


The Effect of Health Promotion Through Whatsapp Social Media on Adolescent Girls' Knowledge of Personal Hygiene with Symptoms of Vaginitis in SMP Negeri 1 Class IX Rupert Utara Regency Bengkalis in 2023

Nurida

Sekolah Tinggi Ilmu Kesehatan As Syifa Kisaran

Article Info	ABSTRACT
Keywords: Health Promotion, Personal Hygiene, Adolescent WhatsApp Social Media.	To evaluate the effectiveness of health promotion through WhatsApp social media in increasing knowledge about personal hygiene and vaginitis symptoms among adolescent girls at SMP Negeri 1 Rupert Utara, Bengkalis. The method used was a quantitative approach with a pre-test and post-test design. A total of 100 respondents from grades 7 to 9 were involved in this study. Data were collected through questionnaires that had been tested for validity and reliability, and data analysis was conducted using descriptive and inferential statistical tests. The results showed that there was a significant increase in knowledge, with the percentage of knowledge increase reaching 40% after the intervention. The implications of the results of this study suggest that the use of social media as a means of health promotion can be an effective strategy in improving adolescents' knowledge of reproductive health, which in turn can help prevent health problems such as vaginitis. The type of research used is Pre-Experimental research. The population in the study is all adolescent girls in grade IX at SMP Negeri 1 Rupert Utara, Bengkalis Regency in 2023. The type of research used is Pre-Experimental research. The population in the study is all adolescent girls in grade IX at SMP Negeri 1 Rupert Utara, Bengkalis Regency in 2023. The sampling technique uses purposive sampling with a sample size of 41 people. using the Wilcoxon test. The results of the study obtained an average of knowledge before (7,561) and after (12,048). The results of the wilcoxon test were obtained p value = 0.000 < 0.05 which showed that there was an influence after being given health promotion through whatsapp social media about personal hygiene in adolescents at SMP Negeri 1 Rupert Utara, Bengkalis Regency.
This is an open access article under the CC BY-NC license 	Corresponding Author: Nurida Sekolah Tinggi Ilmu Kesehatan As Syifa Kisaran Email : Nurida@gmail.com

INTRODUCTION

Vaginitis is one of the most common health problems faced by adolescent girls, with a high prevalence. According to recent data, approximately 62% of women in Indonesia have

vaginitis infections, and among adolescent girls, this prevalence can reach 30% (Hikamah, 2022). This suggests that many adolescent girls lack an understanding of the importance of maintaining reproductive hygiene, which may contribute to the increase in vaginitis cases. Low knowledge about reproductive health can affect their behavior in maintaining personal hygiene, so effective educational efforts are needed. The most frequent vaginitis is bacterial vaginosis, trichomoniasis and vulvovaginal candididitis (Andalas, 2019). According to the World Health Organization (WHO) (2018), adolescents rarely pay attention to the hygiene of their external genitalia organs, so that they can cause problems with their reproductive health such as abnormal vaginal discharge that causes vaginitis. There are 75% of women in the world who suffer from vaginitis once in their lifetime and 10% to 55% of them do not know that they have vaginitis (Aulia, 2019).

The results of the Epidemiological study of vaginitis in women of childbearing age in the United States were found to be the most frequent caused by bacterial vaginosis, which is around 7.4 million new cases of vaginitis (Alfiani, 2020). According to a health data survey, 62% of women in Indonesia experience viral vaginitis vaginal infection due to a lack of knowledge about maintaining reproductive hygiene. (Sciences, 2022). Indonesia women who experience vaginal discharge are around 75% with bacterial vaginosis (BV) which most often causes pathological vaginal discharge (40%-50% of vaginal infection cases). (Hikamah, 2022). The knowledge factor about reproductive health is also likely to be low among adolescents, affecting their behavior in maintaining vaginal hygiene. The results of the research from a study in Jakarta found that 30.7% of 492 women experienced bactericillosis vaginitis (Medika, 2019). In Padang, the relationship between personal hygiene attitudes and vaginitis symptoms in SMPN 1 students is at a low level of knowledge. The majority had moderate knowledge, namely as many as 85 respondents with 17.6% of them having symptoms of vaginitis. Meanwhile, the majority of respondents at SMPN 23 have a moderate level of knowledge about personal hygiene, namely 80 female students and 35% of them have experienced symptoms of vaginitis (Khatib, 2019). As a health worker, this phenomenon is an important thing that must be overcome immediately. The approach taken to change the existing habit pattern will certainly adjust to the characteristics of today, where for Indonesian people, especially teenagers, social media has become a habit that is difficult to replace.

In 2016, the results of the Statistical Data survey showed that internet users in Indonesia reached 132.7 million people (51.5%) of the total population of Indonesia. Of this number, 95% use the internet to access social networks. Internet users in Indonesia are dominated by young users, namely aged 10-24 years old at 75.5% of the population (APJII, 2016). In this study, WhatsApp became the social media chosen as a health promotion medium. The reason for choosing WhatsApp is because WhatsApp is considered more efficient and simple compared to other instant messenger applications. The results of We Are Social data state that WhatsApp has become a popular social media among the people of Indonesia. It is recorded that 83% of Indonesians use WhatsApp, which means that around 125 million people have used WhatsApp in Indonesia (Hootsuite, 2019).

Although there have been several studies on health education and social media use, there is still a gap in the literature that specifically examines the effect of health promotion

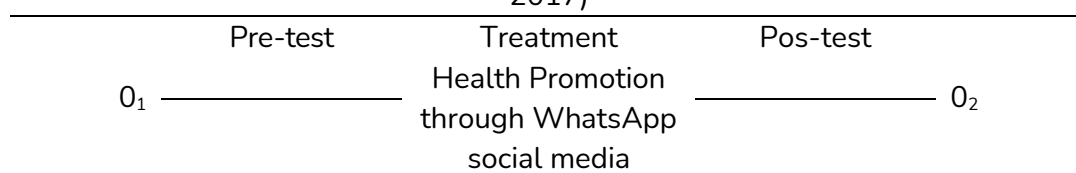
through WhatsApp on adolescent girls' knowledge of personal hygiene and vaginitis. This study is expected to contribute to filling this gap and provide new insights into effective health promotion strategies among adolescents, as well as support efforts to prevent reproductive health problems in Indonesia.

Based on research conducted by Khaleda Sanningrum in 2019 with the title "The Influence of Health Promotion with Different Media WhatsApp Application on the Level of WUS Knowledge About Cervical Cancer in RW 10 Puduk Payung Village", it was found that the level of WUS knowledge about cervical cancer before being given the intervention was mostly categorized as lacking in the three groups, and after being given health promotion through the WhatsApp application about cervical cancer The majority of respondents' knowledge was in the category of good knowledge as much as 47.3% and the respondents had sufficient knowledge as much as 39.7% from the three groups. This study shows that there is a difference in WUS's knowledge about cervical cancer before and after being given health promotion through the WhatsApp application (Sananingrum, 2019).

METHODS

This research is a quantitative research, using a type of Pre-Experimental research that aims to find out a symptom or influence that arises, as a result of certain treatments. By using the design of One Group Pretest Posttest. This study contains a paradigm that there is a group that is given treatment and then the results are observed, but before being given treatment there is a pre-test to find out the initial condition.

Table 1. Research Design Pre-Experiment One-Group Pre-Post Test Design (Nursalam, 2017)



Information:

- O_1 : Pre-test or initial data collection before being given health promotion about personal hygiene with vaginitis symptoms through Whatsapp social media and given a pre-test in the form of questionnaire questions.
- T : The treatment, namely the provision of health promotion about personal hygiene with symptoms of vaginitis through WhatsApp social media, was carried out for 7 consecutive days with the provision of material every day.
- O_2 : Post-test or final data collection is measured by means of questionnaire-style questions, with a comparison of the results of the Pre-test scores.

Population and Sample

Population is the entire object of research or object being studied (Notoatmodjo, 2017). The population in this study is adolescent girls at SMP Negeri 1 Rupert Utara, Bengkalis Regency. The sample is part of the number and characteristics possessed by the population (Notoatmodjo, 2018). How to take non-probability sampling using the total sampling

technique. Sample criteria include inclusion criteria and exclusion criteria, where these criteria determine whether or not the sample can be used. The inclusion and exclusion criteria are as follows:

a. Inclusion criteria

The inclusion criteria are criteria that the research subject can represent in the eligible research sample as a sample (Notoatmodjo, 2018). The inclusion criteria in this study are:

- 1) Respondents are willing to be taken as a sample by filling out a willingness sheet to be a sample.
- 2) Able to communicate well.
- 3) Students who have smartphones and WhatsApp applications.

b. Exclusion criteria

The exclusion criterion is a criterion where the research subject cannot represent the sample because it does not qualify as a research sample (Notoatmodjo, 2018). The exclusion criteria for this study are students who were not present at the time of the study or were sick. The sample in this study is as many as 41 adolescent women

Table 2. Research Variables, Operational Definitions, and Measurement Methods

No	Variable	Operational Definition	Measuring Instruments	How to Measure	Measurement Results	Measure Scale
1.	Adolescent knowledge about personal hygiene with symptoms of vaginitis	Everything respondents know about personal hygiene with symptoms consists of: Definition, Types, Pathophysiology Personal hygiene with vaginitis symptoms, Causes, general symptoms of personal hygiene, Prevention Symptoms of vaginitis and Treatment of symptoms of vaginitis	Questionnaire	Fill out a questionnaire containing 15 multiple-choice questions with the choice of each question with a correct answer = 1, and each incorrect answer = 0	Knowledge level score (true = 1, false = 0) Percentage results Good 76% - 100% Fair 60% - 75% Poor < 60% Average score rating: Before: 7,100 After: 13,966	Interval
2.	Health Promotion about personal hygiene with symptoms of vaginitis with whatsapp social media	A health promotion method using the whatsapp application about personal hygiene with symptoms of vaginitis	Text- and image-based health program about personal hygiene based on book references, information media, and	Providing education about personal hygiene with symptoms of vaginitis with text and pictures or both which is carried out for 3 times in 1	< 7 days > 7 days	Nominal

No	Variable	Operational Definition	Measuring Instruments	How to Measure	Measurement Results	Measure Scale
			electronics about personal hygiene with vaginitis symptoms	week		

Data Collection Techniques and Procedures

Primary data is a source of data obtained directly including sample identity, sample identity including age data and knowledge about vulva hygiene with vaginitis symptoms collected through interviews. Secondary data was obtained by researchers directly through the School Health Unit (UKS) of SMP Negeri 1 Bengkalis.

Measurement Aspects

The instrument in this study uses a questionnaire, Questionnaire is a data collection technique that is carried out by giving a set of questions or written statements to respondents to answer. The questionnaire used was a modification of the researcher with the results of the research conducted by Handiani A. (2015). The questionnaire consists of 15 questions if answered correctly (1) and if answered incorrectly (0) that this research questionnaire will be tested for validity and reality. The research media is in the form of WhatsApp social media to provide health promotion about personal hygiene with symptoms of vaginitis in adolescents.

Data Processing and Analysis Techniques

At the initial data collection stage, observation was used. In this study, data processing uses soffwer statistics. According to Notoatmodjo (2018), data processing includes:

- Editing Checking the completeness of data, including the completeness of filling in age data, gender data, education data, employment data, maternal parity data and gestational age data, and mint leaf and honey allergy history data.
- Coding Coding is an effort to classify data from data obtained according to its type, in coding, data is classified using certain codes in the form of numbers (Notoadmodjo, 2018).
- Data Entry Activity Entering data that has been coded using computer facilities (Notoadmodjo, 2018).
- Data Tabulation Activities summarize the data that is entered into the table arranged as needed according to the characteristics possessed according to the research objectives(Notoadmodjo, 2018).

Data Analysis

Univariate analysis is an analysis carried out on each variable in the research results. This univariate analysis describes the characteristics of each research variable. In general, this analysis only produces the distribution and percentage of each variable (Notoatmodjo, 2012). The univariate analysis used was to see the characteristics of the respondents including age

at SMP Negeri 1 Bengkalis. This analysis was carried out to describe the independent variable, namely health promotion through WhatsApp social media, the dependent variable, namely adolescents' knowledge about personal hygiene with vaginitis symptoms. For numerical data, mean or average values are used, MIN values, MAX values and standard deviations. And this univariate analysis will be presented in the form of a frequency distribution table. The Bivariate Analysis aims to test the significance of the effect of health promotion through WhatsApp social media on adolescents' knowledge about personal hygiene with vaginitis symptoms. To test the hypothesis, a normality test was first carried out using the Kolmogorov smirnov statistical test. The data obtained was analyzed using the Wilcoxon test. The significance rate of $\alpha = 0.05$ with decision-making if $P_{\alpha} \leq 0.05 = H_0$ is rejected, which means that there is an influence of health promotion through Whatsapp social media on adolescents' knowledge about personal hygiene with vaginitis symptoms. However, if $\alpha > 0.05 = H_0$ fails to be rejected, it means that there is no effect of health promotion through Whatsapp social media on adolescents' knowledge about personal hygiene with symptoms of vaginitis at SMP Negeri 1 Bengkalis.

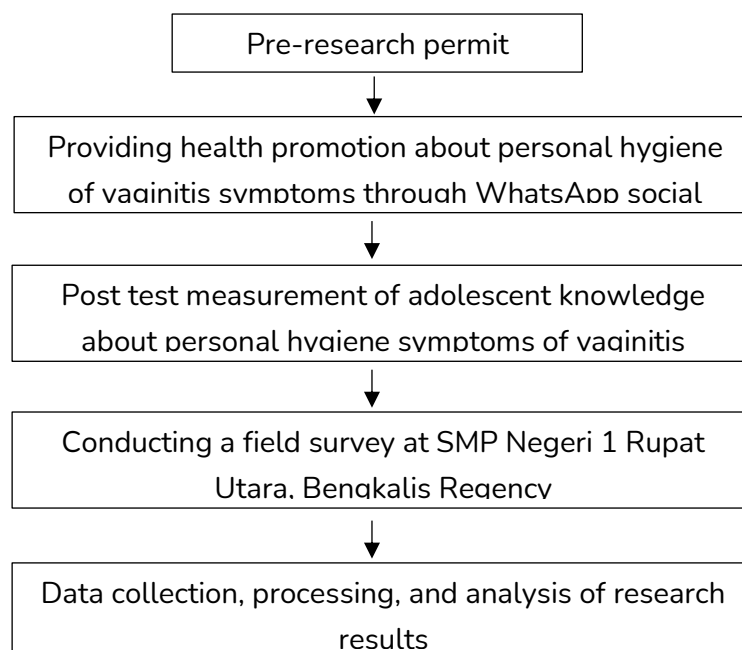


Figure 1. Research Flow

Ethical Clearance

Research ethics is a very important issue in research, considering that this research is directly related to humans, so the ethical aspects of research must be considered (Hidayat, 2018). Ethical issues that must be considered include the following:

1. Informed consent

Informed consent is a form of agreement between the researcher and the research respondent by providing a consent sheet. The informed consent is given before the research is carried out by providing an approval sheet to be a respondent. The purpose of informed consent is for the subject to understand the purpose and purpose of the research,

to know the impact. If the subject is willing, then they must sign a consent form if the respondent is not willing, then the researcher must respect the patient's rights. Some of the information that must be present in the informed consent includes: respondent participation, the purpose of the action, the type of data needed, commitments, implementation procedures, potential problems that will occur, benefits, confidentiality, information that is easy to contact, and others.

2. Anonymous (Anonymity)

Do not provide or include the names of respondents on the measuring tool sheet and only write the code on the data collection sheet or research results to be presented.

3. Concealment (Confidentiality)

This issue is an ethical issue by providing a guarantee of confidentiality of research results, both information and other issues. All information that has been collected is guaranteed confidentiality by the researcher, only certain data groups will be reported on the research results.

RESULTS AND DISCUSSION

Data Analysis

The results showed that there was a significant increase in the knowledge of adolescent girls about personal hygiene and vaginitis symptoms after the health promotion intervention through WhatsApp social media. Before the intervention, the mean score of respondents' knowledge was 7.561 with a standard deviation of 2.793. After the intervention, the mean score increased to 12.048 with a standard deviation of 1.883. To test the significance of this difference, the Wilcoxon test was conducted which resulted in a p-value = 0.000, indicating that there was a significant difference between knowledge before and after the intervention. In addition, a t-test analysis was also conducted to compare the mean knowledge scores between the intervention and control groups, which showed consistent results with the Wilcoxon test.

Univariate Analysis

Univariate analysis in this study was to see the characteristics of the respondents and the average value of the respondents' knowledge before and after the intervention was given to female students. With the following explanation:

Table 3. Description of Adolescent Knowledge Before and After Given Whatsapp Social Media

No	Knowledge Question Item About Personal Hygiene with Symptoms of Vaginitis	Before (%)		After (%)	
		wrong	True	wrong	True
1.	Hygiene of the feminine area	48,8	51,2	2,4	97,6
2.	Irritation of the female part	63,4	36,6	24,4	75,6
3.	Water to clean the feminine area	51,2	48,8	19,5	80,5
4.	How to clean the feminine area	73,2	26,8	29,3	70,7
5.	Antiseptic liquid to clean the feminine area	53,7	46,3	29,3	70,7

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6. Drying out the feminine area	80,5	19,5	19,5	80,5
7. Changing sanitary napkins per day	2,4	97,6	43,9	56,1
8. Changing underwear per day	73,2	26,8	2,4	97,6
9. Pants made of cotton and nylon	19,5	80,5	26,8	73,2
10. Signs of irritation	48,8	51,2	9,8	90,2
11. Pantyliner Uses	29,3	70,7	7,3	92,7
12. Underwear laundry detergent	22,0	78,0	19,5	80,5
13. Cleaning hair in the feminine area	51,2	48,8	34,1	65,9
14. How to wash the feminine area	65,9	34,1	22,0	78,0
15. Discharge of a fishy-smelling liquid	61,0	39,0	4,9	95,1

Based on the table above, the results of the study found that of the 15 knowledge question items, the most wrong answers were obtained in questions 8, 14, 4, and 2, namely about changing underwear per day, how to clean the feminine area, and irritation in the feminine area. However, there was a change after being given the wrong answer treatment to decrease from the previous question number 8 from 73.3% to 2.4%. Question number 14 was previously 65.9% to 22.0% and in question number 4 was previously 73.2% to 29.3%. and question number 2 was previously 63.4% to 24.4%.

Table 4. Average Adolescent Knowledge Before and After Being Given Whatsapp Social Media

Variabel	N	Mean	SD	Min	Max
Pengetahuan					
Sebelum	41	7.561	2.793	300	14.00
Sesudah	41	12.048	1.883	800	15.00

Based on the results of table 4.2, it was found that the average knowledge before being given social media whatsapp was 7,561 with a standard deviation of 2,793, a Min value of 300 and a Max of 14.00. while the average knowledge after being given an intervention with WhatsApp social media was 12,048 with a standard deviation of 1,883, a Min value of 12.00 and a Max value of 15.00.

Bivariate Analysis

Before the bivariate test, the data normality test was first carried out using the kolmogorof sminornov test and the results of the data were not normally distributed, namely $p \text{ value} < 0.05$. Because the data is not attributable normally, this study uses the Wilcoxon test. The effect of health promotion through whatsapp social media on the knowledge of class IX adolescent girls about personal hygiene with symptoms of vaginitis at SMP Negeri 1 Rupert Utara, Bengkalis Regency. With the results of data processing as follows:

Table 5. The Effect of Whatsapp Social Media on the Knowledge of Class IX Adolescent Girls about Personal Hygiene with Symptoms of Vaginitis at SMP Negeri 1 Rupert Utara, Bengkalis Regency

Variable	N	Mean	Sig. (2-Tailed)
Knowledge	41	0,000	0,98

Based on the results of table 4.3, it was found that the influence of whatsapp social media use was obtained with a p value = $0.000 < 0.05$ using a 95% confidence level, which means that there is an influence of health promotion through whatsapp social media on the knowledge of grade IX adolescent girls about personal hygiene with symptoms of vaginitis at SMP Negeri 1 Rupert Utara, Bengkalis Regency.

Adolescent Knowledge about Personal Hygiene with Symptoms of Vaginitis During Pretest and Posttest

The results of the average analysis found that the average knowledge before being given whatsapp social media was 7,561 with a standard deviation of 2,793, a Min value of 300 and a Max of 14.00. while the average knowledge after being given an intervention with WhatsApp social media was 12,048 with a standard deviation of 1,883, a Min value of 12.00 and a Max value of 15.00. The most frequently answered question items by junior high school students during the pretest were about how to clean the feminine area, change underwear, irritation of the feminine part and dry the feminine area. Meanwhile, during the posttest, the questions that are still answered incorrectly by junior high school students are about risk factors for preventing diseases and preventing vaginitis symptoms. This is because there are questions whose answers are almost similar to the risk factors of prevention and prevention, and because there is scientific language that is difficult for students to understand. Notoatmodjo (2018), stated that knowledge is the result of knowing and occurs after a person senses a certain object. Sensing occurs through the five human senses, namely sight, sensing, smell, taste and touch. Knowledge can be obtained, among others, through curricular, non-curricular and extracurricular education. Knowledge can also be obtained from the knowledge of others, such as hearing, seeing directly and through means of communication such as television, radio, books and others. The existence of high cravings can affect adolescents in obtaining appropriate sexual information. Knowledge improvement is not absolutely obtained from formal education alone, but can be obtained through non-formal education. A person's knowledge of an object contains two aspects, namely positive aspects and negative aspects and negative aspects. These two aspects will determine a person's attitude, the more positive aspects of the object are known, the more positive attitudes towards certain objects will arise (Noatmodjo, 2018).

Health promotion is the same as health education which can affect knowledge and behavior. According to Wood, health education is experiences that are beneficial in influencing a person's habits, attitudes and knowledge, and according to Nyswander, health education is a dynamic process of behavior change (Fitriani, 2017). This is in line with research (Maya, 2014) showing that there is a significant difference in knowledge about

gastritis in adolescents before and after health counseling, namely during the pretest 41.9% of respondents were well knowledgeable and during the posttest it increased to 90.5%. Similarly, research (Alvian, 2019) shows that there is a difference in knowledge during the pretest by 38.5% of respondents who are well-informed and 74.4% during the posttest increased with health education. Research (Alvian, 2019) shows that there is a significant influence on the level of knowledge about gastritis.

The Effect of Whatsapp Social Media on Personal Hygiene with Vaginitis Symptoms on Adolescent Knowledge

The results of the statistical test with Wilcoxon at the knowledge level obtained a value of $p\text{ value} = 0.000$ ($p < 0.05$) which means that there is an influence of health promotion through whatsapp social media on the knowledge of class IX adolescent girls about personal hygiene with symptoms of vaginitis at SMP Negeri 1 Rupert Utara, Bengkalis Regency. Health promotion provided through whatsapp social media can have an influence on respondents' knowledge, because the information or material provided by researchers in the WhatsApp group that has been created can be captured by respondents because it is dense and clear. In line with the research of Johnson et al (2015), education through WhatsApp has been shown to be beneficial for learning because it increases student participation in face-to-face and remote contexts between students, other students, and educators. According to Hendrik (2016) research, education using whatsapp is also proven to improve critical thinking skills in students and whatsapp messenger as an integrated mobile learning that is effective to be applied in learning and improve critical thinking skills because with whatsapp social media makes students motivated and interested in participating in learning.

This is in line with research (Nehru, 2019), showing an increase in the average knowledge after being given an intervention through WhatsApp social media, namely with an average knowledge score of 150.09 with a $p\text{ value}$ of 0.000 in the intervention group, which means that there is knowledge after being given education through WhatsApp. Meanwhile, the average knowledge score in the control group was 134.57 with a $p\text{ value}$ of 0.004*, which means that there was a change after being given an information link. Similarly, research (Aldo, 2019), shows that there is an increase in student knowledge that the average value of student knowledge before being treated with whatsapp media is 5.95 and after being treated with whatsapp media is obtained 6.95 which means that there is an increase in student knowledge after being treated with whatsapp media. Based on the results of the discussion above, it can be concluded that the provision of WhatsApp social media is influential in increasing adolescents' knowledge about personal hygiene with symptoms of vaginitis.

Discussion

The results of this study are in line with previous studies showing that the use of social media as a health promotion tool can increase adolescents' knowledge about reproductive health (Notoajmodjo, 2018; Sananingrum, 2019). However, there is a difference in the level of knowledge improvement, where this study showed a more significant improvement compared to a study by Khatib (2019), which reported a knowledge improvement of only

25%. This difference may be due to the more interactive intervention method and the use of content that is more relevant to the needs of adolescents in this study. In addition to interventions through social media, there are several other factors that may influence adolescents' knowledge and attitudes towards personal hygiene. These factors include parents' educational background, access to health information, and personal experiences related to reproductive health. Research by Sugiyono (2018) shows that family support and a positive social environment can increase adolescents' awareness of the importance of maintaining personal hygiene. Therefore, it is important to consider these factors in designing more comprehensive and effective health education programs.

CONCLUSION

This study found that a health promotion intervention through WhatsApp social media significantly improved the knowledge of adolescent girls at SMP Negeri 1 Rupert Utara, Bengkalis Regency, regarding personal hygiene and vaginitis symptoms. The mean knowledge score increased from 7.561 before the intervention to 12.048 after the intervention, with the p-value showing statistical significance ($p = 0.000$). These findings suggest that the use of social media as a health education tool can be an effective strategy in increasing adolescents' awareness and knowledge on reproductive health issues. Based on these findings, it is recommended that further research be conducted to explore the effectiveness of various social media platforms in health promotion. In addition, the development of interactive and engaging social media-based health education programs is recommended to reach more adolescents. These programs should include relevant and easy-to-understand content, and involve parents and communities to support adolescent learning.

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