Research Article

The Effect of Interactive Media by Peer Educators on Adolescent Reproductive Health Knowledge at High School

Yasinta Dewi Kristianti1,2*, Sulaiman Metere1, Trisna B. Widjayanti1

1Universitas Mohammad Husni Thamrin, Indonesia
2Universitas Padjajaran, Indonesia

*Corresponding author email: yasintakristianti@gmail.com

Abstract

Adolescent reproductive health problems are a major problem for adolescent health today. The lack of knowledge about reproductive health and the limited information media for adolescent reproductive health in the middle adolescent group aged 16-18 years is the reason for this research. The purpose of this research was to determine the effect of the application of interactive media by peer educators on the level of knowledge of adolescent reproductive health. This research used quantitative research methods in the form of pre-experimental research with the One Group Pre Test Post Test Design. The research population was all students of High School (SMAN) 99 East Jakarta with a total sample of 32 respondents using a purposive sampling technique. The data collection instrument used a questionnaire in the form of a questionnaire. The statistical test used the Wilcoxon test. The results showed that the Z count was -2.727 with a P-Value of 0.003. P<0.05, which means that there is an effect of the application of interactive media on increasing adolescent reproductive health knowledge. This study concludes that the use of interactive media by peer educators affects increasing adolescent reproductive health education knowledge.

Keywords: Interactive Media, Peer Educators, Adolescent Reproductive Health

How to cite:

INTRODUCTION

Adolescence is a period of transition from childhood to adulthood. According to the Regulation of the Minister of Health of the Republic of Indonesia Number 25 of 2014, adolescents are residents in the age range of 10-18 years (Permenkes RI, 2014), whereas according to the Population and Family Planning Agency (BKKBN) adolescents are residents with an age range of 10-24 years (BKKBN, 2012;2017). In adolescence, there is rapid growth both physically, psychologically, and intellectually where the nature of great curiosity and pleasure in adventures and challenges is also a tendency to dare to take risks for the actions they take (Pusdatin Kemenkes RI, 2015). Negative thoughts and feelings of reduced life satisfaction accompanied by the potential for health problems that occur in adulthood can cause depression and anxiety (Lissak, 2018). Healthy individuals who have social competencies such as social communication skills, empathy, and caring will have internal resilience to be able to face life’s challenges (Pop, 2014).

Based on research that was conducted by Kristianti and Widjayanti (2021) at Public High Schools in the East Jakarta area in 2015 it was found that there was still 36.1 percent of adolescents who had low knowledge about reproductive health, which is bad and there are 22.1 percent of teenagers have had premarital sexual behavior (Kristianti, 2021). The same thing was also found in research conducted in Ghana, where based on the results of this study it was found that school and dropout adolescents did not have comprehensive knowledge about reproductive health, one of which was associated with wrong choices which resulted in unwanted pregnancies and sexually transmitted infections (Kyilleh, 2018). There are research results regarding adolescent knowledge of reproductive health which is still low related to the causes of sexually transmitted diseases caused by sexual intercourse by 12.4% and 16.7% of adolescents think that taking a hot shower after sexual intercourse can prevent pregnancy (Rahman, 2011).

To prevent and protect adolescents from risky sexual behavior and other risky behaviors that can affect their reproductive health and to prepare adolescents to live a healthy and responsible reproductive life is the goal of adolescent reproductive health services. Adolescent reproductive health services can be implemented through the provision of communication, information, and education; counseling; and/or clinical medical services. In providing communication, information, and educational materials, it can be carried out through formal and non-formal education processes as well as youth empowerment activities as peer educators or peer counselors. (Government Regulation of the Republic of Indonesia, 2014). Peer Educators (Peer Educators) are youth/students who are functionally committed and highly motivated, as resource persons for groups of youth or their peer students who have participated in peer educator training/orientation or who have not been trained using the Curriculum Guide and Training Modules that have been prepared by BKKBN, and is responsible to the Chairman of the Center for Information and Counseling for Youth/Students or PIK R/M (BKKBN, 2012).

Based on data from the 2017 Indonesian Demographic Health Survey (IDHS), it was found that the number of adolescents in Indonesia is quite large, namely 25.62 percent. It was found that 62 percent of adolescents felt comfortable sharing their problems, especially about their love life and reproductive health with other adolescents and it was also reported that 40 percent of female adolescents and 33 percent of male adolescents received information about drugs, 31 percent female and 28 percent men get information about alcohol and 25 percent of
women as well as 22 percent of men get information about HIV/AIDS through printed media (BKKBN, 2017). Meanwhile, based on studies conducted using systematic review techniques, it was found that counseling conducted by peers through face-to-face techniques, discussions, presentations, and distribution of print media can significantly increase the average level of knowledge (Salam, 2016).

According to Ybarra et al. (2014) research showed that 47 percent of teens access at least one type of media containing sexual content. Television and film media make the largest contribution compared to online media and videos to sexual media access (Ybarra et al., 2014). For this reason, the role of the Adolescent Health Information Center (PIK-R) in each senior high school (SMA) is needed to help peers (peer groups) obtain correct information regarding reproductive health, especially adolescent reproductive health. PIK-R is a forum that is managed, by and for the youth themselves to provide information and counseling services on preparing for family life for adolescents. The existence of PIK-R is very important for teenagers to be able to help teenagers get information and counseling services about preparing for family life for teenagers (BKKBN, 2012).

Changes and learning innovations are currently due to rapid technological developments (Nurtanto et al., 2020). With the development of science and technology, an effort is needed to make it easier to find this knowledge (Wiyono, 2012). Interactive media is media that allows students to interact with the media by practicing their skills and receiving feedback on the material presented (Suryani, 2018). Dale said in his theory that the more senses students use in learning, the better the students' memory as described in the learning experience cone (Stephen et al., 2011).

The use of media will clarify messages or learning materials so that learning runs smoothly (Megantari et al., 2021). There are changes and innovations in learning today because of the rapid development of technology and in the era of the industrial revolution 4.0, teachers must have high digital literacy (Oberer and Erkollar, 2018). Online learning is successful because it is supported by interaction and communication between teachers and students by utilizing learning facilities in the form of using interactive teaching materials and media (Ali et al., 2020).

Innovation in the development of learning media that is able to facilitate students in question is by combining text, sound, graphics, and video. Media that combines all aspects facilitates learning (Ilmiani et al., 2020). Interactive media is media that allows students to interact with the media by practicing their skills and receiving feedback on the material presented (Suryani, 2018). The information media commonly used so far at PIK-R SMAN 99 East Jakarta is print media in the form of leaflets, brochures, posters, newspapers, and magazines. Based on observations and interviews with researchers with PIK-R administrators and guidance and counseling teachers at SMAN 99 Jakarta, information was obtained that the limitations of interactive media-based health information services at PIK-R SMAN 99 East Jakarta caused education about adolescent reproductive health by peer educators to be ineffective so that it had an impact on the low interest of students to be involved in PIK-R PIK-R activity reports related to the results of adolescent reproductive health education by peer educators at SMAN 99 East Jakarta are also not yet available. Based on the results of research conducted at an Islamic boarding school, it was found that sources of information about clean and healthy living behaviors were obtained from peer educators as much as 40.5%
(Rochmawati and Rahayu, 2017). While sources of information in the form of electronic media such as the internet, television, and radio. Other sources of information used by adolescents in the peer group to obtain adolescent reproductive health education are parents, teachers, health workers, and peers (peer groups). Of the various information media, not all of them provide correct and correct information so adolescents with limited knowledge regarding adolescent reproductive health can have an adverse impact on adolescent reproductive health.

The lack of knowledge about reproductive health and the limitations of adolescent reproductive health information media in the middle adolescent group aged 16-18 years and the need to know the effect of interactive media on adolescent reproductive health knowledge are the reasons why this research is important to be carried out by researchers.

**METHOD**

This research method uses a quantitative research approach. This type of research is pre-experimental with the One Group Pre-Test and Post-Test Design. The research was conducted in September-November 2022 at SMAN 99 East Jakarta. The population is students of SMAN 99 East Jakarta with a total sample of 32 respondents, using a purposive sampling technique. Data collection uses a questionnaire instrument. The research procedure was carried out in 3 stages, namely preparatory, implementation, and final stage. The preparatory stage is conducting observations and preliminary studies, determining the population and research sample, making instruments in the form of research questionnaires, and testing the validity and reliability of research questionnaires. The implementation stage is conducting a pre-test to measure knowledge before the treatment is carried out, applying interactive media in the form of desktop-based applications to peer educators, and then conducting a post-test to measure the level of knowledge after the treatment is carried out. The final stage is data processing with SPSS.V.22 to calculate and analyze the data from the pre-test and post-test measurements, test the normality of the data distribution, the data is not normally distributed so use the Wilcoxon test, then discuss the findings, and make conclusions based on the results of research data processing and ending with a research report to the school's internal parties. with the research diagram as follows:

![Research Stages Diagram](image-url)
RESULT AND DISCUSSION

Data processing and analysis in this study used SPSS Version.22 and was used to carry out univariate tests to determine the characteristics of respondents and the Wilcoxon test as a paired sample test with abnormal distribution of data. The results of the analysis of this study are presented in the following table.

Table 1. Respondents' frequency distribution according to the characteristics of the respondents

<table>
<thead>
<tr>
<th>Characteristics of Respondents</th>
<th>Number(n)</th>
<th>Percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9</td>
<td>28,1</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>71,9</td>
</tr>
<tr>
<td>Teen Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>9</td>
<td>28,1</td>
</tr>
<tr>
<td>17</td>
<td>9</td>
<td>28,1</td>
</tr>
<tr>
<td>18</td>
<td>9</td>
<td>28,1</td>
</tr>
<tr>
<td>19</td>
<td>5</td>
<td>15,6</td>
</tr>
<tr>
<td>Experience Using Interactive Media</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever</td>
<td>8</td>
<td>25,0</td>
</tr>
<tr>
<td>Never</td>
<td>25</td>
<td>75,0</td>
</tr>
<tr>
<td>Reproductive health information sources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Print media</td>
<td>1</td>
<td>3,1</td>
</tr>
<tr>
<td>Electronic Media</td>
<td>8</td>
<td>25,0</td>
</tr>
<tr>
<td>Internet</td>
<td>12</td>
<td>37,5</td>
</tr>
<tr>
<td>Parent</td>
<td>3</td>
<td>9,4</td>
</tr>
<tr>
<td>Teacher</td>
<td>3</td>
<td>9,4</td>
</tr>
<tr>
<td>Health workers</td>
<td>2</td>
<td>6,3</td>
</tr>
<tr>
<td>Friends of the same age</td>
<td>3</td>
<td>9,4</td>
</tr>
</tbody>
</table>

Based on Table 1, it is known that there are four variable characteristics of the respondents studied, namely gender, teenage age, experience using interactive media, and sources of obtaining reproductive health information. From the results of the literature review, it is known that these four variables are factors that influence the health status of adolescents.

Univariate test results from this study showed that the highest number of respondents were female adolescents, 23 students (71.9%) compared to male adolescents, namely 9 students (28.1%). Based on the results of research conducted by Kurniawati and Shaluliyah (2014) it was found that the number of female adolescents was more than male adolescents with the results of 63% and 37% so that female adolescents are more likely to become peers (peer groups) who are trained to become peer educators (peer educator) in delivering adolescent reproductive health education. Through peer groups, adolescents discuss a problem more with their peers, especially regarding adolescent reproductive health which is not found in the family environment.

The results of this study indicate that the highest number of adolescents are adolescents aged 16 years, 17 years, and 18 years, namely 9 students each (28.1%) while adolescents aged 19 are 5 students (15.6%). Based on this, it shows that teenagers at SMAN 99 East Jakarta are included in the middle adolescent group (middle adolescence), namely 16-18 years old. As we all know that school is one of the formal facilities or facilities that can be accessed by teenagers.
to be able to improve knowledge, attitudes and general and specific skills for their students, one of which is related to reproductive health. The results of this study, that the use of interactive media has a positive impact on increasing the knowledge of peer educators. This is because the adolescent reproductive education material provided will be more effectively understood by using interactive media in conveying reproductive health information compared to the conventional media used so far at SMAN 99 East Jakarta so it is hoped that as an agent of change in schools, peer educators able to provide examples of good attitudes and behavior related to adolescent reproductive health and can provide encouragement and motivation to their peers to have healthy living behaviors. With the creation of healthy youth and school communities, it is hoped that this will help to increase the learning achievement of all students.

These results are consistent with research which states that at the secondary education level there is a relationship related to the impact of reproductive health such as contraceptive use, age of marriage, number of births, and use of health services (Svanemyr, 2015). Meanwhile, the use of multimedia in the learning process can help achieve learning goals optimally (Bus et al., 2020). Middle adolescence is 16-18 years old. At this age, adolescents want to achieve independence and autonomy from their parents, are involved in expanding friendships and intimacy in a friendship relationship, at this stage, adolescents really need friends. The characteristics of adolescents at this age are the search for self-identity, strengthening relationships with friends of the opposite sex, the desire to date, having a deep sense of love, developing the ability to think abstractly, and fantasizing about the sexual activity so that at this age adolescents are very close and open. once in reproductive problems with their peers (peer group). Most peer educators have started to show interest in social relations through their participation in becoming peer educators because through these activities they feel they have carried out one of the tasks of socialization development as a useful teenager, channel their talents, are concerned, and want to help friends to avoid bad behavior. at risk especially regarding the adolescent reproductive health triad (Shylvi, 2016).

The results of this study indicate that the number of peer educators who have used interactive media is 8 students (25.0%) while those who have never used interactive media are 25 students (75.0%). These results indicate that most peer educators have never used interactive media as a medium for information on adolescent reproductive health when conducting adolescent counseling at the Adolescent Health Information Center (PIK-R) SMAN 99 East Jakarta. By using interactive media as educational media it can increase students' knowledge and behavior about adolescent reproductive health. This is consistent with previous research that the use of innovative learning media can increase learning motivation (Lai et al., 2019; Lauc et al., 2020)

While the results of the study related to the characteristics of the respondents in the form of experience in obtaining knowledge from reproductive health information sources, it is known that the largest number came from the internet, namely 12 students (37.5%) then from electronic media as many as 8 students (25.0%) while those from parents, teachers, and peers, namely 3 students each (9.4%), then sourced from health workers as many as 2 students (6.3%) and from print media as many as 1 students (3.1%). The use of various media such as interactive discussions, interesting pictorial media, media games and venting via messages on cell phones by peer educators has a positive impact on adolescent behavior (Diah, 2014). Meanwhile, based on the results of research conducted by Rochmawati and Rahayu (2017) in an Islamic boarding
school, it was found that sources of information about clean and healthy living behaviors were obtained from peer educators as much as 40.5% (Rochmawati and Rahayu, 2017).

Table 2. Distribution of Category Scores Percentage

<table>
<thead>
<tr>
<th>Peer Educators’ Knowledge of Adolescent Reproductive Health</th>
<th>Pre-Test</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category Value Scale</td>
<td>Number(n)</td>
<td>Percentage(%)</td>
</tr>
<tr>
<td>Well</td>
<td>20</td>
<td>62.5</td>
</tr>
<tr>
<td>Not good</td>
<td>12</td>
<td>37.5</td>
</tr>
<tr>
<td>Jumlah</td>
<td>32</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on Table 2 related to adolescent reproductive health knowledge what is meant is adolescent knowledge about reproductive health and how to prevent adolescent reproductive health problems from occurring.

The results of an analysis of the knowledge of peer educators about adolescent reproductive health at SMAN 99 East Jakarta revealed that the results of the pre-test before the use of interactive media found that 20 students (62.5%) as peer educators had good knowledge of adolescent reproductive health and the rest were 12 students (37.5%) had poor knowledge. From the results of the study using the post-test test, named after the use of interactive media it was found that the number of peer educators who had good knowledge of adolescent reproductive health was 30 students (93.%) and had poor knowledge of 2 students (6.3%). These results indicate that there is an increase in the knowledge of peer educators after the use of interactive media by peer educators. These results are consistent with the results of previous research that the use of interactive multimedia in learning can be used effectively to improve students' generic science skills (Sutarno, 2011). The interactive media used during the research functions as a media application for health information services for peer educators regarding adolescent reproductive health information at SMAN 99 East Jakarta. Based on the results of research conducted in Kulon Progo Regency, it was found that 63% of peer educators about Adolescent Reproductive Health had sufficient knowledge (Kurniawati and Sahuliyah, 2014). Adolescent behavior will be greatly influenced by the level of knowledge of peer educators regarding the reproductive health triad. Contribution to the formation of good attitudes and behavior is obtained through a person’s high level of knowledge (Afridah, 2019). One of the causes of deviant sexual behavior in adolescents is caused by a lack of knowledge and getting wrong information about adolescent reproductive health (Dewi and Wieakusuma, 2017).

Table 3. Descriptive Statistics of Adolescent Reproductive Health Knowledge Before and After

<table>
<thead>
<tr>
<th>Adolescent Reproductive Health Knowledge</th>
<th>Mean</th>
<th>SD</th>
<th>Z</th>
<th>P-Value</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test</td>
<td>0.38</td>
<td>0.49</td>
<td>-4.198</td>
<td>0.000</td>
<td>32</td>
</tr>
<tr>
<td>Post-Test</td>
<td>0.6</td>
<td>0.25</td>
<td>-2.727</td>
<td>0.003</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>0.98</td>
<td>0.74</td>
<td>-6.925</td>
<td>0.003</td>
<td>32</td>
</tr>
</tbody>
</table>
Based on Table 3 of the research results it is known that the use of interactive media by peer educators used as information media for adolescent reproductive health education post test results obtained with a calculated Z-value of -2.727, with a P-Value of 0.003. The results of this calculation show that if the P value <0.05, it is significant (H0 is rejected) meaning that there is a significant difference, namely the use of interactive media by peer educators has an effect on adolescent reproductive health knowledge at SMAN 99 East Jakarta.

The results of this study also specifically show the effect of interactive media used by peer educators at the Public High School Adolescent Health Information Center (PIK-R SMAN) with a significant post-test value, namely P-Value = 0.003 (P <0.05) with the average knowledge of peer educators increased from an average of 0.38 to an average of 0.6 after using interactive media. The increase in average post-test knowledge in the results of this study also shows that this research is different from other studies where the interactive media used is interactive media in the form of desktop-based online applications that have a database of activities carried out by peer educators and can be integrated with educational outcomes related to reproduction. adolescents so that they can present reports on the activities of peer educators at PIK-R and make it easier for counseling teachers to analyze the results of PIK-R activities and students can easily consult with peer educators at PIK-R regarding adolescent reproductive health education through this interactive media. This is the novelty of this research.

CONCLUSION

This study concludes that the use of interactive media by peer educators affects increasing adolescent reproductive health education knowledge. The limitations of this study are the short learning time in the use of interactive media by peer educators and the media used is not website-based so the application of interactive media used is not maximized. Suggestions for future researchers are to evaluate the interactive media available at the Adolescent Health Information Center in High Schools in other regions of Indonesia with a website-based interactive learning media design.

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