems through reproductive health education, which is usually called counseling. A more appropriate learning method is a discussion method to accept a conclusion and not be rigid in given education. This learning method aims to make the educational message acceptable and according to growing tasks. Pali's study showed that cooperative and interactive learning methods are useful to increase student knowledge in HIV / AIDS prevention .[4]

This cooperative method using cognitive-proactive game education, one of the approaches to reproductive health education and sexuality in teenagers.[5] This education is carried out with a discussion participation game about problems caused by early matrimony with cognitive-proactive principles. This method might be useful for use in health education. The cognitive-proactive principle is inviting teenager to participate by mention positive and negative things about the problem of early matrimony proactively until they can conclude the problem whether it is good or not if it was done by teenagers.[6]

The objective of this study is knowing respondent characteristics, teenage girls' knowledge about the high risk of early matrimony after given health education with proactive cognitive game methods, and the value of the influence of health education through proactive cognitive games on teenage girls knowledge

METODE

This study is quasi-experimental using a pre and post-test design with a control group approach, which is a measurement of variables carried out in 2 groups, namely intervention and control groups, measured before, and after the intervention.[7] In this design, the intervention provided is in the form of providing health education about the high risk of early marriage by using proactive cognitive game methods for control group will be given lecturing method (LM) with the subject about early matrimony.

The control group provided health education about the high risk of early marriage using lecture methods such as given material and question and answer with students. The study was held on school-age adolescents at YZA High School, Bogor City. The location was chosen because the school, based on

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research it has a relatively high juvenile delinquency rate. The study was conducted in March-October 2018. The samples were 40 students, and the sampling technique uses purposive sampling using inclusion and exclusion criteria from 3 classes. The inclusion criteria in this study were teenagers aged 15-19 years, students of class XI-XII. Data analysis with Mann Whitney paired test.

The intervention in this study was an education about the effects of early matrimony through proactive cognitive games. The game consists of 3 types of games, namely "pikir-pikir", "tambah-kurang" games, and "pohon Harapan" games. The right answer gets a score of 1, and the false answer gets a 0 score. The score gets after calculate the real answers then divided with a total question in papers. This game is designed to stimulate students to think and discover for themselves the impact of early matrimony accompanied by a facilitator

RESULTS

Respondent Characteristics

After data retrieval, the data of respondents is known as in table 1 below :

Table 1 Respondent Characteristics

Variable		Group		Total	P
		Game Kognitif (Interven-sion)	Lecture Methode (control)		
Age	15	4	6	10	0,813
	16	11	10	21	
	17	16	12	28	
	18	8	10	18	
	19	1	2	3	
Total		40	40	80	
Variable		**Group**		**Total**	**P**
		Game Kognitif (Interven-sion)	**Lecture Methode (control)**		
Mother Education	Primary School	17	17	34	0,482
	Elementary School	7	11	18	
	High School	16	12	28	
Total		40	40	80	
Information source	Paper media	18	20	38	0.209
	Electronic media	19	20	39	
	Health staff	3	0	3	
Total		40	40	80	
Mother Occupation	Not Working	7	7	14	1.000
	Working	33	33	66	
Total		40	40	80	
Have Girl/Boy Friend	Yes	21	17	38	0.370
	No	19	23	42	
Total		40	40	80	
Dating History	Yes	38	40	78	0,152
	No	2	0	2	
Total		40	40	80	
Family already know	No	11	6	17	0,172
	Yes	29	34	63	
Total		40	40	80	

* Coefficient Contigency Lambda Test

Table 1 showed that in the intervention and control groups, the age of most respondents is 17 years old, elementary school mother's education, sources of information about reproductive health from electronic media, having working mothers, having boyfriends, ever dating, and families knowing that respondents are dating. The Lambda contingency coefficient test result between the characteristics of the respondent and intervention carried out has p-value > 0.05. These results show no

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relationship between the characteristics of respondents and intervention that have been done.

Knowledge of Respondents About the Impact of Early Matrimony

Before being given an intervention both the control group and the intervention group were given a pre-test to determine the respondents' basic knowledge about the impact of early matrimony. After the intervention, the two groups were also given a post-test to determine the extent of knowledge changes. The respondent's knowledge data during pre and post-test can be seen in Table 2 below:

Table 2: Knowledge of Respondents About the Impact of Early Matrimony

Group		N	Mean	Range	SD
Pre test	Intervention (Game Kognitif)	40	24.53	16-33	4.305
	Control (LM)	40	20.50	14-33	4.495
Post Test	Intervention (Game Kognitif)	40	28.28	19-35	4.157
	Control (LM)	40	21,73	14-34	4.344

*Mann Whitney test

Mann Whitney test using a non-parametric test of the null hypothesis that is equally likely that a randomly selected value. It is used to investigate whether two independent samples were selected from a population having the same distribution.

Table 2 shows that in the intervention group as cognitive games, there was a change in the mean about 4 points, from 24.53 to 28.28. Whereas in the control group, the change in point occurred only by 1 point from 20.50 to 21.73.
For more details, changes in the point of respondents' knowledge pre and post-test can be seen in Table 3

Table 3: Changes in Respondents' Pre and Post-test Knowledge Points

No	Points change	Control (Lecture method)	Intervention (Game Kognitif)
1	Negative Ranks Post (Post points less than Pre points)	3[a]	0[a]
2	Positive Ranks (Post points more than Pre points)	24[b]	38[b]
3	Ties (Pre points = Post points)	13[c]	2[c]
Total		40	40

Table 3 shows that after analysis with SPSS using Spearman ranks correlation, there were three respondents whose post-test points were smaller than pre test points in the control group. In contrast, in the intervention group (cognitive games), there were no respondents whose post-test points were smaller than pre-test points. There were 38 people whose more excellent point in the post-test in the intervention group, whereas, in the control group, there were only 24 respondents.

Effects of Proactive Kongnitive Games on Respondents Knowledge

Normality test results show that post-test data distribution points are not normally distributed. After data transformation, so that the bivariable analysis is done with the Mann Whitney test, the Mann Whitney test results can be seen in Table 4 below.

Table 4: Analysis of the Effects of Proactive Cognitive Games on Respondents' Knowledge

Kelompok	N	Median	Rerata ± SD	P*
Game Kognitif	40	29	28.28± 4.157	0.000
Lecture method	40	21	21.79± 4.33	

* Mann Whitney Test

From Table 4, it is known that the results of the Mann Whitney test have a p-value <0.05, so there is an influence of cognitive game interventions to increasing respondents' knowledge about the impact of early matrimony.

DISCUSSION

Early matrimony is marriage or underage marriage whose target preparation has not been said to be optimal, both physical and mental and material preparation. After processing the data and presenting the data with the results, further discussion will be carried out according to variables studied, as follows below:

Respondent Characteristics

From Table 1, there are no significant differences in characteristics between the intervention and control groups. The Lambda was statistical results p value> 0.05, so it can be concluded there is no relationship between the characteristics of

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the respondents (respondent's age, mother's education, mother's occupation, sources of information about reproductive health, history of having a boyfriend, having a girlfriend, family knowing or not the respondent has a boyfriend).

Reproductive health education is not related to the respondent's age because the age range is still the same; that is still in the mid-teens. Mother's education and occupation also have no relationship with respondents' knowledge about the effects of early matrimony. This is possible because there are many other information sources about early matrimony that respondents quickly get and accessed by respondents in the digital era. Because according to Notoatmodjo, what influences knowledge is education. While the respondent's education is equivalent, both classes XI and XII.

Changes in Respondent Pre and Post Test points

Table 2 and Table 3 show that 38 people whose post-test points were more excellent than the pre-test points in the intervention group, whereas, in the control group, there were only 24 respondents who have posttest points more excellent than the pretest points. Globally, before statistical tests are carried out, it can be seen that the interventions that have been done gave a better change in post-test points.

This study was appropriate with the same study by Anik Sulistyowati, "Overview of Young Women Knowledge About the Concept and Risk of Young Marriage Against Pregnancy" in Demak High School 2 with 140 students as population 59 students as the sample. Results show that most young women have good knowledge about the risk of young marriage to pregnancy, which is equal to 28 people (47.5%), while young women who have less knowledge are 9 (15.3%).[8]
The respondent's knowledge is quite good; this is because the information or communication about early matrimony risk to pregnancy is easily known.[9] Information can get from various media and information or communication from parents. Even though some young women do not know very well the risk of early matrimony to pregnancy because a small number of them still think that it is not necessary to know the consequences.

Effects of Proactive Cognitive Games on Respondents' Knowledge

From Table 4, it is known that there is an effect of the cognitive game intervention on increasing respondents' knowledge about the effects of early marriage ($p < 0.05$). According to Wood (1926, in Suliha et al., 2002), health education is a set of experiences that support habits, attitudes, and knowledge related to individuals, society, and race. Setiawati and Dermawan (2008) said that health education is a series of efforts aimed at influencing others, starting from individuals, groups, families, and communities to carry out healthy living behaviors.[10]

Health education aims to help individuals, families, and communities achieve optimal health status with their desires and initiatives. Changes in health behavior after health education can help prevent illness and disability or disability. The primary purpose of health education is to change health behavior and to improve health status.

Individual education methods in health education are used to develop individuals who are becoming interested in behavioral change as a process of innovation. Individual education methods that can be used are guidance and counseling, personal consultation, and interviews.[10]

In the control group, the method used in providing health education is the question and answer lecture. The lecture method is a straightforward method that is most widely used. The instructor functions as a transmitter and students as receivers. Language, both verbal and nonverbal, is the only communication media. Education was given with language as a tool is called a message or an idea. The communication said well if the message or idea is received 100% by the receiver. Conversely, communication is said to be wrong if the transmitter's message is not received according to the original by the receiver.

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However, this method seems more effective if it is given to audiences with higher education levels.[5]

In the intervention group, education was provided in proactive cognitive games, which are part of cooperative learning. Cooperative learning is learning that appropriate with human nature as a social creature full of dependency with other people, has a common goal and responsibility, and assignment of tasks. Students are trained and accustomed to sharing knowledge, experiences, assignments, and responsibilities in cooperative group learning. So, the cooperative learning model is a learning activity in a group way to work together to help each other construct the concept of problem-solving, or inquiry.[11] This cooperative learning method has many learning techniques.

The cognitive-proactive game education method is one way to approach teenager reproductive health and sexuality education. This education participates in a one-case discussion about reproductive problems or sexual deviations with the cognitive-proactive principle. The cognitive-proactive principle is done by inviting teenagers to mention positive and negative things about a reproductive health and sexuality problem in teenagers proactively until they can conclude that the problem itself is good or not if done by a teenager.[12]

CONCLUSION

In the intervention and age control groups, most respondents were 17 years old, primary school education, sources of information on reproductive health from electronic media, having working mothers, having a girlfriend, ever dating, and families knew that the respondents were dating.

In the intervention group, that was a change in knowledge by 4 points, from 24.53 at the pre-test to 28.28. Whereas in the control group, the change in value occurred only by 1 point from 20.50 to 21.73 at the post-test.

There is an influence of providing health education through proactive cognitive games to the knowledge of young women about the impact of early matrimony with a p-value<0.05

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