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The Effectiveness of Health Promotion Using Social Media on Adolescent Knowledge About Covid-19 in the Work Area of Health Center Batu Panjang, Rupat District, Bengkalis Regency

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ABSTRACT

Health promotion through teen social media can increase knowledge about Covid-19 by 95% and influence behavior to prevent Covid-19 by 77%. The aim of this study was to determine the effectiveness of the use of social media for health promotion on youth Covid-19 knowledge in the workplace at Batu Panjang Health Centre, Rupat District, Bengalis Regency in 2021. This type of research is quantitative analysis with a quasi-experimental design. The population for this study was all 12th graders at Rupat High School, for a total of 30 respondents. Research tools are using Whatsapp and Instagram to promote health. Collecting data using a questionnaire via google form. Data analysis used univariate and bivariate tests. The result of the research is that there is a difference in the average value of respondents' knowledge before and after health promotion using whatsapp and instagram is 63.73 and 85.33 in the whatsapp group and 64.13 and 80.00 in the instagram group. The results of the paired-samples T test (dependent T test) showed that health promotion was effective regarding Covid-19 using social media WhatsApp and Instagram to increase respondents' knowledge about COVID-19 in the Batu Panjang Public Health Center, Rupat District, Bengkalis Regency. It is recommended to the puskesmas and schools to partner in the implementation of school children's services by using social media so that the prevention of covid-19 is maximized.

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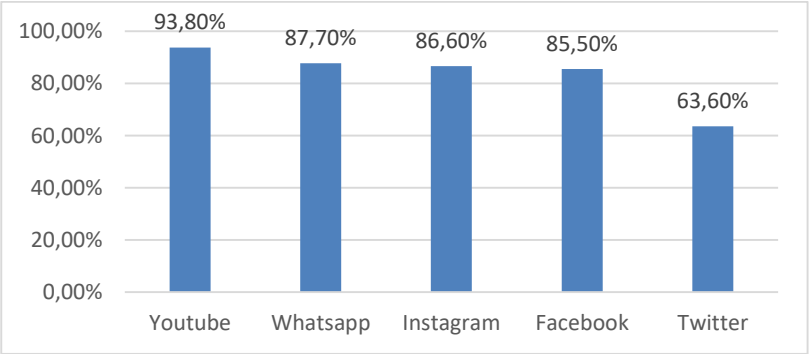
INTRODUCTION

A UNICEF COVID-19 survey of 4,000 youth found that 25% were unaware of Covid-19. Lack of Covid knowledge among teens can lead to teens neglecting Covid preventive behaviors, one of which is not using masks during the Covid-19 pandemic, 35.3%, teens are aware of their safety related to Covid-19 up to 38.4% People don't know. Behavioral compliance may be especially

important for this group, given the important role of human-to-human transmission in the spread of the coronavirus and the fact that adolescents socialize within their peer groups. Interventions can be implemented to increase awareness of Covid-19 among young people so that it can be expected to have an impact on preventing the spread of Covid-19, one of which is health promotion2. Health promotion is an activity to provide information so that it can increase the ability of individuals or groups to maintain and improve health3. The government has so far carried out Health Promotions related to COVID-19 using various media, both offline and online.

Health Promotion offline in the form of print media containing information on covid-19. Meanwhile, Health Promotion using online media is published in the form of publication media in the form of a website about information about COVID-19. Online media can be accessed freely by readers via links to the Ministry of Health, Communications and Informatics, WHO, the covid hotline, the Covid handling task force, and others. Health Promotion has also been carried out using social media that contains information about covid-19 carried out by the government and the official Covid-19 prevention team such as facebook, Instagram, whatsapp, twitter, telegram, etc. 4.

Health promotion using social media is more effective increase knowledge about covid-19 compared to Health Promotion by using the official website from the government among adolescents 5.6. Health Promotion in adolescents using social media is more effective because millennials use social media more than accessing government websites online. Health promotion through social media among teenagers can increase knowledge about covid-19 by 95% and have an impact on behavior on covid-19 prevention behavior by 77%7.8. Based on a survey by the World Institute of We are Social & Hoot Suite in 2021, it is known that the use of social media among teenagers in Indonesia in 2021 is 93% YouTube, 87.7% WhatsApp, 86.6% Instagram, 85.5% Facebook and 63 Twitter,3%. For more details can be seen in Figure 1.



Health Promotion using social media in the midst of the COVID-19 pandemic has the potential to increase adolescent knowledge about COVID-19 (Vionita & Prayoga, 2021). The use of social media is effective in carrying out Health Promotion efforts with the aim of increasing understanding and providing support to Health Promotion targets for healthy behavior9 . Data from the Covid-19 Handling Committee for Bengkalis Regency is known to have an increase in COVID-19 cases as many as 1,494 cases and an increase also for subdistricts as of April 2021 as many as 9 confirmed cases of COVID-19. For more details can be seen in Table 1.

Table 1 Number of Increase in Covid Cases in the Last Two Years

Name of Regency/City	Number of cases	
	2020	2021
Indonesia	735.124	1.511.417
Riau Province	24.715	60.506
Bengkalis Regency	1.494	769
Rupat Kecamatan District	0	9

Source: satgas covid.19

Based on a survey conducted by researchers in the Batu Panjang Health Center Working area by interviewing the head of the COVID-19 task force with the initials JY, he said that there were indeed 9 confirmed cases of COVID-19 as of April 2021, with five of them teenagers ranging from 17-18 years old. While the other 4 people are in the category of adults and the elderly. An initial survey was also conducted by researchers on ten Rupat high school students who were in the Batu Panjang Public Health Center Working Area about the meaning of covid, modes of transmission, signs and symptoms of covid, and prevention of covid-19, 80 percent of whom did not know about the definition of covid, the mode of transmission. signs and symptoms of covid, and prevention of covid-19. Meanwhile, 20% of students know about the meaning of covid, and the prevention of covid-19 and its signs and symptoms, but it is not known specifically. Teenagers said they knew the signs and symptoms of COVID-19, namely fever but could not say specifically what the fever was, knew how to prevent COVID-19 by using a mask but did not know specifically that they should always wash their hands with soap and stay away from crowds. The health center fully supports this research because it is an extension of the puskesmas to carry out health promotions to the community at school, especially about covid-19. Therefore, it is important to know the effectiveness of health promotion using social media on adolescent knowledge about Covid-19 in the Batu Panjang Public Health Center, Rupat District, Bengkalis Regency.

RESEARCH METHOD

This type of research is a quantitative analytic study with a Quasy Experimental design with a two-group Experiment Pretest Post test Design, namely two experimental groups that are treated with different interventions. The subject group was observed before the intervention, then observed again after the intervention. The location of the research is Rupat High School which is the only high school in the Working area of the Batu Panjang Health Center UPT, Rupat District, Bengkalis Regency. when the research was conducted on September 1-10, 2021. The study was conducted for approximately 10 days. The population in this study were all 12th grade students of Rupat High School which consisted of 2 classes totaling 90 students in the Work area of the Batu Panjang Health Center, Rupat District, Bengkalis Regency. The reason for choosing grade 12 students as respondents is because grade 12 students are limited to face-to-face learning at school so that they can study optimally in preparation for the National Examination.

The sample in this study took a minimum sample of 30 respondents. Determination The sample was selected using purposive sampling technique. Data collection was obtained from primary data or secondary data. Primary data is data obtained directly from the object of research, while secondary data is data obtained indirectly from documents and or other sources of information. Data collection in this study was carried out online, using the WhatsApp and Instagram applications. Measurement

of pre-test and post-test using google form systematically designed with questions about knowledge of covid-19.

The instrument used in data collection is a questionnaire distributed in the form of a google form. Data processing is done through Editing (editing), Codding (coding), Processing (Process), Cleaning (Cleaning), Tabulating (tabulation) / Data Analysis using Univariate and Bivariate Analysis. Univariate analysis in this study is the respondent's characteristics and knowledge variables. Bivariate analysis was conducted to see the significant relationship between the research variables. Furthermore, statistical tests were carried out, namely the dependent T test (paired sample T test) to see the effectiveness of WhatsApp and Instagram as health promotion media, p value < 0.05. The research has complied with the ethical clearance procedure in accordance with the ethics commission decision number 331/KEPK/STIKes-HTP/VII/2021.

RESEARCH RESULTS

The steps to collect primary data from respondents are carried out through social media, namely through basic data collection techniques (primary data) from a sample using equipment in the form of a questionnaire through the steps of submitting a list of written questions to respondents and through google forms before and after health promotion. Respondent Characteristics Data

Table 2 Frequency Distribution of Respondent Characteristics Data

No.	Age	Frekuensi	Persentase
1	16 years	15	50%
2	17 years	14	46,7%
3	18 years	1	3,3%
	Amount	30	100%
No.	Gender	Frekuensi	Persentase
1	Man	5	16,7%
2	Woman	25	83,3%
	Amount	30	100%
No.	Religion	Frekuensi	Persentase
1	Islam	30	100%
	Amount	30	100%
No.	Covid information obtained on Social Media	Frekuensi	Persentase
1	Whatsapp	5	16,7%
2	Instagram	13	43,3%
3	Whatsapp, Instagram	12	40,0%
	Amount	30	100

Based on Table 2, general data obtained from respondents, namely the majority of respondents aged 16 years with a percentage of 50%. Respondents were dominated by female sex with a percentage of 83.3% and 16.7%. All respondents are mostly Muslim 100%. The majority of respondents received information about COVID-19 for the first time via WhatsApp and Instagram by 40%.

Univariate Analysis

Table 3. Frequency Distribution Based on Knowledge Values Before and After Health Promotion

Respondent	Whatsapp			Respondent	Instagram		
	Pre-test	Post-test	Average Difference		Pre-test	Post-test	Average Difference
1	71	79	8	1	68	93	25
2	68	93	25	2	89	96	7
3	75	86	11	3	54	86	32
4	64	93	29	4	61	68	7
5	64	75	11	5	75	79	4
6	46	89	43	6	68	75	7
7	75	82	7	7	64	75	11
8	32	79	47	8	57	71	14
9	75	86	11	9	54	82	28
10	43	82	39	10	57	82	25
11	75	93	18	11	61	89	28
12	64	89	25	12	68	89	21
13	57	79	22	13	61	68	7
14	68	86	18	14	57	68	11
15	79	89	10	15	68	79	11
Minimum	32	75	7	Minimum	54	68	4
Maximum	79	93	47	Maximum	89	96	32
Average	63,73	85,3	21,6	Average	64,13	80	15,87

Based on the results of table 3 above, the whatsapp group obtained knowledge before being given health promotion with a minimum value of 32 and a maximum value of 79 and knowledge after being given health promotion had a minimum value of 75 and a maximum of 93 with an average difference of 7-47. In the Instagram group, knowledge before being given health promotion with a minimum score of 54 and a maximum value of 89, and knowledge after being given health promotion with a minimum value of 68 and a maximum value of 96 with an average difference of 4-32.

Table 4. Frequency distribution of respondents' answers in the whatsapp group

Question aspect	Question	*Whatsapp*			
		Pre- test		Post -test	
		n	%	*n*	%
Definition of Covid-19	1	11	39	13	45
	2	14	50	15	53
Covid Epidemiology	3	15	53,	15	53
	4	6	21	13	45
	5	6	21	11	39
	6	4	14	6	21
Pathogenesis	7	13	45	15	53
Mode of Transmission	8	8	28,5	12	42,8
	9	8	28,5	14	50
	10	13	45	15	53
	11	10	35,7	14	50
Risk group	12	12	42,8	14	50
	13	6	21	15	53
	14	4	14	15	53
signs and symptoms	15	14	50	15	53
	16	0	0	11	39
Covid-19 prevention	17	13	45	15	53
	18	15	53	15	53
	19	11	39	15	53
	20	15	53	15	53
	21	13	45	14	50
	22	11	39	14	50
Covid-19 checks and treatment	24	3	10,7	6	21

	25	1	3,5	2	7
Stigma in society	26	8	28,5	15	53
	27	8	28,5	13	45
The term Covid-19	28	6	21	12	42,5
	29	10	35,7	12	42,5

Based on the table above, it can be seen that in the pretest the most correct answers were found in question numbers 3 and 15, while after the post-test the correct answers were mostly found in question numbers 2,3,7,10,13,14,15, 17,18,19,20 and 26 with a percentage of 53%, which means 15 respondents answered correctly all of the number of questions mentioned.

Table 5. Frequency distribution of respondents' answers in the instagram group

Question aspect	Question	*Instagram*			
		Pre- test		Post -test	
		n	%	n	%
Definition of Covid-19	1	6	21	12	42
	2	15	53	15	53
Covid Epidemiology	3	15	53	15	53
	4	8	28,5	11	39
	5	6	21	7	25
	6	2	7	5	17,8
Pathogenesis	7	13	46	14	50
Mode of Transmission	8	9	32	13	46
	9	6	21	12	42
	10	12	42	15	53
	11	11	39	13	46
Risk group	12	10	35,7	15	53
	13	9	32	15	53
	14	14	50	13	46
signs and symptoms	15	12	42	15	53
	16	0	0	6	21
Covid-19 prevention	17	15	53	15	53
	18	15	52	14	50
	19	14	50	14	50
	20	15	53	15	53
	21	14	50	9	31
	22	11	39	11	39
Covid-19 checks and treatment	24	5	17,8	6	21
	25	0	0	3	10,7
Stigma in society	26	10	35,7	13	45
	27	6	21	12	42
The term Covid-19	28	6	21	12	42
	29	10	35,7	15	53

Based on the table above, it was found that in the pretest the most incorrectly answered questions were in question numbers 16 and 25, while after the post-test the most correct answers were in question numbers 2,3,10,12,13,15,17, 20, and 29 with a percentage of 53%, meaning that all 15 respondents answered correctly all of the number of questions mentioned.

Table 6. Frequency distribution of respondents by category of knowledge about covid Before and After Health Promotion using whatsapp and instagram

No	Category	*Whatsapp*				*Instagram*			
		Pretest		Posttest		Pretest		Posttest	
		f	%	F	%	f	%	f	%
1	Not enough	10	66,7	0	0	13	86,7	2	13,3
2	Well	5	33,3	15	100	2	13,3	13	86,7
Amount			100	15	100	15	100	15	100

Based on table 6, it was found that in the WhatsApp group, the majority of respondents had less knowledge before being given health promotion, which was 66.7% higher than 33.3% of respondents with good knowledge and the majority of respondents had good knowledge after being given health promotion by 100%. While in the Instagram group, the majority of respondents had less knowledge before being given health promotion, which was 86.7% higher than respondents with good knowledge of 13.3% and the majority of respondents with good knowledge after being given health promotion was 86.7% higher than respondents with less knowledge. ,3%. There is a difference after being given health promotion in the whatsapp group and instagram group with a difference of 13.3%.

Bivariate Analysis

Prior to the statistical data analysis test, normality and homogeneity tests were carried out. The normality test of the data was carried out using the Shapiro Wilk test because the sample < 50 with a significant value > 0.05, the data were normally distributed and vice versa. In the acquisition of the results of the Shapiro Wilk test obtained a significant value of 0.292> 0.05, which means the data is normally distributed. It can also be proven by the QQ Plot image which shows the distribution of data that is close to a linear line, so the data is normally distributed. The output of the SPSS normality test can be seen in the following figure:

Table 7. The output of the SPSS normality test can be seen in the following figure

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pre_Test	0,106	30	0,200*	0,959	30	0,292
Post_Test	0,127	30	0,200*	0,947	30	0,141

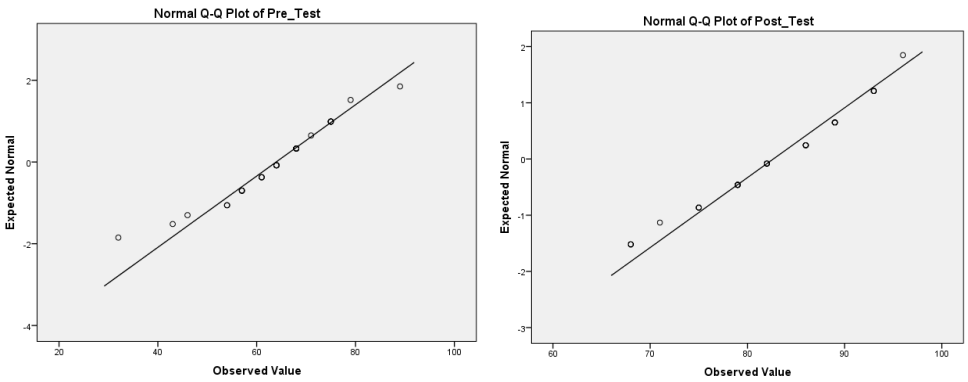


Figure 1 Data Normality Test

Homogeneity Test

The homogeneity test was carried out by the Levene test if the significance value (sig) Based on the mean was 0.066 > 0.05, so it can be concluded that the post-test group variables for the WhatsApp group and the post-test group for Instagram were the same or homogeneous. Thus, one of the requirements (not absolute) of the independent sample t test can be fulfilled.

Table 8. Test of Homogeneity of Variance

		Levene Statistic	Sig.
Post_ Test	Based on Mean	3.648	0,066
	Based on Median	3.403	0,076
	Based on Median and with adjusted df	3.403	0,078
	Based on trimmed mean	3.617	0,068

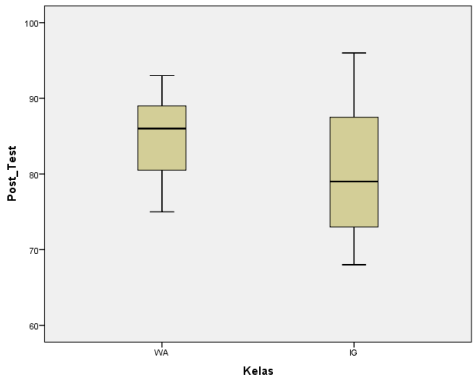


Table 9. Effectiveness of Health Promotion Using Social Media on Public Knowledge About Covid-19 in the Work Area of the Batu Panjang Public Health Center, Rupat District, Bengkalis Regency

health promotion		N	Mean	SD	SE	*p value*
Whatsapp	Pre Test	15	63,73	13,698	3,537	0,000
	Post Test	15	85,33	5,778	1,492	
Instagram	Pre Test	15	64,13	9,195	2,374	0,000
	Post Test	15	80,00	9,243	2,386	

Based on table 7 above, it can be seen that the average value of knowledge in the WhatsApp group before health promotion was 63.73 and after health promotion was 85.33. The results of the paired-samples T test showed a p value of 0.000 which means <0.05, then the alternative hypothesis (Ha) failed to be rejected, namely effective health promotion regarding Covid-19 using social media (WhatsApp) to increase respondents' knowledge about COVID-19 in working area of Public Health Center Batu Panjang, Rupat District, Bengkalis Regency in 2021. As for the Instagram group, knowledge before health promotion was 64.13 and after health promotion was 80.00. The results of the paired-samples T test showed a p value of 0.000 which means <0.05, then the alternative hypothesis (Ha) failed to be rejected, namely effective health promotion about Covid-19 using social media (Instagram) to increase respondents' knowledge about Covid-19 in Indonesia. the working area of the Batu Panjang Public Health Center, Rupat District, Bengkalis Regency in 2021.

Independent T test

Table 10. Comparative Distribution of Whatsapp and Instagram Group Health Promotion

health promotion	Grup	N	Mean	SD	SE	*p value*
Pre Test	*Whatsapp*	15	63,73	13,698	3,537	0,215
	Instagram	15	64,13	9,195	2,374	
Post Test	*Whatsapp*	15	85,33	5,778	1,492	0,066
	Instagram	15	80,00	9,243	2,386	

The results of statistical tests using independent t-test showed p-value 0.215 > 0.05, meaning that there was no significant difference between the WhatsApp group and the Instagram group before being given health promotion. The results of the statistical test using the independent t-test showed p-value 0.066 > 0.05, meaning that there was no significant difference between the WhatsApp group and the Instagram group in conducting health promotion on adolescent knowledge.

Discussion

The majority of respondents are 16 years old with a percentage of 50%. Respondents are dominated by female sex with a percentage of 83.3% and 16.7%, respectively. All respondents are mostly Muslim 100%. The majority of respondents received information about COVID-19 for the first time via WhatsApp and Instagram by 40%. Based on the results of the study, it is known that the average value of respondents' knowledge about covid before being given health promotion using whatsapp social media is 63.73% and the average value of knowledge after being given health promotion using whatsapp social media is 85.33%. While the average value of respondents' knowledge about covid-19 before being given health promotion using social media Instagram was 64.13% and the average value of respondents' knowledge about covid-19 after being given health promotion was 80.0%.

Dependent T test results obtained p value = 0.000 <0.05, which means that there is a difference in respondents' knowledge before and after being given health promotion using social media whatsapp and instagram. health promotion through whatsapp and instagram media before and after health promotions has an effect on increasing about covid because in this study previously respondents had received information on covid from whatsapp and instagram with a percentage of 40%. Health promotion affects knowledge before and after being given health promotion regarding covid-19 and 6M prevention in hospitals10,11.

So it can be concluded that the health promotion carried out can affect the increase in knowledge because health promotion is a process to increase the ability of the community to maintain and improve their health. Health promotion is a health program designed to bring about change (improvement) both within the community itself, as well as in the organization and its environment (physical environment, socio-cultural, political, etc.) 12 13. The results of statistical tests using independent T test obtained p-value results 0.066 > 0.05, it means that there is no significant difference between the whatsapp group and the instagram group in conducting health promotion. The results of the paired-samples T test or T Dependent on the WhatsApp and Instagram groups showed a p value of 0.000 < 0.05, then the alternative hypothesis (Ha) failed to be rejected, which means that health promotion using WhatsApp and Instagram social media is effective in increasing respondents' knowledge about covid-19 in the working area of the Batu Panjang Public Health Center, Rupat District, Bengkalis Regency in 2021.

This is in line with research which shows that there is a significant effect on providing audio-visual information services about the importance of wearing masks through WhatsApp Group on student awareness in getting used to wearing masks as an effort to prevent the spread of Covid-19 14. This is in line with research that has found a relationship between Dissemination of Covid -19 Information Through Whatsapp on Community Preparedness in Facing Covid 19 15. By using paired t test analysis and obtained p value = 0.000 meaning p value < 0.05 so it is concluded that there is a relationship between information dissemination through Whastapp and community preparedness for the Covid disaster -19. The results of social media have an important role in disseminating information, during the Covid-19 pandemic 16. Social media exposure to Covid-19 information

affects the implementation of preventive attitudes and behavior through the formation of risk perceptions. Understanding the role of social media during a pandemic can help policy makers and communicators to develop better communication. social media also has an effect on increasing public knowledge about the pandemic covid-19.

CONCLUSION

There is a difference in the average knowledge value of respondents before and after health promotion using whatsapp and instagram with the average value of knowledge in the whatsapp group before health promotion 63.73 and after health promotion 85.33. While the average value of knowledge in the Instagram group before health promotion was 64.13 and after health promotion was 80.00. The results of the paired-samples T test showed a p value of 0.000 which means <0.05, namely effective health promotion regarding Covid-19 using WhatsApp and Instagram social media to increase respondents' knowledge about Covid-19 in the working area of public health center Batu Panjang, District Rupat, Bengkalis Regency in 2021. The majority of respondents are 16 years old with a percentage of 50%. Respondents are predominantly female with a percentage of 83.3% and 16.7%, respectively. All respondents are mostly Muslim 100%. The majority of respondents received information about COVID-19 for the first time via WhatsApp and Instagram by 40%.

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