

# The Effect of Educational Media Website and Surveillance on Risk Behavior for Prevention of Premarital Sex and Sexual Violence in Adolescents in Gorontalo Regency High School

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**Abstract:** *Objective:* This study aims to assess the effect of website media and surveillance on risk behaviors to prevent premarital sex and sexual violence among high school adolescents in Gorontalo Regency.

*Materials and Methods:* Quasi-experimental research with non-equivalent control group design. Involving 158 adolescent students who were divided into two, namely the intervention group was given education through the Si Waspada Diri website media and the control group was given G'sites, both of which contained material modified from the Comprehensive Sexuality and Reproductive Health Education (CSHE) guidelines. The sampling technique was proportional systematic random sampling with sample criteria aged 15-18 years who were already dating. The research instrument was a knowledge, attitude and practice questionnaire that had previously been tested for validity and reliability

*Results:* Knowledge, attitudes and practices of preventing premarital sex and sexual violence were significantly better using the Si Waspada Diri website and G'Sites. With a p value of less than 0.005, the mean difference after education showed that using the website was more beneficial than using G'Sites in terms of knowledge and attitude. In addition, for practices,  $p = 1.000$  showed no significant difference between the two groups.

*Conclusion:* Comprehensive sexual and reproductive health education materials such as Si Waspada Diri websites and G'sites help lower teenage sexual behavior practices, promote good attitudes, and raise awareness. Nonetheless, G'sites are less successful than websites in raising awareness and attitudes.

**Keywords:** Website, knowledge, attitude, practice, premarital sex, sexual violence.

## INTRODUCTION

Premarital sex and sexual violence are adolescent risk behaviors that put adolescents in various problems, including unwanted pregnancy, young marriage, and abortion [1]. Youth Risk Behaviour Survey in 2021, in Asia, 11% of high school students have had sex and 6% have experienced sexual violence, namely high school students [2]. As many as 21 million adolescents aged 15-19 years in low- and middle-income countries experience pregnancy every year and about 50% of them are unwanted pregnancies and about 12 million adolescents at least 777,000 girls under the age of 15 give birth every year in developing countries [3].

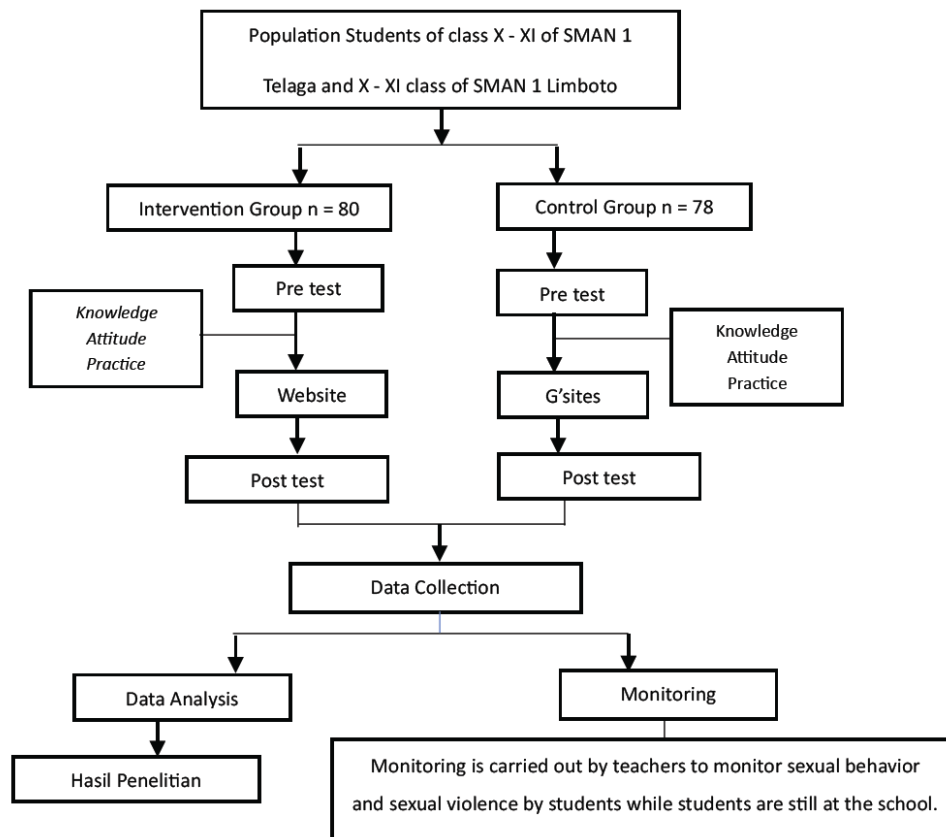
The proportion of women aged 20-24 years who are married or cohabiting <18 years in Indonesia shows an average of 8.06%. In Gorontalo Province, the Figure 1 is 13.65%, which is higher than the national Figure 2

[4]. Meanwhile, births per 1000 women for the age group 15-19 years (ASFR) in 2020, Gorontalo is included in the five provinces with the highest birth rate reaching 46.3% while the national rate is 26.6% [5].

Victims of sexual violence, especially in Gorontalo Province, have increased, namely in 2020 by 51.9%, rising to 56.3% of victims of sexual violence per all types of violence in 2021, mostly occurring at the age of 13-17 years with a high school education level and the perpetrators coming from boyfriends or friends [6].

Health education is one way for adolescents to avoid risky sexual behavior. One of the parties capable of providing reproductive health education and disseminating information, shaping attitudes and developing skills to adolescents appropriately is the school [7]. Providing education by utilizing website-based android technology is one of the efforts to attract the attention of millennial adolescents to have an interest in learning about premarital sex and sexual violence the use of web-based bidanku house media shows the results of an increasing percentage of adolescent reproductive health [8].

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**Figure 1:** Research flow chart.

To find out how big the problem of risky behavior related to premarital sex and sexual violence in adolescents, surveillance is needed. In this study, the Website educational media used is designed for the prevention of premarital sex and sexual violence, in addition to surveying risky sexual behavior and obtaining an overview of the incidence of adolescents who are indicated to have experienced sexual violence. AVATAR Web-based platform is a feasible and flexible tool for the management of adolescent health and well-being from an epidemiological, preventive and educational point of view aimed at changing risky behavior in students [9]. This study aims to assess the influence of website media and surveillance on risk behaviors for the prevention of premarital sex and sexual violence among adolescents in high schools in Gorontalo Regency.

## MATERIALS AND METHODS

### Study Design

This type of research is a quasi experiment, with a non-equivalent control group design. The sample in this study were adolescents aged 15-18 years as many as 158 people who were divided into intervention groups

given the Si Waspada Diri website to SMAN 1 Telaga students (n = 80) and the control group was given G'sites to SMAN 1 Limboto students (n = 78). Sampling was conducted using proportional systematic random sampling technique where each class in the population was represented proportionally and the sample was taken in an organized and random manner using a multiple of 3 on the student attendance list of each class adjusted to the needs of the researcher.

### Intervention

#### Intervention Group

The intervention group received education through the Si Waspada Diri website which contains material features, videos, evaluations and articles. The materials on the website follow the Comprehensive Sexuality and Reproductive Health Education (CSHE) guidelines. The website has been tested for validity by means of expert judgment. The intervention was carried out by opening and pretesting, introducing the website, giving adolescents a link to access the website, explaining the content of the website and discussion, then the posttest was conducted after 1 month from the intervention.

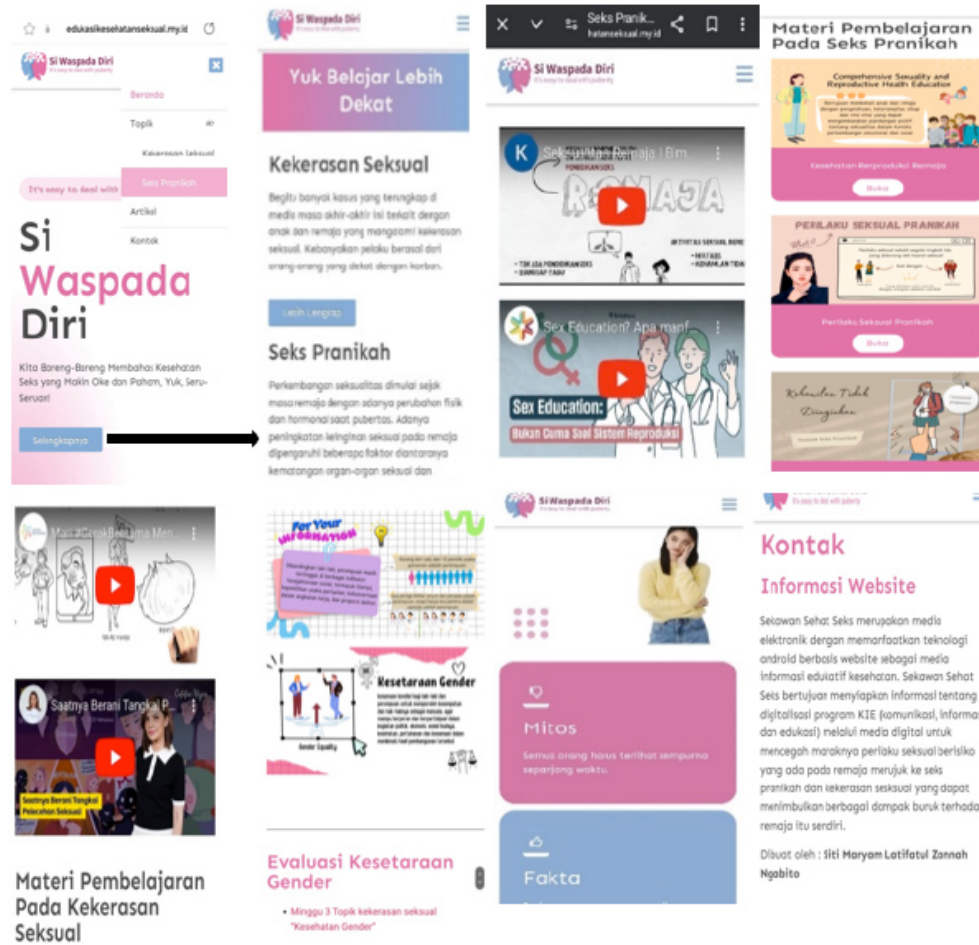


Figure 2: Website Si Waspada Diri Display.

**Control Group**

From the same information and materials, G'sites educational media was also developed for the control group, which is a service provided by Google to create a website in a relatively fast and easy way that only contains material in the form of images and writing.

**Instrument**

This study measured the effect of the intervention on knowledge, attitudes, and practices in preventing premarital sex and sexual violence. The questionnaire consisted of demographic data (in the form of age, gender, who they live with), a list of knowledge, attitude, and practice questions. The validity test of the questionnaire used Pearson Correlation and the reliability test used Cronbach's Alpha.

**Data Collection**

Primary data collection was obtained directly by collecting respondents answers in the questionnaire during the pre and post test. Then the results of data collection were processed and analyzed, the results

functioned in two ways. First, data collection after the intervention was given, the data was processed and analyzed by statistical test for scientific writing purposes, and the second data functioned for supervision carried out by counseling guidance teachers in schools to monitor continuously to see changes in sexual behavior and sexual violence committed by students and as long as the students were still in the school.

**Statistical Analysis**

Data analysis displays univariate data to see the frequency distribution of respondent characteristics. Bivariate analysis was conducted using t-independent and Mann-Whitney test to see the difference in means between groups after treatment using STATA software.

**RESULTS**

**Respondent Characteristics**

The results of the characteristics of respondents from this study are used to determine the general

**Table 1: Frequency Distribution of General Characteristics of Respondents**

General Characteristics of Respondents	Intervention		Control	
	n=80	%	n=78	%
Age (year)				
15	21	26.25	25	32.05
16	45	56.25	39	50.00
17	14	17.50	14	17.95
Gender				
Male	20	25.00	23	29.49
Female	60	75.00	55	70.51
Living Together				
Both parents	53	66.25	55	70.51
Father or mother only	8	10.00	8	10.26
Grandfather and Grandmother	2	2.50	2	2.56
Grandfather or Grandmother only	2	2.50	2	2.56
Siblings	7	8.75	6	7.69
Relatives/uncle or aunt	2	2.50	2	2.56
Boarding	6	7.50	3	3.85

description of research respondents based on age, gender, and living together.

Table 1 illustrates the age of the majority in the intervention group, including 56.25% were 16 years old with 75% female gender, living with both parents 66.25%. In the control group, 53.16% were 16 years old, 72.78% were female, 36.71% resided in Limboto sub-district and 68.35% lived with their parents.

### Bivariate Analysis

Paired two-sample analysis was used to determine the results of differences in pre-test and post-test in each group showed significant improvement before and after the test on knowledge (intervention group: 13.9-20.3; control group 15.7-19.3), attitude (intervention group: 59.7-67.4; control group: 58.6-65.8), practice (intervention group: 63.7-55.4; control group: 65.9-57.1).

In addition, two independent samples t-test analysis was used to see the results of the mean difference between the intervention group and the control group after education showed significant results in knowledge ( $p = 0.013$ ), attitude ( $p = 0.004$ ) and practice ( $p = 1.000$ ).

Figure 3 shows that after being given education, there was an increase in knowledge and attitude as well as a decrease in sexual practices in the groups that were given Website and G'sites.

### DISCUSSION

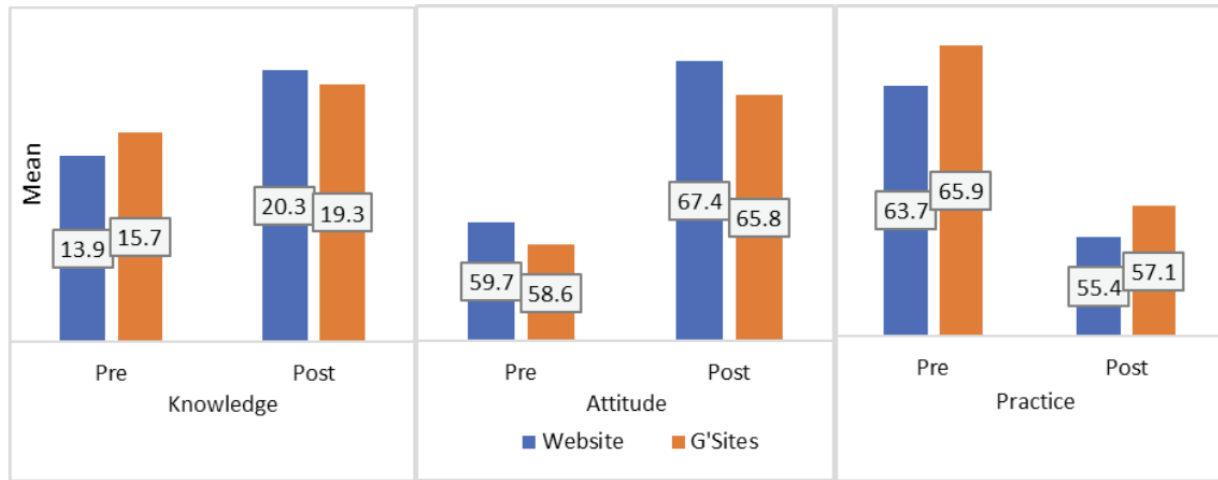
#### Knowledge

The results showed that there was an increase in the average value of knowledge before and after being given sexual health education in the intervention group by 6.4 and by 3.6 in the control group. These results

**Table 2: Pre-Test and Post-Test Assessments of the Study Group and Control Group**

Variables	Intervention Group		Control Group		p-Value
	Pre-test	Post-test	Pre-test	Post-test	
Knowledge	13.9 ± 4.42	20.3 ± 2.51	15.7 ± 4.14	19.3 ± 3.07	0.013 <sup>†</sup>
Attitude	59.7 ± 7.62	67.4 ± 5.04	58.6 ± 8.21	65.8 ± 6.32	0.004 <sup>†</sup>
Practice	63.7 ± 20.64	55.4 ± 8.64	65.9 ± 24.56	57.1 ± 13.03	1.000

Notes: Values are in mean ± standard deviation.  
knowledge= independent t-test; attitude and practice= mann-whitney test.  
<sup>†</sup>  $p < 0.05$  (within-group analysis).



**Figure 3:** Comparison graph of knowledge, attitudes and practices before and after being given education through Website and G'sites media.

are in line with research [10] which found that sexual health education and web-based media literacy are proven to have a positive impact on adolescent cognition. Education using the Si Waspada Diri website media is more effective in increasing knowledge compared to G'sites. In line with research [11] the use of the Geka.id website is effective in increasing adolescents' knowledge about preventing free sex. The selection of the website as a medium for providing education because it contains information, images, videos, evaluations and articles that can be accessed anytime and anywhere so that adolescents can easily get information and become a self-learning medium that allows students to control their own learning speed. The simplicity of the system will make it easier for application users to carry out their activities compared to using a manual system [12]. This result is in line with research which states that the use of the Si-Dini application is effective for increasing knowledge [13]. Comprehensive sexual health education in adolescents is a process of providing health education to increase control, improve and maintain adolescent health both physically, mentally and socially related to their sexual health [14].

### Attitude

There was an increase in the average score of positive attitudes before and after being given sexual health education in the intervention group by 7.78 and by 7.23 in the control group. The results of this study are in line with [15] the application of mHealth-based comprehensive sexuality education curriculum is effective in increasing positive attitudes towards sexual health in school adolescents. Knowledge has an influence on sexual health attitudes. The higher the

knowledge of adolescents about sexual health, the better their attitude towards sexual health [16]. Education using the Si Waspada Diri website media is more effective in increasing adolescents' positive attitudes about premarital sex and sexual violence. This is in line with [17] which states that there are significant differences in attitudes between groups of adolescents who are given education through the IKRRP application and through leaflets. Research [18] showed an increase in the average attitude value after being given the adolescent reproductive health android application. Research by [19] states that the use of digital new media for sex education in western countries is more effective than traditional media in China. This finding is also in line with the results of research on the use of the Si-Dini application to change community behavior which states that education using applications is effective in improving individual attitudes [13].

### Practice

There was a decrease in the practice of risky sexual behavior before and after being given sexual health education in the intervention group by 8.25 and 8.85 in the control group. However, there is no significant difference in the use of website media and G'sites media on the practice of premarital sexual behavior and sexual violence in adolescents. These results are in line with research [15] that there is no effect of mHealth-based comprehensive sexuality education on risky sexual behavior. Good sex education in adolescents has an impact on adolescent sexual behavior, including the level of knowledge about sexuality, the higher the knowledge adolescents have, the lower their premarital sexual behavior [20]. Sexual

health digital literacy provides adolescents with the ability to understand preventive sexual health information and make appropriate sexual behavior choices [21]. Research conducted by Irsal related to monitoring suspect reporting showed an increase in suspect reporting more effectively using the application because of the benefits obtained from the ease of use of the application [22].

## LIMITATIONS OF THE STUDY

### Research Limitations

This website is not yet equipped with an automatic visitor tracking analysis feature. As well as obstacles in training teachers to process and analyze data after data collection, teachers feel they do not have sufficient understanding of the necessary data analysis tools.

## CONCLUSION

The Si Waspada Diri website and G'sites as comprehensive sexual and reproductive health education media can increase knowledge, positive attitudes and reduce adolescent sexual behavior practices. However, the Si Waspada Diri website media is more effective in increasing knowledge and attitudes to prevent premarital sex and sexual violence than G'sites. Therefore, education through the website can be used by adolescents as a medium of education so that knowledge and positive attitudes towards preventing premarital sex and sexual violence continue to increase and maintain safer and healthier behavior. The website can be used as an educational media by schools and related parties as an additional media in delivering comprehensive sexual and reproductive health information to prevent risky behavior of premarital sex and sexual violence.

## ETHICAL APPROVAL

The Health Research Ethics Commission (KEPK) of Hasanuddin University has given the necessary ethical approval with number: 6397/UN4.14.1/TP.01.02/2023.

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