

# Health Reproduction E-Booklet Multimedia Health to Improve Motivation and Knowledge at Students in Localization Areas

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**Abstract**— HIV/AIDS cases in all regions of Indonesia have a rising trend, including in Central Java. This case also occurs in many groups of adolescents. Batang Regency is one of the districts that has a large risk of HIV/AIDS transmission. From 2007 to June 2018 there have been 1,039 HIV/AIDS cases, 165 of which have died. Another fact is that 74.30% of HIV/AIDS cases are found in the age group 20-39 years. This shows that they are infected with HIV during adolescence and even children. One reason is risky sexual behavior. Reproductive health education is very important for adolescents. In the current millennial era, teens need more information based on digital. This research is intended to develop e-booklets as digital-based interactive reproductive health media. The results showed that e-booklets proved effective in increasing knowledge in adolescents in impacted by localization areas.

**Keywords:** multimedia, learning, e-booklet, reproductive health, adolescents

## I. INTRODUCTION

Almost all regions in Indonesia experienced an increase of HIV / AIDS cases, including Central Java province. The trend of new cases HIV / AIDS in the last three years in Central Java always increase significantly. New cases of HIV in 2015 were 30.935 cases. This case increased in 2016 to 41.250 cases, in 2017 HIV cases reached 48.300 cases. Likewise with the new AIDS case, in the last three years in general also increase. In 2015 AIDS total cases were 9.215 cases, in 2016 the cases rose to 10.146 cases, and 2017 fell to 9.280 cases [1]

Central Java in the past three years, HIV / AIDS cases also increased significantly. Cumulatively, from 1993 to June 2018 in Central Java there were 23.603 cases, 1.672 cases were died. This fact has placed Central Java in the fifth highest number of HIV / AIDS cases in Indonesia [1]

Batang Regency is one of the districts that has a high risk of HIV / AIDS transmission because this region has the most prostitution localization in Central Java, which is 12 localization. This localization is spread along the Pantura road in Central Java. Batang District AIDS Commission, said that AIDS cases in Batang continued to increase. Since 2007 until June 2018 in Batang district there have been 1.039 HIV / AIDS cases, 165 cases were died.

Another fact, cumulatively 74.30% of HIV / AIDS cases in Batang district were found in the age group of 20-39 years. This shows that they are likely to contract HIV at the age of adolescents and even children. One of the main causes of transmission is risky sexual behavior carried out by adolescents.

Adolescents who live in areas close to localization are often exposed to the spectacle of negative behavior. This can be a teenager's initiation to engage in risky sexual behavior. This condition will have an impact on the occurrence cases of teenage pregnancy or unwanted pregnancy, sexually transmitted diseases (STDs), including cases of transmission of HIV / AIDS.

The low level of adolescent knowledge regarding reproductive health is one of the causes of risky sexual behavior. Riskesdas 2018 states that adolescent knowledge about adolescent reproductive health including sexually transmitted diseases and HIV / AIDS was still low. This has become a serious problem faced by teenagers today.

Development of adolescent reproductive health to provide information and knowledge related to healthy living behavior for adolescents, in addition to overcoming existing problems. With adequate knowledge and motivation to undergo adolescence in a healthy manner, adolescents are expected to be able to maintain their health so that they can enter a family life with healthy reproduction.

Effort to prevent risky sexual behavior should be carried out by increasing public understanding through intensive persuasion education and communication models based on community empowerment.

Health education and promotion has an effect on increasing knowledge about HIV / AIDS [2]. Health education can increase knowledge and attitudes in HIV / AIDS prevention. Education programs on HIV / AIDS could increase people's knowledge about HIV / AIDS [3].

HIV / AIDS health education have a significant influence on knowledge about the practice of disease risky sexual behavior. Effective sexual health education is the responsibility of individuals to achieve sexual health. Therefore, everyone must have a correct understanding of their sexual health including knowledge about HIV / AIDS, so each individual can

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make ethical sexual health decisions [4]. Health education has a positive influence on awareness about HIV / AIDS and increased knowledge of ways to transmit and prevent HIV / AIDS [5]. Knowledge is an important determinant of changing health behavior [6]. In the current millennial era, adolescents prefer digital media to access all information including information related to adolescent reproductive health and sexually transmitted diseases and HIV / AIDS. there is a significant relationship between the use of media about HIV / AIDS education and an increase in adolescent knowledge about this disease [7].

Education driven by learning media will provide knowledge and eliminate myths, strengthen life skills, facilitate or support responsible behavior and improve the basic value system among adolescents [8]. Education will achieve goals better when supported or through learning media. Therefore, it is necessary to develop digital-based reproductive health learning media for educational efforts to prevent risky behavior among adolescents, especially students.

## II. METHOD

Operationally this research aims to measure the effectiveness of learning models with multimedia e-booklets on increasing the motivation to learn reproductive health and reproductive health knowledge in students in areas affected by localization. E-booklet which is a digital or electronic booklet, containing information or a guide or tutorial. This electronic booklet can only be opened and read through electronic devices such as computers, tablets and smartphones. This e-booklet contains comprehensive information related to adolescent reproductive health, adolescent sexuality along with its impact and contains guidelines to prevent risky sexual behavior in adolescents.

Descriptive research methods are used to measure user satisfaction learning models with multimedia e-booklets. The quasi experiment method with one group pretest posttest design was used to determine the effect of learning models with multimedia e-booklets on the motivation to learn reproductive health and increase reproductive health knowledge in students in areas affected by localization.

The research subjects for the implementation of e-booklet media developed in this study were seventh grade students of junior high school in the area affected by localization in Batang district. Research instruments include e-booklets and electronic questionnaires (e-questionnaires). Test the effect of the implementation of reproductive health e-booklets on knowledge analyzed by paired t test.

## III. RESULT AND DISCUSSION

### A. Satisfaction through Adolescents Health Reproductive Learning Model with E-Booklet Multimedia

The level of user satisfaction of the learning model with multimedia e-booklets in this study can be assessed from the opinions given by the teacher as a provider of adolescent reproductive health material and grade VII students who

receive the material. The assessment of model user satisfaction is measured from 3 aspects, namely material aspects and media aspects.

Based on the results of research based on Teacher's assessment. Material aspects, overall obtained an average percentage of 84.6% (very good category). This aspect includes nine indicators including the appropriateness of the contents of the material with the curriculum and the suitability of the contents of the material with the competency standards both received the highest score of 100%, the suitability of the content of the material with the competency indicator, the suitability of the topic with the material, the clarity of the material, the correctness of the concept, the accuracy of the material, and the depth of the material both scored 82%, while for the level of difficulty the material got a score of 70%.

Media aspects, as a whole get an average percentage of 91.25% (very good category). This aspect includes eight indicators including the suitability of the video with the material, the suitability of the animation with the material, the suitability of the image with the material, and the suitability of the text with the material to get the highest score of 100%, navigation ease 88%, ease of learning 82%, suitability of sound effects in the media , and the use of language both score 80%.

Likewise with students' opinions on multimedia e-booklets for adolescent reproductive health learning models can be described as follows: Material aspects, overall obtain an average percentage of 88, 78% (very good category). This aspect is divided into nine indicators, namely the suitability of the contents of the material with the objectives (94%), ease in understanding the material (86%), ease in following the material (82%), interactivity of the media in learning (92%), the order in which the material is presented (90% ), the use of easy to understand language (90%), increase learning motivation (95%), the effectiveness of the delivery of material (80%), and the availability of questions or quizzes (90%).

Media aspects, as a whole gained an average percentage of 87.91% (very good category). This aspect is divided into 12 indicators, namely ease of navigation systems (81%), clarity of display (89%), readability of text / writing in the program (85%), voice appeal (75%), image attractiveness (91%), power attraction animation (81%), video appeal (91%), suitability of images with material (95%), suitability of animation with material (85%), suitability of video with material (93%), able to be complementary in learning (94% ), and student interest in learning media (95%).

### B. The Impact of Learning Model with Multimedia E-Booklet to Health Reproductive Learning Motivation

Data obtained from the questionnaire results in learning motivation of adolescent reproductive health and the results of observation in learning activities. The questionnaire was given to 40 junior high school students in the area affected by localization. The questionnaire was given prior to learning adolescent reproductive health material to measure initial motivation and after learning to measure final motivation.

**TABLE I. REPRODUCTIVE HEALTH LEARNING MOTIVATION SCORE IN STUDENTS BEFORE AND AFTER APPLICATION OF LEARNING MODEL USING E-BOOKLET**

Test	Average ± SD	t	95%CI	p value
Pre test	67,74 ± 7,57	6,41	5,257 - 9,614	0,000
Post test	78,41 ± 9,62			

The results showed there was an increase in learning motivation about adolescent reproductive health between before and after the application of learning models with multimedia e-booklets.

Before the intervention of adolescent reproductive health learning using multimedia e-booklets, the average score of students' learning motivation was 67.74 with a standard deviation of 7.57. Whereas after the application of the learning model using e-booklets, the average score of students' learning motivation rose to 78.41 with a standard deviation of 9.62. Thus, an average score increase of 10.67. Statistically, there is a significant difference (*p* value <0.05). This means that adolescent reproductive health learning intervention programs using multimedia e-booklets are effective in increasing student learning motivation specifically about adolescent reproductive health.

The use of e-booklets as a model of independent learning for students with a varied and interactive display can form a sense of curiosity that is large enough to form motivation for learning. In accordance with the concept of e-booklet as a source of independent learning that is equipped with text material, images, animations, videos, self-evaluation sheets and sound instruments that are expected to bring an atmosphere of learning is also accompanied by explanations of the use of easy to understand, then this independent learning source much more interesting, not boring and easily understood by students.

Independent learning is a form in which students have primary responsibility for planning, implementing and evaluating their own learning processes [9]. The use of e-booklets is very suitable to support the independent learning process so as to provide opportunities for students to develop according to their own abilities. through independent learning, students will start learning with more goals and with greater motivation to learn. Learning motivation can arise due to intrinsic factors, in the form of the desire and desire for success and the drive for learning needs, hopes for ideals. While the extrinsic factor is the existence of appreciation, a conducive learning environment and interesting learning activities [10].

#### *C. The Effect of Learning Model with Multimedia E-Booklet to Improve Reproductive Health Knowledge*

The results of this study indicate that there are significant differences in student knowledge between before and after adolescent reproductive health learning interventions using multimedia e-booklets. Based on the results of the paired t test, obtained *p* value 0,000 (*p* value <0.05).

Before the adolescent reproductive health learning intervention using multimedia e-booklets, the average score of students' knowledge was 62.12 with a standard deviation of 10.755. Whereas after the intervention, the average score of students' knowledge rose to 71.76 with a standard deviation of 14.344. In other words, an increase in the average score is 13.229. Statistically, there are significant differences. This means that learning programs for adolescent reproductive health use multimedia e-booklets effective in increasing students' knowledge, especially about adolescent reproductive health.

**TABLE II. REPRODUCTIVE EALTH KNOWLEDGE SCORE AT STUDENTS BEFORE AND AFTER APPLICATION OF LEARNING MODEL USE E-BOOKLET**

Knowledge	Average ± SD	t	95%CI	p value
Pre test	62,12 ± 10,753	9,104	7,491 - 11,803	0,000
Post test	71,76 ± 14,344			

The effectiveness as an indicator of the learning process that uses e-booklet learning media has better learning outcomes than the reproductive health learning that has been used by teachers at the school.

From student learning result it is known that there are effectiveness of learning outcomes using e-booklet learning media based on Android. This can happen because learning that uses android-based learning media can motivate students to learn the material provided quickly. Learning with android-based learning media makes students more happy in learning because it is packed with games, and students can study anytime and anywhere.

With the high interest and motivation of learning possessed by students, the learning outcomes obtained by students also increase. Some of the advantages of reproductive health learning using e-booklets based on Android are that this media has an attractive design, both in terms of color, writing, images and animation. This media is easy to operate, understand and easy to understand by students, the buttons in this media can function properly according to the instructions for using the media. Material that is accompanied by pictures makes students not feel bored in using it.

Media for reproductive health learning using e-booklet also has advantages because it can be used independently by students both at school and outside of school by downloading via Google Drive so that it can be used practically through gadgets owned by students.

Educational media is a tool or channel used for delivering messages. The media can deliver learning messages between message givers to message recipients. Learning media is the media used in learning, which includes teaching aids in teaching and the means of messenger from learning resources to recipients of learning messages [11].

The media as a presenter and message distributor, educational media in certain cases can represent educators to present learning information to students. Humans use the senses to interact with their environment so that media influences that interaction. The more senses used to receive a message, the easier the message will be received or understood [12].

## IV. CONCLUSION

Efforts to increase reproductive health knowledge for adolescents living in areas affected by localization are very important. The results of the study show that the E-booklet developed has been able to increase adolescent reproductive health knowledge especially in students affected by localization. This e-booklet can be installed on a smartphone owned by students which is the object of research containing comprehensive information related to adolescent reproductive health, adolescent sexuality along with its impact and contains guidelines to prevent risky sexual behavior in adolescents.

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