

Effects of reproductive health education with stop motion video on children's knowledge

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ABSTRACT

Violence against children is public health, human rights, and social problem. The increase in cases of violence against children in Indonesia amounted to 91.2%. To prevent sexual violence, it is necessary to provide reproductive health education to children. Various media have been applied to early childhood education in reproductive health. The research objective is to find out the differences in reproductive health knowledge in groups with stop motion videos compared to songs. The research methods used nonrandomized quasi-experimental pre-test and post-test with control group design. The research was conducted in 2 playgroups in the working area of Sitopeng Public Health Center, Cirebon, West Java from May to November 2017. The research subjects were 40 children, 20 children given stop motion video method, and 20 children given song method. There were significant differences in the knowledge of the pre-test and post-test for the stop motion group (Mean = 8.6; 95% CI = 7.27-9.92; P = 0.000) and the song (Mean = 1.8; 95% CI = 0.77-2.82; P = 0.002). There was a significant difference in knowledge changes in children's knowledge scores in the pre-test and post-test between the group of stop motion video media with the song media (Mean Difference = 6.80; 95% CI = 5.17-8.42; P = 0.000). Video stop motion is more effective in increasing reproductive health knowledge in children.

INTRODUCTION

Violence against children is public health, human rights, and social problem, with potentially devastating and costly consequences. Its destructive effects harm children in every country, impacting families, communities, and nations.(1) The results of a survey of cases of sexual violence carried out in Kenya and Zimbabwe showed that around one in three girls experienced sexual abuse during childhood. Findings from the violence against children surveys conducted in Kenya and Zimbabwe, for instance, indicate that about one in three girls experienced sexual abuse during their childhood. For boys, the reported prevalence of childhood sexual abuse range from 9% in Zimbabwe to 18% in Kenya.(2) The rise of cases of sexual violence against children, especially pedophilia in Indonesia finally made the government declare that 2014 was an Emergency Year for Sexual Violence against Children.(3) The Indonesian Child Protection Commission notes, cases of sexual violence against children in Indonesia in 2013 amounted to 343 cases and in

2014 amounted to 656, so it can be concluded that the increase in cases of violence against children amounted to 91.2%.⁽⁴⁾ This happened in almost every area, including in the city of Cirebon. Based on data from the Integrated Service Center for Empowering Women and Children found 77 cases of violence against children in the city of Cirebon.⁽⁵⁾ The category of violence against children is dominated by cases of sexual violence such as sexual abuse. The number of cases of violence in children is estimated to be more than this number because of the possibility of victims afraid to report to the authorities or community service agencies because sexual violence is still considered taboo and family disgrace.⁽⁵⁾

Children become a group that is very vulnerable to sexual violence because it is always positioned as a figure of weakness or helplessness and has a high dependency with adults around it, this is what makes children helpless when threatened to not tell what they experienced, almost every case that it was revealed, the culprit was a person close to the victim.⁽⁶⁾ To prevent sexual violence, it is necessary to provide reproductive health education to children. Reproductive health education teaches children about themselves and others, their hopes, values, limits on how to deal with their own body, and being able to make decisions relating to relationships between men and women including the decision to protect themselves from harassment to sexual violence. According to Unesco in 2009, reproductive health education was given by the development of the child's age. For children aged 5-6 years, education is given about the names and functions of limbs, the differences between female and male bodies, respect for differences in body and bodily rights, the concept of personal body parts, including safe and unsafe touch.⁽⁷⁾

Learning strategies and methods play a very important role in providing education to children. Children will learn well if what they learn considers aspects of development, meaningful and interesting. Various methods and media have been applied to early childhood education, including singing and telling stories. Singing can arouse children's learning enthusiasm because the classroom atmosphere becomes lively and fun and it will be easier to remember about a material. Romawati's research states that the application of the method of storytelling and singing can increase the activeness of students in group A TK Masyitoh Greges.⁽⁸⁾ However, the method of singing has a disadvantage that is difficult to use in large classes, the results will be less effective in quiet children or do not like singing, the crowded class atmosphere can interfere with other classes. Other methods commonly used include storytelling. Rodyah's research has proven that the story method can improve children's vocabulary in the Tunas Bangsa Sooko Mojokerto playgroup, to develop children's cognitive.⁽⁹⁾ However, the method of storytelling directly has weaknesses, including quickly growing boredom, especially if the presentation is not interesting.⁽¹⁰⁾

According to Piaget, all children experience the same developmental patterns, which go through 4 stages, namely motor-sensory, preoperational, operational and formal conventions. Early childhood is in the preoperational stage. The preoperational stage can be divided into 2 parts, namely, pre-conceptual (2-4 years) and intuitive (4-7 years). In the pre-conceptual stage, the representation of an object is expressed in language, images, and play imaginary. In the intuitive stage, the representation of objects is based on the perception of one's own experience, not on reasoning. Children develop the ability to coordinate physical movements and actions.⁽¹¹⁾ If related to the stages of child development as described above, then the audiovisual media will be by the needs and characteristics of the development of children who learn through concrete objects. Audiovisual media is considered more attractive to children because it has colors, moving images, variations in sound and storyline.⁽¹²⁾

Learning by using audio-visual media in improving children's cognitive abilities will be effective if designed according to needs. Aspects of cognitive development that will increase include aspects of knowledge, memory, knowing cause and effect, classification, number of numbers and problem-solving. In other words, the use of audiovisual media will

help make it easier for students to understand and digest the material that will be delivered. Examples of audiovisual media are video. One technique in video making is technique stop motion, which is a video making technique by taking/making multiple images and then put together into a moving picture or called a stop motion video.(13) Video with stop motion technique able to convey information because of the existence of animation or motion pictures capable of giving stories visually and equipped with audio. In addition, stop motion techniques can provide advantages over live shoots because they can make inanimate objects seem alive.(13) Martilopa's research has proven that there was a significant effect on children's cognitive abilities in learning using video media.(11) Also, the results of Sholikah's research in Sukoharjo concluded that the use of instructional videos can improve children's sexuality knowledge.(14) The difference between previous research and this research is on the video media used. In this study using stop motion video, whereas in previous studies using not using stop motion video.

Argasunya sub-district located in the Sitopeng Public Health Center (PHC) working area is an area that receives special attention from the Cirebon City Health Office because in that area almost every year there is sexual violence against children. Based on a preliminary study of midwives at the Sitopeng PHC, there was sexual violence against a 5-year-old girl by her neighbor which caused the hymen to tear and caused trauma to the child. In the working area of the Sitopeng PHC, there are Mutiara Bangsa playgroup and Al-Maslichah playgroup, followed by children aged 4-6 years. Health education that has been given by PHC's staff is knowledgeable about dental hygiene, how to wash hands and health checks. While education about reproductive health has never been given. The methods and media that have been used in learning include singing and telling stories using visual media. Therefore, it is necessary to research the use of stop motion video media in increasing children's knowledge. The research objective is to find out the differences in reproductive health knowledge in groups with stop motion videos compared to songs.

METHODS

This study was a design analytic quasi-experimental nonrandomized pre-test and post-test with control group design. This study was analyzed the differences in the effect of providing reproductive health education interventions with video stop motion media compared to song media on children's knowledge. The study was conducted in the working area of the Sitopeng PHC, namely Mutiara Bangsa and Al-Maslichah playgroup, from May to November 2017. The population in this study were all children in the Sitopeng PHC working area in Cirebon. The sampling technique in this study was the purposive sample. Mutiara Bangsa and Al-Maslichah playgroup. Then by simple random sampling, Mutiara Bangsa was determined as a video media group stop motion and Al-Maslichah as a song media group with a sample size of 40 children (each group consisted of 20 children). The estimated number of samples needed for each group is determined according to the formula of sample size using the software sample size determination in health studies from Lwanga & Lemeshow. Inclusion criteria in the intervention group and the control group are children aged 5-6 years, who can see and can hear. Exclusion criteria in the intervention group and the control group were not following the pre-test, not following all interventions or not following the post-test.

This research uses primary data. Data was collected by 6 enumerators, they are 2 midwifery students, 2 playgroup teachers from Mutiara Bangsa and 2 playgroup teachers from Al-Maslichah. The first day was pre-tested, the second day of the intervention was carried out with the same duration of time for each group which was about one hour per day, the third day was post-test. The research instrument used pre-test and post-test questionnaires provided by asking the children in turns, a video stop motion with the title titled "I am the Protector of My Body" which contains the names and functions of the limbs, the differences between female and male bodies, respect for body differences as

well as bodily rights, the concept of personal body parts, including safe and unsafe touches, the decision to protect themselves from harassment to sexual violence, and the lyrics to the song "I protect my body" made by researchers. The analysis used is univariable and bivariable analysis with paired t-test and independent t-test (normally distributed data). This study has received ethical approval from the Health Research Ethics Commission of Poltekkes Kemenkes Bandung with number: 16/KEPK/TE/01/VII/17.

RESULTS

The results of the study are presented in the following tables:

Table 1. Characteristics of Respondents

Sex	Boy (%)	Girl
Stop motion video	10 (50%)	10 (50%)
Song	10 (50%)	10 (50%)

Table 1 shows the sex of the respondents in each group consisting of 50% boy and 50% girl.

Table 2. Paired t-test analysis of changes in children's knowledge

Knowledge	Pretest Mean (SD)	Post-test Mean (SD)	Mean Difference (CI 95%)	p-value
Stop motion video	12.30 (2.29)	20.90 (3.17)	8.60 (7.27-9.92)	0.000
Song	12.75 (2.09)	14.55 (2.50)	1.80 (0.77-2.82)	0.002

Table 2 shows the mean difference in the media group stop motion video is higher (8.60) than the song media (1.80). Based on the p-value of 0.000, and 0.002 there are significant differences in the knowledge scores pre-test and post-test in the two groups

Table 3. Independent t-test analysis comparison of changes in children's knowledge score

Knowledge	Mean (SD)	Mean Difference (CI 95%)	p-value
Stop motion video	8.60 (2.83)	6.80	0.000
Song	1.80 (2.19)	(5.17-8.42)	

Table 3 shows the change in children's knowledge scores in the pre-test and post-test for the stop motion video by 8.60 while in the song media group by 1.80. The mean difference between the two groups was 6.80 with a p-value of 0.000. This shows that there is a significant difference in the value of changes in children's knowledge scores in the pre-test and post-test between the group stop motion video media with the song media, which means the stop motion video media is more effective at increasing children's knowledge than the song media.

DISCUSSION

Stop motion is a video creation technique by taking several pictures and then the images are put together and will become a moving image or called a video stop motion.(13) Stopmotion is also called the frame-by frame. This animation technique makes the object seem to move. The object can move because it has many frames that are run sequentially, the way is by recording the image of the object, then the object is moved or changed gesture stand done recording again, and so on until the object appears to move.(15) The use of stop motion software with high-speed cameras will produce dynamic motion.(16)

Stopmotion is a new media to explain the concept of science.(17) Based on research by Vratulis et al in Australia, stop motion is a digital technology that can be used as a learning medium. The teacher is very happy when using stop motion when teaching at school.(18) Non-Aboriginal teachers, who use slow motion to create animated stories are greatly helped to reflect on places and cultural differences, especially the aboriginal culture they know.(19) Also, in Australia, teachers use stories and slow-motion as a medium for the formation of concepts of creativity and imagination in children 3-4 years.(20)

Story ideas are the essence of a video stop motion. Ideas are fundamental to developing animation work. The idea of making video stop motion in this study originated from researchers, namely reproductive health education about name recognition and function/function of limbs, differences between female and male bodies, respect for differences in body and bodily rights, the concept of personal body parts, including safe and insecure touches, knowing how to deal with one's own body, and being able to make decisions relating to relationships between men and women including decisions to protect themselves made in the context of stories in everyday life. This is intended to provide reproductive health education to children, to prevent sexual violence. Sexual violence is the involvement of children in sexual activities, in which they do not fully understand, or are unable to give consent which is marked by sexual activity between children and adults or other children to provide satisfaction for that person.(21)

When intervening in the provision of health education with video media stop motion, children are very enthusiastic and enthusiastic to watch a film that is approximately 6 minutes long. The content of the video stop motion in this research is something they have just seen. After intervening with video media stop motion followed by a re-explanation of the contents of the video, as well as questions and answers, so the time needed when the intervention is about 1 hour. One day later, conducted post-test was with the same questionnaire as the pre-test.

Table 2 shows there are significant differences in the knowledge in stop motion video. The results of this study are by Martilopa's research which states that there are differences in the average cognitive abilities of children before and after learning using video media so that video media is very suitable for use in improving cognitive abilities of early childhood.(11) The results of research conducted in Taiwan on elementary school students, after participating in exhibition stop motion, students can improve their ability to express ideas and communicate with others.(22) Learning strategies and methods play a very important role in providing education to children. Children will learn well if what they learn considers aspects of development, meaningful and interesting.

In the song media group, reproductive health education material is packaged into two songs namely the song "balonku" and the song "naik kereta api". This is intended so that children are familiar with the intonation of the song that is sung. When giving an intervention, the teacher must sing it first, then sing together together repeatedly, trying to be followed by appropriate body movements, explaining the contents of the song and doing questions and answers to measure whether the child can memorize and master it through the song that was sung. Table 2 shows the p value of 0.002, so there are significant differences in the pre-test and post-test knowledge scores in the song media group. The results of this study are in accordance with the Triatnasari study which concluded that the application of learning using the singing method can improve learning outcomes in mathematics subjects in class III B students in Bandar Lampung(23), which distinguishes this study from the respondents not the kindergarten students, as well as the material provided. Supporting research results conducted by Mazidah and Fitrotul who concluded that singing will create a pleasant learning atmosphere, so students will be more eager in accepting the lessons given so that it is easier to remember about a material.(24)

Table 3 shows the change in children's knowledge scores in the pre-test and post-

test for the stop motion video by 8.60 while in the song media group by 1.80. The mean difference between the two groups was 6.80 with a p-value of 0.000. This shows that there is a significant difference in the value of changes in children's knowledge scores in the pre-test and post-test between the group stop motion video media with the song media, which means the stop motion video media is more effective at increasing children's knowledge than the song media. Stop motion video more effective than song media because according to Piaget in Martilopa, children aged 4-7 years enter the intuitive stage, where the representation of objects is based on the perception of one's own experience, not on reasoning. The child develops the ability to coordinate physical movements and actions.(11) If it is associated with the stages of child development as described above, then the video media stop motion will be by the needs and characteristics of the development of children who learn through concrete objects, whereas if using media songs with the singing method has a weakness that results are less effective in quiet children or don't like singing.

Video media is very suitable to be used in improving cognitive abilities of early childhood, because sound, language, color, movement and all the shows contained in the video are something that is easily understood by children in the learning process.(11) Video with stop motion able technique to convey information because of the existence of animation or motion pictures capable of giving stories visually and equipped with audio. Also, stop motion techniques able to provide advantages over live shoots because they can make inanimate objects alive.(13)

According to Fleer and Hoban, stop motion is an innovative medium for early childhood learning to explain science.(25) Other supportive research conducted by Martilopa has proven that there is a significant influence on children's cognitive abilities in learning using video media.(11) Children have the right to get an education and correct information, have the right to be heard opinions, need to be encouraged to express opinions, and need to be fortified from the flow of information. To prevent sexual violence, it is necessary to provide reproductive health education to children. The provision of reproductive health education using video media stop motion can improve children's cognitive abilities because this media is by the stages of its development. Also, files stop motion video can be copied right into a cell phone so they can be played back at home so that children can watch repeatedly. Children will more easily remember about names and functions/uses of limbs, differences in the bodies of women and men, respect for differences in body and bodily rights, the concept of personal body parts, including safe and unsafe touches, knowing how to deal with his own body, and able to make decisions relating to relations between men and women, including the decision to protect themselves from harassment to sexual violence.

CONCLUSION

There is a significant difference in the knowledge scores pre-test and post-test for the video stop motion group and song group, but the video media is stop motion more effective in increasing children's knowledge than the song media, so it can be used as an innovative media in providing reproductive health education.

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