DOKUMEN

FULL ARTIKEL
KORESPONDENSI
ETHICAL CLEARANCE
TURNITIN

Journal of Education and Learning (EduLearn)
Vol. 16, No. 4, November 2022, pp. 501~508
ISSN: 2089-9823 DOI: 10.11591/edulearn.v16i4.20286

The effectiveness of peer educators and guidance counselling teachers to the knowledge of reproductive health

Niken Meilani, Nanik Setiyawati
Poltekkes Kemenkes Yogyakarta, Department of Midwifery, Yogyakarta, Indonesia

Article Info

Article history:

Received Mar 23, 2021
Revised Aug 21, 2022
Accepted Oct 26, 2022

Keywords:

Adolescents
Counseling
Guidance
Knowledge
Teacher

ABSTRACT

Adolescence is the most vulnerable period to reproductive health problems. These problems include early pregnancy, unsafe abortion, sexually infections transmitted (STIs) including the human immunodeficiency virus (HIV), sexual abuse. Access for sexuality education and reproductive health services to comprehensive and youth-friendly was limited. This study aims to determine the effectiveness of peer educators and guidance and counselling teachers in adolescent reproductive health level of knowledge. This is a quantitative study with a quasi-experimental nonequivalent control group design with treatment groups using peer educators and teacher as control groups. The sample size was 70 respondents. Data was collected by questionnaire that already had validity and reliability test. Data analysis used univariate, t-test and logistic regression. The results of this study showed that the provision of information was more effective through guidance conselling teachers (p=0.000, exp B=14.5). This study recommends that improve adolescents' reproductive knowledge need to optimize the role of guidance and counseling teachers in providing information.

Corresponding Author:

Niken Meilani
Department of Midwifery, Poltekkes Kemenkes Yogyakarta
Jl. Mangkuyudan MJ III/304, Yogyakarta, Indonesia
Email: nikenbundaqueena@gmail.com

1. INTRODUCTION

Adolescents were a population in the age range of 10-19 years according to the World Health Organization (WHO) which is estimated to be nearly 1.2 million worldwide. In some countries the proportion of adolescents is almost 25% of the total population [1]. In 2018 there were an estimated 12.8 million births among adolescent girls aged 15–19 years, representing 44 births per 1,000 adolescent girls. Adolescent Birth Rates are lowest in high-income countries (12 births per 1,000 adolescent girls) and highest in low-income countries (97 births per 1,000). Indonesia was the 37th country with a high percentage of young marriage and is the second highest in Association of Southeast Asian Nations (ASEAN) after Cambodia. The adolescent birth rates were very high in Indonesia, at 48.0 per 1,000 women in 2010. Child marriage often leads to childbirth at a young age, which can endanger the safety of both mother and baby [2]. Pregnancy and childbirth complications are estimated to be the leading cause of death among 15-19-year-old girls worldwide. Adolescents aged 15-19 years have greater maternal health risks than women just a few years older [3].

Adolescence was the vulnerable periode to reproductive health problems. These problems include early pregnancy, unsafe abortion, sexually infections transmitted (STIs) including the human immunodeficiency virus (HIV), sexual abuse. The proportion of women aged 15 to 19 who gave birth in Indonesia also increased from 9% in 2007 to 10% in 2012. Many young people initiate sexual activity during

adolescence. Boys are more likely to have ever had sex than girls. Data on adolescent sexual experiences, it is known that male adolescents who have had sexual intercourse are higher (8%) than female adolescents (2%) [4]. Sexual intercouse during the adolescence related to pornograph access [5]. A study in 2020 stated that there was a significant relationship between gender with pornographic access behavior (p-value 0.001). Males have a higher percentage to access pornography than females [6].

Health risks to adolescent girls need attention. The agreement of United Nations Children's Fund (UNICEF) and United Nations Fund for Population Activity (UNFPA) as well as WHO on health adolescent reproductive in 1989, that there is a need for efforts to solve adolescent health problems as a transition period from adolescence to adulthood. In this period, it is quite crucial, considering that adolescence is a process of physical, psychological and changes behavioral that greatly affect the health status of adolescents. The efforts to solve adolescent health problems is providing quality education and reproductive health services for adolescent [7].

Youth and young people access for sex education and reproductive health services to comprehensive and youth-friendly was limited therefore, adolescents' reproductive health knowledge was still low. Data showed that most of adolesccents had little or no understanding about adolescent reproductive health. The above points indicate the importance of education to prevent reproductive health problems. Reproductive health services need to available in the community. These include health education, counselling, and provision of contraceptive services [8]. Meanwhile, reproductive health education in Indonesia was generally carried out in the form of counseling by institutions outside of schools, such as the National Population and Family Planning Agency (BKKBN) and Indonesian Family Planning Association (PKBI). Research shows that adolescents in developing countries are in dire need of education reproductive health. There was an influence of health education on adolescent knowledges and attitudes about reproductive health [9].

The majority of girls said they communicated menstruation to their friends compared to their mothers or fathers. About 37.3% of adolescent girls have low knowledge about menstruation. The role of friends is very important in providing information to adolescents. Other research stated that the delivery of health education reproductive by a peer group with five days of peer sessions could increase knowledge on health reproductive. There were observable positive changes in views and opinions of the respondents on STIs and HIV, HIV anti-stigma and the use of condoms [10], [11]. Other studies have shown that school-based healthcare in adolescent sexual, reproductive, and mental health is very effective. However, to be more effective, it still requires continuity of services in the family and community. School-based sexual and reproductive health is the best alternative to get more adolescents in providing sexual and reproductive health information [12].

There had been several studies that prove that peer education is a method an effective for adolescents. A systematic review showed that using peer education could enhance the knowledge, attitude, practice, self-efficacy, positive behavior of adolescents toward health issues and as a result, it will promote the adolescent health. Other reseach showed that peer education can increase the average score before and after the intervention for knowledge and attitudes of adolescents about reproductive health. Peer education was associated with 36% decreased rates of HIV infection among overall high-risk groups (OR: 0.64; 95%, CI: 0.47–0.87). Peer education can promote HIV testing, condom use, and unprotected sex. Time trend analysis revealed that peer education had a consistent effect on behavior change for over 24 months [10], [13]. Several previous studies have shown peer educators increase knowledge in adolescent girls. However, there is no comparison between the increase in knowledge about reproductive health by peers and another trained person in this case is the counseling teacher. The purpose of this study is to know the effectiveness of peer educators and guidance counselling teachers in adolescent reproductive health level of knowledge.

2. RESEARCH METHOD

This research was a quantitative study with a quasi-experimental design nonequivalent control group design. The treatment group were respondents who were given information and assistance through peer educators. The second group as the control group were respondents counseling who were given information by the teacher four times for three months.

This study was to determine the effectiveness of peer educators on the level of reproductive health level of knowledge of females adolescent ofe senior high school grade XI. The approach to this research is a behavioral science approach so that in this study an approach is used according to the Procede Precede theory [14]. In this study, what was examined was the change in the level of knowledge of high school students after being given information about adolescent reproductive health by providing information by peer educators as the treatment group and providing information by the guidance and counselling teacher as the control group. Both of groups used the same module of adolescents' reproductive health.

The 35 samples were obtained according to Lemeshow for each treatment group, so that the total sample size was 70 people [15]. The inclusion criteria in this study were: i) Students living with parents were identified from interviews; ii) Have a mobile phone that can be used to access information known from interviews; and iii) Students who are willing to become respondents and willing to be given treatment and sign an agreement after the explanation. The exclusion criteria in this study were students who did not take the pre test or post test or did not receive information from peer educators or counseling teachers.

Measurement of the pre and posttest knowledge level using a questionnaire. The questionnaire was about reproductive health such as anemia also HIV. First step was pretest and the next step the two groups were given intervention in the form of increased knowledge by peer educators as the group treatment and by the counseling teacher as the control group. And the last step was post test witsh the same queastionnare as pre test. The analysis used were univariate, bivariate and multivariate. Ethical clearance this study was obtained from Ethical Commitee Poltekkes Kemenkes Yogyakarta No. e-KEPK/POLKESYO/0101/V/2019.

3. RESULTS AND DISCUSSION

3.1. Respondent's characteristics

This research respondents was senior high school students (class XI). Respondents' characteristic based on participation of organizations inside and outside school, parents' education, parents' income, frequency interaction to peer and teacher and number of sources of information as well as homogenity of the two research groups. The age range of the respondents was 15-17 years. Hence, the largest group age was 16 years (81.4%).

Based on Table 1, it is known that the most of the respondents attended organizations school both in the experimen group (57.1%) and the control group (62.9%). For participation in organizations outside of school the proportion differed in the two study groups. The largest proportion of the level education of the respondent's father is secondary education (48.6%) for the experiment group and 42.9% for the control group. However, for the control group the proportion of high school education is the same as middle school. Maternal education is mostly secondary education, both in the experiment group (54.3%) and the control group (51.4%).

The proportion of the respondent's parents' income is also the majority more than index in each regency. The number of sources of information on adolescent reproductive health majority >7 sources. The majority of sources of information are through television, the internet, teachers and friends. Frequency interaction for peer majority is not in accordance with the program in the study as 12 times interaction for (65.7%) and teachers was in accordance with the program (97.1%).

Table 1. Frequency distribution of respondents

Variable	Experimen/Peer		Control/Teachers		Homogenity
	N	%	n	%	
Participation of organizations in schools					
No	15	42.9	13	37.1	0.624
Yes	20	57.1	22	62.9	(homogen)
Participation of organizations outside school					
No	16	45.7	19	54.3	0.473
Yes	19	54.3	16	45.7	(homogen)
Father's education					
Basic	5	14.3	5	14.3	0.875
Intermediate	17	48.6	15	42.9	(homogen)
High	13	37.1	15	42.9	
Mother's education					
Basic	5	14.3	7	20	0.815
Intermediate	19	54.3	18	51.4	(homogen)
High	11	29.4	10	26.6	
Parents' income					
<index	12	34.3	9	23.7	0.434
≥index	21	65.7	24	74.3	(homogen)
Number of information sources of adolescent reproductive health (ARH)					
<7	11	29.4	11	29.4	1.000
≥7	22	68.6	22	68.6	(homogen)
Interaction frequency with peer/teacher					
<12	21	65.7	1	2.9	
12	12	34.3	34	97.1	

3.2. Adolescents' reproductive health knowledge

The level of knowledge about reproductive health in the pre-test of both the experiment and the control groups was devide in two categories. The first category was good knowledge level for >76% rights answer. The second category was poor knowledge level for less than 76% rights answer.

Table 2 shows that the level of knowledge about reproductive health in pre-test both groups were poor category. In experiment group was 77.1% and 82.9% in the control group. Different with the pre test, post stest showed that poor category in experiments grup 88.6%, while in the control group the proportion of the level of knowledge poor category was decrease up to to 34.3%.

Table 2. Frequency distribution of knowledge level about adolescents' reproductive health pre dan post test in two groups

Variable	Experiment/Peer		Control/Teachers	
	n	%	n	%
Level knowledge pre test				
Poor	25	77.1	27	82.9
Good	8	22.9	6	17.1
Level knowledge post test				
Poor	29	88.6	12	34.3
Good	4	11.4	21	65.7

3.3. Bivariate analysis

Bivariat analysis used for analysis sources of information, participation of organizations inside and outside of school, and the number interaction to adolescent reproductive health knowledge after treatment. Bivariate analysis were done for each independent variable with the dependent variable. P-value <0.05 was used to consider the associated variables.

In Table 3, it showed that provision of information on adolescent reproductive with a value of p=0.000. The number of sources of information with a value of p=0.430. The participation of respondents in school organizations with value p=0.086, and for participation in non-school organizations and p=0.688. Bivariate analysis showed that the level of knowledge after treatment with a value of p=0.007.

Table 3. Bivariate analysis

Variable	Knowledge levels				p-value
	Poor		Good		
	n	%	n	%	
Research group					
Peer	29	88.6	4	11.4	0.000
Teachers	12	34.3	21	65.7	
Total	43	61.4	25	38.6	
Information sources					
<7 sources	15	68.2	7	29.8	0.430
>7 sources	26	58.3	20	41.7	
Total	43	61.4	25	38.6	
Participation of organizations outside of school					
No	18	51.4	17	48.6	0.086
Yes	23	71.4	10	26.6	
Total	43	61.4	25	38.6	
Participation of organizations in schools					
No	18	64.3	10	35.7	0.688
Yes	23	59.5	17	40.5	
Total	43	61.4	25	38.6	
Interaction frequency with peer/teacher					
<12 times	20	83.3	4	16.7	0.007
12 times	21	50	21	50	
Total	43	61.4	25	38.6	

3.4. Multivariate analysis

The variables with p-value <0.23 were analyzed for multivariate analysis. Logistic regression was used for multivariate analysis. The final results of the multivariate analysis are presented in Table 4. The results of multivariate analysis in Table 4 shows that providing information by guidance and counselling teachers is increase respondents' knowledge about adolescent reproductive health with a value of p=0.000 with an exp B of 15.480. Adolescence is period of transition from chidhood to adulthood, during which there

is rapid growth, including reproductive functions, so that it affects changes developmental, both physical, mental, and social roles [1]. Lack of knowledge is alleged to be one of the causes of risky sexual behavior in adolescents [16], [17]. It is necessary to provide information about reproductive health to adolescents as an effort to prevent risky behavior in adolescents. Previous study stated that the positive impact of getting the right information and knowledge about reproductive health is able to prevent premarital sex behavior, unwanted pregnancy, human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), and STIs [18].

Table 4. Analysis of multivariate factors related to the level of knowledge of adolescent reproductive health after treatment

Variable	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
			Lower	Upper
Information about reproductive health	0.000	15.480	4.242	56.225
Participation of organizations outside of school	0.117	0.383	0.115	1.251

In this study, the provision of information on adolescent reproductive health was carried out by peer counselors and guidance counseling teachers. The improvement of adolescent reproductive health can be seen from the knowledge about HIV, anemia among high school female students. Some studies had shown peer educator are effective at increasing knowledge about HIV in adolescents [19], [20]. A previous systematic review stated that improving knowledge of transmission routes with peer-based educational interventions seems to be particularly effective. The studies demonstrated significantly higher knowledge of sexual transmission of HIV among the intervention group having administered peer-education interventions [21].

In this study, it shows that the provision of information about health reproductive to adolescents statistically shows significance with a value of p=0.000. The frequency of interaction is also significant with p=0.007, where the number of interactions that are not in accordance with this research program has a proportion of the level of knowledge that is less than those more frequent interaction to the peer and teacher according to this research program. Learning about sex and reproductive health from peers and teachers is associated with adolescents' positive beliefs about having risky behavior which in turn are associated with their engagement in those same behaviors. Adolescents who frequently communicate with their friends and teachers about sex hold more positive expectancies about the social benefits and pleasure associated with sex, and are less likely to have expectancies about risk behavior [22].

The control group (teachers) is more optimal in guidance and counseling providing information to respondents, as same as previous study that school-based healthcare in adolescent sexual, reproductive, and mental health is very effective even though in this case the role of teachers is more effectively disseminated. with the peer role It is possible that a different approach is used between the teacher and the peer. Guidance counseling teachers also have as professionals who have the capacity to provide information about adolescent health [23]. School-based sex education plays a vital role in the sexual health and well-being of young people. Topics of reproductive health education can be addressed successfully across the curriculum is encouraging and offers much needed flexibility to schools, both in terms of available time and talented teachers to tackle difficult and important topics [24].

Sources of information about reproductive health for adolescents are from school books, television, teachers, friends and parents in the order same the previous study. The dissemination of reproductive health information is needed to help adolescents gain insights on decision making toward positive reproductive health and protect them from reproductive health risks [25]. Teachers had an important role in increasing knowledge of Adolescent Reproductive Health in their students [26]. Adolescent Reproductive Health Education by teachers is an effort to address student reproductive health problems. Teachers had a major role in the world of education, this is because teachers interact directly with students in providing education. The importance of teachers´ competence its effect on student learning. In general, research has indicated that specific cognitive abilities and personality characteristics determine to what extent teachers can be effective in delivering high quality instruction [27]. Education was shown to be a factor associated with HIV awareness as adolescents with at least a primary education reported high levels of HIV awareness compared to those without any formal schooling. Young adolescents with adequate HIV knowledge will most likely know how to protect themselves and are less likely to stigmatize those infected or affected as the survey observed that stigmatizing tendencies were low among young adolescents with comprehensive HIV knowledge. Schools as sources of HIV information [AOR=8.06, 95% C.I (1.70–38.33), p<0.001] was associated with comprehensive HIV knowledge [28]. The other studies, many adolescents lack knowledge of STIs other than HIV. About 55.9% did not know about STIs. While in the multivariate analysis being in

school was significant positive correlates of STI knowledge [11]. Other reseach showed that parents and teachers found the idea of screening for STIs in adolescent girls to be acceptable, and were comfortable with research staff contacting girls through informational meetings at schools [29].

The participation of organizations and information sources does not significant to level of knowledge of adolescents. Other study showed that there was no difference in the level of knowledge and attitudes of students about adolescent reproductive health based on participation in the adolescent information and counseling center (PIK-R) program [30]. Nevertheless, another study stated that there is relationship between the use of PIK-R and knowledge of reproduction in adolescents [31]. It is important to identify the characteristics of youth in terms of organizational participation. This is related to environment around them that can influence a behavior. Several studies have shown that the environmental factors were the role of parents, the role of school, the role of friends or the community. Adolescents are in the developmental stage of expanding and exploring friendships. The results from a systematic review in 2019 highlight a body of evidence supporting the importance of peer networks on adolescent health behaviors through social processes [32].

Multivariate analysis showed that the guidance and counseling teachers have an exp B 14.6 times more good knowledge than peer. It refers to previous study that to improve and increase knowledge and preventing early marriage it is necessary to have formal activities at school. Eventough, health policies must combine interventions at the individual, school, and family levels [33]. Previous study showed that to improve students' reproductive health khowledge need to support and improved teachers' knowledge, comfort, and skills for delivering sexual health education in junior and high schools. Curriculum guided teachers need to built in their implementation of content, activities, and assessment strategies, providing a structured and unique focus on building students' health [34].

4. CONCLUSION

There is an effect of providing information by guidance counselling teachers with the level of knowledge counseling respondents about adolescent reproductive health. There were increase level of knowledge in post test results. The role of counseling teachers cannot be replaced by peers, so that these two roles can be carried out together to make it more effective.

ACKNOWLEDGEMENTS

The authors thank to Director Poltekkes Kemenkes Yogyakarta for this research funding and also for all enumerators, respondents, teachers, peers and all of the contributor in this study.

REFERENCES

[1] World Health Organization, "Adolescents Health," 2021. [Online]. Available: https://www.who.int/health-topics/adolescent-health.
[2] World Health Organization, "World Health Statistics 2019: Monitoring Health for The SDGs," 2019. [Online]. Available: https://reliefweb.int/report/world/world-health-statistics-2019-monitoring-health-sdgs.
[3] M. Liang *et al*., "The state of adolescent sexual and reproductive health," *Journal of Adolescent Health*, vol. 65, no. 6, pp. S3–S15, 2019, doi: 10.1016/j.jadohealth.2019.09.015.
[4] UNFPA, UNESCO, and WHO, "Sexual and reproductive health of young people in asia and the pacific: A review of issues, policies and programmers," Bangkok, 2015. [Online]. Available: https://asiapacific.unfpa.org/sites/default/files/pub-pdf/UNFPA SHR YP%0AAP_2015 for web-final.pdf.
[5] Y. Damtie *et al.*, "Pre-marital sex and its association with peer pressure and watching pornography among young individuals in Ethiopia: a systematic review and meta-analysis," *Scientific Reports*, vol. 12, no. 1, pp. 1–11, 2022, doi: 10.1038/s41598-022-13448-y.
[6] N. Meilani, N. Setiyawati, and S. O. Barasa, "Factors Related Pornographic Access Behaviour Among High School Students in Yogyakarta, Indonesia," *Malaysian Journal of Public Health Medicine*, vol. 20, no. 2, pp. 123–130, 2020, doi: 10.37268/mjphm/vol.20/no.2/art.801.
[7] T. national development planning Agency, *National strategy on the prevention of child marriage*. Jakarta: The national development planning agency, 2020.
[8] J. M. Kyilleh, P. T. N. Tabong, and B. B. Konlaan, "Adolescents' reproductive health knowledge, choices and factors affecting reproductive health choices: A qualitative study in the West Gonja District in Northern region, Ghana," *BMC International Health and Human Rights*, vol. 18, no. 1. 2018, doi: 10.1186/s12914-018-0147-5.
[9] S. Sinaga and L. Natalia, "The Effects of Health Education to The Knowledge Level and Attitude of Adolescents' Reproductive Health," *Journal of Maternity Care and Reproductive Health*, vol. 1, no. 1, pp. 214–228, 2018, doi: 10.36780/jmcrh.v1i1.21.
[10] S. Akuiyibo *et al.*, "Impact of peer education on sexual health knowledge among adolescents and young persons in two North Western states of Nigeria," *Reproductive Health*, vol. 18, no. 1, pp. 1–8, 2021, doi: 10.1186/s12978-021-01251-3.
[11] J. E. Finlay *et al.*, "Sexual and reproductive health knowledge among adolescents in eight sites across sub-Saharan Africa," *Tropical Medicine and International Health*, vol. 25, no. 1, pp. 44–53, 2020, doi: 10.1111/tmi.13332.
[12] S. Yusran, Y. Sabilu, N. Yuniar, H. Hanafi, and H. Badara, "The needs of sexual and reproductive health education for secondary

school in Kendari City, Southeast Sulawesi, Indonesia," *Indian Journal of Science and Technology*, vol. 11, no. 23, pp. 1–9, 2018, doi: 10.17485/ijst/2018/v11i23/110489.
[13] V. Ghasemi, M. Simbar, F. R. Fakari, M. S. G. Naz, and Z. Kiani, "The effect of peer education on health promotion of iranian adolescents: A systematic review," *International Journal of Pediatrics*, vol. 7, no. 3, pp. 9139–9157, 2019, doi: 10.22038/ijp.2018.36143.3153.
[14] S. Schieder and M. Spindler, "Green theory in international relations," *Theories of International Relations*, no. May, pp. xi–xi, 2014, doi: 10.4324/9781315797366.
[15] P. S. Leny and S. Lemeshow, *Solutions manual to accompany sampling of populations methods and aplications*. New Jersey A John Wiley & Sons, Inc Publication, 2009.
[16] R. Keyte, H. Egan, and M. Mantzios, "An exploration into knowledge, attitudes, and beliefs towards risky health behaviours in a paediatric cystic fibrosis population," *Clinical Medicine Insights: Circulatory, Respiratory and Pulmonary Medicine*, vol. 13. 2019, doi: 10.1177/1179548419849427.
[17] S. M. Ayu, L. Sofiana, M. Wibowo, E. Gustiana, and A. Setiawan, "Predisposing, enabling and reinforcing factors of premarital sex behavior in school adolescents," *Public Health Journal*, vol. 15, no. 1, pp. 29–38, 2019, doi: 10.15294/kemas.v15i1.14226.
[18] Murdiningsih, Rohaya, S. Hindun, and Ocktariyana, "The effect of adolescent reproductive health education on premarital sexual behavior," *International Journal of Public Health Science*, vol. 9, no. 4, pp. 327–332, 2020, doi: 10.11591/ijphs.v9i4.20444.
[19] T. Wong, J. R. Pharr, T. Bungum, C. Coughenour, and N. L. Lough, "Effects of peer sexual health education on college campuses: A Systematic Review," *Health Promotion Practice*, vol. 20, no. 5, pp. 652–666, 2019, doi: 10.1177/1524839918794632.
[20] D. Ariyaniwulandari and N. Y. Syarifah, "The effect of the peer education for adolescent in improving knowledge on HIV AIDS prevention in Sleman Regency," *Atlantis press*, vol. 13, no. Ichs 2018, pp. 76–80, 2019, doi: 10.2991/ichs-18.2019.9.
[21] L. Faust and S. Yaya, "The effect of HIV educational interventions on HIV-related knowledge, condom use, and HIV incidence in sub-Saharan Africa: A systematic review and meta-analysis," *BMC Public Health*, vol. 18, no. 1, pp. 1–14, 2018, doi: 10.1186/s12889-018-6178-y.
[22] A. Bleakley, A. Khurana, M. Hennessy, and M. Ellithorpe, "How patterns of learning about sexual information among adolescents are related to sexual behaviors," *Perspectives on Sexual and Reproductive Health*, vol. 50, no. 1, pp. 15–23, 2018, doi: 10.1363/psrh.12053.
[23] A. J. Mason-Jones, C. Crisp, M. Momberg, J. Koech, P. De Koker, and C. Mathews, "A systematic review of the role of school-based healthcare in adolescent sexual, reproductive, and mental health," *Systematic Reviews*, vol. 1, no. 1, 2012, doi: 10.1186/2046-4053-1-49.
[24] E. S. Goldfarb and L. D. Lieberman, "Three decades of research: The case for comprehensive sex education," *Journal of Adolescent Health*, vol. 68, no. 1, pp. 13–27, 2021, doi: 10.1016/j.jadohealth.2020.07.036.
[25] S. L. Nasution, S. Kistiana, M. Gayatri, and M. M. P. Naibaho, "Reproductive health knowledge among adolescents in Indonesia: The role of family structure," *The Family Journal*, p. 10664807221090950, 2022, doi: 10.1177/10664807221090950.
[26] Y. Yuhanah, "Factor analysis related to adolescent healt reproductive behavior in the Samaturu high school student in Kolaka," *Journal of research and community service UNSIQ*, vol. 7, no. 1, pp. 48–54, 2020, doi: 10.32699/ppkm.v7i1.1015.
[27] I. M. Pit-Ten Cate, M. Markova, M. Krischler, and S. Krolak-Schwerdt, "Promoting inclusive education: The role of teachers' competence and attitudes," *Insights into Learning Disabilities*, vol. 15, no. 1, pp. 49–63, 2018.
[28] T. Badru *et al.*, "HIV comprehensive knowledge and prevalence among young adolescents in Nigeria: Evidence from Akwa Ibom AIDS indicator survey, 2017," *BMC Public Health*, vol. 20, no. 1, pp. 1–10, 2020, doi: 10.1186/s12889-019-7890-y.
[29] D. M. Citrawathi, A. Y. A. Bakar, P. B. Adnyana, N. L. P. M. Widiyanti, and I. K. Sudiana, "Effect of the problem-based adolescent reproductive health module on students' life skills and attitudes," *Horizonal Education*, vol. 41, no. 3, pp. 731–741, 2022, doi: 10.21831/cp.v41i3.48303.
[30] M. I. Juliana, M. D. Rahmayanti, and M. E. Astika, "Knowledge level and attitudes of junior high school students based on participation in the adolescent information and counseling center program," *Nursing world*, vol. 6, no. 2, pp. 97–106, 2018, doi: 10.20527/dk.v6i2.5556.
[31] D. Hastuti, Alfiasari, N. Hernawati, Oktriyanto, and M. D. Puspitasari, "Effectiveness of 'PIK-R' program as an extracurricular for high/vocational school students in preventing negative behaviors of adolescents," *Horizonal Education*, vol. 38, no. 1, pp. 1–15, 2019, doi: 10.21831/cp.v38i1.22283.
[32] S. C. Montgomery, M. Donnelly, P. Bhatnagar, A. Carlin, F. Kee, and R. F. Hunter, "Peer social network processes and adolescent health behaviors: A systematic review," *Preventive Medicine*, vol. 130, p. 105900, 2020, doi: 10.1016/j.ypmed.2019.105900.
[33] A. B. Bozzini, A. Bauer, J. Maruyama, R. Simões, and A. Matijasevich, "Factors associated with risk behaviors in adolescence: a systematic review," *Brazilian Journal of Psychiatry*, vol. 43, no. 2, pp. 210–221, 2021, doi: 10.1590/1516-4446-2019-0835.
[34] L. E. Szucs *et al.*, "School district-provided supports to enhance sexual health education among middle and high school health education teachers," *Teaching and Teacher Education*, vol. 92, p. 103045, 2020, doi: 10.1016/j.tate.2020.103045.

BIOGRAPHIES OF AUTHORS

Niken Meilani is a lecturer in Poltekkes Kemenkes Yogyakarta, Department of Midwifery since 2006. Niken Meilani received her master degree in Health Promotion/ Reproductive Health and HIV AIDS program Universitas Diponegoro. She also an awardee from Netherlands Fellowship Program for shortcourse about Reproductive Health Rights including HIV AIDS in Royal Tropic Institute Amsterdam, Netherlands. And now she was going on her Doctoral Program Extention Communication Development Study Program in Universitas Gadjah Mada Yogyakarta. She has researched and published in the area adolescent reproductive health. She has written several papers in those areas of health promotion and reproductive health. She can be contacted at email: nikenbundaqueena@gmail.com.

Nanik Setiyawati is a midwife and lecturer in Poltekkes Kemenkes Yogyakarta, Indonesia, at Midwifery Department. Her basic educational is Magister Health Promotion Diponegoro University Semarang Indonesia, concentration of health reproductive and HIV/AIDS. She focuses of the research and study about Reproductive Health Care. She can be contacted at email: nanikyogya@gmail.

KELENGKAPAN BERKAS

BUKTI KORESPONDENSI
ETHICAL CLEARANCE
TURNITIN

Judul artikel

The Effectiveness of peer educator and guidance counselling teachers to knowledge of reproductive health

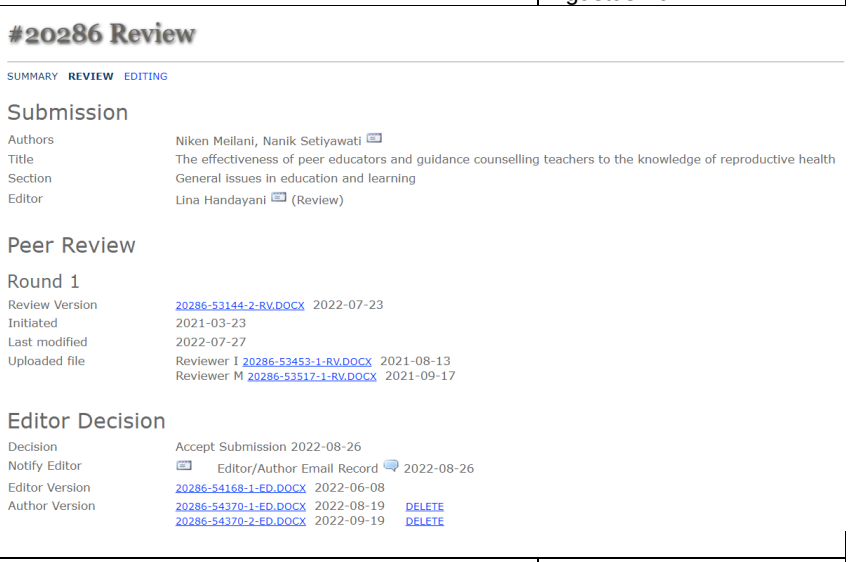
BUKTI KORESPONDENSI

BUKTI KORESPONDENSI

ARTIKEL JURNAL NASIONAL PERINGKAT 2

Judul artikel : The Effectiveness of peer educator and guidance counselling teachers to knowledge of reproductive health

Jurnal : Journal of Education and Learning (Edulearn),
Penulis : Niken Meilani (Penulis 1 dan korespondensi)

No	Perihal	Tanggal
1	Submit melalui OJS	23 Maret 2021
2	Proses Review dan pengembalian revisi	27 Juni 2022 s.d. 13 Agustus 2022
		
3	Naskah diterima	26 Agustus 2022
4	Pengiriman revisi akhir	19 September 2022

EMAIL DARI EDITOR:

Editor/Author Correspondence

Editor
2021-08-31
04:36 AM

DELETE
Subject: [EduLearn] Editor Decision
-- Guide of authors and Template: http://iaescore.com/gfa/edulearn.docx
---

Dear Prof/Dr/Mr/Mrs: Niken Meilani,

We have reached a decision regarding your paper submission entitled "The Effectiveness between Peer Educators and Guidance Counselling Teachers to Reproductive Health Level Knowledge Among Senior Hugh School Girls Students" to Journal of Education and Learning (EduLearn). This journal is ACCREDITED (recognised) by the Ministry of Research, Technology and Higher Education, Republic of Indonesia (RISTEKDIKTI, Decree No: 60/E/KPT/2016) and SINTA 2 (http://sinta.ristekbrin.go.id/journals/detail?id=919).

Our decision is to: Revisions Required
Each citation should be written in the order of appearance in the text in square brackets. For example, the first citation [1], the second citation [2], and the third and fourth citations [3,4]. When citing multiple sources at once, the preferred method is to list each number separately, in its own brackets, using a comma or dash between numbers, as such: [1], [3], [5] or [4-8]. It is not necessary to mention an author's name, pages used, or date of publication in the in-text citation. Instead, refer to the source with a number in a square bracket, e.g. [9], that will then correspond to the full citation in your reference list. Examples of in-text citations:
This theory was first put forward in 1970 [9]."
Handayani [10] has argued that...
Several recent studies [7], [9], [11-15] have suggested that....
...end of the line for my research [16].

Please take the Editor and/or Reviewers comments into account where appropriate in preparing your final manuscript.

- TEMPLATE: http://iaescore.com/gfa/edulearn.docx. Please follow this guideline to ensure that your final file is complete and in the correct format.
- The “result and discussion” section reports the most important findings, including results analyse as appropriate.

Submit your revised paper through our online system at same paper ID number as "AUTHOR VERSION" within 8 weeks. At least submit your revised paper in MS Word file format to edulearn@uad.ac.id within 8 weeks.

We are looking forward to receiving your revised paper.

Best Regards,
Lina Handayani
Managing Editor
edulearn@uad.ac.id

Editor Guidelines - How to prepare your revised paper:
---

1. Is your manuscript written in the Journal of Education and Learning (EduLearn) format? At this stage, it is not that essential that you follow every detail of EduLearn format. Please try to follow the format as closely as possible.
2. Is your title adequate and is your abstract correctly written? The title of paper is max 10 words, without Acronym or abbreviation. The Abstract (within 100-200 WORDS) should be informative and completely self-explanatory (no citation in abstract), provide a clear statement of the problem, the proposed approach or solution, and point out major findings and conclusions.
3. Authors are suggested to present their articles in the section structure: Introduction – The explanation of the Proposed Method/Algorithm (optional) - Research Method - Results and Discussion – Conclusion.
4. The author is also suggested to describe the real problem existing (to be listed in the References) in “introduction section” in order to satisfy the criteria of this scientific journal which has to introduce any novelties, improvement etc from the research work prior to the problem solving done or proposed by the author as a significant contribution. This critical point is available in the guideline for the author provided by the Editor.
5. The results of research and analysis are NOT incisively provided in the paper. You should improve your analyzing and also present the comparison between performance of your approach and other researches. It is very important to prove that your manuscript has a significant value and not trivial.
6. Please be sure that the manuscript is up to date. It is expected that 10 to 20% of references are to recent papers.
7. What is a likelihood of citation of your manuscript? Please notice that very soon your technical accomplishments will be evaluated based on the number of citations but not based on the number of papers published. Therefore, your paper should very clearly describe your accomplishments so other people can understand what is your original contribution.
8. Is the manuscript clearly written? Is the article exciting? Does the content flow well from one section to another? Please try to keep your manuscript on the proper level. It should be easy to understand by well qualified professionals, but at the same time please avoid describing well known facts (use proper references instead). Often manuscripts receive negative reviews because reviewers are not able to understand the manuscript and this is authors' (not reviewers') fault. Notice, that if reviewers have difficulties, then other readers will face the same problem and there is no reason to publish the manuscript.
9. Do you have enough references? We will usually expect a minimum of 25 to 30

references primarily to journal papers (min 75%), depending on the length of the paper. Citations of textbooks should be used very rarely and citations to web pages should be avoided. All cited papers should be referenced within the text of the manuscript.

Please be aware that for the final submission of regular paper you will be asked to tailor your paper so the last page is not half empty.

Reviewer I:

Does the title of the paper accurately reflect the major focus contribution of this paper?:
No

If No, Please suggest change of the title as appropriate:
The Effectiveness of Peer Educators in improving Reproductive Health Knowledge among Senior High School Girls Students

Is the abstract an appropriate and adequate digest of the work?:
No

If No, Please suggest change of the abstract as appropriate::
the abstract should adjusted to the new title

Is the paper clear, concise, and well organized?:
Yes

If No, Please suggest change of the organizing as appropriate::

Rate of the contribution strength to the field is represented in this paper?:
Good

Rate the scientific quality of the paper?:
Good

Do authors place the paper in proper context by citing relevant papers?:
No

Is the paper free from obvious errors, misconceptions, or ambiguity?:
No

Is the paper written in correct English?:
No

If No, please note grammatical errors and suggest corrections::
The author need to revise the paper in order to use more appropriate tenses and vocabulary for the context.

Are the references in EduLearn style?:
No

Are the figures and tables in EduLearn style, clear, relevant, and are the captions adequate?:
Yes

Is the length of the paper adequate?:
Yes

Please mark appropriate scale for the overall grade for this paper? (A score of 7 of 10 or above typically provides ground for EduLearn acceptance):
8

OTHER Reviewer's comments and suggestions to improve the paper. (If it is not possible, kindly please use separate sheets or a copy of the paper for comments and suggestions for revision. Indicate whether revisions are mandatory or suggested. Please use word processing type format if possible, and then upload in this system or submit via email to EduLearn@journal.uad.ac.id):
Revision is mandatory for publication in the journal. The author need to fix all the typos, including tenses and vocabulary used in the paper. the author also need to cite correctly all the reference in the text and in the references list. some additional references are needed from the recent studies in regards to peer education, such as:
http://medicopublication.com/index.php/ijfmt/article/view/12043/11068,
https://www.jphres.org/index.php/jphres/article/view/1972
doi: 10.17051/ilkonline.2021.01.67
https://doi.org/10.1002/hpja.400
https://medicopublication.com/index.php/ijfmt/article/view/286
https://e-journal.unair.ac.id/MKP/article/view/11877

Journal of Education and Learning
http://edulearn.intelektual.org

Editor
2021-10-23
12:23 AM

DELETE
Subject: [EduLearn] Decision "The Effectiveness between Peer Educators and Guidance Counselling Teachers to Reproductive Health Level Knowledge Among Senior Hugh School Girls Students"
-- Number of minimum references is 25 primarily journal articles published in the last five years
-- The references must be presented in numbering and CITATION ORDER (in the body paper) is SEQUENTIAL [1], [2], [3], [4], ...
-- Guide of authors and Template: http://iaescore.com/gfa/edulearn.docx
==========

Dear Prof./Dr./Mr./Mrs.: Niken Meilani,

It is my great pleasure to inform you that your paper entitled "The Effectiveness between Peer Educators and Guidance Counselling Teachers to Reproductive Health Level Knowledge Among Senior Hugh School Girls Students" has been ACCEPTED with minor revisions, and will be published in the Journal of Education and Learning (EduLearn). Your paper will be published for forthcoming issue. Congratulations!

Authors are encouraged to carefully consider the reviewers comments and suggestions for improvement of their manuscript and for preparing their paper strictly follow the guide of authors (NEW TEMPLATE: http://iaescore.com/gfa/edulearn.docx. Please follow these guidelines to ensure that your final file is complete and in the correct format).
- This journal ONLY publishes high quality papers. A high quality paper MUST has: 1) a clear statement of the problem the paper is addressing; 2) the proposed idea(s)/solution(s); and 3) results achieved. It describes clearly what has been done before on the problem, and what is NEW? The goal of your final camera ready paper is to describe NOVEL TECHNICAL RESULTS.
- Make sure that your discussion section is suitable. The “result and discussion” section reports the most important findings, including results analyse as appropriate.
- The title summarizes the main idea or ideas of your study (title is “summary” and “essence” of your paper). Title should be “encompassing” as well as “descriptive”. A good title contains the fewest possible words needed to adequately describe the content and/or purpose of your research paper. Rarely use abbreviations or acronyms unless they are commonly known.

Submit final paper through our online system as author version (but if you reach any problems, you can submit your updated paper to email: EduLearn@uad.ac.id cc: EduLearn@journal.uad.ac.id) within 3 weeks

Your cooperation is very appreciated

Best Regards,
Lina Handayani
Managing Editor
edulearn@uad.ac.id

---------- ######### - IMPORTANT - ######### ----------

- For original research paper, there are four (4) types of novel technical results: 1) An algorithm; 2) A system construct: such as hardware design, software system, protocol, etc.; The main goal of your revised paper is to ensure that the next person who designs a system like yours doesn't make the same mistakes and takes advantage of some of your best solutions. So make sure that the hard problems (and their solutions) are discussed and the non-obvious mistakes (and how to avoid them) are discussed; 3) A performance evaluation: obtained through analyses, simulation or measurements; or 4)

A theory: consisting of a collection of theorems. Your final camera ready paper should focus on: 1) Describing the results in sufficient details to establish their validity; 2) Identifying the novel aspects of the results, i.e., what new knowledge is reported and what makes it non-obvious; and 3) Identifying the significance of the results: what improvements and impact do they suggest. Number of minimum references for an original research paper is 25 references (included 20 recent journal articles).

- For review paper, the paper should present a critical, constructive analysis of the literature in a specific field through summary, classification, analysis and comparison. The function and goal of the review paper is: 1) to organize literature; 2) to evaluate literature; 3) to identify patterns and trends in the literature; 4) to synthesize literature; or 5) to identify research gaps and recommend new research areas. The structure includes:
1. Title – in this case does not indicate that it is a review article.
2. Abstract – includes a description of subjects covered.
3. Introduction includes a description of context (paragraph 1–3), motivation for review (paragraph 4, sentence #1) and defines the focus (paragraph 4, sentences #2–3)
4. Body – structured by headings and subheadings
5. Conclusion – states the implications of the findings and an identifies possible new research fields
6. References ("Literature Review") – organised by number in the order they were cited in the text.
Number of minimum references for review paper is 50 references (and minimum 40 recently journal articles).

- Abstract: Prepare your abstract in a single paragraph and within 200 words. You need to summarize your contribution, idea, findings/results, and describe implications of the findings. Without abbreviations, footnotes, or references. Without mathematical equations, diagrams or tabular materials. It is suggested to present your abstract included the elements: 1) state the primary objective of the paper; 2) highlight the merits (or contribution; 3) give a conceptual idea on the method; 4) describe the research design and procedures/processes employed (is it simulation, experimental, survey etc.); 5) give the main outcomes or results, and the conclusions that might be drawn; and 6) include any implications for further research or application/practice, if any.

- Camera ready paper: Your final camera ready paper should reflect a careful consideration of the following criteria:
1. Analysis: your revised paper should demonstrate a clear understanding of the key issues related to your topic of choice. The paper should display analysis and not mere summary of the topic under consideration. It should also include evidence to support arguments where necessary.
2. Connections: your paper should demonstrate a connection of the references you

mention to the central topic and to each other where necessary throughout the paper.
3. Mechanics: this includes attention to punctuation, grammatical soundness and your submissions being checked for spellings errors.
4. Formatting: adhere the new guide of authors (http://iaescore.com/gfa/edulearn.docx)

Reviewer I:

Does the title of the paper accurately reflect the major focus contribution of this paper?:
No

If No, Please suggest change of the title as appropriate:
The Effectiveness of Peer Educators in improving Reproductive Health Knowledge among Senior High School Girls Students

Is the abstract an appropriate and adequate digest of the work?:
No

If No, Please suggest change of the abstract as appropriate::
the abstract should adjusted to the new title

Is the paper clear, concise, and well organized?:
Yes

If No, Please suggest change of the organizing as appropriate::

Rate of the contribution strength to the field is represented in this paper?:
Good

Rate the scientific quality of the paper?:
Good

Do authors place the paper in proper context by citing relevant papers?:
No

Is the paper free from obvious errors, misconceptions, or ambiguity?:
No

Is the paper written in correct English?:
No

If No, please note grammatical errors and suggest corrections::
The author need to revise the paper in order to use more appropriate tenses and

vocabulary for the context.

Are the references in EduLearn style?:
No

Are the figures and tables in EduLearn style, clear, relevant, and are the captions adequate?:
Yes

Is the length of the paper adequate?:
Yes

Please mark appropriate scale for the overall grade for this paper? (A score of 7 of 10 or above typically provides ground for EduLearn acceptance):
8

OTHER Reviewer's comments and suggestions to improve the paper. (If it is not possible, kindly please use separate sheets or a copy of the paper for comments and suggestions for revision. Indicate whether revisions are mandatory or suggested. Please use word processing type format if possible, and then upload in this system or submit via email to EduLearn@journal.uad.ac.id):
Revision is mandatory for publication in the journal. The author need to fix all the typos, including tenses and vocabulary used in the paper. the author also need to cite correctly all the reference in the text and in the references list. some additional references are needed from the recent studies in regards to peer education, such as:
http://medicopublication.com/index.php/ijfmt/article/view/12043/11068,
https://www.jphres.org/index.php/jphres/article/view/1972
doi: 10.17051/ilkonline.2021.01.67
https://doi.org/10.1002/hpja.400
https://medicopublication.com/index.php/ijfmt/article/view/286
https://e-journal.unair.ac.id/MKP/article/view/11877

Reviewer M:

Does the title of the paper accurately reflect the major focus contribution of this paper?:
Yes

If No, Please suggest change of the title as appropriate:

Is the abstract an appropriate and adequate digest of the work?:
Yes

If No, Please suggest change of the abstract as appropriate::

Is the paper clear, concise, and well organized?:
Yes

If No, Please suggest change of the organizing as appropriate::

Rate of the contribution strength to the field is represented in this paper?:
Good

Rate the scientific quality of the paper?:
Good

Do authors place the paper in proper context by citing relevant papers?:
Yes

Is the paper free from obvious errors, misconceptions, or ambiguity?:
No

Is the paper written in correct English?:
Yes

If No, please note grammatical errors and suggest corrections::

Are the references in EduLearn style?:
Yes

Are the figures and tables in EduLearn style, clear, relevant, and are the captions adequate?:
Yes

Is the length of the paper adequate?:
Yes

Please mark appropriate scale for the overall grade for this paper? (A score of 7 of 10 or above typically provides ground for EduLearn acceptance):
8

OTHER Reviewer's comments and suggestions to improve the paper. (If it is not possible, kindly please use separate sheets or a copy of the paper for comments and suggestions for revision. Indicate whether revisions are mandatory or suggested. Please use word processing type format if possible, and then upload in this system or submit via email to EduLearn@journal.uad.ac.id):

Journal of Education and Learning
http://edulearn.intelektual.org

Editor
2022-08-26
09:57 AM

DELETE

Subject: [EduLearn] Decision The Effectiveness between Peer Educators and Guidance Counselling Teachers to Reproductive Health Level Knowledge Among Senior Hugh School Girls Students
-- Paper ID# 20286
-- mention each table before it appears

Dear Prof./Dr./Mr./Mrs. Niken Meilani,

It is my great pleasure to inform you that your paper entitled "The Effectiveness between Peer Educators and Guidance Counselling Teachers to Reproductive Health Level Knowledge Among Senior Hugh School Girls Students" has been conditionally ACCEPTED and will be published in the Journal of Education and Learning (EduLearn). This journal is ACCREDITED (recognised) SINTA 2 (https://sinta.kemdikbud.go.id/journals/detail?id=919) and is INDEXED by ERIC Institute of Education Sciences (IES) of the U.S. Department of Education. Your paper will be published for forthcoming issue. Congratulations!

Your paper is in the final stage for publication, but revisions are required. Authors are encouraged to carefully consider the reviewers comments and suggestions for improvement of their manuscript. Pay attention also to the following instructions carefully!

1). PLEASE ADHERE STRICTLY THE GUIDE OF AUTHORS !!
http://iaescore.com/gfa/edulearn.docx and pay attention to the checklist for preparing your FINAL paper for publication:
http://edulearn.intelektual.org/index.php/EduLearn/about/editorialPolicies#custom-5

2). All articles must follow the IMRAD plus C structure: 1. INTRODUCTION - 2. The Advanced Theory/Proposed Method/Framework/... specifically designed/proposed (optional) - 3. METHOD - 4. RESULTS AND DISCUSSION – 5. CONCLUSION (all included and clearly printed). See http://iaescore.com/gfa/edulearn.docx

3). Add biographies of authors as our template (include links to all authors' profiles, do not delete any icons in the template). It is mandatory!! See
http://iaescore.com/gfa/edulearn.docx
--> Provide links for all authors to the 4 icons (Scholar, Scopus, Publons and ORCID)

4). Prepare all tables as our template (NOT as figure)

5). Use different PATTERNS for presenting different results in your figures/graphics (instead of different colors). It is mandatory!! Re-check all your figures. See http://iaescore.com/gfa/edulearn.docx

6). Please ensure that all references have been cited in your text. Use a tool such as EndNote, Mendeley, or Zotero for reference management and formatting, and choose IEEE style. Each citation should be written in the order of appearance in the text in square brackets. For example, the first citation [1], the second citation [2], and the third and fourth citations [3], [4]. When citing multiple sources at once, the preferred method is to list each number separately, in its own brackets, using a comma or dash between numbers, as such: [1], [3], [5]. It is not necessary to mention an author's name, pages used, or date of publication in the in-text citation. Instead, refer to the source with a number in a square bracket, e.g. [9], that will then correspond to the full citation in your reference list. Examples of in-text citations:
This theory was first put forward in 1970 [9].
Zadeh [10] has argued that ...
Several recent studies [7], [9], [11]-[15] have suggested that....
... end of the line for my research [16].

7). Please present all references as complete as possible and use IEEE style (include information of DOIs, volume, number, pages, etc). If it is available, DOI information is mandatory!! See http://iaescore.com/gfa/edulearn.docx

Please prepare your final paper by doing your best to avoid any delay for publication !!! Please do it seriously !!!
Submit final paper along with your similarity report and your payment evidence to email: EduLearn@uad.ac.id cc: EduLearn@journal.uad.ac.id within 4 weeks. The similarity rate should be checked by using software such as iThenticate or Turnitin (that the result is below 25%). If the similarity index is more than 25%, your paper will be rescheduled for publication until the similarity is less than 25%.

We really appreciate your total commitment to supporting this journal.

Your cooperation is very appreciated

Best Regards,
Dr. Lina Handayani

---------- ######### - IMPORTANT - ######### ----------

Abstract: Prepare your abstract in a single paragraph and within 200 words. You need to summarize your contributions, ideas, findings or results and describe the implications of the findings (without abbreviations, footnotes, or references without mathematical equations, diagrams, or tabular materials). It is recommended that you present your abstract with the following elements:
1) State the primary goal of the paper;
2) extol the virtues (or contribution);
3) describe the method conceptually;
4) Describe the research design and procedures/processes used (is it simulation, experimental, or survey, for example);
5) Provide the main outcomes or results, as well as any conclusions that may be drawn;
6) If applicable, include any implications for future research or application/practice.

This journal ONLY publishes high-quality papers. A high-quality paper should include the following components: 1) a clear statement of the problem addressed in the paper; 2) the proposed solution(s); and 3) the obtained results It clearly describes previous work on the problem as well as what is new.

Make sure that your discussion section is suitable. In the "Results and Discussion" section, the most important findings are listed, along with any necessary analysis of the results.

The title summarizes the main idea or ideas of your study (the title is the "summary" and "essence" of your paper). The title should be "encompassing" as well as "descriptive". A good title contains the fewest possible words needed to adequately describe the content and/or purpose of your research paper. Use abbreviations or acronyms rarely unless they are commonly known.

..:: Camera ready paper ::..
Your final camera ready paper should reflect a careful consideration of the following criteria:
1. Analysis: your revised paper should demonstrate a clear understanding of the key issues related to your topic of choice. The paper should display analysis and not a mere summary of the topic under consideration. It should also include evidence to back up arguments where necessary.
2. Connections: your paper should demonstrate a connection between the references you mention to the central topic and to each other where necessary throughout the paper.
3. Mechanics: this includes attention to punctuation, grammatical soundness, and your submissions' being checked for spelling errors.
4. Formatting: follow the new author's guide (http://iaescore.com/gfa/edulearn.docx).

To support the cost of wide open access dissemination of research results, to manage the various costs associated with handling and editing of the submitted manuscripts, and the journal management and publication in general, the authors or the author's institution is requested to pay a publication and layout fee.

Local (INDONESIA Authors): IDR 2500K
Overseas (International Authors): USD 165
The above fee covers the standard eight (8) pages manuscript.
For every additional page an extra fee of USD 40 (~IDR 560K) per page will be charged.

The payment should be made by bank transfer (T/T):

Bank Account name/Beneficiary (please be exact): TOLE SUTIKNO
Bank Name: Bank Syariah Indonesia (PT Bank Syariah Indonesia Tbk)
Branch Office: Yogyakarta Kusumanegara
City: Yogyakarta
Country: Indonesia
Bank Account #: 7168633321
SWIFT Code (BIC) / IBAN: BSMDIDJAXXX

or as alternative, you can pay by using PayPal to email: info@iaesjournal.com

Bank's detailed address:

Bank Syariah Indonesia (BSI)
Jl. Kusumanegara No.112, Muja Muju, Kec. Umbulharjo
City: Yogyakarta
Province: D.I. Yogyakarta
Country : Indonesia
Post Code: 55165
Indonesia, Phone:+62 274 417222

The Beneficiary’s address:

D2, Griya Ngoto Asri, RT 06, Bangunharjo, Sewon
City: Bantul
Province: D.I. Yogyakarta (DIY)
Post Code: 55187
Country: Indonesia

MASUKAN DARI REVIEWER:

The Effectiveness between Peer Educators and Guidance Counselling Teachers to Reproductive Health Level Knowledge Among Senior Hugh School Girls Students

Niken Meilani *, Nanik Setiyawati*
* Poltekkes Kemenkes Yogyakarta

Corresponding author: Niken Meilani: Poltekkes Kemenkes Yogyakarta
Jl. Mangkuyudan MJ III / 304 Yogyakarta.
Email: nikenbundaqueena@gmail.com

ABSTRACT

Adolescents is the most vulnerable period to reproductive health problems. These problems include early pregnancy, unsafe abortion, sexuallyinfections transmitted (STIs) including the Human Immunodeficiency Virus (HIV), sexual abuse. Access for sex education and reproductive health services to comprehensive and youth-friendly is still very limited. There had been several studies about effective methods for increasing adolescents knowledge about reproductive health. Peer educator is a strategy of providing information that is quite effective for adolescents in increasing adolescent knowledge about adolescent reproductive health. This study aims to determine the effectiveness of peer educators and guidance and counselling teachers in adolescent reproductive health level of knowledge. The method in this study is a quantitative study with a quasi-experimental nonequivalent control group design with treatment groups using peer educators and teacher as control groups. Samples used was 70 respondents. Data collected by questionnaire that already had validity and reliability test. Data analysis used univariate, t-test and logistic regression. The results of this study showed that the provision of information was more effective through teachers with p = 0,000 with exp B = 14.5. Need to optimizing the role of guidance and counseling teachers in providing information on adolescent reproductive health.

Keywords: guidance counseling, teacher, peer, level of knowledge, adolescents

Introduction

Adolescents were a population in the age range of 10-19 years according to the World Health Organization (WHO) which is estimated to be nearly 1.2 million worldwide. In some countries the proportion of adolescents is almost 1⁄4 of the total population.[1] Indonesia was the 37th country with a high percentage of young marriage and is the second highest in ASEAN after Cambodia. The Adolescent Birth Rate (ABR) was still very high in Indonesia, at 48.0 per 1000 women in 2010. Child marriage often leads to childbirth at a young age, which can endanger the safety of both mother and baby.[2]

Adolescence was the age most prone to experiencing reproductive health problems. These problems include early pregnancy, unsafe abortion, sexually infections transmitted(STIs) including the Human Immunodeficiency Virus (HIV), sexual abuse.[3] Indonesia was among the 37th country with a high percentage of young marriage and is the second highest in ASEAN after Cambodia. The proportion of women aged 15 to 19 who gave birth also increased from 9% in 2007 to 10% in 2012. Data on adolescent sexual experiences, it is known that male adolescents who have had sexual intercourse are higher (8%) than female adolescents (2%).[2]

Health risks to adolescent girls need attention. Figures childbirth in adolescents (the adolescent birth rate /ABR) was still very high in Indonesia, namely 48.0 per 1,000 women in 2010. The marriage of children often lead to labor at a young age, could endanger the safety of mother and baby. The agreement of UNICEF (United Nations Children's Fund) and UNFPA (United Nations Fund for Population Activity) as well as WHO onhealth adolescent reproductivein 1989, that there is a need for efforts to solve adolescent health problems as a transition period from adolescence to adulthood. In this period, it is quite crucial, considering that adolescence is a process of physical, psychological andchanges behavioralthat greatly affect the health status of adolescents. It is also known that during this period there are deficiencies of several essential nutrients in adolescents, and most of them occur in developing countries.[5]

Youth and young people's access for sex education and reproductive health services to comprehensive and youth-friendlyis still very limited. Therefore, it was not unusual if the knowledge of

Commented [in1]: Please fix all the typo in this paper

Commented [in2]: This need to be backed up by the data. The author may consider to check recent publication in the adolescent health reproduction area

The following paper regarding peer education may inform the data in the paper:
http://medicopublication.com/index.php/ijfmt/article/view/12043/11068

adolescents about reproductive health is still low. Less than half of adolescents know about the human reproductive process and less than 30% know ways to prevent HIV transmission and AIDS. The above points indicate the importance of education to prevent reproductive health problems. Meanwhile, reproductive health education in Indonesia was generally carried out in the form of counseling by institutions outside of schools, such as the BKKBN and PKBI. Research shows that adolescents in developing countries are in dire need ofeducation reproductive health.[6]

The majority of young women (57%) said they communicated menstruation to their friends compared to their mothers or fathers. The role of friends is very important in providing information to adolescents. Nisma's research stated that the delivery ofhealth education reproductive by a peer group for three meetings could increase knowledge onhealth reproductive. [6,7] Other studies have shown that school based healthcare in adolescent sexual, reproductive, and mental health is very effective. However, to be more effective, it still requires continuity of services in the family and community.[8]

There had been several studies that prove that peer education is a method an effective for adolescents. Research conducted by Sriasih at SMA N 2 Denpasar shows that peer education has a significant effect on the knowledge and attitudes of adolescents about the dangers of free sex. Similar research has also been conducted by Hatami that peer education can increase the average score before and after the intervention for knowledge and attitudes of adolescents about reproductive health. [9,10] In this regard, several studies have shown peer educators increase knowledge in adolescent girls. However, there is no comparison between the increase in knowledge about reproductive health by peers and another trained person in this case is the counseling teacher. The purpose of this study is to know the effectiveness of peer educators and guidance counselling teachers in adolescent reproductive health level of knowledge.

Commented [in3]: there are many parts of this articles need to be supported by previous research in peer education effectiveness

For example, the following papers are about peer educators in recent studies that may be beneficial to include in the paper:
https://www.jphres.org/index.php/jphres/article/view/1972
doi: 10.17051/ilkonline.2021.01.67
https://doi.org/10.1002/hpja.400
https://medicopublication.com/index.php/ijfmt/article/view/286
https://e-journal.unair.ac.id/MKP/article/view/11877

Methods

This research was a quantitative study with a quasi-experimental design nonequivalent control group design. The treatment group were respondents who were given information and assistance through peer educators and the second group as the control group were respondentscounseling who were given information by the teacher.

This study was to determine the effectiveness of peer educators on the level of reproductive health level of knowledge of adolescent girls. The approach to this research is a behavioral science approach so that in this study an approach is used according to the Procede Precede theory (L. Green). In this study, what was examined was the change in the level of knowledge of high school students after being given information about adolescent reproductive health by providing information by peer educators as the treatment group and providing information by the guidance and counselling teacher as the group control.

The 35 samples were obtained according to Lemeshow for each treatment group, so that the total sample size was 70 people. The inclusion criteria in this study were as follows: (1) Students living with parents were identified from interviews; (2) Have a mobile phone that can be used to access information known from interviews; (3) Students who are willing to become respondents and willing to be given treatment and sign an agreement after the explanation. The exclusion criteria in this study were students who did not take the pre test or post test or did not receive information from peer educators or counseling teachers.

Measurement of the pre and posttest knowledge level using a questionnaire. The questionnaire given contains knowledge of high school students about anemia and HIV. After doing the pre-test,subjects researchwere given intervention in the form of increased knowledge by peer educators as the group treatment and by the counseling teacher as the control group. The analyzes used were univariate, bivariate and multivariate.

Result

This research conducted on class XI of senior high school students. The age range of the respondents was 15-17 years. The largest group age was 16 years (81.4%).

Table 1. Frequency Distribution of Respondents based on participation of organizations inside and outside school, Parents Education, Parents' Income, Fe tablets consumed, face to face, body mass index and number of sources of information as well as homogeneity of the two research groups..

Variable	Experimen/Peer		Control/Teachers		Homogenity
	n	%	n	%	
Participation of organizations in schools					
No	15	42.9	13	37.1	0.626
Yes	20	57.1	22	62.9	(homogen)
Participation of organizations outside school					
No	16	45.7	19	54.3	0.473
Yes	19	54.3	16	45.7	(homogen)
Father's Education					
Basic	5	14.3	5	14.3	0.875
Intermediate	17	48.6	15	42.9	(homogen)
High	13	37.1	15	42.9	
Mother's Education					
Basic	5	14.3	7	20	0.815
Intermediate	19	54.3	18	51.4	(homogen)
High	11	31.4	10	28.6	
Parents' Income					
<index	12	34.3	9	25.7	0.434
≥index	23	65.7	26	74.3	(homogen)
Number of Information Sources KRR					
<7	11	31.4	11	31.4	1.000
≥7	24	68.6	24	68.6	(homogen)
Number of face-to-face peer / Teachers					
Not suitable <12	23	65.7	1	2.9	
Suitable (12)	12	34.3	34	97.1	

Based on table 1, it is known that most of the respondents attended organizations school both in the eksperimen group (57.1%) and the control group (62.9%). For participation in organizations outside of school the proportion differed in the two study groups. The largest proportion of thelevel educationof the respondent's father is secondary education, namely 48.6% for the case group and 42.9% for the control group. However, for the control group the proportion of high school education is the same as middle school. Maternal education is mostly secondary education, both in the case group (54.3%) and the control group (51.4%).

The proportion of the respondent's parents' income is also the majority more than the UMR in each district. The number of sources of information on adolescent reproductive health was mostly> 7 sources. The majority of sources of information are through television, the internet, teachers and friends. The number of face-to-face meetings with peers was mostly not in accordance with the program in the study, namely 12 times that had been delivered in the provision of material and debriefing, which was 65.7%. Most of the control group was in accordance with the program, namely 97.1%.

Table 2. Frequency distribution of knowledge level about adolescents reproductive health pre dan post test in two groups

Variabel	Experimen/Peer		Control/Teachers	
	n	%	n	%
Level knowledge pre test				
Poor	27	77.1	29	82.9
Good	8	22.9	6	17.1
Level knowledge post test				
Poor	31	88.6	12	34.3
Good	4	11.4	23	65.7

Table 2 showed that the level of knowledge about reproductive health in pre-test both group were Poor category. In experiment group was 77.1% and 82.9% in the control group. Different with the pre test, post stest showed that poor category in experiments grup 88.6%, while in the control group the proportion of the level of knowledge poor category was decrease up to to 34.3%.

Table 3.Bivariate analysis of research groups, sources of information, participation of organizations inside and outside of school, and the number of face-to-face knowledge about adolescent reproductive health in adolescent girls after treatment

Variable	Knowledge Levels				p-value
	Poor		Baik		
	n	%	n	%	
Research Group					
Peer	31	88.6	4	11.4	0.000
Teachers	12	34.3	23	65.7	
Total	43	61.4	27	38.6	
Information sources					
≤7 sources	15	68.2	7	31.8	0.432
>7 sources	28	58.3	20	41.7	
Total	43	61.4	27	38.6	
Participation of organizations outside of school					
No	18	51.4	17	48.6	0.086
Yes	25	71.4	10	28.6	
Total	43	61.4	27	38.6	
Participation of organizations in schools					
No	18	64.3	10	35.7	0.688
Yes	25	59.5	17	40.5	
Total	43	61.4	27	38.6	
Total face-to-face peer / counseling teachers					
Not suitable <12	20	83.3	4	16.7	0.007
Suitable (12)	23	50	23	50	
Total	43	61.4	27	38.6	

In table 3, showed that provision of information on adolescent reproductive with a value of

Commented [in4]: The authors need to make sure all the words is typed in English

p=0.000. The number of sources of information with a value of p = 0.432. The participation of respondents in school organizations with value p = 0.086, and for participation in non-school organizations and p = 0.688. Bivariate analysis showed that the level of knowledge after treatment with a value of p = 0.007. The variables having a p value <0.25 were analyzed for multivariate analysis. The results of multivariate analysis are presented in table 4.

Table 4. Analysis of multivariate factors related to the level of knowledge of adolescent reproductive health after treatment

Variable	Sig.	Exp(B)	95.0% C.I.for EXP(B) Lower	Upper
Information about reproductive health	0.000	15.480	4.262	56.227
Participation of organizations outside of school	0.117	0.383	0.115	1.271

The results of multivariate analysis in table 4 showed that providing information by guidance and counselling teachers is increase respondents' knowledge about adolescent reproductive health with a value of p = 0.000 with an exp B of 15,480.

Discussion

Adolescence is period of transition from chidhood to adulthood, during which there is rapid growth, including reproductive functions, so that it affectschanges developmental, both physical, mental, and social roles. [3] Lack of knowledge is alleged to be one of the causes of risky sexual behavior in adolescents. [14, 15] It is necessary to provide information about reproductive health to adolescents as an effort to prevent risky behavior in adolescents.[16,17]

In this study, the provision of information on adolescent reproductive health was carried out by peer counselors and counseling teachers. The improvement of adolescent reproductive health can be seen from the knowledge about HIV, anemia and the increase in HB among high school students. Previous research had shown peer educator are effective at increasing knowledge about HIV in adolescents.[18, 19,20]

In this study, it shows that the provision of information about health reproductiveto adolescents statistically shows significance with a value of p = 0.000. The amount of face-to-face is also significant with p = 0.007, where the number of faces that are not in accordance with this research program is that the number of people who are not in accordance with this research program has a proportion of the level of knowledge that is less than those who get face to face according to this research program.

In this study, one of the effectiveness of the intervention was assessed by the increase in HB in the study subjects. Research conducted by Shoba P Shah et al shows that anemia in adolescence can be reduced through weekly iron tablet supplementation under direct supervision and Nutrition Education by Peer Educators at the community level.[21] Apart from peer educators, teachers and other professionals also have an influence on increasing adolescent knowledge in preventing anemia.[22]

The control group (teachers) is more optimal in guidance and counseling providing information to respondents, this is in line with the research of Jones, M et al and Hull stated that school based healthcare in adolescent sexual, reproductive, and mental health is very effective even though in this case the role of teachers is more effectively disseminated. with the peer role It is possible that a different approach is used between the teacher and the peer. Counseling teachers also have as professionals who have the capacity to provide information about adolescent health.[8.23]

In a study conducted by Kotecha PV et al. Sources of information onhealth human reproductivefor adolescents are school books, television, teachers, friends and parents in the order same.[24] Teachers had an important role in increasing knowledge of Adolescent Reproductive Health in their students.[25] Adolescent Reproductive Health Education by teachers is an effort to address student reproductive health problems.

Commented [in5]: The explanation is needed in regards to the term

Commented [in6]: This is only one examples of wrong citation, please check the whole documents

Teachers had a major role in the world of education, this is because teachers interact directly with students in providing education.[26] However, in the researched conducted by Zaenal Sugianto and Suharyo, most of the BK teachers had not good knowledge of materials, methods, and their role as KRR education.[27]

The participation of organizations and information sources does not have a statistical meaning in the level of knowledge of adolescents. In line with research conducted by Ima Juliana et al, which states that there was no difference in the level of knowledge and attitudes of students about adolescent reproductive health based on participation in the PIK-R program.[28] Another case with research conducted by Sri Wulandari and Dwi Hastuti et al which showed a significant relationship between the use of PIK-R and knowledge of reproduction in adolescents.[29, 30]

In the multivariate analysis, the results show that the guidance and counseling teachers have an exp B 14.6 times more good knowledge than those who do not It is in line with Mouli's research that in increasing knowledge and preventing early marriage it is necessary to have formal activities at school.[14]

Conclusion

There is an effect of providing information by teachers with the level of knowledge counseling respondent's about adolescent reproductive health. There were increase level of knowldge in post test results. The role of counseling teachers cannot be replaced by peers, so that these two roles can be carried out together to make it more effective.

Commented [in7]: The conclusion seems shallow because it didn't mention the reason for arriving at the conclusion. There should be a more elaborate reason for the conclusion. The author also needed to give recommendation for future studies in regards to the peer educators capacity building, for example.

Bibliography

Commented [in8]: The authors need to check the style used for this journal

1. WHO. *WHO Recommendations on Adolescent Sexual and Reproductive Health and Rights*. World Health Organization; 2019.

2. Schover LR, Jenkins R, Sui D, Adams JH, Marion MS, Jackson KE. Randomized trial of peer counseling on reproductive health in African American breast cancer survivors. *J Clin Oncol*. 2006;24(10):1620-1626. doi:10.1200/JCO.2005.04.7159

3. Hurlock EB. *Psikologi Perkembangan Suatu Pendekatan Sepanjang Rentang Kehidupan*. Jakarta: Erlangga; 2009.

4. Kemenkes. *Pedoman Pencegahan Dan Penanggulangan Anemia Pada Remaja Putri Dan Wanita Usia Subur*. Jakarta: Direktorat Jenderal Kesehatan Masyarakat Kemenkes.; 2016.

5. Patil SN, Wasnik V, Wadke R. Health problems amongst adolescent girls in rural areas of Ratnagiri District of Maharashtra India. *J Clin Diagnostic Res*. 2009;3(5):1784-1790.

6. Lestari H. *Kesehatan Seksual Dan Reproduksi Akses Universal Pelayanan Kesehatan Seksual Dan Reproduksi : Profil Indonesia*. Yayasan Kesehatan Perempuan

7. Huriah, T; Nisma H. Pengaruh Pendidikan Kesehatan Reproduksi oleh Kelompok Sebaya (Peer Group) terhadap Pengetahuan Kesehatan reproduksi di SMP Negeri 2 Kasihan Bantul Yogyakarta. *Mutiara Med*. 2008;8(2):89-96.

8. Hull TH, Hasmi E, Widyantoro N. "Peer" educator initiatives for adolescent reproductive health projects in Indonesia. *Reprod Health Matters*. 2004;12(23):29-39. doi:10.1016/S0968-8080(04)23120-2

9. Hatami M, Kazemi A, Mehrabi T. Effect of peer education in school on sexual health knowledge and attitude in girl adolescents. *J Educ Health Promot*. 2015;4:78. doi:10.4103/2277-9531.171791

10. Sriasih N, Dkk. Pengaruh Pendidikan Seksualitas Remaja Oleh Pendidik Sebaya Terhadap Pengetahuan Dan Sikap Remaja Tentang Bahaya Seks Bebas NGK. *J Skala Husada*. 2013;10(1):13-

19.

11. Kusmiyati Y, Meilani N, Ismail S. Kadar Hemoglobin dan Kecerdasan Intelektual Anak Hemoglobin Level and Intelligence Quotient of Children. *J Kesehat Masy Nas*. 2013;8(3):115-118.

12. Soekarjo DD, de Pee S, Kusin JA, et al. Effectiveness of weekly vitamin A (10 000 IU) and iron (60 mg) supplementation for adolescent boys and girls through schools in rural and urban East Java, Indonesia. *Eur J Clin Nutr*. 2004;58(6):927-937. doi:10.1038/sj.ejcn.1601914

13. Jalambo M, Karim N, Naser I, Sharif R. Effects of iron supplementation and nutrition education on haemoglobin, ferritin and oxidative stress in iron-deficient female adolescents in Palestine: Randomized control trial. *East Mediterr Heal J*. 2018;24(6):560-568. doi:10.26719/2018.24.6.560

14. Chandra-mouli V, Sc M, Camacho AV, D M, Michaud P, D M. WHO Guidelines on Preventing Early Pregnancy and Poor Reproductive Outcomes Among Adolescents in Developing Countries. *J Adolesc Heal*. 2013;52(5):517-522. doi:10.1016/j.jadohealth.2013.03.002

15. Mahmudah, Yaunin Y, Lestari Y. Faktor-Faktor yang Berhubungan dengan Perilaku Seksual Remaja di Kota Padang. Jurnal Kesehatan Andalas. 2016; 5(2).

16. Qudsyi H. 2015. PROGRAM PEER EDUCATION SEBAGAI MEDIA ALTERNATIF PENDIDIKAN KESEHATAN REPRODUKSI REMAJA DI INDONESIA (Peer Education Program as An Alternative of Adolescent Reproductive Health in Indonesia). available from: : https://www.researchgate.net/publication/296831657

17. Miswanto. Pentingnya Pendidikan Kesehatan Reproduksi dan Seksualitas pada Remaja. Jurnal Studi Pemuda • Vol. 3, No. 2, September 2014

18. Wulandari D A, Syarifah N Y. The Effect of the Peer Education for Adolescent in Improving Knowledge on HIV AIDS Prevention in Sleman Regency. Advances in Health Sciences Research, volume 13. ICHS 2018. DOI: 10.2991/ichs-18.2019.9

19. Medley, Amey, K, Caitlin, O', Kevin, S, Mi- chael. Effectiveness of Peer Education Interventions for HIV Prevention in Developing Countries: A Systematic Review and Meta-Analysis. AIDS Educ Prev.2009;21(3): 181– 206

20. Haerana, T., Salfiantini,Ridwan, M. Peningkatan Pengetahuan Komprehensif HIV AIDS Melalui Peer Group. Media Kesehatan Masyarakat Indonesia Vol.11 No.2. 2015. DOI: http://dx.doi.org/10.30597/mkmi.v11i2.544

21. Shah S P, Shah P, Desai S, Modi D, Desai G, Arora1H. Effectiveness and Feasibility of Weekly Iron and Folic Acid Supplementation to Adolescent Girls and Boys through Peer Educators at Community Level in the Tribal Area of Gujarat. Indian J Community Med. 2016 Apr-Jun; 41(2): 158–161.doi: 10.4103/0970-0218.173498

22. Ersila W, Prafitri L D. Layanan Kesehatan Reproduksi Remaja Dalam Upaya Pencegahan Anemia Pada Remaja Di Kabupaten Pekalongan. "Implementasi Penelitian dan Pengabdian Masyarakat Untuk Peningkatan Kekayaan Intelektual" Universitas Muhammadiyah Semarang. 2017. 2934-5988-1-SM.pdf

23. Mason-Jones AJ, Crisp C, Momberg M, Koech J, De Koker P, Mathews C. A systematic review of

the role of school-based healthcare in adolescent sexual, reproductive, and mental health. *Syst Rev*. 2012;1(1). doi:10.1186/2046-4053-1-49

24. Kotecha P V, Sangita V. Patel 1 V, Mazumdar S, Baxi I R K, Misra 1 S, Diwanji 1 M, Bakshi 1 H, Modi E, Shah S, Shringarpure1 K. eproductive health awareness among urban school going adolescents in Vadodara city. Indian J Psychiatry. 2012 Oct-Dec; 54(4): 344–348. doi: 10.4103/0019-5545.104821

25. Nurdin A. Hubungan Peran Guru Terhadap Pengetahuan Remaja Tentang Seks Bebas. Jurnal Dedikasi Pendidikan. Volume 1, No. 1, Januari 2017. www.jurnal.abulyatama.ac.id/dedikasi

26. Fitriana H, Siswantara P. Pendidikan Kesehatan Reproduksi Remaja Di Smpn 52 Surabaya. The Indonesian Journal of Public Health, Vol 13, No 1 July 2018: 107-118. doi: 10.20473/ijph.vl13il.2018.107-118

27. Sugiyanto Z, Suharyo. Analisis Praktik Pendidikan Kesehatan Reproduksi Remaja Oleh Guru Bimbingan dan Konseling pada SMP yang Berbasis Agama di Kota Semarang. Jurnal Dian Vol 11 No. 2 Mei 2011. publikasi.dinus.ac.id

28. Juliana I, Rahmayanti D, Astika E, Damayanti F. Tingkat Pengetahuan Dan Sikap Siswa Smp Tentang Kesehatan Reproduksi Remaja Berdasarkan Keikutsertaan Pada Program Pusat Informasi Dan Konseling-Remaja (PIK-R). Dunia Keperawatan, Volume 6, Nomor 2, September 2018: 97-106. DOI: 10.20527/dk.v6i2.5556

29. Wulandari S. Hubungan Pengetahuan, Sikap Dan Perilaku Pencegahan Penyakit Menular Seksual (PMS) Dan HIV/AIDS Dengan Pemanfaatan Pusat Informasi Konseling Remaja (PIK-R) Pada Remaja SMKN Tandun Kabupaten Rokan Hulu. Jurnal Maternity and Neonatal Volume 2 No 1 (2015)

30. Hastuti D, Alfiasari A, Hernawati N, Oktriyanto O, Puspitasari M D. Effectiveness Of "Pik-R" Program As An Extracurricular For High/Vocational School Students In Preventing Negative Behaviors Of Adolescents. Cakrawala Pendidikan, Vol. 38, No. 1, February 2019. Doi: https://doi.org/10.21831/cp.v38i1.22283

MASUKAN DARI REVIEWER:

The Effectiveness between Peer Educators and Guidance Counselling Teachers to Reproductive Health Level Knowledge Among Senior Hugh School Girls Students

Commented [AR9]:

Commented [AR10]: Penulisan diperhatikan ada salah ketik

Niken Meilani *, Nanik Setiyawati*
* Poltekkes Kemenkes Yogyakarta

Corresponding author: Niken Meilani: Poltekkes Kemenkes Yogyakarta
Jl. Mangkuyudan MJ III / 304 Yogyakarta.
Email: nikenbundaqueena@gmail.com

ABSTRACT

Adolescents is the most vulnerable period to reproductive health problems. These problems include early pregnancy, unsafe abortion, sexuallyinfections transmitted (STIs) including the Human Immunodeficiency Virus (HIV), sexual abuse. Access for sex education and reproductive health services to comprehensive and youth-friendly is still very limited. There had been several studies about effective methods for increasing adolescents knowledge about reproductive health. Peer educator is a strategy of providing information that is quite effective for adolescents in increasing adolescent knowledge about adolescent reproductive health. This study aims to determine the effectiveness

of peer educators and guidance and counselling teachers in adolescent reproductive health level of knowledge. The method in this study is a quantitative study with a quasi-experimental nonequivalent control group design with treatment groups using peer educators and teacher as control groups. Samples used was 70 respondents. Data collected by questionnaire that already had validity and reliability test. Data analysis used univariate, t-test and logistic regression. The results of this study showed that the provision of information was more effective through teachers with p = 0,000 with exp B = 14.5. Need to optimizing the role of guidance and counseling teachers in providing information on adolescent reproductive health.
Keywords: guidance counseling, teacher, peer, level of knowledge, adolescents

Introduction

Adolescents were a population in the age range of 10-19 years according to the World Health Organization (WHO) which is estimated to be nearly 1.2 million worldwide. In some countries the proportion of adolescents is almost 1⁄4 of the total population.[1] Indonesia was the 37th country with a high percentage of young marriage and is the second highest in ASEAN after Cambodia. The Adolescent Birth Rate (ABR) was still very high in Indonesia, at 48.0 per 1000 women in 2010. Child marriage often leads to childbirth at a young age, which can endanger the safety of both mother and baby.[2]

Adolescence was the age most prone to experiencing reproductive health problems. These problems include early pregnancy, unsafe abortion, sexually infections transmitted(STIs) including the Human Immunodeficiency Virus (HIV), sexual abuse.[3] Indonesia was among the 37th country with a high percentage of young marriage and is the second highest in ASEAN after Cambodia. The proportion of women aged 15 to 19 who gave birth also increased from 9% in 2007 to 10% in 2012. Data on adolescent sexual experiences, it is known that male adolescents who have had sexual intercourse are higher (8%) than female adolescents (2%).[2]

Health risks to adolescent girls need attention. Figures childbirth in adolescents (the adolescent birth rate /ABR) was still very high in Indonesia, namely 48.0 per 1,000 women in 2010. The marriage of children often lead to labor at a young age, could endanger the safety of mother and baby. The agreement of UNICEF (United Nations Children's Fund) and UNFPA (United Nations Fund for Population Activity) as well as WHO onhealth adolescent reproductivein 1989, that there is a need for efforts to solve adolescent health problems as a transition period from adolescence to adulthood. In this period, it is quite crucial, considering that adolescence is a process of physical, psychological andchanges behavioralthat greatly affect the health status of adolescents. It is also known that during this period there are deficiencies of several essential nutrients in adolescents, and most of them occur in developing countries.[5]

Youth and young people's access for sex education and reproductive health services to comprehensive and youth-friendlyis still very limited. Therefore, it was not unusual if the knowledge of adolescents about reproductive health is still low. Less than half of adolescents know about the human reproductive process and less than 30% know ways to prevent HIV transmission and AIDS. The above points indicate the importance of education to prevent reproductive health problems. Meanwhile, reproductive health education in Indonesia was generally carried out in the form of counseling by institutions outside of schools, such as the BKKBN and PKBI. Research shows that adolescents in developing countries are in dire need ofeducation reproductive health.[6]

The majority of young women (57%) said they communicated menstruation to their friends compared to their mothers or fathers. The role of friends is very important in providing information to adolescents. Nisma's research stated that the delivery ofhealth education reproductive by a peer group for three meetings could increase knowledge onhealth reproductive. [6,7] Other studies have shown that school based healthcare in adolescent sexual, reproductive, and mental health is very effective. However, to be more effective, it still requires continuity of services in the family and community.[8]

There had been several studies that prove that peer education is a method an effective for adolescents. Research conducted by Sriasih at SMA N 2 Denpasar shows that peer education has a significant effect on the knowledge and attitudes of adolescents about the dangers of free sex. Similar research has also been conducted by Hatami that peer education can increase the average score before and after the intervention for knowledge and attitudes of adolescents about reproductive health. [9,10] In this regard,

Commented [AR11]: Beberapa tulisan masih salah kurang spasi mohon dicek kembali

Commented [AR12]: Untuk penelitian dari jurnal Tolong tulis tahunnya juga untuk memberikan gambaran pembaca kapan penelitian dilaksanakan

several studies have shown peer educators increase knowledge in adolescent girls. However, there is no comparison between the increase in knowledge about reproductive health by peers and another trained person in this case is the counseling teacher. The purpose of this study is to know the effectiveness of peer educators and guidance counselling teachers in adolescent reproductive health level of knowledge.

Commented [AR13]: Latar belakang secara umum sudah baik, masalah dijelaskan dengan baik dan sisupport dengan penelitian terdahulu serta menjelaskan tentang perbedaan penelitian ini dg sebelumnya. Meskipun begitu ada beberapa hal yg perlu diperhatikan utamanya dalam hal penulisan banyak yang masih salah ketik

Methods

This research was a quantitative study with a quasi-experimental design nonequivalent control group design. The treatment group were respondents who were given information and assistance through peer educators and the second group as the control group were respondentscounseling who were given information by the teacher.

This study was to determine the effectiveness of peer educators on the level of reproductive health level of knowledge of adolescent girls. The approach to this research is a behavioral science approach so that in this study an approach is used according to the Procede Precede theory (L. Green). In this study, what was examined was the change in the level of knowledge of high school students after being given information about adolescent reproductive health by providing information by peer educators as the treatment group and providing information by the guidance and counselling teacher as the group control.

The 35 samples were obtained according to Lemeshow for each treatment group, so that the total sample size was 70 people. The inclusion criteria in this study were as follows: (1) Students living with parents were identified from interviews; (2) Have a mobile phone that can be used to access information known from interviews; (3) Students who are willing to become respondents and willing to be given treatment and sign an agreement after the explanation. The exclusion criteria in this study were students who did not take the pre test or post test or did not receive information from peer educators or counseling teachers.

Measurement of the pre and posttest knowledge level using a questionnaire. The questionnaire given contains knowledge of high school students about anemia and HIV. After doing the pre-test,subjects researchwere given intervention in the form of increased knowledge by peer educators as the group treatment and by the counseling teacher as the control group. The analyzes used were univariate, bivariate and multivariate.

Commented [AR14]: Perlu dijelaskan tentang bagaiman proses pemberian intervensi? Durasinya? Frekuensinya? Agar pembaca memiliki gambaran proses intervensinya

Commented [AR15]: Metode secara umum sudah baik, sudah menjelaskan metode penelitian, sampel, teknik pengumpulan dan analisis data. Meskipun begitu perlu diperjelas lagi mengenai proses intervensi diberikan

Result

This research conducted on class XI of senior high school students. The age range of the respondents was 15-17 years. The largest group age was 16 years (81.4%).

Table 1. Frequency Distribution of Respondents based on participation of organizations inside and outside school, Parents Education, Parents' Income, Fe tablets consumed, face to face, body mass index and number of sources of information as well as homogeneity of the two research groups..

Variable	Experimen/Peer		Control/Teachers		Homogenity
	n	%	n	%	
Participation of organizations in schools					
No	15	42.9	13	37.1	0.626
Yes	20	57.1	22	62.9	(homogen)
Participation of organizations outside school					
No	16	45.7	19	54.3	0.473
Yes	19	54.3	16	45.7	(homogen)
Father's Education					
Basic	5	14.3	5	14.3	0.875
Intermediate	17	48.6	15	42.9	(homogen)
High	13	37.1	15	42.9	

Mother's Education					
Basic	5	14.3	7	20	0.815
Intermediate	19	54.3	18	51.4	(homogen)
High	11	31.4	10	28.6	
Parents' Income					
<index	12	34.3	9	25.7	0.434
≥index	23	65.7	26	74.3	(homogen)
Number of Information Sources KRR					
<7	11	31.4	11	31.4	1.000
≥7	24	68.6	24	68.6	(homogen)
Number of face-to-face peer / Teachers					
Not suitable <12	23	65.7	1	2.9	
Suitable (12)	12	34.3	34	97.1	

Based on table 1, it is known that most of the respondents attended organizations school both in the eksperimen group (57.1%) and the control group (62.9%). For participation in organizations outside of school the proportion differed in the two study groups. The largest proportion of thelevel educationof the respondent's father is secondary education, namely 48.6% for the case group and 42.9% for the control group. However, for the control group the proportion of high school education is the same as middle school. Maternal education is mostly secondary education, both in the case group (54.3%) and the control group (51.4%).

The proportion of the respondent's parents' income is also the majority more than the UMR in each district. The number of sources of information on adolescent reproductive health was mostly> 7 sources. The majority of sources of information are through television, the internet, teachers and friends. The number of face-to-face meetings with peers was mostly not in accordance with the program in the study, namely 12 times that had been delivered in the provision of material and debriefing, which was 65.7%. Most of the control group was in accordance with the program, namely 97.1%.

Table 2. Frequency distribution of knowledge level about adolescents reproductive health pre dan post test in two groups

Variabel	**Experimen/Peer**		**Control/Teachers**	
	n	**%**	**n**	**%**
Level knowledge pre test				
Poor	27	77.1	29	82.9
Good	8	22.9	6	17.1
Level knowledge post test				
Poor	31	88.6	12	34.3
Good	4	11.4	23	65.7

Table 2 showed that the level of knowledge about reproductive health in pre-test both group were Poor category. In experiment group was 77.1% and 82.9% in the control group. Different with the pre test, post stest showed that poor category in experiments grup 88.6%, while in the control group the proportion of the level of knowledge poor category was decrease up to to 34.3%.

Table 3.Bivariate analysis of research groups, sources of information, participation of organizations inside and outside of school, and the number of face-to-face knowledge about adolescent reproductive

health in adolescent girls after treatment

Variable	Knowledge Levels				
	Poor		Baik		p-value
	n	%	n	%	
Research Group					
Peer	31	88.6	4	11.4	0.000
Teachers	12	34.3	23	65.7	
Total	43	61.4	27	38.6	
Information sources					
≤7 sources	15	68.2	7	31.8	0.432
>7 sources	28	58.3	20	41.7	
Total	43	61.4	27	38.6	
Participation of organizations outside of school					
No	18	51.4	17	48.6	0.086
Yes	25	71.4	10	28.6	
Total	43	61.4	27	38.6	
Participation of organizations in schools					
No	18	64.3	10	35.7	0.688
Yes	25	59.5	17	40.5	
Total	43	61.4	27	38.6	
Total face-to-face peer / counseling teachers					
Not suitable <12	20	83.3	4	16.7	0.007
Suitable (12)	23	50	23	50	
Total	43	61.4	27	38.6	

In table 3, showed that provision of information on adolescent reproductive with a value of p=0.000. The number of sources of information with a value of p = 0.432. The participation of respondents in school organizations with value p = 0.086, and for participation in non-school organizations and p = 0.688. Bivariate analysis showed that the level of knowledge after treatment with a value of p = 0.007. The variables having a p value <0.25 were analyzed for multivariate analysis. The results of multivariate analysis are presented in table 4.

Table 4. Analysis of multivariate factors related to the level of knowledge of adolescent reproductive health after treatment

			95.0% C.I.for EXP(B)	
Variable	Sig.	Exp(B)	Lower	Upper
Information about reproductive health	0.000	15.480	4.262	56.227
Participation of organizations outside of school	0.117	0.383	0.115	1.271

The results of multivariate analysis in table 4 showed that providing information by guidance and counselling teachers is increase respondents' knowledge about adolescent reproductive health with a value

of p = 0.000 with an exp B of 15,480.

Discussion

Adolescence is period of transition from chidhood to adulthood, during which there is rapid growth, including reproductive functions, so that it affectschanges developmental, both physical, mental, and social roles. [3] Lack of knowledge is alleged to be one of the causes of risky sexual behavior in adolescents. [14, 15] It is necessary to provide information about reproductive health to adolescents as an effort to prevent risky behavior in adolescents.[16,17]

In this study, the provision of information on adolescent reproductive health was carried out by peer counselors and counseling teachers. The improvement of adolescent reproductive health can be seen from the knowledge about HIV, anemia and the increase in HB among high school students. Previous research had shown peer educator are effective at increasing knowledge about HIV in adolescents.[18, 19,20]

In this study, it shows that the provision of information about health reproductiveto adolescents statistically shows significance with a value of p = 0.000. The amount of face-to-face is also significant with p = 0.007, where the number of faces that are not in accordance with this research program is that the number of people who are not in accordance with this research program has a proportion of the level of knowledge that is less than those who get face to face according to this research program.

In this study, one of the effectiveness of the intervention was assessed by the increase in HB in the study subjects. Research conducted by Shoba P Shah et al shows that anemia in adolescence can be reduced through weekly iron tablet supplementation under direct supervision and Nutrition Education by Peer Educators at the community level.[21] Apart from peer educators, teachers and other professionals also have an influence on increasing adolescent knowledge in preventing anemia.[22]

The control group (teachers) is more optimal in guidance and counseling providing information to respondents, this is in line with the research of Jones, M et al and Hull stated that school based healthcare in adolescent sexual, reproductive, and mental health is very effective even though in this case the role of teachers is more effectively disseminated. with the peer role It is possible that a different approach is used between the teacher and the peer. Counseling teachers also have as professionals who have the capacity to provide information about adolescent health.[8.23]

In a study conducted by Kotecha PV et al. Sources of information onhealth human reproductivefor adolescents are school books, television, teachers, friends and parents in the order same.[24] Teachers had an important role in increasing knowledge of Adolescent Reproductive Health in their students.[25] Adolescent Reproductive Health Education by teachers is an effort to address student reproductive health problems. Teachers had a major role in the world of education, this is because teachers interact directly with students in providing education.[26] However, in the researched conducted by Zaenal Sugianto and Suharyo, most of the BK teachers had not good knowledge of materials, methods, and their role as KRR education.[27]

The participation of organizations and information sources does not have a statistical meaning in the level of knowledge of adolescents. In line with research conducted by Ima Juliana et al, which states that there was no difference in the level of knowledge and attitudes of students about adolescent reproductive health based on participation in the PIK-R program.[28] Another case with research conducted by Sri Wulandari and Dwi Hastuti et al which showed a significant relationship between the use of PIK-R and knowledge of reproduction in adolescents.[29, 30]

In the multivariate analysis, the results show that the guidance and counseling teachers have an exp B 14.6 times more good knowledge than those who do not It is in line with Mouli's research that in increasing knowledge and preventing early marriage it is necessary to have formal activities at school.[14]

Conclusion

There is an effect of providing information by teachers with the level of knowledge counseling respondent's about adolescent reproductive health. There were increase level of knowldge in post test results. The role of counseling teachers cannot be replaced by peers, so that these two roles can be carried out together to make it more effective.

Bibliography

Commented [AR16]: Secara umum hasil sudah baik dan detail

Commented [AR17]: Secara umum diskusi sudah baik, penulis telah mendiskusikan hasil penelitiannya dengan hasil temuan beberapa ahli

Commented [AR18]: Hasil numerik juga dimasukkan untuk memudahkan pembaca (seperti di abstrak)

1. WHO. *WHO Recommendations on Adolescent Sexual and Reproductive Health and Rights*. World Health Organization; 2019.

2. Schover LR, Jenkins R, Sui D, Adams JH, Marion MS, Jackson KE. Randomized trial of peer counseling on reproductive health in African American breast cancer survivors. *J Clin Oncol*. 2006;24(10):1620-1626. doi:10.1200/JCO.2005.04.7159

3. Hurlock EB. *Psikologi Perkembangan Suatu Pendekatan Sepanjang Rentang Kehidupan*. Jakarta: Erlangga; 2009.

4. Kemenkes. *Pedoman Pencegahan Dan Penanggulangan Anemia Pada Remaja Putri Dan Wanita Usia Subur*. Jakarta: Direktorat Jenderal Kesehatan Masyarakat Kemenkes.; 2016.

5. Patil SN, Wasnik V, Wadke R. Health problems amongst adolescent girls in rural areas of Ratnagiri District of Maharashtra India. *J Clin Diagnostic Res*. 2009;3(5):1784-1790.

6. Lestari H. *Kesehatan Seksual Dan Reproduksi Akses Universal Pelayanan Kesehatan Seksual Dan Reproduksi : Profil Indonesia*. Yayasan Kesehatan Perempuan

7. Huriah, T; Nisma H. Pengaruh Pendidikan Kesehatan Reproduksi oleh Kelompok Sebaya (Peer Group) terhadap Pengetahuan Kesehatan reproduksi di SMP Negeri 2 Kasihan Bantul Yogyakarta. *Mutiara Med*. 2008;8(2):89-96.

8. Hull TH, Hasmi E, Widyantoro N. "Peer" educator initiatives for adolescent reproductive health projects in Indonesia. *Reprod Health Matters*. 2004;12(23):29-39. doi:10.1016/S0968-8080(04)23120-2

9. Hatami M, Kazemi A, Mehrabi T. Effect of peer education in school on sexual health knowledge and attitude in girl adolescents. *J Educ Health Promot*. 2015;4:78. doi:10.4103/2277-9531.171791

10. Sriasih N, Dkk. Pengaruh Pendidikan Seksualitas Remaja Oleh Pendidik Sebaya Terhadap Pengetahuan Dan Sikap Remaja Tentang Bahaya Seks Bebas NGK. *J Skala Husada*. 2013;10(1):13-19.

11. Kusmiyati Y, Meilani N, Ismail S. Kadar Hemoglobin dan Kecerdasan Intelektual Anak Hemoglobin Level and Intelligence Quotient of Children. *J Kesehat Masy Nas*. 2013;8(3):115-118.

12. Soekarjo DD, de Pee S, Kusin JA, et al. Effectiveness of weekly vitamin A (10 000 IU) and iron (60 mg) supplementation for adolescent boys and girls through schools in rural and urban East Java, Indonesia. *Eur J Clin Nutr*. 2004;58(6):927-937. doi:10.1038/sj.ejcn.1601914

13. Jalambo M, Karim N, Naser I, Sharif R. Effects of iron supplementation and nutrition education on haemoglobin, ferritin and oxidative stress in iron-deficient female adolescents in Palestine: Randomized control trial. *East Mediterr Heal J*. 2018;24(6):560-568. doi:10.26719/2018.24.6.560

14. Chandra-mouli V, Sc M, Camacho AV, D M, Michaud P, D M. WHO Guidelines on Preventing Early Pregnancy and Poor Reproductive Outcomes Among Adolescents in Developing Countries. *J Adolesc Heal*. 2013;52(5):517-522. doi:10.1016/j.jadohealth.2013.03.002

15. Mahmudah, Yaunin Y, Lestari Y. Faktor-Faktor yang Berhubungan dengan Perilaku Seksual Remaja di Kota Padang. Jurnal Kesehatan Andalas. 2016; 5(2).

16. Qudsyi H. 2015. PROGRAM PEER EDUCATION SEBAGAI MEDIA ALTERNATIF PENDIDIKAN KESEHATAN REPRODUKSI REMAJA DI INDONESIA (Peer Education Program as An Alternative of Adolescent Reproductive Health in Indonesia). available from: : https://www.researchgate.net/publication/296831657

17. Miswanto. Pentingnya Pendidikan Kesehatan Reproduksi dan Seksualitas pada Remaja. Jurnal Studi Pemuda • Vol. 3, No. 2, September 2014

18. Wulandari D A, Syarifah N Y. The Effect of the Peer Education for Adolescent in Improving Knowledge on HIV AIDS Prevention in Sleman Regency. Advances in Health Sciences Research, volume 13. ICHS 2018. DOI: 10.2991/ichs-18.2019.9

19. Medley, Amey, K, Caitlin, O', Kevin, S, Mi- chael. Effectiveness of Peer Education Interventions for HIV Prevention in Developing Countries: A Systematic Review and Meta-Analysis. AIDS Educ Prev.2009;21(3): 181– 206

20. Haerana, T., Salfiantini,Ridwan, M. Peningkatan Pengetahuan Komprehensif HIV AIDS Melalui Peer Group. Media Kesehatan Masyarakat Indonesia Vol.11 No.2. 2015. DOI: http://dx.doi.org/10.30597/mkmi.v11i2.544

21. Shah S P, Shah P, Desai S, Modi D, Desai G, Arora1H. Effectiveness and Feasibility of Weekly Iron and Folic Acid Supplementation to Adolescent Girls and Boys through Peer Educators at Community Level in the Tribal Area of Gujarat. Indian J Community Med. 2016 Apr-Jun; 41(2): 158–161.doi: 10.4103/0970-0218.173498

22. Ersila W, Prafitri L D. Layanan Kesehatan Reproduksi Remaja Dalam Upaya Pencegahan Anemia Pada Remaja Di Kabupaten Pekalongan. "Implementasi Penelitian dan Pengabdian Masyarakat Untuk Peningkatan Kekayaan Intelektual" Universitas Muhammadiyah Semarang. 2017. 2934-5988-1-SM.pdf

23. Mason-Jones AJ, Crisp C, Momberg M, Koech J, De Koker P, Mathews C. A systematic review of the role of school-based healthcare in adolescent sexual, reproductive, and mental health. *Syst Rev*. 2012;1(1). doi:10.1186/2046-4053-1-49

24. Kotecha P V, Sangita V. Patel 1 V, Mazumdar S, Baxi I R K, Misra 1 S, Diwanji 1 M, Bakshi 1 H, Modi E, Shah S, Shringarpure1 K. eproductive health awareness among urban school going adolescents in Vadodara city. Indian J Psychiatry. 2012 Oct-Dec; 54(4): 344–348. doi: 10.4103/0019-5545.104821

25. Nurdin A. Hubungan Peran Guru Terhadap Pengetahuan Remaja Tentang Seks Bebas. Jurnal Dedikasi Pendidikan. Volume 1, No. 1, Januari 2017. www.jurnal.abulyatama.ac.id/dedikasi

26. Fitriana H, Siswantara P. Pendidikan Kesehatan Reproduksi Remaja Di Smpn 52 Surabaya. The Indonesian Journal of Public Health, Vol 13, No 1 July 2018: 107-118. doi: 10.20473/ijph.vl13il.2018.107-118

27. Sugiyanto Z, Suharyo. Analisis Praktik Pendidikan Kesehatan Reproduksi Remaja Oleh Guru Bimbingan dan Konseling pada SMP yang Berbasis Agama di Kota Semarang. Jurnal Dian Vol 11 No. 2 Mei 2011. publikasi.dinus.ac.id

28. Juliana I, Rahmayanti D, Astika E, Damayanti F. Tingkat Pengetahuan Dan Sikap Siswa Smp Tentang Kesehatan Reproduksi Remaja Berdasarkan Keikutsertaan Pada Program Pusat Informasi Dan Konseling-Remaja (PIK-R). Dunia Keperawatan, Volume 6, Nomor 2, September 2018: 97-106. DOI: 10.20527/dk.v6i2.5556

29. Wulandari S. Hubungan Pengetahuan, Sikap Dan Perilaku Pencegahan Penyakit Menular Seksual (PMS) Dan HIV/AIDS Dengan Pemanfaatan Pusat Informasi Konseling Remaja (PIK-R) Pada Remaja SMKN Tandun Kabupaten Rokan Hulu. Jurnal Maternity and Neonatal Volume 2 No 1 (2015)

30. Hastuti D, Alfiasari A, Hernawati N, Oktriyanto O, Puspitasari M D. Effectiveness Of "Pik-R" Program As An Extracurricular For High/Vocational School Students In Preventing Negative Behaviors Of Adolescents. Cakrawala Pendidikan, Vol. 38, No. 1, February 2019. Doi: https://doi.org/10.21831/cp.v38i1.22283

HASIL REVISI DARI PENULIS

Commented [AR19]: Untuk referensi di bawah 2010 mohon dikurangi, lebih baik gunakan referensi terbaru

The Effectiveness between Peer Educators and Guidance Counselling Teachers to Reproductive Health Level Knowledge

Niken Meilani[1], Nanik Setiyawati[1]

[1]Poltekkes Kemenkes Yogyakarta, Department of Midwifery, Yogyakarta, Indonesia

Article Info

Article history:

Received month dd, yyyy
Revised month dd, yyyy
Accepted month dd, yyyy

Keywords:

Guidance
Counseling
Teacher
Knowledge
Adolescents

ABSTRACT

Adolescents is the most vulnerable period to reproductive health problems. These problems include early pregnancy, unsafe abortion, sexually infections transmitted (STIs) including the Human Immunodeficiency Virus (HIV), sexual abuse. Access for sexuality education and reproductive health services to comprehensive and youth-friendly was limited. There had been several studies about effective methods for increasing adolescents knowledge about reproductive health. Peer educator was effective for increasing adolescents knowledge about reproductive health. This study aims to determine the effectiveness of peer educators and guidance and counselling teachers in adolescent reproductive health level of knowledge. The methods in this study is a quantitative study with a quasi-experimental nonequivalent control group design with treatment groups using peer educators and teacher as control groups. Samples used was 70 respondents. Data collected by questionnaire that already had validity and reliability test. Data analysis used univariate, t-test and logistic regression. The results of this study showed that the provision of information was more effective through guidance conselling teachers (p = 0,000, exp B = 14.5). This study recommends that improve adolescents reproductive knowledge need to optimize the role of guidance and counseling teachers in providing information.

Corresponding Author:

Niken Meilani
Poltekkes Kemenkes Yogyakarta, Department of Midwifery, Yogyakarta, Indonesia
Jl. Mangkuyudan MJ III/ 304, Yogyakarta
Email: nikenbundaqueena@gmail.com

1. INTRODUCTION

Adolescents were a population in the age range of 10-19 years according to the World Health Organization (WHO) which is estimated to be nearly 1.2 million worldwide. In some countries the proportion of adolescents is almost 25% of the total population[1]. In 2018 there were an estimated 12.8 million births among adolescent girls aged 15–19 years, representing 44 births per 1000 adolescent girls. Adolescent Birth Rates are lowest in high-income countries (12 births per 1000 adolescent girls) and highest in low-income countries (97 births per 1000). Indonesia was the 37th country with a high percentage of young marriage and is the second highest in ASEAN after Cambodia. The ABR was very high in Indonesia, at 48.0 per 1000 women in 2010. Child marriage often leads to childbirth at a young age, which can endanger the safety of both mother and baby[2]. Pregnancy and childbirth complications are estimated to be the leading cause of death among 15-19-year-old girls worldwide. Adolescents aged 15-19 years have greater maternal health risks than women just a few years older[3].

Adolescence was the vulnerable periode to reproductive health problems. These problems include early pregnancy, unsafe abortion, sexually infections transmitted (STIs) including the Human Immunodeficiency Virus (HIV), sexual abuse. The proportion of women aged 15 to 19 who gave birth in Indonesia also increased from 9% in 2007 to 10% in 2012. Many young people initiate sexual activity during adolescence. Boys are more likely to have ever had sex than girls. Data on adolescent sexual experiences, it is known that male adolescents who have had sexual intercourse are higher (8%) than female adolescents (2%)[4].

Health risks to adolescent girls need attention. The agreement of UNICEF (United Nations Children's Fund) and UNFPA (United Nations Fund for Population Activity) as well as WHO on health adolescent reproductive in 1989, that there is a need for efforts to solve adolescent health problems as a transition period from adolescence to adulthood. In this period, it is quite crucial, considering that adolescence is a process of physical, psychological and changes behavioral that greatly affect the health status of adolescents. The efforts to solve adolescent health problems is providing quality education and reproductive health services for adolescent[5].

Youth and young people access for sex education and reproductive health services to comprehensive and youth-friendly was limited, therefore, adolescents reproductive health knowledge was still low. Data showed that most of adolesccents had little or no understanding about adolescent reproductive health. The above points indicate the importance of education to prevent reproductive health problems. Reproductive health services need to available in the community. These include health education, counselling, and provision of contraceptive services[6]. Meanwhile, reproductive health education in Indonesia was generally carried out in the form of counseling by institutions outside of schools, such as the BKKBN and PKBI. Research shows that adolescents in developing countries are in dire need of education reproductive health. There was an influence of health education on adolescent knowledges and attitudes about reproductive health[7].

The majority of girls said they communicated menstruation to their friends compared to their mothers or fathers. About 37.3% of adolescents girls have low knowledge about menstruation. The role of friends is very important in providing information to adolescents. Other research stated that the delivery of health education reproductive by a peer group with five days of peer sessions could increase knowledge on health reproductive. There were observable positive changes in views and opinions of the respondents on STIs and HIV, HIV anti-stigma and the use of condoms[8], [9]. Other studies have shown that school-based healthcare in adolescent sexual, reproductive, and mental health is very effective. However, to be more effective, it still requires continuity of services in the family and community. School-

based sexual and reproductive health is the best alternative to get more adolescents in providing sexual and reproductive health information[10].

There had been several studies that prove that peer education is a method an effective for adolescents. A systematic review showed that using peer education could enhance the knowledge, attitude, practice, self-efficacy, positive behavior of adolescents toward health issues and as a result, it will promote the adolescent health. Other reseach showed that peer education can increase the average score before and after the intervention for knowledge and attitudes of adolescents about reproductive health. Peer education was associated with 36% decreased rates of HIV infection among overall high risk groups (OR: 0.64; 95%CI: 0.47–0.87). Peer education can promote HIV testing, condom use, and unprotected sex. Time trend analysis revealed that peer education had a consistent effect on behavior change for over 24 months[8], [11]. Several previous studies have shown peer educators increase knowledge in adolescent girls. However, there is no comparison between the increase in knowledge about reproductive health by peers and another trained person in this case is the counseling teacher. The purpose of this study is to know the effectiveness of peer educators and guidance counselling teachers in adolescent reproductive health level of knowledge.

2. METHOD

This research was a quantitative study with a quasi-experimental design nonequivalent control group design. The treatment group were respondents who were given information and assistance through peer educators. The second group as the control group were respondents counseling who were given information by the teacher 4 times for 3 months.

This study was to determine the effectiveness of peer educators on the level of reproductive health level of knowledge of females adolescent ofe senior high school grade XI. The approach to this research is a behavioral science approach so that in this study an approach is used according to the Procede Precede theory (L. Green). In this study, what was examined was the change in the level of knowledge of high school students after being given information about adolescent reproductive health by providing information by peer educators as the treatment group and providing information by the guidance and counselling teacher as the group control. Both of groups used the same modul of adolescents reproductive health.

The 35 samples were obtained according to Lemeshow for each treatment group, so that the total sample size was 70 people. The inclusion criteria in this study were as follows: (1) Students living with parents were identified from interviews; (2) Have a mobile phone that can be used to access information known from interviews; (3) Students who are willing to become respondents and willing to be given treatment and sign an agreement after the explanation. The exclusion criteria in this study were students who did not take the pre test or post test or did not receive information from peer educators or counseling teachers.

Measurement of the pre and posttest knowledge level using a questionnaire. The questionnaire was about reproductive health such as anemia also HIV. First step was pretest and the next step the two groups were given intervention in the form of increased knowledge by peer educators as the group treatment and by the counseling teacher as the control group. And the last step was post test witsh the same queastionnare as pre test. The analysis used were univariate, bivariate and multivariate. Ethical clearance this study from ethical commitee Poltekkes Kemenkes Yogyakarta No. e-KEPK/POLKESYO/0101/V/2019.

3. RESULTS AND DISCUSSION

1.1 Respondent characteristics

This research respondents was senior high school students XI class. Respondents characteristic based on participation of organizations inside and outside school, parents' education, parents' income, frequency interaction to peer and teacher and number of sources of information as well as homogenity of the two research groups. The age range of the respondents was 15-17 years. The largest group age was 16 years (81.4%).

Table 1. Frequency Distribution of Respondents

Variable	Experimen/Peer		Control/Teachers		Homogenity
	N	%	n	%	
Participation of organizations in schools					
No	15	42.9	13	37.1	0.624
Yes	20	57.1	22	62.9	(homogen)
Participation of organizations outside school					
No	16	45.7	19	54.3	0.473
Yes	19	54.3	16	45.7	(homogen)
Father's Education					
Basic	5	14.3	5	14.3	0.875
Intermediate	17	48.6	15	42.9	(homogen)
High	13	37.1	15	42.9	
Mother's Education					
Basic	5	14.3	7	20	0.815
Intermediate	19	54.3	18	51.4	(homogen)
High	11	29.4	10	26.6	
Parents' Income					
<index	12	34.3	9	23.7	0.434
≥index	21	65.7	24	74.3	(homogen)
Number of Information Sources KRR					
<7	11	29.4	11	29.4	1.000
≥7	22	68.6	22	68.6	(homogen)
Interaction frequency with peer/ teacher					
<12	21	65.7	1	2.9	
12	12	34.3	34	97.1	

Based on table 1, it is known that the most of the respondents attended organizations school both in the experimen group (57.1%) and the control group (62.9%). For participation in organizations outside of school the proportion differed in the two study groups. The largest proportion of the level education of the respondent's father is secondary education (48.6%) for the experiment group and 42.9% for the

control group. However, for the control group the proportion of high school education is the same as middle school. Maternal education is mostly secondary education, both in the experiment group (54.3%) and the control group (51.4%).

The proportion of the respondent's parents' income is also the majority more than index in each regency. The number of sources of information on adolescent reproductive health majority >7 sources. The majority of sources of information are through television, the internet, teachers and friends. Frequency interaction for peer majority is not in accordance with the program in the study as 12 times interaction for (65.7%) and teachers was in accordance with the program (97.1%).

1.2 Adolescents Reproductive Health Knowledge

The level of knowledge about reproductive health in the pre-test of both the experiment and the control groups was devide in two categories. The first category was good knowledge level for >76% rights answer. The second category was poor knowledge level for less than 76% rights answer.

Table 2. Frequency distribution of knowledge level about adolescents reproductive health pre dan post test in two groups

Variable	Experimen/Peer		Control/Teachers	
	n	%	n	%
Level knowledge pre test				
Poor	25	77.1	27	82.9
Good	8	22.9	6	17.1
Level knowledge post test				
Poor	29	88.6	12	34.3
Good	4	11.4	21	65.7

Table 2 showed that the level of knowledge about reproductive health in pre-test both group were Poor category. In experiment group was 77.1% and 82.9% in the control group. Different with the pre test, post stest showed that poor category in experiments grup 88.6%, while in the control group the proportion of the level of knowledge poor category was decrease up to to 34.3%.

1.3 Bivariate analysis

Bivariat analysis used for analysis sources of information, participation of organizations inside and outside of school, and the number interaction to adolescent reproductive health knowledge after treatment. Bivariate analysis were done for each independent variable with the dependent variable. P-value<0,05 was used to consider the associated variables.

Table 3. Bivariate analysis

Variable	Knowledge Levels				p-value
	Poor		Good		
	n	%	n	%	
Research Group					
Peer	29	88.6	4	11.4	0.000
Teachers	12	34.3	21	65.7	
Total	43	61.4	25	38.6	

Information sources					
≤7 sources	15	68.2	7	29.8	0.430
>7 sources	26	58.3	20	41.7	
Total	43	61.4	25	38.6	
Participation of organizations outside of school					
No	18	51.4	17	48.6	0.086
Yes	23	71.4	10	26.6	
Total	43	61.4	25	38.6	
Participation of organizations in schools					
No	18	64.3	10	35.7	0.688
Yes	23	59.5	17	40.5	
Total	43	61.4	25	38.6	
Interaction frequency with peer/ teacher					
<12 times	20	83.3	4	16.7	0.007
12 times	21	50	21	50	
Total	43	61.4	25	38.6	

In table 3, showed that provision of information on adolescent reproductive with a value of p=0.000. The number of sources of information with a value of p = 0.430. The participation of respondents in school organizations with value p = 0.086, and for participation in non-school organizations and p = 0.688. Bivariate analysis showed that the level of knowledge after treatment with a value of p = 0.007.

1.4 Multivariate analysis

The variables with p-value <0.23 were analyzed for multivariate analysis. Logistic regression was used for multivariate analysis. The final results of the multivariate analysis are presented in table 4.

Table 4. Analysis of multivariate factors related to the level of knowledge of adolescent reproductive health after treatment

Variable	**Sig.**	**Exp(B)**	**95.0% C.I.for EXP(B)**	
			Lower	**Upper**
Information about reproductive health	0.000	15.480	4.242	56.225
Participation of organizations outside of school	0.117	0.383	0.115	1.251

The results of multivariate analysis in table 4 showed that providing information by guidance and counselling teachers is increase respondents' knowledge about adolescent reproductive health with a value of p = 0.000 with an exp B of 15,480. Adolescence is period of transition from chidhood to adulthood,

during which there is rapid growth, including reproductive functions, so that it affects changes developmental, both physical, mental, and social roles[1]. Lack of knowledge is alleged to be one of the causes of risky sexual behavior in adolescents[12], [13]. It is necessary to provide information about reproductive health to adolescents as an effort to prevent risky behavior in adolescents. Previous study stated that the positive impact of getting the right information and knowledge about reproductive health is able to prevent premarital sex behavior, unwanted pregnancy, HIV/AIDS, and STIs[14].

In this study, the provision of information on adolescent reproductive health was carried out by peer counselors and guidance counseling teachers. The improvement of adolescent reproductive health can be seen from the knowledge about HIV, anemia among high school female students. Some studies had shown peer educator are effective at increasing knowledge about HIV in adolescents[15], [16]. A previous systematic review stated that improving knowledge of transmission routes with peer-based educational interventions seems to be particularly effective. The studies demonstrated significantly higher knowledge of sexual transmission of HIV among the intervention group having administered peer-education interventions[17].

In this study, it shows that the provision of information about health reproductive to adolescents statistically shows significance with a value of $p = 0.000$. The frequency of interaction is also significant with $p = 0.007$, where the number of interaction that are not in accordance with this research program has a proportion of the level of knowledge that is less than those more frequent interaction to the peer and teacher according to this research program. Learning about sex and reproductive health from peers and teachers is associated with adolescents' positive beliefs about having risky behavior which in turn are associated with their engagement in those same behaviors. Adolescents who frequently communicate with their friends and teachers about sex hold more positive expectancies about the social benefits and pleasure associated with sex, and are less likely to have expectancies about risk behavior[18].

The control group (teachers) is more optimal in guidance and counseling providing information to respondents, as same as previous study that school based healthcare in adolescent sexual, reproductive, and mental health is very effective even though in this case the role of teachers is more effectively disseminated. with the peer role It is possible that a different approach is used between the teacher and the peer. Guidance counseling teachers also have as professionals who have the capacity to provide information about adolescent health[19]. School-based sex education plays a vital role in the sexual health and well-being of young people. Topics of reproductive health education can be addressed successfully across the curriculum is encouraging and offers much needed flexibility to schools, both in terms of available time and talented teachers to tackle difficult and important topics[20].

Sources of information about reproductive health for adolescents are from school books, television, teachers, friends and parents in the order same the previous study. The dissemination of reproductive health information is needed to help adolescents gain insights on decision making toward positive reproductive health and protect them from reproductive health risks[21]. Teachers had an important role in increasing knowledge of Adolescent Reproductive Health in their students[22]. Adolescent Reproductive Health Education by teachers is an effort to address student reproductive health problems. Teachers had a major role in the world of education, this is because teachers interact directly with students in providing education. The importance of teachers´ competence its effect on student learning. In general, research has indicated that specific cognitive abilities and personality characteristics determine to what extent teachers can be effective in delivering high quality instruction[23]. Education was shown to be a factor associated with HIV awareness as adolescents with at least a primary education reported high levels of HIV awareness compared to those without any formal schooling. Young

adolescents with adequate HIV knowledge will most likely know how to protect themselves and are less likely to stigmatize those infected or affected as the survey observed that stigmatizing tendencies were low among young adolescents with comprehensive HIV knowledge. Schools as sources of HIV information [AOR = 8.06, 95% C.I (1.70–38.33), $p < 0.001$] was associated with comprehensive HIV knowledge[24]. The other studies, many adolescents lack knowledge of STIs other than HIV. About 55.9% did not know about STIs. While in the multivariate analysis being in school was significant positive correlates of STI knowledge[9]. Other reseach showed that parents and teachers found the idea of screening for STIs in adolescent girls to be acceptable, and were comfortable with research staff contacting girls through informational meetings at schools[25].

The participation of organizations and information sources does not significant to level of knowledge of adolescents. Other study showed that there was no difference in the level of knowledge and attitudes of students about adolescent reproductive health based on participation in the PIK-R program[26]. Nevertheless, another study stated that there is relationship between the use of PIK-R and knowledge of reproduction in adolescents[27]. It is important to identify the characteristics of youth in terms of organizational participation. This is related to environment around them that can influence a behavior. Several studies have shown that the environmental factors were the role of parents, the role of school, the role of friends or the community. Adolescents are in the developmental stage of expanding and exploring friendships. The results from a systematic review in 2019 highlight a body of evidence supporting the importance of peer networks on adolescent health behaviors through social processes[28].

Multivariate analysis showed that the guidance and counseling teachers have an exp B 14.6 times more good knowledge than peer. It refers to previous study that to improve and increase knowledge and preventing early marriage it is necessary to have formal activities at school. Eventough, health policies must combine interventions at the individual, school, and family levels[29]. Previous study showed that to improve students reproductive health khowledge need to support and improved teachers' knowledge, comfort, and skills for delivering sexual health education in junior and high schools. Curriculum guided teachers need to built in their implementation of content, activities, and assessment strategies, providing a structured and unique focus on building students' health[30].

4. CONCLUSION

There is an effect of providing information by guidance counselling teachers with the level of knowledge counseling respondent's about adolescent reproductive health. There were increase level of knowledge in post test results. The role of counseling teachers cannot be replaced by peers, so that these two roles can be carried out together to make it more effective.

ACKNOWLEDGEMENTS

Author thanks to Director Poltekkes Kemenkes Yogyakarta for this research funding and also for all enumerators, respondents, teachers, peers and all of the contributor in this study.

REFERENCES

[1] World Health Organization, "Adolescents Health," 2021. https://www.who.int/health-topics/adolescent-health.

[2] World Health Organization, "World Health Statistics 2019: Monitoring Health for The SDGs,"

Switzerland, 2019.
[3] M. Liang *et al.*, "The State of Adolescent Sexual and Reproductive Health," *J. Adolesc. Heal.*, vol. 65, no. 6, pp. S3–S15, 2019, doi: 10.1016/j.jadohealth.2019.09.015.
[4] UNFPA, UNESCO, and WHO, "Sexual and reproductive health of young people in asia and the pacific: A review of issues, policies and programmers," Bangkok, 2015. [Online]. Available: https://asiapacific.unfpa.org/sites/default/files/pub-pdf/UNFPA SHR YP AP_2015 for web-final.pdf.
[5] Badan Pusat Statistik, *Pencegahan Perkawinan Anak*. Jakarta: Bappenas, 2020.
[6] J. M. Kyilleh, P. T. N. Tabong, and B. B. Konlaan, "Adolescents' reproductive health knowledge, choices and factors affecting reproductive health choices: A qualitative study in the West Gonja District in Northern region, Ghana," *BMC International Health and Human Rights*, vol. 18, no. 1. 2018, doi: 10.1186/s12914-018-0147-5.
[7] S. Sinaga and L. Natalia, "The Effects of Health Education to The Knowledge Level and Attitude of Adolescents' Reproductive Health," *J. Matern. Care Reprod. Heal.*, vol. 1, no. 1, pp. 214–228, 2018, doi: 10.36780/jmcrh.v1i1.21.
[8] S. Akuiyibo *et al.*, "Impact of peer education on sexual health knowledge among adolescents and young persons in two North Western states of Nigeria," *Reprod. Health*, vol. 18, no. 1, pp. 1–8, 2021, doi: 10.1186/s12978-021-01251-3.
[9] J. E. Finlay *et al.*, "Sexual and reproductive health knowledge among adolescents in eight sites across sub-Saharan Africa," *Trop. Med. Int. Heal.*, vol. 25, no. 1, pp. 44–53, 2020, doi: 10.1111/tmi.13332.
[10] S. Yusran, Y. Sabilu, N. Yuniar, H. Hanafi, and H. Badara, "The Needs of Sexual and Reproductive Health Education for Secondary School in Kendari City, Southeast Sulawesi, Indonesia.," *Indian J. Sci. Technol.*, vol. 11, no. 23, pp. 1–9, 2018, doi: 10.17485/ijst/2018/v11i23/110489.
[11] V. Ghasemi, M. Simbar, F. R. Fakari, M. S. G. Naz, and Z. Kiani, "The effect of peer education on health promotion of iranian adolescents: A systematic review," *Int. J. Pediatr.*, vol. 7, no. 3, pp. 9139–9157, 2019, doi: 10.22038/ijp.2018.36143.3153.
[12] R. Keyte, H. Egan, and M. Mantzios, "An Exploration Into Knowledge, Attitudes, and Beliefs Towards Risky Health Behaviours in a Paediatric Cystic Fibrosis Population," *Clinical Medicine Insights: Circulatory, Respiratory and Pulmonary Medicine*, vol. 13. 2019, doi: 10.1177/1179548419849427.
[13] S. M. Ayu, L. Sofiana, M. Wibowo, E. Gustiana, and A. Setiawan, "Predisposing, Enabling and Reinforcing Factors of Premarital Sex Behavior in School Adolescents," *J. Kesehat. Masy.*, vol. 15, no. 1, pp. 29–38, 2019, doi: https://doi.org/10.15294/kemas.v15i1.14226.
[14] Murdiningsih, Rohaya, S. Hindun, and Ocktariyana, "The effect of adolescent reproductive health education on premarital sexual behavior," *Int. J. Public Heal. Sci.*, vol. 9, no. 4, pp. 327–332, 2020, doi: 10.11591/ijphs.v9i4.20444.
[15] T. Wong, J. R. Pharr, T. Bungum, C. Coughenour, and N. L. Lough, "Effects of Peer Sexual Health Education on College Campuses: A Systematic Review," *Health Promot. Pract.*, vol. 20, no. 5, pp. 652–666, 2019, doi: 10.1177/1524839918794632.
[16] D. Ariyaniwulandari and N. Y. Syarifah, "The Effect of the Peer Education for Adolescent in Improving Knowledge on HIV AIDS Prevention in Sleman Regency," vol. 13, no. Ichs 2018, pp. 76–80, 2019, doi: 10.2991/ichs-18.2019.9.
[17] L. Faust and S. Yaya, "The effect of HIV educational interventions on HIV-related knowledge,

condom use, and HIV incidence in sub-Saharan Africa: A systematic review and meta-analysis," *BMC Public Health*, vol. 18, no. 1, pp. 1–14, 2018, doi: 10.1186/s12889-018-6178-y.

[18] A. Bleakley, A. Khurana, M. Hennessy, and M. Ellithorpe, "How Patterns of Learning About Sexual Information Among Adolescents Are Related to Sexual Behaviors," *Perspect. Sex. Reprod. Health*, vol. 50, no. 1, pp. 15–23, 2018, doi: 10.1363/psrh.12053.

[19] A. J. Mason-Jones, C. Crisp, M. Momberg, J. Koech, P. De Koker, and C. Mathews, "A systematic review of the role of school-based healthcare in adolescent sexual, reproductive, and mental health," *Syst. Rev.*, vol. 1, no. 1, 2012, doi: 10.1186/2046-4053-1-49.

[20] E. S. Goldfarb and L. D. Lieberman, "Three Decades of Research: The Case for Comprehensive Sex Education," *J. Adolesc. Heal.*, vol. 68, no. 1, pp. 13–27, 2021, doi: 10.1016/j.jadohealth.2020.07.036.

[21] S. L. Nasution, S. Kistiana, M. Gayatri, and M. M. P. Naibaho, "Reproductive Health Knowledge among Adolescents in Indonesia: The Role of Family Structure," *Fam. J.*, p. 10664807221090950, Apr. 2022, doi: 10.1177/10664807221090950.

[22] Y. Yuhanah, "Analisis Faktor yang Berhubungan dengan Perilaku Kespro Remaja pada Siswa SMA I Samaturu Kabupaten Kolaka," *J. Penelit. dan Pengabdi. Kpd. Masy. UNSIQ*, vol. 7, no. 1, pp. 48–54, 2020, doi: 10.32699/ppkm.v7i1.1015.

[23] I. M. Pit-Ten Cate, M. Markova, M. Krischler, and S. Krolak-Schwerdt, "Promoting Inclusive Education: The Role of Teachers' Competence and Attitudes," *Insights into Learn. Disabil.*, vol. 15, no. 1, pp. 49–63, 2018, [Online]. Available: www.ldworldwide.org.

[24] T. Badru *et al.*, "HIV comprehensive knowledge and prevalence among young adolescents in Nigeria: Evidence from Akwa Ibom AIDS indicator survey, 2017," *BMC Public Health*, vol. 20, no. 1, pp. 1–10, 2020, doi: 10.1186/s12889-019-7890-y.

[25] G. Wanje, L. Masese, E. Avuvika, A. Baghazal, G. Omoni, and R. Scott McClelland, "Parents' and teachers' views on sexual health education and screening for sexually transmitted infections among in-school adolescent girls in Kenya: A qualitative study," *Reprod. Health*, vol. 14, no. 1, pp. 1–11, 2017, doi: 10.1186/s12978-017-0360-z.

[26] M. I. Juliana, M. D. Rahmayanti, and M. E. Astika, "Tingkat Pengetahuan Dan Sikap Siswa Smp Tentang Kesehatan Reproduksi Remaja Berdasarkan Keikutsertaan Pada Program Pusat Informasi Dan Konseling-Remaja (PIK-R)," *Dunia Keperawatan*, vol. 6, no. 2, pp. 97–106, 2018, doi: 10.20527/dk.v6i2.5556.

[27] D. Hastuti, Alfiasari, N. Hernawati, Oktriyanto, and M. D. Puspitasari, "Effectiveness of 'PIK-R' program as an extracurricular for high/vocational school students in preventing negative behaviors of adolescents," *Cakrawala Pendidik.*, vol. 38, no. 1, pp. 1–15, 2019, doi: 10.21831/cp.v38i1.22283.

[28] S. C. Montgomery, M. Donnelly, P. Bhatnagar, A. Carlin, F. Kee, and R. F. Hunter, "Peer social network processes and adolescent health behaviors: A systematic review," *Prev. Med. (Baltim).*, vol. 130, p. 105900, 2020, doi: 10.1016/j.ypmed.2019.105900.

[29] A. B. Bozzini, A. Bauer, J. Maruyama, R. Simões, and A. Matijasevich, "Factors associated with risk behaviors in adolescence: a systematic review," *Brazilian J. Psychiatry*, vol. 43, no. 2, pp. 210–221, 2021, doi: 10.1590/1516-4446-2019-0835.

[30] L. E. Szucs *et al.*, "School district-provided supports to enhance sexual health education among middle and high school health education teachers," *Teach. Teach. Educ.*, vol. 92, p. 103045, 2020, doi: 10.1016/j.tate.2020.103045.

BIOGRAPHIES OF AUTHORS

Niken Meilani is an lecturer in Poltekkes Kemenkes Yogyakarta, Department of Midwifery since 2006. Niken Meilani received her master degree in Health Promotion/ Reproductive Health and HIV AIDS program Universitas Diponegoro. She also an awardee from Netherlands Fellowship Program for shortcourse about Reproductive Health Rights including HIV AIDS in Royal Tropic Institute Amsterdam, Netherlands. And now she was going on her Doctoral Program Extention Communication Development Study Program in Universitas Gadjah Mada Yogyakarta. She has researched and published in the area adolescents reproductive health. She has written several papers in that areas of health promotion and reproductive health. She can be contacted at email: nikenbundaqueena@gmail.com, Orchid ID: 0000-0002-4104-2616, Google Scholar: 5IOT4FcAAAAJ, Scopus ID: 57211610576, Publon ID: GPS-9918-2022, Sinta ID: 5977475

Nanik Setiyawati is a midwife and lecturer in Poltekkes Kemenkes Yogyakarta, Indonesia, at Midwifery Department. Basic educational is Magister Health Promotion Diponegoro University Semarang Indonesia, concentration of health reproductive and HIV/AIDS. Focus of the research and study about Reproductive Health Care. She can be contacted at email: nanikyogya@gmail.. Publons ID: 5078222, Scopus ID: 572606060, Sinta ID: 6002496, Google Scholar ID: QyLseCgAAAAJ, email: nanikyogya@gmail.com, orchid ID: 0000-0002-7131-7510

ETHICAL CLEARANCE

KOMISI ETIK PENELITIAN KESEHATAN
POLITEKNIK KESEHATAN KEMENKES YOGYAKARTA
Jl. Tatabumi No. 3, Banyuraden, Gamping, Sleman, D.I. Yogyakarta Telp./Fax. (0274) 617601
email : kepk@poltekkesjogja.ac.id

KETERANGAN LAYAK ETIK

DESCRIPTION OF ETHICAL EXEMPTION

No. e-KEPK/POLKESYO/0101/V/2019

Protokol penelitian yang diusulkan oleh :
The research protocol proposed by

Peneliti Utama : Niken Meilani
Principal in Investigator

Nama Institusi : Poltekkes Kemenkes Yogyakarta
Name of the Institution

Dengan judul:
Title

" EFEKTIVITAS *PEER EDUCATOR* DALAM MENINGKATKAN PENGETAHUAN TENTANG KESEHATAN REPRODUKSI DAN PENURUNAN KEJADIAN ANEMIA PADA SISWI SMA DI YOGYAKARTA "

"THE EFFECTIVENESS OF PEER EDUCATORS IN IMPROVING KNOWLEDGE OF REPRODUCTIVE HEALTH AND DECREASING ANEMIA EVENTS IN SISWI HIGH SCHOOL IN YOGYAKARTA"

Dinyatakan layak etik sesuai 7 (tujuh) Standar WHO 2011, yaitu 1) Nilai Sosial, 2) Nilai Ilmiah, 3) Pemerataan Beban dan Manfaat, 4) Risiko, 5) Bujukan/Eksploitasi, 6) Kerahasiaan dan Privacy, dan 7) Persetujuan Setelah Penjelasan, yang merujuk pada Pedoman CIOMS 2016. Hal ini seperti yang ditunjukkan oleh terpenuhinya indikator setiap standar.

Declared to be ethically appropriate in accordance to 7 (seven) WHO 2011 Standards, 1) Social Values, 2) Scientific Values, 3) *Equitable Assessment and Benefits, 4) Risks, 5) Persuasion/Exploitation, 6) Confidentiality and Privacy, and 7) Informed Concent, referring to the 2016 CIOMS Guidelines. This is as indicated by the fulfillment of the indicators of each standard.*

Pernyataan Laik Etik ini berlaku selama kurun waktu tanggal 28 Mei 2019 sampai dengan tanggal 28 Mei 2020.

This declaration of ethics applies during the period May 28, 2019 until May 28, 2020.

May 28, 2019
Professor and Chairperson,

Ketua KEPK,

KOMISI ETIK PENELITIAN KESEHATAN

DR. Tri Siswati, SKM, M.Kes.

TURNITIN

edulearn_revisi3

by Turnitin Indonesia

Submission date: 01-Sep-2022 05:40PM (UTC+0900)
Submission ID: 1890555393
File name: edulearn_revisi3.docx (128.82K)
Word count: 3854
Character count: 22453

Journal of Education and Learning (EduLearn)
Vol. 99, No. 1, Month 2099, pp. 1~1x
ISSN: 2089-9823 DOI: 10.11591/edulearn.v99i1.paperID

The Effectiveness between Peer Educators and Guidance Counselling Teachers to Reproductive Health Level Knowledge

Niken Meilani[1], Nanik Setiyawati[1]
[1]Poltekkes Kemenkes Yogyakarta, Department of Midwifery, Yogyakarta, Indonesia

Article Info

Article history:

Received month dd, yyyy
Revised month dd, yyyy
Accepted month dd, yyyy

Keywords:

Guidance
Counseling
Teacher
Knowledge
Adolescents

ABSTRACT (10 PT)

Adolescents are the most vulnerable period for reproductive health problems. These problems include early pregnancy, unsafe abortion, sexually transmitted infections (STIs) including human immunodeficiency virus (HIV), and sexual abuse. Access to comprehensive and youth-appropriate sexuality education and reproductive health services is limited. There have been several studies on effective ways to increase knowledge of adolescent reproductive health. Peer educators effectively expand reproductive health knowledge among youth. The purpose of this study was to determine the effectiveness of peer educators and counselling tutors on the level of reproductive health knowledge among adolescents. The methodology in this study was a quantitative study with a quasi-experimental non-equivalent control group design, with the treatment group using peer educators and teachers as control groups. The sample used was 70 respondents. Data collected through questionnaires that have been tested for validity and reliability. Data analysis used univariate, t-test and logistic regression. The results of this study showed that providing information through guidance counselors was more effective (p=0.000, exp B=14.5). This study suggests that improving reproductive knowledge among adolescents requires optimizing the role of mentoring and counseling teachers in providing information.

.

Corresponding Author:

Niken Meilani
Poltekkes Kemenkes Yogyakarta, Department of Midwifery, Yogyakarta, Indonesia
Jl. Mangkuyudan MJ III/ 304, Yogyakarta
Email: nikenbundaqueena@gmail.com

1. INTRODUCTION

According to the World Health Organization (WHO), adolescents are the demographic group between the ages of 10 and 19, estimated to be nearly 1.2 million worldwide. In some countries, young people make up almost a quarter of the population.[1] Indonesia was the 37th country with a high percentage of young marriage and is the second highest in ASEAN after Cambodia. The Adolescent Birth Rate (ABR) was very high in Indonesia, at 48.0 per 1000 women in 2010. Child marriage often leads to childbirth at a young age, which can endanger the safety of both mother and baby.[2]

Adolescence is a vulnerable time for reproductive health problems. These problems include early pregnancy, unsafe abortion, sexually transmitted infections (STIs) including human immunodeficiency virus (HIV), and sexual abuse.[3] Indonesia was among the 37th country with a high percentage of young marriage and is the second highest in ASEAN after Cambodia. The proportion of women aged 15 to 19 who gave birth also increased from 9% in 2007 to 10% in 2012. Data on adolescent sexual experiences, it is known that male adolescents who have had sexual intercourse are higher (8%) than female adolescents (2%).[2]

Health risks to adolescent girls need attention. Figures childbirth in adolescents (the adolescent birth

rate /ABR) was still very high in Indonesia, namely 48.0 per 1,000 women in 2010. The marriage of children often lead to labor at a young age, could endanger the safety of mother and baby. The agreement of UNICEF (United Nations Children's Fund) and UNFPA (United Nations Fund for Population Activity) as well as WHO on health adolescent reproductive in 1989, that there is a need for efforts to solve adolescent health problems as a transition period from adolescence to adulthood. In this period, it is quite crucial, considering that adolescence is a process of physical, psychological andchanges behavioralthat greatly affect the health status of adolescents. It is also known that during this period there are deficiencies of several essential nutrients in adolescents, and most of them occur in developing countries.[5]

Adolescents and youth's access to sexuality education and reproductive health services is limited to comprehensive and youth-friendly services, so youth awareness of reproductive health remains low. Data show that less than half of teens understand the human reproductive process and less than 28% know how to prevent HIV transmission and AIDS. The above points indicate the importance of education to prevent reproductive health problems. Meanwhile, reproductive health education in Indonesia was generally carried out in the form of counseling by institutions outside of schools, such as the BKKBN and PKBI. Research shows that adolescents in developing countries are in dire need ofeducation reproductive health.[6]

The majority of girls for about 57% said they communicated menstruation to their friends compared to their mothers or fathers. The role of friends is very important in providing information to adolescents. Other research stated that the delivery of health education reproductive by a peer group for three meetings could increase knowledge onhealth reproductive. [6,7] Other studies have shown that school based healthcare in adolescent sexual, reproductive, and mental health is very effective. However, to be more effective, it still requires continuity of services in the family and community.[8]

There had been several studies that prove that peer education is a method an effective for adolescents. Research conducted by Sriasih showed that peer education has a significant effect on the knowledge and attitudes of adolescents about the risk of premarital sex. Other reseach showed that peer education can increase the average score before and after the intervention for knowledge and attitudes of adolescents about reproductive health. [9,10] Several previous studies have shown peer educators increase knowledge in adolescent girls. However, there is no comparison between the increase in knowledge about reproductive health by peers and another trained person in this case is the counseling teacher. The purpose of this study is to know the effectiveness of peer educators and guidance counselling teachers in adolescent reproductive health level of knowledge.

2. METHOD

This study was a quantitative study with a quasi-experimental design and a non-equivalent control group design. The treatment group consisted of respondents who received information and support from their peer educators, and the second group as a control group consisted of respondents who received information from their teachers 4 times for 3 months.

This study was to determine the effectiveness of peer educators on the level of reproductive health level of knowledge of females adolescent ofe senior high school grade XI. The approach to this research is a behavioral science approach so that in this study an approach is used according to the Procede Precede theory (L. Green). In this study, what was examined was the change in the level of knowledge of high school students after being given information about adolescent reproductive health by providing information by peer educators as the treatment group and providing information by the guidance and counselling teacher as the group control. Both of groups used the same modul of adolescents reproductive health.

The 35 samples were obtained according to Lemeshow for each treatment group, so that the total sample size was 70 people. The inclusion criteria in this study were as follows: (1) Students living with parents were identified from interviews; (2) Have a mobile phone that can be used to access information known from interviews; (3) Students who are willing to become respondents and willing to be given treatment and sign an agreement after the explanation. The exclusion criteria in this study were students who did not take the pre test or post test or did not receive information from peer educators or counseling teachers.

Measurement of the pre and posttest knowledge level using a questionnaire. The questionnaire was about reproductive health such as anemia also HIV. First step was pretest and the next step the two groups were given intervention in the form of increased knowledge by peer educators as the group treatment and by the counseling teacher as the control group. And the last step was post test witsh the same queastionnare as pre test. The analyzes used were univariate, bivariate and multivariate. Ethical clearance this study from ethical commitee Poltekkes Kemenkes Yogyakarta No. e-KEPK/POLKESYO/0101/V/2019.

3. RESULTS AND DISCUSSION

1.1 Respondent characteristics

This research respondents was senior high school students XI class. Respondents characteristic based on participation of organizations inside and outside school, parents' education, parents' income, frequency interaction to peer and teacher and number of sources of information as well as homogenity of the two research groups. The age range of the respondents was 15-17 years. The largest group age was 16 years (81.4%).

Table 1. Frequency Distribution of Respondents

Variable	Experimen/Peer		Control/Teachers		Homogenity
	n	%	n	%	
Participation of organizations in schools					
No	15	42.9	13	37.1	0.624
Yes	20	57.1	22	62.9	(homogen)
Participation of organizations outside school					
No	16	45.7	19	54.3	0.473
Yes	19	54.3	16	45.7	(homogen)
Father's Education					
Basic	5	14.3	5	14.3	0.875
Intermediate	17	48.6	15	42.9	(homogen)
High	13	37.1	15	42.9	
Mother's Education					
Basic	5	14.3	7	20	0.815
Intermediate	19	54.3	18	51.4	(homogen)
High	11	29.4	10	26.6	
Parents' Income					
<index	12	34.3	9	23.7	0.434
≥index	21	65.7	24	74.3	(homogen)
Number of Information Sources KRR					
<7	11	29.4	11	29.4	1.000
≥7	22	68.6	22	68.6	(homogen)
Interaction frequency with peer/ teacher					
<12	21	65.7	1	2.9	
12	12	34.3	34	97.1	

Based on table 1, it is known that the most of the respondents attended organizations school both in the experimen group (57.1%) and the control group (62.9%). For participation in organizations outside of school the proportion differed in the two study groups. The largest proportion of the level education of the respondent's father is secondary education (48.6%) for the experiment group and 42.9% for the control group. However, for the control group the proportion of high school education is the same as middle school. Maternal education is mostly secondary education, both in the experiment group (54.3%) and the control group (51.4%).

The proportion of the respondent's parents' income is also the majority more than index in each regency. The number of sources of information on adolescent reproductive health majority >7 sources. The majority of sources of information are through television, the internet, teachers and friends. Frequency interaction for peer majority is not in accordance with the program in the study as 12 times interaction for (65.7%) and teachers was in accordance with the program (97.1%).

1.2 Adolescents Reproductive Health Knowledge

The level of knowledge about reproductive health in pre-test both experimen and control group was devide in two categories was good for >76% rights aswer and poor category for less 76%.

Table 2. Frequency distribution of knowledge level about adolescents reproductive health pre dan post test in two groups

Variabel	Experimen/Peer		Control/Teachers	
	n	%	n	%
Level knowledge pre test				
Poor	25	77.1	27	82.9
Good	8	22.9	6	17.1
Level knowledge post test				
Poor	29	88.6	12	34.3
Good	4	11.4	21	65.7

Table 2 showed that the level of knowledge about reproductive health in pre-test both group were Poor category. In experiment group was 77.1% and 82.9% in the control group. Different with the pre test, post stest showed that poor category in experiments grup 88.6%, while in the control group the proportion of the level of knowledge poor category was decrease up to to 34.3%.

1.3 Bivariate analysis

Bivariat analysis used for analysis sources of information, participation of organizations inside and outside of school, and the number interaction to adolescent reproductive health knowledge after treatment.

Table 3.Bivariate analysis

Variable	Knowledge Levels				p-value
	Poor		Good		
	n	%	n	%	
Research Group					
Peer	29	88.6	4	11.4	0.000
Teachers	12	34.3	21	65.7	
Total	43	61.4	25	38.6	
Information sources					
≤7 sources	15	68.2	7	29.8	0.430
>7 sources	26	58.3	20	41.7	
Total	43	61.4	25	38.6	
Participation of organizations outside of school					
No	18	51.4	17	48.6	0.086
Yes	23	71.4	10	26.6	
Total	43	61.4	25	38.6	
Participation of organizations in schools					
No	18	64.3	10	35.7	0.688
Yes	23	59.5	17	40.5	
Total	43	61.4	25	38.6	
Interaction frequency with peer/ teacher					
<12 times	20	83.3	4	16.7	0.007
12 times	21	50	21	50	
Total	43	61.4	25	38.6	

In table 3, showed that provision of information on adolescent reproductive with a value of p=0.000. The number of sources of information with a value of p = 0.430. The participation of respondents in school organizations with value p = 0.086, and for participation in non-school organizations and p = 0.688. Bivariate analysis showed that the level of knowledge after treatment with a value of p = 0.007.

1.4 Multivariate analysis

The variables withs p value <0.23 were analyzed for multivariate analysis. The results of multivariate analysis are presented in table 4.

Table 4. Analysis of multivariate factors related to the level of knowledge of adolescent reproductive health after treatment

Variable	Sig.	Exp(B)	95.0% C.I.for EXP(B) Lower	Upper
Information about reproductive health	0.000	15.480	4.242	56.225
Participation of organizations outside of school	0.117	0.383	0.115	1.251

The results of multivariate analysis in table 4 showed that providing information by guidance and counselling teachers is increase respondents' knowledge about adolescent reproductive health with a value of p = 0.000 with an exp B of 15,480. Adolescence is period of transition from chidhood to adulthood, during which there is rapid growth, including reproductive functions, so that it affects changes developmental, both physical, mental, and social roles. [3] Lack of knowledge is alleged to be one of the causes of risky sexual behavior in adolescents. [14, 15] It is necessary to provide information about reproductive health to adolescents as an effort to prevent risky behavior in adolescents.[16,17]

In this study, the provision of information on adolescent reproductive health was carried out by peer counselors and guidance counseling teachers. The improvement of adolescent reproductive health can be seen from the knowledge about HIV, anemia among high school female students. Previous research had shown peer educator are effective at increasing knowledge about HIV in adolescents.[18, 19,20]

In this study, it shows that the provision of information about health reproductive to adolescents statistically shows significance with a value of p = 0.000. The frequency of interaction is also significant with p = 0.007, where the number of interaction that are not in accordance with this research program is that the number of people who are not in accordance with this research program has a proportion of the level of knowledge that is less than those more frequent according to this research program.

The control group (teachers) is more optimal in guidance and counseling providing information to respondents, as same as previous study that school based healthcare in adolescent sexual, reproductive, and mental health is very effective even though in this case the role of teachers is more effectively disseminated. with the peer role It is possible that a different approach is used between the teacher and the peer. Guidance counseling teachers also have as professionals who have the capacity to provide information about adolescent health.[8, 21]

Sources of information about reproductive health for adolescents are from school books, television, teachers, friends and parents in the order same the previous study.[22] Teachers had an important role in increasing knowledge of Adolescent Reproductive Health in their students.[23] Adolescent Reproductive Health Education by teachers is an effort to address student reproductive health problems. Teachers had a major role in the world of education, this is because teachers interact directly with students in providing education.[24] Other study state that most of the guidance counselling teachers had not good knowledge of materials, methods, and their role as ARH education.[25]

Organizational involvement and sources of information were independent of young people's knowledge level. Another study showed no differences in knowledge and attitudes about adolescent reproductive health among students enrolled in the PIK-R program.[26] Nonetheless, another study found a link between PIK-R use and adolescent reproductive knowledge.[27, 28] Other research suggests that parents and teachers see the idea of screening adolescent girls for STDs as acceptable and agree that researchers can contact girls through information sessions in schools.[29]

Multivariate analysis showed that tutors were 14.6 times more competent than their peers. Referring to previous research, formal activities in schools are necessary to improve and expand knowledge and prevent early marriage.[14] Previous research has shown that in order to improve students' reproductive health, the knowledge, comfort and skills of primary and secondary sexual health education teachers must be supported and enhanced. Curriculum-led teachers need to structure their implementation of content, activities, and assessment strategies into a structured and unique focus that promotes student health.[30]

4. CONCLUSION

There is an effect of providing information by guidance counselling teachers with the level of knowledge counseling respondent's about adolescent reproductive health. There were increase level of knowldge in post test results. The role of counseling teachers cannot be replaced by peers, so that these two roles can be carried out together to make it more effective.

ACKNOWLEDGEMENTS

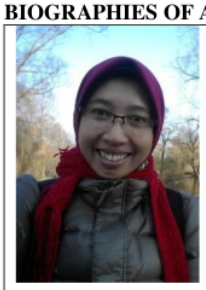
Author thanks to Director Poltekkes Kemenkes Yogyakarta for this research funding and also for all enumerators, respondents, teachers, peers and all of the contributor in this study.

REFERENCES

[1] WHO. *WHO Recommendations on Adolescent Sexual and Reproductive Health and Rights*. World Health Organization; 2019.
[2] Schover LR, Jenkins R, Sui D, Adams JH, Marion MS, Jackson KE. Randomized trial of peer counseling on reproductive health in African American breast cancer survivors. *J Clin Oncol*. 2006;22(10):1620-1624. doi:10.1200/JCO.2005.04.7159
[3] Hurlock EB. *Psikologi Perkembangan Suatu Pendekatan Sepanjang Rentang Kehidupan*. Jakarta: Erlangga; 2009.
[4] Kemenkes. *Pedoman Pencegahan Dan Penanggulangan Anemia Pada Remaja Putri Dan Wanita Usia Subur*. Jakarta: Direktorat Jenderal Kesehatan Masyarakat Kemenkes.; 2016.
[5] Patil SN, Wasnik V, Wadke R. Health problems amongst adolescent girls in rural areas of Ratnagiri District of Maharashtra India. *J Clin Diagnostic Res*. 2009;3(5):1784-1790.
[6] Lestari H. *Kesehatan Seksual Dan Reproduksi Akses Universal Pelayanan Kesehatan Seksual Dan Reproduksi : Profil Indonesia*. Yayasan Kesehatan Perempuan
[7] Huriah, T; Nisma H. Pengaruh Pendidikan Kesehatan Reproduksi oleh Kelompok Sebaya (Peer Group) terhadap Pengetahuan Kesehatan reproduksi di SMP Negeri 2 Kasihan Bantul Yogyakarta. *Mutiara Med*. 2008;8(2):89-96.
[8] Hull TH, Hasmi E, Widyantoro N. "Peer" educator initiatives for adolescent reproductive health projects in Indonesia. *Reprod Health Matters*. 2004;12(21):27-39. doi:10.1016/S0968-8080(04)21120-2
[9] Hatami M, Kazemi A, Mehrabi T. Effect of peer education in school on sexual health knowledge and attitude in girl adolescents. *J Educ Health Promot*. 2015;4:78. doi:10.4103/2257-9529.171791
[10] Sriasih N, Dkk. Pengaruh Pendidikan Seksualitas Remaja Oleh Pendidik Sebaya Terhadap Pengetahuan Dan Sikap Remaja Tentang Bahaya Seks Bebas NGK. *J Skala Husada*. 2013;10(1):13-19.
[11] Kusmiyati Y, Meilani N, Ismail S. Kadar Hemoglobin dan Kecerdasan Intelektual Anak Hemoglobin Level and Intelligence Quotient of Children. *J Kesehat Masy Nas*. 2013;8(3):115-118.
[12] Soekarjo DD, de Pee S, Kusin JA, et al. Effectiveness of weekly vitamin A (10 000 IU) and iron (60 mg) supplementation for adolescent boys and girls through schools in rural and urban East Java, Indonesia. *Eur J Clin Nutr*. 2004;58(6):925-937. doi:10.1038/sj.ejcn.1601914
[13] Jalambo M, Karim N, Naser I, Sharif R. Effects of iron supplementation and nutrition education on haemoglobin, ferritin and oxidative stress in iron-deficient female adolescents in Palestine: Randomized control trial. *East Mediterr Heal J*. 2018;22(6):560-568. doi:10.24719/2018.22.6.560
[14] Chandra-mouli V, Sc M, Camacho AV, D M, Michaud P, D M. WHO Guidelines on Preventing Early Pregnancy and Poor Reproductive Outcomes Among Adolescents in Developing Countries. *J Adolesc Heal*. 2013;52(5):517-522. doi:10.1016/j.jadohealth.2013.03.002
[15] Mahmudah, Yaunin Y, Lestari Y. Faktor-Faktor yang Berhubungan dengan Perilaku Seksual Remaja di Kota Padang. Jurnal Kesehatan Andalas. 2016; 5(2).
[16] Qudsyi H. 2015. Program Peer Education Sebagai Media Alternatif Pendidikan Kesehatan Reproduksi Remaja Di Indonesia (Peer Education Program as An Alternative of Adolescent Reproductive Health in Indonesia). available from: : https://www.researchgate.net/publication/276829657
[17] Miswanto. Pentingnya Pendidikan Kesehatan Reproduksi dan Seksualitas pada Remaja. Jurnal Studi Pemuda • Vol. 3, No. 2, September 2014
[18] Wulandari D A, Syarifah N Y. The Effect of the Peer Education for Adolescent in Improving Knowledge on HIV AIDS Prevention in Sleman Regency. Advances in Health Sciences Research, volume 13. ICHS 2018. DOI: 10.2791/ichs-18.2019.9
[19] Medley, Amey, K, Caitlin, O', Kevin, S, Mi- chael. Effectiveness of Peer Education Interventions for HIV Prevention in Developing Countries: A Systematic Review and Meta-Analysis. AIDS Educ Prev.2009;21(3): 181– 206
[20] Haerana, T., Salfiantini,Ridwan, M. Peningkatan Pengetahuan Komprehensif HIV AIDS Melalui Peer Group. Media Kesehatan Masyarakat Indonesia Vol.11 No.2. 2015. DOI: http://dx.doi.org/10.28597/mkmi.v11i2.544
[21] Mason-Jones AJ, Crisp C, Momberg M, Koech J, De Koker P, Mathews C. A systematic review of the role of school-based healthcare in adolescent sexual, reproductive, and mental health. *Syst Rev*. 2012;1(1). doi:10.1186/2046-4053-1-49
[22] Kotecha P V, Sangita V. Patel 1 V, Mazumdar S, Baxi I R K, Misra 1 S, Diwanji 1 M, Bakshi 1 H, Modi E, Shah S, Shringarpure1 K. eproductive health awareness among urban school going adolescents in Vadodara city. Indian J Psychiatry. 2012 Oct-Dec; 54(4): 344–348. doi: 10.4103/0019-5545.104821
[23] Nurdin A. Hubungan Peran Guru Terhadap Pengetahuan Remaja Tentang Seks Bebas. Jurnal Dedikasi Pendidikan. Volume 1, No. 1, Januari 2017. www.jurnal.abulyatama.ac.id/dedikasi
[24] Fitriana H, Siswantara P. Pendidikan Kesehatan Reproduksi Remaja Di Smpn 52 Surabaya. The Indonesian Journal of Public Health, Vol 13, No 1 July 2018: 107-118. doi: 10.20473/ijph.vl13il.2018.107-118

[25] Sugiyanto Z, Suharyo. Analisis Praktik Pendidikan Kesehatan Reproduksi Remaja Oleh Guru Bimbingan dan Konseling pada SMP yang Berbasis Agama di Kota Semarang. Jurnal Dian Vol 11 No. 2 Mei 2011. publikasi.dinus.ac.id
[26] Juliana I, Rahmayanti D, Astika E, Damayanti F. Tingkat Pengetahuan Dan Sikap Siswa Smp Tentang Kesehatan Reproduksi Remaja Berdasarkan Keikutsertaan Pada Program Pusat Informasi Dan Konseling-Remaja (PIK-R). Dunia Keperawatan, Volume 6, Nomor 2, September 2018: 97-106. DOI: 10.20525/dk.v6i2.5556
[27] Wulandari S. Hubungan Pengetahuan, Sikap Dan Perilaku Pencegahan Penyakit Menular Seksual (PMS) Dan HIV/AIDS Dengan Pemanfaatan Pusat Informasi Konseling Remaja (PIK-R) Pada Remaja SMKN Tandun Kabupaten Rokan Hulu. Jurnal Maternity and Neonatal Volume 2 No 1 (2015)
[28] Hastuti D, Alfiasari A, Hernawati N, Oktriyanto O, Puspitasari M D. Effectiveness Of "Pik-R" Program As An Extracurricular For High/Vocational School Students In Preventing Negative Behaviors Of Adolescents. Cakrawala Pendidikan, Vol. 38, No. 1, February 2019. Doi: https://doi.org/10.21829/cp.v38i1.22263
[29] Wanje G et al. 2017. Parents' and teachers' views on sexual health education and screening for sexually transmitted infections among in-school adolescent girls in Kenya: a qualitative study. BioMed Central. DOI 10.1186/s12978-017-0360-z. https://reproductive-health-journal.biomedcentral.com/track/pdf/10.1186/s12978-017-0360-z.pdf
[30] Szucs LE et al. 2020. School district-provided supports to enhance sexual health education among middle and high school health education teachers. Teaching and Teacher Education : www.elsevier.com/locate/tate. https://doi.org/10.1016/j.tate.2020.103045

BIOGRAPHIES OF AUTHORS



Niken Meilani is an lecturer in Poltekkes Kemenkes Yogyakarta, Department of Midwifery since 2006. Niken Meilani received her master degree in Health Promotion/ Reproductive Health and HIV AIDS program Universitas Diponegoro. She also an awardee from Netherlands Fellowship Program for shortcourse about Reproductive Health Rights including HIV AIDS in Royal Tropic Institute Amsterdam, Netherlands. And now she was going on her Doctoral Program Extention Communication Development Study Program in Universitas Gadjah Mada Yogyakarta. She has researched and published in the area adolescents reproductive health. She has written several papers in that areas of health promotion and reproductive health. She can be contacted at email: nikenbundaqueena@gmail.com, Orchid ID: 0000-0002-4104-2616, Google Scholar: 5IOT4FcAAAAJ, Scopus ID: 57211610576, Publon ID: GPS-9918-2022, Sinta ID: 5977475

Nanik Setiyawati is a midwife and lecturer in Poltekkes Kemenkes Yogyakarta, Indonesia, at Midwifery Department. Basic educational is Magister Health Promotion Diponegoro University Semarang Indonesia, concentration of health reproductive and HIV/AIDS. Focus of the research and study about Reproductive Health Care. She can be contacted at email: nanikyogya@gmail.. Publons ID: 5078222, Scopus ID: 572606060, Sinta ID: 6002496, Google Scholar ID: QyLseCgAAAAJ, email: nanikyogya@gmail.com, orchid ID: 0000-0002-7131-7510

edulearn_revisi3

ORIGINALITY REPORT

24%	19%	16%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	e-journal.poltekkesjogja.ac.id Internet Source	6%
2	"1st Annual Conference of Midwifery", Walter de Gruyter GmbH, 2020 Publication	2%
3	Submitted to Badan PPSDM Kesehatan Kementerian Kesehatan Student Paper	1%
4	iaescore.com Internet Source	1%
5	repository.unair.ac.id Internet Source	1%
6	edulearn.intelektual.org Internet Source	1%
7	annalsofrscb.ro Internet Source	1%
8	Submitted to Program Pascasarjana Universitas Negeri Yogyakarta Student Paper	1%

9	Submitted to Glasgow Caledonian University Student Paper	1 %
10	Fitriana Ritonga. "The Relationship of Knowledge Level and Adolescents About Reproductive Health with Adolescent Reproductive Health Behavior", Jurnal Aisyah : Jurnal Ilmu Kesehatan, 2020 Publication	1 %
11	www.jphres.org Internet Source	1 %
12	beei.org Internet Source	<1 %
13	image.lifeservant.com Internet Source	<1 %
14	Libres.uncg.edu Internet Source	<1 %
15	link.springer.com Internet Source	<1 %
16	Pawiliyah. "Pengaruh Penyuluhan Kesehatan Terhadap Tingkat Pengetahuan Remaja Tentang Kesehatan Reproduksi Di SMPN 5 Bengkulu", Jurnal Kesehatan dr. Soebandi, 2019 Publication	<1 %
17	Rama Ravi, Pankaj Shah, Gopal Palani, Shanthi Edward, B.W.C. Sathiyasekaran. "Prevalence	<1 %

of Menstrual Problems among Adolescent School Girls in Rural Tamil Nadu", Journal of Pediatric and Adolescent Gynecology, 2016
Publication

18	www.wjahr.com Internet Source	<1%
19	Submitted to Monmouth University Student Paper	<1%
20	Leigh E. Szucs, Catherine N. Rasberry, Paula E. Jayne, India D. Rose et al. "School district-provided supports to enhance sexual health education among middle and high school health education teachers", Teaching and Teacher Education, 2020 Publication	<1%
21	garuda.kemdikbud.go.id Internet Source	<1%
22	www.iaescore.com Internet Source	<1%
23	Dwi Kartika Cahyaningtyas, Andari Wuri Astuti, Umu Hani. "Parents involvement and barriers of programme interventions to reduce adolescent pregnancy", Journal of Health Technology Assessment in Midwifery, 2020 Publication	<1%

garuda.ristekdikti.go.id

24	Internet Source	<1%
25	Dinni Randayani Lubis, Legina Anggraeni, Maryuni Maryuni. "The Effectiveness Of Iron Supplementation With Green Bean Source On Enhancement Of Hemoglobin Levels In Adolescent", Jurnal Kebidanan Malahayati, 2022 Publication	<1%
26	Mba, C. I., S. N. Obi, and B. C. Ozumba. "The impact of health education on reproductive health knowledge among adolescents in a rural Nigerian community", Journal of Obstetrics and Gynaecology, 2007. Publication	<1%
27	Najallaili Najallaili, Wardiati Wardiati. "PENGARUH PIK-REMAJA TERHADAP PENGETAHUAN TENTANG KESEHATAN REPRODUKSI, SIKAP SEKSUAL PRA NIKAH DAN PERILAKU SEKSUAL REMAJA DI SEKOLAH MENENGAH ATAS NEGERI KOTA BANDA ACEH", Jurnal Kesmas (Kesehatan Masyarakat) Khatulistiwa, 2021 Publication	<1%
28	Uswatun Hasanah Purnama Sari, Apik Indarty Moedjiono, Nadjib M. Bustan. "Dating Behavior and Age at First Time having Premarital Sexual Intercourse on Young Men	<1%

	in Indonesia", Open Access Macedonian Journal of Medical Sciences, 2020 Publication	
29	eprints.poltekkesjogja.ac.id Internet Source	<1 %
30	ijece.iaescore.com Internet Source	<1 %
31	reproductive-health-journal.biomedcentral.com Internet Source	<1 %
32	unesdoc.unesco.org Internet Source	<1 %
33	www.ncbi.nlm.nih.gov Internet Source	<1 %
34	"Regional Conference on Science, Technology and Social Sciences (RCSTSS 2014)", Springer Science and Business Media LLC, 2016 Publication	<1 %
35	Jiayu He, Ying Wang, Zhicheng Du, Jing Liao, Na He, Yuantao Hao. "Peer education for HIV prevention among high-risk groups: a systematic review and meta-analysis", Research Square Platform LLC, 2019 Publication	<1 %

Exclude quotes	On	Exclude matches	Off
Exclude bibliography	On		