

# Improving Knowledge of Elementary School Students as Peer Educators of Reproductive Health

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## Abstract

**Background:** Awareness and knowledge about reproductive health among children in the elementary school in Indonesia was really low. Education about reproductive health is needed to increase the knowledge of reproductive health among elementary school students. This research is conducted to analyze the impact of Training-of Trainer model in elevating the knowledge of elementary school students as peer educators for reproductive health.

**Method:** This research used quasi-experimental method, with pretest and posttest one group only design. The samples of this research are 30 peer educators, which were selected purposively from 3 state elementary schools in the District of Brebes, Central Java, Indonesia. The intervention that had been given was a training about reproductive health for a whole day by a Facilitator Teacher and a Peer Educator from State Junior High School 2 Brebes. The assessments had been conducted before intervention and a month after intervention.

**Result:** According to the difference test using Wilcoxon Match paired Test, significant differences were found in the knowledge of the participants before and after Training-of Trainer model intervention ( $p=0.002$ ) and there was an of 1.26 points in the knowledge.

**Conclusion:** Education about reproductive health by using training-of-trainers for a whole day could significantly elevate the knowledge of peer educators related to reproductive health within a month after the training had been conducted. The roles of peer educators are crucial because as peer facilitators, they are more trusted and it makes children more comfortable in performing discussion. Trained peer educators are expected to be reliable agents in changing reproductive health behavior of elementary school students.

**Keywords:** Knowledge, Training-of-trainers, Reproductive health, Elementary school students.

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## Introduction

Maternal mortality ratio (MMR) in Indonesia still high, which reaches 229 cases out of 100.000 live birth (133-379) during 2008.<sup>1</sup> MMR in Brebes is the highest in Central Java, which causes by, among others, adolescent pregnancy. Marriage record in Brebes in

2015 shows that 40% of total marriage number occur in 13 to 18 year old children, which 70% of it are caused by adolescent pregnancy. Adolescent pregnancy later causes the lack of information about reproductive health among younger generation, including children in the elementary school. This causes numerous marriage that happen after they are graduated, or even before their graduation.

The needs and the types or risk in reproductive health in adolescents and younger generation have different features with children and adults. The types of risk of reproductive health are including pregnancy, abortion, sexually transmitted diseases, sexual abuse, and limited access to information and healthcare service.<sup>2,3</sup> particularly normal birth. Method: Ovid Medline, CINAHL, Cochrane and Web of Knowledge databases were searched to identify research articles published in English from 2000 to 2012, using specified search terms in a variety of combinations. All articles included in this structured review were assessed using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) These risks later cause several related factors, such as early marriage and solicitation to perform sexual intercourse, access to education and jobs, gender inequality, sexual abuse, media exposure, and lifestyle.

Awareness and knowledge related to reproductive health among elementary school was really low. Nowadays, the efforts in providing reproductive health to elementary school students is still considered as a taboo. Education through peer educators by using training-of-trainers model is expected to be one of strategic moves to increase the knowledge about reproductive health among elementary school students. The purpose of this research is to analyze the impact of Training-of Trainer model in increasing the knowledge among elementary school students as peer educators of reproductive health.

### **Method**

This research used quasi-experimental method, with pretest and posttest of one ground design to evaluate the impact of Training-of Trainer model in order to increase the knowledge, attitude, and practices about reproductive health among elementary school students by the peer educators. The population of this research was 30 elementary students within the

District of Brebes, Central Java, Indonesia, during July to December 2017. This research was specifically conducted to three state elementary schools, with an approval from the local government. After purposive random sampling screening had been conducted, 30 peer educators from three elementary schools were selected as participants. Data analysis for this research was through difference test by using Wilcoxon Match Paired Test because the data could not be normally distributed.

### **Findings**

The total amount of peer educators was 30 participants, which majority were females (66.7%), consisted of 11 year old students (56.7%) and 5th grade students (66.7%). The latest education of the fathers' participants were mostly Bachelor degree (63.4%), however, some were junior high school graduates (3.3%). Meanwhile, the latest education of the mothers' participants were mostly senior high school or vocational school (40.1%), however, some were elementary school, junior high school, and associate's degree graduates (3.3%).

Fundamentally, adolescents started facing several health risks during puberty, one of those is reproductive health. In a circumstances when reproductive health was not being maintained well, it would certainly cause various problems, such as early pregnancy disturbance, abortion, sexually transmitted diseases like HIV/AIDS, and sexual violence. The condition of adolescents' reproductive health was also affected by nutrition, physical health, psychological, economics, and gender inequality that makes it hard for young women to avoid the exposure of sexual intercourse or commercial sexual intercourse.<sup>4-6</sup>

World Health Organization (WHO) released a guide about adolescent pregnancy prevention and the impact of poor reproductive health management among adolescents from LMICs, which focused on four main strategies in preventing adolescent pregnancy: (1) improving the access to contraception and its usage; (2) preventing marriage below 18 year old; (3) improving knowledge and understanding about the importance of adolescent pregnancy prevention; and (4) preventing non-consensual sexual intercourse and sexual abuse.<sup>7</sup>

**Table 1. Knowledge Difference among Participants Before and After Intervention**

No	Statement	Before Intervention				After Intervention			
		Aware		Unaware		Aware		Unaware	
		n	%	n	%	n	%	n	%
1	Definition of reproductive health	30	100.0	0	0.0	30	100.0	0	0.0
2	The difference of male and female reproductive systems	30	100.0	0	0.0	30	100.0	0	0.0
3	The importance of reproductive health	30	100.0	0	0.0	30	100.0	0	0.0
4	Unwanted disease prevention	29	96.7	1	3.3	29	96.7	1	3.3
5	Physical transformation in females	30	100.0	0	0.0	30	100.0	0	0.0
6	Characteristics of physical transformation in females	30	100.0	0	0.0	30	100.0	0	0.0
7	Physical transformation in males	27	90.0	3	10.0	30	100.0	0	0.0
8	Characteristics of physical transformation in males	21	70.0	9	30.0	22	73.3	8	26.7
9	Definition of menstruation	30	100.0	0	0.0	30	100.0	0	0.0
10	Procedure in handling students during menstruation	14	46.7	16	53.3	19	63.3	11	36.7
11	Menstruation as a normal sign	30	100.0	0	0.0	30	100.0	0	0.0
12	Nocturnal emission in males	29	96.7	1	3.3	30	100.0	0	0.0
13	Definition of nocturnal emission	27	90.0	3	10.0	30	100.0	0	0.0
14	Nocturnal emission as a normal sign	29	96.7	1	3.3	30	100.0	0	0.0

Result in Table 1 showed that there were knowledge improvements after intervention that were inferred from several knowledge unawareness related to reproductive health, such as: physical transformation in males during puberty, characteristics of physical transformation, procedure in handling female students during menstruation, nocturnal emission in males, definition of nocturnal emission as a normal and natural occurrence when semen was ejected out through male’s reproductive organ. It showed that students were paying attention and able to gain more knowledge and information.

**Table 2. Knowledge Score Difference of Participants**

Participants’ Knowledge related to Reproductive Health	Before Intervention		After Intervention	
	N	%	N	%
Total correct answer is 85% or less	3	10.0	1	3.3
Total correct answer is more than 85%	27	90.0	29	96.7
Total score	30	100.0	30	100.0
Mean	13.00		14.26	
SD	0.99		0.90	
Delta	1.26			
Minimum score	12		12	
Maximum score	15		15	
Wilcoxon Test	p= 0.002 (p < 0.05)			

The result of normality test, as appeared in Table 2, obtained abnormal distribution of pretest variable (p=0.001) and abnormal distribution of posttest variable (p=0.000), therefore, Wilcoxon Test was chosen for this research. From difference test by using Wilcoxon Test, significant knowledge difference between before and after intervention was revealed (p=0.002).

Due to fulfilling the information about reproductive health, reproductive health education is urgently needed. Several educational model like role play, booklet, and fun learning were effective and showed significant results in improving knowledge and awareness about reproductive health.<sup>8,9</sup> A study from United Nation Fund for Population Activities emphasized that the knowledge in reproductive health, physical transformation in male and female, and physical protection could still be unfulfilled, especially because of the lack of knowledge, social stigma, law and policy that obstruct the access of unmarried adolescents to contraception and abortion, and judgmental attitude from healthcare service officers.<sup>10</sup>

Andrade et al. in their research stated that reproductive health and sexual education program in school focused on the relation between adult and children by conducting training and encouraging teachers to improve the connection with students. Teachers were

trained to provide advices to adolescents and their parents about reproductive and sexual health.<sup>11</sup> A study about reproductive health counselling in elementary school students by counsellors through booklet with simple language proved that it significantly elevated students' awareness and motivation to protect their reproductive health.<sup>12</sup>

Reviewing the program conducted before, the keys of success in raising the awareness about reproductive health was by building training network, and conducting training and education about reproductive health. However, it needed more effort to create a continuous implementation of reproductive health education, which was by improving the availability and access to qualified reproductive healthcare services across Indonesia.<sup>13</sup>

### Conclusion

The result of this research shows that elementary students in Brebes Regency are lack of knowledge about reproductive health. Education on reproductive health is urgently needed in order to improve knowledge about sexuality and decision making for the future goals among elementary school students. If elementary school students have more profound comprehension about reproductive health, sexuality, and gender, the younger generation will understand the risk of involve in unsafe sex and unfulfilled needs. Sharing the responsibility among males and females will also give a better chance.

Total score of knowledge difference among participants between before and after intervention through education about reproductive health by peer educator reveals significant difference with  $p=0.002$  and average improvement of 1.26 point. It implies that reproductive health education through training-of-trainers model by peer educators significantly improves knowledge of elementary school students.

### Conflict of Interest

The authors hereby declare that they have no conflict of interest within this research.

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### Ethical Clearance

This research has been proved by Health Research Ethics Committee, Faculty of Public Health, Diponegoro University, Indonesia Number: 43/EC/FKM/2017 approved in 13<sup>th</sup> April 2017.

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