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ORIGINAL RESEARCH

PARTICIPATIVE LEARNING TO IMPROVE FEMALE ADOLESCENTS' KNOWLEDGE ON THE RISKS OF EARLY-AGE MARRIAGE

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ABSTRACT

Early-age marriage is still one of the most prominent issues in female health in Indonesia. Scarce information on the risks and dangers of early-age marriage has caused many adolescents to make a rash decision to get married. This study aims to discover the effectiveness of participative learning on the risks of early-age marriage in improving female adolescents' knowledge about the matter. This is a quantitative study in quasi-experimental design, using pretest-posttest design method, conducted at Kalijaya and Kalisari Villages, Karawang Regency, on May 2018. The sample of 80 girls from Kalijaya Village and 101 girls from Kalisari Village was selected through purposive sampling from the population of all female adolescents at those villages. Data is obtained from two sources, questionnaire (for primary data) and annual report register in local Religious Affairs Office (for secondary data). Data is analyzed using paired T-test and effect-size (ES) measurement. The results show that in Kalijaya Village, the pretest score of R=69.10, s.b=16.45 increase to a posttest score of M = 77.58, SD = 15.88, [$t(80) = 6.75$, $p = 0.000$], and the pretest score of M = 66.14, SD = 15.38 in Kalisari Village increase to a posttest score of M = 76.36, SD = 16.10 [$t(101) = 7.65$, $p = 0.000$]. The intervention of participative learning has high effectiveness (ES $\geq$ 0.14) in improving female adolescents' knowledge on the dangers and risks of early-age marriage (ES = 0.37). Health education using participative method is effective to improve female adolescents' knowledge on the risks of early marriage.

Keywords

Adolescents, early-age marriage, , knowledge, participative learning.

INTRODUCTION

Adolescence is a period of transition from childhood to adulthood.(WHO, 2014) The 2015-2019 National Office of Citizenship and Planned Family of Indonesia (BKKBN) notes that reproductive health problems in adolescents are still, qualitatively and quantitatively, numerous.(Kemenkes, 2015) The 2012 Indonesian Demography and Health (SKDI) found that adolescents in the age group of 15-19 years old, 4.5% male and 0.7% female, had been involved in pre-marital intercourse for various reasons such as curiosity (53.8%), occurring naturally (23.6%), being forced by boy/girlfriend (2.6%), desire to get married (1.8%), and peer pressure (1.2%).(InfoDATIN, 2012) Pre-marital sex may cause out-of-wedlock pregnancy, which in socio-cultural context of Indonesia usually leads to early-age marriage. In addition, adolescents of that age group commonly lack sufficient life skills, leading to a high number of domestic abuse and divorce cases.

Based on BKKBN data of 2016, there is 70% divorce case in Indonesia, and early-age marriage is one of the primary reasons.(BKKBN, 2016) The 2012 SKDI (Indonesian Demography and Health Survey) found that 12.6% of marriage in the nation was early-age marriage.(Kesehatan, 2013) Meanwhile, the 2013 Basic Health Research reported that among women of 10 – 54 years old, 2.6% has their first marriage at the age of below 15 years old and 23.9% at the age of 15 – 19 years old. Early-age marriage takes psychological and physical tolls on adolescents,(Ahmed, Khan, Khan, & Noushad, 2014) especially on female adolescents, because their reproductive organs have not fully developed. Various surveys have found that most teenage mothers (under the age of 20) often experienced anemia and had high risk of labor complication such as bleeding, infection, and *abortus*, which contributed to high maternal mortality rate. Babies that these young mother (under 20 years old) carried were also at risk of Intra Uterin Grow Restriction (IUGR), *partus prematurus*, Baby Born Underweight, and asphyxiation, which would lead to infant mortality case if not handled quickly and correctly. Young mothers (under 20 years old) are still fond of hanging out and having fun, and they lack the experience of taking care of children, causing their kids to not grow and develop optimally.

A 2014 study conducted in Jakarta, Semarang, Banyuwangi, Lampung, Sukabumi, West Nusa Tenggara, South Kalimantan, and North Sulawesi reported that the primary cause of early-age marriage was adolescents' lack of knowledge and understanding of reproductive health, leading these adolescents to engage in pre-marital sex and end up being married.(Djamilah & Kartikawati, 2014) Adolescents often face difficulties in obtaining information pertaining to sexual and reproductive health because such topic is considered taboo by most of the society. This has caused teenagers to look for the information themselves, mostly from unreliable sources (in terms of accuracy of information) such as peers, magazines, film, or the Internet.(S. Budiman & Arif, 2017) Therefore, providing reliable reproductive health education is crucial to allow adolescents to find correct information to protect their health by avoiding pre-marital sex and early-age marriage.(Haberland & Rogow, 2015; Reis, Ramiro, de Matos, & Diniz, 2011)

Previous studies show that sexual and reproductive health education is effective in improving adolescents' sexual knowledge and reducing teenage pregnancy rate.(Salam et al., 2016) However, the method used to deliver the lessons to adolescents should involve more than just one-way method or lecture because teenagers have their own mindset. At their age, teenagers are past the point of receiving information for granted; they will adapt and adjust the information with their own thoughts and opinions.(Taukhit, 2014)

Participative learning method is a suitable method for educating adolescents, particularly on reproductive health, including the risks and dangers of early-age marriage. This method is an approach that allows students (adolescents) to be actively involved in the information transfer

process.(Muchtar, 2016) Their involvement makes learning or information transfer a two-way process in which the teenagers are proactively engaged in formulating the problems, so that the information provided will be relevant to adolescents' needs and easy to understand.(Taukhit, 2014)

The preliminary surveys in Kalijaya and Kalisari Village reveal that there are many cases of early-age marriage in these areas. In fact there is a female adolescent who is often engaged in pre-marital sex with her HIV-infected and drug-abusing boyfriend. She does not have the will, nor the want, to leave him. Preliminary surveys also show that adolescents in Kalijaya and Kalisari possess low level of knowledge on reproductive health. Hence, it is important to provide reproductive health education to them.

Based on this background, the researchers were compelled to conduct a study on *Participative Learning to Improve Female Adolescents' Knowledge on the Dangers of Early-age Marriage.* This research was conducted in cooperation with local Office of Religious Affairs who held a pilot project of pre-wedding course at Telagasari Sub-District's Office of Religious Affairs.

MATERIALS AND METHODS

Sample and Design

The present study is a quantitative study with quasi-experimental design, using pre test-post test design method. It was conducted at Kalijaya and Kalisari Villages, Talagasari Sub-District, Karawang Regency, in May 2018. The sample of 80 girls from Kalijaya Village and 101 girls from Kalisari Village was selected through purposive sampling from the population of all female adolescents at those villages. The study's protocols have been approved by The Health Research Ethics Committee, Faculty of Medicine, Universitas Padjadjaran (No: 1064/UN6.KEP/EC/2018).

Data Sources and Data Collecting Techniques

Data used in this study were primary and secondary data. Primary data was obtained through questionnaires, while secondary data was collected through the annual register of local Office of Religious Affairs.

The questionnaire to measure subjects' knowledge on the risks and dangers of early-age marriage was designed and developed by the researchers, consisted of 25 items. Its reliability has been tested on 30 subjects who possessed similar characteristics with the subjects of this study. The reliability test resulted in *Cronbach's alpha* of 0.886.

Data Processing and Analysis

In this study, data analysis involves three steps. Firstly, univariant analysis to find respondents' age and education characteristics. Secondly, bivariant analysis to find the score difference for before and after intervention. Before analysis, a normality test using *Kolmogorov-smirnov* test was conducted because the sample was more than 50. It was found that the data was normally distributed ($p > 0.05$). Hence, bivariant analysis was conducted using Paired T-test.(Dahlan, 2014). Finally, intervention effectiveness analysis to discover the extent of the intervention effects'. The formula to calculate *effect size* in *Paired T-test* is the *Eta squared*:

$$Eta\ squared = \frac{t^2}{t^2 + n - 1}$$

Note:
t : *t-score*
n : total sample

Effect size value ranges from 0-1. To interpret the effect size in Paired T-test, the following reference is used (from Cohen, 1988):
≥ 0.01 : Small effect
≥ 0.06 : Medium effect
≥ 0.14 : Big effect(Pallant, 2005)

RESULTS

Respondents' Characteristics

Based on data in Table 1 (below), respondents in Kalijaya Village have a median age of 15 years old (age range is between 12 and 19 years old). In terms of education background, 63.7% has Junior High School education, 26.3% has Senior High School/Vocational School education, and 10% has Primary School education.

Table 1. Respondents' Characteristics in Kalijaya Village

Characteristics	Total (n)	Median	Minimum - Maximum
Age	80	15	12 – 19
Characteristics		Total (n)	Percentage (%)
Education			
Primary School		8	10
Junior High School		51	63.7
Senior High School		21	26.3

As can be seen in Table 2, respondents in Kalisari Village have median age of 14 years old (the age ranges from 12 to 19 years old). In terms of education, 65.3% has Junior High School education, 21.8% has Senior/Vocational High School education, and 12.9% has Primary School education.

Table 2. Respondents' Characteristics in Kalisari Village

Characteristics	Total (n)	Median	Minimum - Maximum
Age	101	14	12 – 19
Characteristics		Total (n)	Percentage (%)
Education			
Primary School		13	12.9
Junior High School		66	65.3
Senior High School		22	21.8

Knowledge Difference Before and After Intervention

Table 3 shows that there is an increase in respondents' knowledge on the risks of early-age marriage after the administration of health education intervention using participative learning in Kalijaya Village. The mean and standard deviation of knowledge before the intervention was 69.10 (16.45), which increased to 77.58 (15.88) after the intervention. In addition, Table 3 also displays that $p < 0.05$ and IK did not exceed 0, which statistically means that there is significant increase of knowledge after intervention.

Table 3. Difference of Knowledge on the Risks of Early-Age Marriage after Implementation of Health Education Using Participative Method in Kalijaya Village

Variable	n	Mean (Standard Deviation)	Difference (Standard Deviation)	IK95%	p-value*
Knowledge					
Pre test	80	69.10 (16.45)	8.48 (11.23)	5.98 – 10.97	0.000
Post test	80	77.58 (15.88)			

**Paired T-test*

Table 4 shows that there is an increase in respondents' knowledge on the risks of early-age marriage after the administration of health education intervention using participative learning in Kalisari Village. The mean and standard deviation of knowledge before the intervention was 66.14 (15.38), which increased to 76.36 (16.10) after the intervention. In addition, Table 4 also displays that p-value < 0.05 and IK did not exceed 0, which statistically means that there is significant increase of knowledge after intervention.

Table 4. Difference of Knowledge on the Risks of Early-Age Marriage after Implementation of Health Education Using Participative Method in Kalisari Village

Variable	n	Mean (Standard Deviation)	Difference (Standard Deviation)	IK95%	p-value*
Knowledge					
Pre test	101	66.14 (15.38)	10.22 (13.42)	7.57 – 12.87	0.000
Post test	101	76.36 (16.10)			

**Paired T-test*

Effectiveness of Intervention

The calculation of *effect size* (ES) using *Eta squared* (shown in Table 5) resulted in 0.37 score, which means that health education intervention using participative method on the risks of early-age marriage has big effects (ES≥0.14) on the improvement of respondents' knowledge in Kalijaya and Kalisari Villages.

Table 5. Effectiveness of Health Education using Participative Method on the Risks of Early-Age Marriage in Kalijaya and Kalisari Villages

Variable	Kalijaya Village			Kalisari Village		
	n	*t score*	*Effect Size*	n	*t score*	*Effect Size*
Knowledge	80	-6.75	0.37	101	-7.65	0.37

DISCUSSION

Based on the findings in Tables 3 and 4, respondents' knowledge on the risks and dangers of early-age marriage, both in Kalijaya and in Kalisari Villages, increased significantly after an intervention of health education using participative method. In Kalijaya Village, the mean score of knowledge before intervention was 69.10 (standard deviation = 16.45). It increased to 77.58 (SD=15.88) after intervention. Meanwhile, in Kalisari Village, the mean score of knowledge before intervention was 66.14 (SD=15.38), which increased to 76.36 (SD=16.10) after the intervention. Previous studies categorized the score of ≤55 as bad (low level knowledge), the score of 56-75 as adequate (medium level knowledge), and the score of 76-100 as good (high level of knowledge).(Amelia, Mohdari, & Azizah, 2017)

In this study, it can be concluded that the respondents in general possessed adequate knowledge (medium level) before the intervention. This is in line with several previous studies that reported that most female adolescents possessed sufficient knowledge on the risks of early-age marriage.(Amelia, et al., 2017; Setiawati, 2018; Wahyuni, Afandi, & Widiawati, 2017) Respondents' level of knowledge was affected by their characteristics (Tables 1 and 2), i.e. age and education, in which more than 63% of respondents (in both Kalijaya and Kalisari Villages) had Junior High School education. Theoretically speaking, the older the age and the higher the education level of someone are, the greater their understanding and logic capabilities will be, allowing them to accept new information and knowledge better.(Budiman & Riyanto, 2013; Sangging, Setyowati, & Mardiyaningsih, 2014; Zain & Zain, 2017) Previous studies have shown that low level of education had strong correlation with the tendency to perform early-age marriage.(Maliana, 2017; Sah et al., 2014; Sari & Saragih, 2018; Wulanuari, Anggraini, & Suparman, 2017; Yüksel-Kaptanoğlu & Ergöçmen, 2014; Zain & Zain, 2017) Those with lower level of education have 0.463 times greater chance to marry in early age compared to those with higher level of education.(Idawati, 2018) It is because narrow-mindedness, i.e. their mind set did not improved by education, leading them to make decisions rashly without thorough consideration about the effects and consequences of early-age marriage.(Rahman, Syahadatina, Aprillisya,

& Afika, 2015; Sardi, 2016) In addition, those with higher level of education tend to be more able (and more frequently) to access various media to find information on the negative effects of early-age marriage. With such information and knowledge, they will be able to argue over or even thwart their parents' attempts to get them to marry on early-age.(Adu Boahen & Yamauchi, 2017)

Furthermore, Tables 3 and 4 show that there is a significant difference in knowledge before and after the intervention in this study, with p-value = 0.000 ($p < 0.05$). This finding is supported by the result of effect size calculations (Table 5), i.e. 0.37, which indicates that health education intervention using participative method has great effect ($ES \geq 0.14$) on the increase of adolescents' knowledge on the risks of early-age marriage, both in Kalijaya and in Kalisari Villages. This is in line with previous studies performed in Indonesia, such as Amelia R., et al (2017) which concluded that health education had significant effect on adolescent's knowledge improvement ($p = 0.016$). They found that subjects treated with health knowledge possessed knowledge 6 times better than that of subjects in the control group (not given the treatment).(Amelia, et al., 2017) Panjaitan AA, et al (2017) also found that health education on early-age marriage using two-way communication (Q&A or questions and answers) had significant effect on adolescents' knowledge improvement ($p = 0.001$), in which the Q&A method enabled respondents to have deeper understanding of the materials.(Panjaitan, Damayanti, Wiarisa, & Lusrizanuri, 2017) In addition, similar study was conducted in India by Saranya S., et al (2018), in which they found that communication, information, and education (CIE) method that engaged adolescent respondents to actively participate, was proven effective to improve adolescents' knowledge and attitude on early-age marriage.(Saranya, Prince, & Priya, 2018) The intervention would be even more effective in reducing early-age marriage cases and increase the age of marriage if it was delivered to young adolescents (< 17 years old).(Amin, Saha, & Ahmed, 2018)

Health education is beneficial to improve knowledge, which in turn affects attitude and behaviors in maintaining and improving health.(Afriliana, Puspitaningrum, & Rahmawati, 2014; Panjaitan, et al., 2017; Wahyuni, et al., 2017) In this study, health education was given using participative method. Participative learning method requires respondents' participation. In this study, adolescents did not just receive one-way information but were proactively involved in open discussion in which everyone had similar right to speak and to be heard of.(Muchtar, 2016; Taukhit, 2014) They were actively engaged in identifying the problems, analyzing them, and finding solutions for early-age marriage problems they had found around them. They were asked to actively express their opinion on early-age marriage until they were able to form their own conclusion about whether or not early-age marriage good for them as teenagers.(Muchtar, 2016)

Some studies have also shown that participative learning method is more effective in improving knowledge compared to lecture method.(Sembiring, 2015; Taukhit, 2014) Lecture method is a one-way communication process(Taukhit, 2014) that tends to be tedious, causing the message delivered to be easily forgotten.(Sembiring, 2015) This is different in participative method which facilitates adolescents to understand and comprehend the lessons because they are actively involved in creating the learning atmosphere.(Taukhit, 2014) Therefore, they are able to make the correct decision, i.e. avoiding early-age marriage, to protect themselves and their future.(Muchtar, 2016)

In this study, participative learning was provided using PowerPoint. Previous studies show that health education delivered using PowerPoint has significant effect ($p < 0.001$) on adolescents' knowledge improvement;(Helmiwati, 2016; Mariani & Lisnawati, 2018) in fact, it is more effective than using leaflets.(Helmiwati, 2016) It is because PowerPoint presenation is more

varied, in which the materials can be modified using pictures, moving animations, and eye-catching texts.(Helmiwati, 2016) Learning media can improve laerning motivation and interest in adolescents as well as clarify the materials.(S. Budiman & Arif, 2017) In addition, using media in education also allows adolescents to obtain more optimal knowledge because it involves two senses at once, i.e. sight and hearing.(Bagaray, Wowor, & Mintjelungan, 2016; S. Budiman & Arif, 2017) According to theory, knowledge is obtained after one conducts a sensory observation on an object; the more senses used, the better the knowledge is obtained.(Notoatmodjo, 2012)

One's knowledge level will affect their psychosocial maturity and reasoning skill.(Maliana, 2017; Sari & Saragih, 2018) The higher one's knowledge level is, the easier it is for them to think rationally, to breakdown and handle problems, and to make decisions.(Sangging, et al., 2014) Essentially, adolescents need to be equipped with information on the dangers and risks of early-age marriage so that they will be able to understand the consequences and to make smart decisions about early-age marriage.(Setiawati, 2018) Increasing the age of marriage (postponing marriage until later age) also benefits female health empowerment, which in turn will improve the quality of infants' health because eary-age pregnancy can be prevented.(Delprato & Akyeampong, 2017)

CONCLUSIONS

1) In general, female adolescents' knowledge on the risks of early-age marriage in Kalijaya and Kalisari Villages is in sufficient category. It is affected by their age and education level; most of them have Junior High School education.
2) There is significant difference between the pre- and post-treatment knowledge scores. Health education using participative method has great effects on the improvement of adolescents' knowledge on the risks and dangers of early-age marriage. This method involves adolescents actively in analyzing and handling the problems as well as in making proper decisions concerning early-age marriage.

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