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# Differences in the effectiveness of audiovisual sex education by nurse and peer education on prevention of premarital sex

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**Abstract**--The trend issue of premarital sexual experiences in Indonesia is a serious problem and more pay attention. The consequences of premarital sex are family stigma and social sanctions that has an impact on teenagers choosing kill their newborn babies. One of the most effective educate youth about sexual health issues is through peer educator groups and audiovisual sex education. The aims of this study to analyze differences in the effectiveness of sex education in adolescents based on audiovisual and peer education on the prevention of pre-marital sex. A quasy-experimental design method with pretest-posttest with control group design was conducted. A total of 32 adolescents were included. In this study there is a significant difference in the level of knowledge ( $p= 0.000$ ) and premarital sexual behavior ( $p= 0.001$ ) before and after being given audiovisual sex education by nursing. Meanwhile, there is a significant difference in the level of knowledge before and after being given peer education ( $p= 0.006$ ) but there is no significant difference in the level of premarital sexual behavior before and after given peer education ( $p= 0.057$ ). Audiovisual sex education is more effective than peer education on prevention of pre-marital sex.

**Keywords**---Audiovisual Sex Education, Peer Education, Prevention, Premarital Sex.

## Introduction

The trend issue of child marriage and premarital sexual experiences in Indonesia is a problem which requires serious and continued attention. Efforts to prevent child marriage can be oriented to the development of quality human resources. The impact of free sex and premarital sexual experiences contributes to an increase in HIV/AIDS, causes low physical health status and also mortality sufferers among adolescents (Naswa & Marfatia, 2010). WHO survey in 2015 the average death rate for female adolescents was 44.1 at the age of 15-19 years due to sexual behavior and reproductive health problems. Meanwhile, in Indonesia, the average death rate for adolescents (15-19 years) due to childbirth is 47 people (Profil Penduduk Indonesia, 2015).

Indonesia which is a country with a majority of Muslims, premarital sexual relations are prohibited and considered as a Zina (sexual relations without legally married bonds) (Horii, 2020). The consequences of premarital sex are family stigma and social sanctions stating that disgrace that has an impact on the fear of teenagers choosing to abandon or even kill their newborn babies (Wong, 2012). Sex education has significance and urgency for adolescents so as not to experience obstacles in living life at the puberty phase. The urgency of sex education is educative and anticipatory, especially preventing premarital sex (Awaru et al., 2020). Although with the existence of culture, parents think that talking about sex is still taboo (Wamoyi et al., 2010).

One of the most effective ways to educate youth about sexual health issues is through peer educator groups. Peer education can change behavior by using public health strategies to promote a variety of positive health outcomes resulting in the transfer of experience and knowledge to members of the same group (Umulkulsum & Suaji, 2020; Ghasemi et al., 2019). The previous systematic review concluded when compared with standard practice there is no clear evidence of effectiveness of peer education on HIV prevention, youth prevention and promotion of sexual health for youth in European countries. Further research is needed to determine factors that support program effectiveness (Tolli, 2012). There is no significant difference observed on knowledge and behavior to perform HIV tests with sexual partners after being given peer education (Akuiyibo et al., 2021). This happens because Adolescents often access information about reproductive health that is incomplete, and inaccurate. Various information media that cannot be controlled (Scull et al., 2020).

Therefore accuracy, innovation of IEC (Communication, Information and Education) media is needed as a sex lesson for teenagers in the digital era such as by audiovisual provided by nurses. Reproductive health education using the video method affects the knowledge and attitudes of adolescents about premarital sexuality showed that in the video group, the knowledge level was  $p=0.000$  (Hastuti et al., 2021). The video visual and audio methods attract attention teens to millennial teens

can catch it faster because the teenager is having experiencing development, and is cognitively mature (Condran et al., 2017). However, no research has been found that compares peer education with sex education by nurse based on audiovisual media so The aims of this study to analyze Differences in the Effectiveness of Sex Education in Adolescents based on Audiovisual and Peer Education on the Prevention of Pre-Marital Sex”.

## **Methods**

A quasy-experimental design method with pretest-posttest with control group design was conducted. Before the researchers intervened, all groups were pre-tested to determine knowledge about the prevention of premarital sex and premarital sex behavior. Furthermore, the intervention group was given sex education to adolescents with audiovisual media like power point slides and video, while the control group was given a peer education. After the intervention was given, a final measurement (posttest) was carried out in all groups to determine the effect of audiovisual sex education and the peer group. The sample used in the study were 32 adolescents aged 12-18 years in the Bragolan Public Health Center area, Purwodadi District, Purworejo Regency. The sample was divided into 16 control group adolescents and 16 adolescents in intervention group. Sampling was done using simple random sampling technique. Data collection and measures by instrument was to measure knowledge consist of 15 question and sexual behavior consist of 11 questions using an anonymous questionnaire that has been tested for validity and reliability with the results p value<0.005. The instrument was compiled based on theories about the characteristics of secondary physical development of adolescents, characteristics of adolescence, premarital sex, factors causing premarital sex, the impact of premarital sex, and how to prevent premarital sex. Data analysis used paired-test because the data were normally distributed and to find out the differences in the effectiveness of sex education in adolescents based on audiovisual and peer education on the prevention of pre-marital sex was used the independent t-test.

## **Results and Discussions**

### **Result**

#### **1. Sosio Demographic of Resonden**

Characteristics of adolescents in the Bragolan Health Center area, Purworejo Regency in the control group, the majority aged 17 years as many as 4 people (25.%), having a senior high school education level of 9 people (56.25%) and female and male sex 8 people (50%). While the intervention group majority of were also 17 years old, as many as 6 people (37.5%), with senior high school education as many as 11 people (68.75%) and male sex more than women as many as 9 people (56.2%) as shown in Table 1.

Table 1  
Socio Demographic of Responden (n=32)

Demographic	Peer Group		Audiovisual Group	
	n	%	n	%
Age	16,058		17,164	
Mean age (M ± SD)				
12	2	12.5	1	6.2
13	1	6.2	1	6.2
14	2	12.5	1	6.2
15	2	12.5	1	6.2
16	2	12.5	2	12.5
17	4	25.0	6	37.5
18	3	18.8	4	25.0
Education				
Elementary School	1	6.2	1	6.2
Junior High School	6	37.5	3	18.75
Senior High School	9	56.25	11	68.75
Student	0	0	1	6.2
Gender				
Male	8	50.0	9	56.2
Female	8	50.0	7	43.8

2. Differences in the level of knowledge and behaviour before and after being given Audio visual Sex Education to adolescents

In table 2, it is known that the value of increasing the level of knowledge in the intervention group before and after being given Audiovisual Sex Education by Nursing was 11,750 and there was a decrease in premarital sexual behaviour by 1.562. After the paired t-test was carried out, the t value was -5.253, where t results > table and p value = 0.000 (p value <0.05), this shows that there is a significant difference in the level of knowledge before and after being given Audiovisual Sex Education by Nursing in the intervention group. In addition, the results obtained based on the paired t-test obtained a t value of 3.930 where t results > table and p value = 0.001 (p value <0.05), this shows that there is a significant difference in the level of premarital sexual behavior before and after being given given Audiovisual Sex Education by Nursing.

Table 2  
Differences in the level of knowledge and premarital sexual behavior before and after being given Audio visual Sex Education by Nursing to adolescents intervention group (n=32)

Variable	Pre Test		Post Test		Mean Difference	Paired T-Test	P value
	Mean	SD	Mean	SD			
Knowledge	75.38	11.854	87.12	11.718	-11.750	-5.253	0.000
Premarital sexual behavior	3.31	2.301	1.75	1.390	1.562	3.930	0.001

3. Differences in the level of knowledge and behaviour before and after being given Peer Education to adolescents

In table 3, it is known that the value of increasing the level of knowledge in the control group before and after being given Peer Education is 5.81 and there is a decrease in premarital sexual behavior by 1.50 After the paired t-test is carried out, the t value is -3.223, where t results > table and p value = 0.006 (p value < 0.05), this shows that there is a significant difference in the level of knowledge before and after being given Peer Education in the control group. In addition, the results obtained based on the paired t-test obtained a t value of 2.058, where t results > t table and p value = 0.057 (p value > 0.05), this shows that there is no significant difference in the level of premarital sexual behavior before and after given Peer Education in the control group.

Table 3  
Differences in the level of knowledge and premarital sexual behavior before and after being given peer education to adolescents in control group (n=32)

Variable	Pre Test		Post Test		Mean Difference	Paired T-Test	P value
	Mean	SD	Mean	SD			
Knowledge	68.81	9.232	74.62	8.523	-5.812	-3.223	0.006
Premarital sexual behavior	3.50	2.160	2.94	1.914	0.562	2.058	0.057

4. Differences in the Effectiveness of Audiovisual Sex Education by Nurse and Peer Education on Prevention of Pre-marital Sex

Based on table 4, it is known that the Mean Difference score of knowledge between the Post Test peer Education group and the Audiovisual Sex Education group is -12,500. After going through the independent T-test, the p value = 0.002 (p value > 0.05), this shows that there is a statistically significant difference in effectiveness between the intervention group given Audiovisual Sex Education compared to the control group given Peer Education. In addition, the Mean Difference score of premarital sexual behavior between the Post Test peer Education group and the Audiovisual Sex Education group was 1.188 and after the Independent T-Test test was

carried out, the p value was 0.044 so that there was a statistically significant difference in effectiveness between the intervention groups. given Audiovisual Sex Education compared to the control group who were given Peer Education on premarital sexual behavior. These results state that the provision of Audiovisual Sex Education is more effective than Peer Education on Prevention of Pre-marital Sex.

Table 4  
Differences in the Effectiveness of Audiovisual Sex Education by Nurse and Peer Education on Prevention of Pre-marital Sex

Variable	Audiovisual Sex Education		Peer Education		Mean Difference	Independent T-Test	P value
	Mean	SD	Mean	SD			
Knowledge Premarital sexual behavior	87.12	11.718	74.62	8.523	-12.500	-3.451	0.002
	1.75	1.390	2.94	1.914	1.188	2.008	0.044

## Discussion

According to the study, there was an increase in adolescent knowledge after being given audiovisual education treatment about premarital sexuality using the video method from 75.38 (pretest) to 87.12 (posttest). Researchers assume increase in knowledge can occur because of implementing Sex Education, respondent are distributing media with audiovisual in the form of power point slides, LCD, projector, and sound. Furthermore, the researchers also showed a video about the dangers of free sex made by nursing students with a duration of 10 minutes. So that in the implementation of the posttest, respondents still remember well the materials presented. Adolescents are closely related to media presented through electronic devices. Teenagers will be more interested if they see something that moves and makes a sound compared to just reading the writing. Therefore, using the video method can influence adolescents about efforts to prevent premarital sexuality. This is in line with the opinion Hastuti et al., (2021) health education using video media that produces sound, using LCD, and projector will be more interesting because it gets information through visuals and gets information through audio video.

This evidence is supported by Edgar Dale's Pyramid theory which says that 85% of students learn from what they see and hear or verbally and visually (Djannah et al., 2020). This is in line with the opinion of Notoatmodjo who revealed similar evidence that the eyes and ears are the most functioning tools for obtaining a good understanding (Notoatmodjo, 2012). Several other studies that show the benefits of audiovisual are research (Badudin et al., 2022) A significant relationship where there is an increase in the median value of respondents' knowledge between before (pretest) of 60 and (posttest) of 80 after being given health education so that it can be concluded that respondents well received the video media provided by the researcher. This research evidently also by Ambarwati, (2021) the result shows Z value shows -3.819 with p-value 0.000 ( $p < 0,00$  so that using audio visual media increased teenagers' knowledge after provided health promotion (Ambarwati et al., 2021)

Results showed there is a significant difference in the level of knowledge before and after being given audiovisual sex education by nursing in the intervention group. sexual education does not only explain about sex but also contains the transfer of values from educators to students so that information about sex is given in a "contextual" manner, which is in accordance with the norms and culture prevailing in society (Sarwono, 2011). This research is supported (Djannah et al., 2020) that health education through audiovisual media increased adolescent knowledge about reproductive health as indicated by the results the average score of respondents before and before the intervention increased significantly. This is line with study (Siregar et al., 2019) showed there are differences in knowledge before and after being given intervention in adolescent with leaflet and audiovisual media about the dangers of HIV / AIDS.

Loewenstein, G., & Furstenberg, F. (1991) states that the forms of sexual behavior in adolescents generally start from the less intimate level to the most intimate or have sexual intercourse carried out by holding hands, shoulders, kissing lips while hugging, embracing , attach the genitals (petting sex) to finally have sexual intercourse (Winarso et al., 2018). This research shows that there is a significant difference in the level of premarital sexual behavior before and after being given Audiovisual Sex Education by Nurse. This is in accordance with the opinion states that counseling may affect a person's attitude in healthy behaviors (Notoatmodjo, 2012). If adolescent have received new information, automatically they also get new knowledge. Knowledge of adolescents will greatly affect their attitudes and behavior. Someone's behavior or a person's behavior can be seen from the level of knowledge and knowledge itself can obtained from an education or education both formal and informal such as training, and health counseling (Hidaayah & Faeiqah, 2020). This statement had proven by expert previously, who said that audio-visual media contributed to the information aspect and persuaded on positive behavioral changes (Dermawan, A.C., dan Setiawati, 2008). This argument based on the reason that audio-visual media involves some senses to the participant, such as hearing, listening and visual that connects the received information to the human brain between 75 to 87% (Machfoedz, I., dan Suryani, 2007). This correspondence to reaserch conducted by A scoping review from (Condran et al., 2017) suggests that the results of this study support the use of social media in sexual health promotion interventions, especially promoting environmental, individual behavior change. Besides that, Supoorted study show the results of research on adolescents, the average difference in attitude ranking is 0.00 before the intervention and the average rank is 7.00 after being given an intervention with leaflets and audiovisual media about the dangers of HIV/AIDS ( $p = 0.001$  or  $p < 0.005$ )(Siregar et al., 2019)

In the control group, the research also shows that there is a significant difference in the level of knowledge before and after being given Peer Education. According to Ghasemi et al., (2019) The benefit of peer-to-peer approach is that they imitate each other peer group, easy transfer of information between colleagues, especially if it is supported by a good peer understanding of social and cultural target group, environmental characteristics, and active peer participation in all stages of planning, implementation and evaluation. Supporting research form Babazadeh et al., (2015) showed in the peer education group compared to control group was significant changes in the mean score of knowledge, attitude and behavioral

intention of female student related to HIV/AIDS. A study conducted in Shanghai, China by Shi R, et al (2002) state that peer education on HIV/AIDS prevention among junior high school and middle school students is effective in increasing the level of knowledge and awareness of self-protection (Medley et al., 2009).

This research shows that there is no significant difference in the level of premarital sexual behavior before and after given Peer Education in the control group. Peer education programs have been used as a health strategies to promote positive health behaviors such as quitting drugs, smoking violence, and HIV/AIDS prevention. Because the program seeks to produce behavior change in the peer group with the help of peer educators or facilitators as change agent (Chandan, 2008). However, the research did not find any effect of peer education on changes in premarital sex behavior in adolescents according to the researcher's assumption, this is because the majority of adolescent behavior in the Bragolan Health Center area, Purworejo Regency is still in good condition. Media may play an important role in sexual prevention adolescent behavior in urban areas, including: widely spread over the internet (Dutt & Manjula, 2017). Sources of information owned by peers are not sufficient to support changes in adolescents with an average educational background of peers who are still in senior high school. Notoatmojo said that education can also influence where the higher the level of knowledge, the better the behavior shown (Notoatmodjo, 2012). Supporting studies are those conducted by (Sumaryani et al., 2021) state that there were no significant differences in the prevention of sexual risk behavior among adolescents in urban areas at pre- and post-sexual education through p-value peer education = 0.086 using the Wilcoxon sign-rank test data analysis.

These results state that the Audiovisual Sex Education is more effective than Peer Education on Prevention of Pre-marital Sex both at the level of education and premarital sex behavior. Prevention in the form of behavior carried out by an individual in preventing interference, damage, or loss to someone. The main domains or domains of human behavior are: knowledge, attitudes, and practices (Notoatmodjo, 2012). Prevention can be done through health education in the community, or identifying risk factors. Behavior changes as a promotion or education goal that has 3 dimensions, namely, changing negative behavior into positive, developing positive behavior, which is in accordance with norms or values. Theoretically, a person's behavior change accepts or adopts a new behavior in his life through three stages, the first stage is a change before someone adopts a new behavior, he must know in advance the benefits of the behavior for himself or his family. The second stage is an attitude which is a response that is still closed from a person to a stimulus or object and the stage of an action or behavior is an attitude that has not automatically manifested in an action, to make it a real action, factors and supporting facilities (Purwoastuti, Endang, 2015).

This is in line with research which states that Peer education can increase students' knowledge, but the effect of education by doctors and nurses is higher than peer education. This comparison can be caused by the subject of doctors and nurses with group coworkers in health-related problems, readiness and more accurate responses to questions submitted by adolescents, as well as the ability of doctors and nurses to overcome ambiguity due to better mastery (Ghasemi et

al., 2019). This correspondence to research conducted by (Hidaayah & Faeiqah, 2020) there is an influence of sexual education on the prevention of sexual abuse in school-age children at SD Darul Ulum Bungurasih Waru Sidoarjo with the data analysis of  $\rho$  (0.00) <  $\alpha$  (0.05). Students who receive sexual education have positive behavior to prevent sexual education is important to change negative behavior towards sexual prevention.

## Conclusion

Based on the results and discussions that have been described, the researchers could conclusions both in the control group and in the intervention group, the majority of adolescents aged 17 years with high school education and in the intervention group the number of boys was more than girls. There is a significant difference in the level of knowledge and premarital sexual behavior before and after being given Audiovisual Sex Education by Nursing in intervention group. Meanwhile in the control group also there is a significant difference in the level of knowledge before and after being given Peer Education but there is no significant difference in the level of premarital sexual behavior before and after given Peer Education in the control group. Audiovisual Sex Education by Nurse is more effective than Peer Education on Prevention of Pre-marital Sex both at the level of education and premarital sex behavior

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