

## ANALYSIS OF FACTORS RELATED TO COVID-19 PREVENTION EFFORTS AMONG HEALTH SCIENCES COLLEGE STUDENTS IN CIREBON 2022

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### ABSTRACT

*The negative information bias on social media can lead to a wrong perspective on COVID-19 cases and cause behavior in efforts to prevent COVID-19 to get worse, so that deaths continue to increase and continue to grow. Based on data from 231 countries that have confirmed COVID-19 with a total of 516,476,402 people and 6,258,023 people died, while in Indonesia, 6,049,541 people have recovered, and 5,887,786 have died and 156,424 have died. , while the confirmed cases of COVID-19 in West Java were 1,106,085, the cure rate was 1,089,648 and 15,795 died. The research method used is descriptive analytic research using a cross sectional research design. The subject of this research is STIKes Cirebon students with a population of 1286 students. The sampling technique used is disproportionate stratified random sampling, then takes the appropriate number of samples by simple random sampling to become respondents obtained a sample of 122 respondents, research instruments using questionnaires, data analysis using univariate, bivariate and multivariate analysis. The results showed that the relationship between frequency ( $p=0.043$ ), duration ( $p=0.606$ ), attention ( $p=0.038$ ) and health literacy with COVID-19 prevention efforts ( $p=0.017$ ). Attention variable is the most dominant variable with  $p$  value 0.026, OR value 2.787. There are 3 variables that are related and 1 variable that is not related to efforts to prevent COVID-19, where the most dominant variable is attention.*

### KEYWORDS

*Health Information Attention, Social Media Exposure, Health Literacy, Covid-19 Prevention Efforts*



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## INTRODUCTION

The COVID-19 pandemic has disrupted nearly all aspects of life, creating a global crisis in both social and economic spheres, as well as a humanitarian disaster. In addition to its impacts on social and economic crises, the current global situation also faces a phenomenon depicting the rapid spread and amplification of a large amount of valid and invalid information on the internet or through other communication technologies, known as an Information Epidemic (Infodemic). The challenges related to excessive and sustained information (Okan et al., 2020).

Baines and Elliott concluded that the infodemic has never occurred before in its size and speed, with unexpected forms of false information emerging every day, and there is no global consensus on the best way to classify the types of false messages encountered. At the individual level, the infodemic creates confusion among information receivers, particularly regarding the identification of trustworthy information, as well as disinformation, misinformation, and malinformation (Baines & Elliott, 2020).

Negative information bias can lead to incorrect perspectives on COVID-19 cases, resulting in wrong behaviors and increasing death rates. Based on data from 231 countries confirmed with COVID-19, with a population of 516,476,402 and 6,258,023 deaths, while in Indonesia, there were 6,049,541 positive cases, 5,887,786 recoveries, and 156,424 deaths. In West Java alone, there were 1,106,085 confirmed COVID-19 cases, with 1,089,648 recoveries and 15,795 deaths (Satuan Tugas Penanganan COVID-19, 2021).

During the COVID-19 pandemic, the need for information about COVID-19 has increased extremely. It is known that people prefer social media to seek health information. One of the reasons social media is attractive is the interaction among users. According to the Hootsuite Survey in 2021, the number of internet users worldwide has reached 4.66 billion, with 4.22 billion being social media users. This number has grown by 13% with 490 million new users over the past 12 months. Based on studies and data compiled by We Are Social in 2019, social media users in Indonesia have reached 150 million people. This means that about 57% of the entire Indonesian population uses various social media platforms (katalisnet.com, 2022).

Almost everyone is overwhelmed by information absorption. The daily news can make people fearful. Therefore, health literacy must be applied in our lives. Health literacy can be defined as the ability of an individual to find, read, understand, and use health information to make appropriate health decisions and follow instructions for care and health maintenance (Okan et al., 2020). In 2021, the Ministry of Communication and Information Technology (Kominfo) conducted a survey on digital literacy. The results showed that Indonesia's digital literacy index is at 3.49, placing it in the moderate category on a scale of 0-5. There are four pillars that are components in calculating this digital literacy index. Digital Culture obtained the highest score at 3.9, followed by Digital Ethics with a score of 3.55, then Digital Skills with a score of 3.44, and finally, Digital Safety with the lowest score of 3.1 (katadata insight center (kic), 2021).

Health literacy now plays a very important role and is discussed in various circles in combating various health problems, including in combating the COVID-

19 outbreak. Public health issues related to COVID-19 are basically related to public health behavior issues. Quoted in one study, with literacy, people will find it easy to digest incoming and outgoing information and communication without much difficulty. People can obtain information from many sources, such as newspapers, news, surfing, and reading books. High transmission can be caused by the community's poor behavior toward prevention programs that have been informed and instructed by the government (Doda et al., 2021).

Discipline in applying the 3M health protocol is the community's contribution to the government's efforts to handle COVID-19 (Sari, 2021). Quoted from one study, health literacy can shape daily life behaviors that support health. Someone with low health literacy will have difficulty evaluating health information online (Fitriyah, 2017) (Susanto et al., 2021).

According to data from the Ministry of Communication and Information Technology, in April 2020, there were 1,125 hoax news related to COVID-19 circulating widely through social media platforms such as Facebook, Twitter, Instagram, WhatsApp, and Youtube (Unair News, 2021). The large number of people who are not information literate makes hoaxes spread more quickly. Based on a study published on the Ministry of Communication and Information Technology website (kominfo.go.id, 2022), the source of the problem is low reading literacy as a result of low education (aptika.Kominfo, 2021).

Quoted from one study, there is a relationship between the level of health literacy based on compliance with health protocols during the COVID-19 pandemic, indicating that the impact of low Health Literacy is the violations committed by the community against the implementation of health protocols (nuryenni putr, 2021). In addition, the sanctions imposed have not been able to raise awareness among citizens to comply with the rules. This non-compliance has accelerated the spread of the virus, not only increasing the number of positive patients filling hospital rooms but also increasing the number of deaths. Violations have increased after the public vaccination and the escalation of increases in shopping centers and recreational places in almost all provinces in Indonesia (Adam et al., 2021).

Cases of violations of COVID-19 health protocols in Indonesia are still dominated in office locations and among young people in several cities and regencies. Currently, Cirebon is the only city in West Java that is at Level 4 of community transmission based on the assessment of the Ministry of Health, with 48,484 new cases and an average of 55,675 in the last 7 days, with the distribution of confirmed cases based on travel clusters at 3.85%, health facility category 2.82%, household category 64.31%, office category 6.66%, traditional market category 0.20%, religious category 0.24%, factory category 0.01%, dormitory category 0.23%, unclustered category 14.35%, pesantren category, school category 0.32% (<https://covid19.cirebonkota.go.id/>, 2022).

Based on this data, the school category is still one of the high clusters in the Cirebon area. Implementation of protocols in the Environment and Campus based on data published in Simaskot there are still universities that have not implemented COVID-19 health protocols. Efforts by the Cirebon city government to implement a home study system to prevent the spread of the corona COVID-19 continue, and

there are still a number of students with inconsistent 3M application behavior (simaskot.cirebonkota, 2020).

Based on a preliminary study conducted at three universities in the Cirebon region, namely STIKes YLPP, STIKes Mahratika, and STIKes Cirebon, which was carried out by distributing questionnaires to 50 students about health literacy and exposure to social media and efforts to prevent Covid-19, STIKes Cirebon is a campus that has low social media exposure and low health literacy, with 35 students having low media exposure and 37 students having low COVID-19 health literacy.

This study aims to explore the relationship between social media exposure and health literacy with efforts to prevent COVID-19 among students of the Cirebon School of Health Sciences. The purpose of this study is to identify social media exposure, health literacy, and COVID-19 prevention efforts, as well as to analyze the relationship between frequency, duration, and attention to social media with COVID-19 prevention efforts. The benefits of this research include theoretical contributions, such as references for students to improve health literacy through social media, as well as practical benefits, such as improving the quality of digital learning media services for universities and providing scholarly information for the government in evaluating the implementation of COVID-19 health protocols in university environments and the general public. Journal analysis shows several new aspects in this research, including the research subjects focused on students, independent variables such as frequency, duration, and attention to social media, as well as data collection methods involving interviews.

Based on this background, the researcher is interested in conducting research on "the relationship between exposure to social media and health literacy with efforts to prevent covid-19 among students of the Cirebon School of Health Sciences in 2022."

## **RESEARCH METHOD**

This study uses a descriptive-analytical approach with a "Cross Sectional" design to observe the relationship between social media exposure and health literacy with COVID-19 prevention efforts among students of the Cirebon School of Health Sciences. The independent variables consist of frequency, duration, attention, and health literacy, while the dependent variable is COVID-19 prevention efforts. The population of this study is all active students of the Cirebon School of Health Sciences in 2022, totaling 1286 students, with a sample of 122 respondents selected through disproportionate stratified random sampling. Data collection techniques use questionnaires adopted from several related research journals. Data are obtained through interviews, with data processing through stages of editing, coding, data entry, and tabulating. Data analysis is conducted through univariate, bivariate, and multivariate analyses, while considering research ethics aspects such as respondent consent, data confidentiality, and fairness in treatment. The research location is conducted at the Cirebon School of Health Sciences, Cirebon Regency, within the timeframe of May to August 2022.

## RESULT AND DISCUSSION

### Research Results

This study is quantitative in nature, where the data generated are in numerical form. The data obtained from this research were collected and analyzed using SPSS software. Data collection was distributed to 122 students at the Cirebon Health Sciences School (STIKes Cirebon) across 7 study programs, assisted by coordinators from the program chairs as enumerators in this research.

#### 5.2.1 Univariate Analysis Results

1. Distribution of COVID-19 Information Exposure Frequency on Social Media among STIKes Cirebon Students

**Table 5.1 Distribution of Frequency of COVID-19 Information Exposure on Social Media**

No.	Frequency of COVID-19 Information Exposure	Frequency (n)	%
1.	Low	64	52,5
2.	High	58	47,5
Total		122	100

Based on the data in Table 5.1 above, it can be seen that out of 122 respondents, the majority of respondents have a low frequency, with 64 respondents (52.5%), while respondents have a high frequency in viewing information on social media, with 58 respondents (47.5%).

2. Distribution of Duration of Exposure to COVID-19 Information on Social Media among STIKes Cirebon Students

**Table 5.2 Distribution of Duration of Exposure to COVID-19 Information on Social Media**

No.	Duration of Social Media Exposure	Frequency (n)	%
1.	Short	57	46,7
2.	Long	65	53,3
Total		122	100

Based on the data in Table 5.2 above, it can be seen that out of 122 respondents, the majority of respondents have a long duration, with 65 respondents (53.3%), while respondents have a short duration in viewing information on social media, with 57 respondents (46.7%).

3. Distribution of Attention to the Use of Social Media in Seeking COVID-19 Information among STIKes Cirebon Students

**Table 5.3 Distribution of Frequency of Attention to COVID-19 Information on Social Media**

No.	Attention to Social Media Use	Frequency (n)	%
1.	Low	95	77,9
2.	High	27	22,1
Total		122	100

Based on the data in Table 5.3 above, it can be seen that out of 122 respondents, the majority of respondents have low attention, with 95 respondents (77.9%), while respondents have high attention to COVID-19 information on social media, with 27 respondents (22.1%).

4. Frequency distribution of COVID-19 prevention Health Literacy in STIKes Cirebon students

**Table 5.4 Frequency Distribution of health literacy on COVID-19**

No.	Health Literacy	Frequency (n)	%
1.	Poor	67	54,9
2.	Good	55	45,1
Total		122	100

Based on the data in table 5.4 above, it can be seen that out of 122 respondents, most respondents had poor health literacy, namely 67 respondents (54.9%), while respondents had good health literacy about COVID-19 on social media as many as 55 respondents (45.1%).

5. Distribution of COVID-19 Prevention Efforts among STIKes Cirebon Students

**Table 5.5 Distribution of Frequency of COVID-19 Prevention Efforts among Students**

No.	COVID-19 Prevention Efforts	Frequency	%
1.	Poor	73	59,8
2.	Good	49	40,2
Total		122	100

Based on the data in Table 5.5 above, it can be seen that out of 122 respondents, the majority of respondents have poor COVID-19 prevention efforts, with 73 respondents (59.8%), while respondents have good prevention efforts, with 49 respondents (40.2%).

### 5.2.2 Bivariate Analysis Results

1. Relationship between Frequency of Exposure to COVID-19 Information on Social Media and COVID-19 Prevention among STIKes Cirebon Students

**Table 5.6 Relationship between Social Media Exposure and COVID-19 Prevention Efforts at STIKes Cirebon**

No.	Frequency	COVID-19 Prevention Efforts				Total		p-value
		Poor		Good		n	%	
		n	%	n	%			
1.	Low	44	68,8	20	31,2	64	100	0,043
2.	High	29	50	29	50	58	100	
Total		73	59,8	49	40,2	122	100	

Based on Table 5.6, it can be observed that out of 64 respondents with low frequency in accessing COVID-19 information, 44 respondents (68.8%) had poor prevention efforts, and out of 58 respondents with high frequency, 29 respondents (50%) had poor COVID-19 prevention efforts. The Statistical Test results show a p-value of 0.043 ( $P \leq 0.05$ ), indicating a significant relationship between frequency and COVID-19 prevention efforts.

2. Relationship between Duration of Exposure to COVID-19 Information and COVID-19 Prevention

**Table 5.7 Relationship between Duration and COVID-19 Prevention Efforts**

No.	Duration	COVID-19 Prevention Efforts				Total		p-value
		Poor		Good		n	%	
		n	%	N	%			
1.	Short	36	63,2	21	36,8	57	100	0,606
2.	Long	37	56,9	28	43,1	65	100	
Total		73	59,8	49	40,2	122	100	

Based on Table 5.7, it can be seen that out of 57 respondents with short duration in accessing COVID-19 information, 36 respondents (63.2%) had poor prevention efforts, and out of 65 respondents with long duration, 37 respondents (56.9%) had poor COVID-19 prevention efforts. The Statistical Test results show a p-value of 0.606 ( $p\text{-value} > 0.05$ ), indicating no significant relationship between duration and COVID-19 prevention efforts.

3. Relationship between Attention to Social Media Usage and COVID-19 Prevention

**Table 5.8 Relationship between Attention and COVID-19 Prevention Efforts**

No.	Attention	COVID-19 Prevention Efforts				Total		p-value
		Poor		Good		n	%	
		n	%	n	%			
1.	Low	62	65,3	33	34,7	95	100	0,038

2.	High	11	40,7	16	59,3	27	100
Total		73	59,8	49	40,2	122	100

Based on Table 5.8, it can be seen that out of 95 respondents with low attention to COVID-19 information, 62 respondents (65.3%) had poor prevention efforts, and out of 27 respondents with high attention, 16 respondents (59.3%) had good COVID-19 prevention efforts. The Statistical Test results show a p-value of 0.038 ( $p \leq 0.05$ ), indicating a significant relationship between students' attention and COVID-19 prevention efforts.

4. Relationship between Health Literacy about COVID-19 on Social Media and COVID-19 Prevention among STIKes Cirebon Students

**Table 5.9 Relationship between Health Literacy and COVID-19 Prevention Efforts at STIKes Cirebon**

No.	Health Literacy	COVID-19 Prevention Efforts				Total		P.Value
		Poor		Good		n	%	
		n	%	n	%			
1.	Poor	47	70,1	20	29,9	67	100	0,017
2.	Good	26	47,3	29	52,7	55	100	
Total		73	59,8	49	40,2	122	100	

Based on Table 5.9, it can be seen that out of 67 respondents with poor health literacy about COVID-19, 47 respondents (70.1%) had poor prevention efforts, and out of 55 respondents with good health literacy, 29 respondents (52.7%) had good COVID-19 prevention efforts. The Statistical Test results show a p-value of 0.017 ( $p \leq 0.05$ ), indicating a significant relationship between students' health literacy and COVID-19 prevention efforts.

5.2.3 Analisa Multivariat

Analisis multivariat bertujuan untuk melihat apakah ada hubungan bermakna antara variabel independen terhadap variabel dependen. Untuk tujuan ini digunakan analisis Regresi Logistik berganda dengan metode enter. Dalam metode ini dilakukan dengan menyeleksi, variabel independen manakah yang layak masuk model uji multivariat. Di mana yang layak adalah yang memiliki tingkat signifikansi (sig.) atau p value < 0,25.

**Table 5.10 Bivariate Analysis between Frequency, Duration, Attention, and Health Literacy with COVID-19 Prevention Efforts**

No	Independent Variable	p-value
1	Frequency	0,034
2	Duration	0,483*
3	Attention	0,023
4	Health literacy	0,010

\*=  $p > 0,25$  : Variables not included in the initial multivariate model candidate



Table 5.10 shows that there is one variable with a p-value  $> 0.25$ , so that variable is not included in the initial multivariate model candidate. The variables that can enter the initial multivariate model candidate in this study are three variables related to COVID-19 prevention efforts, namely: frequency, attention, and health literacy.

These three candidate variables are analyzed together, considering the p-wald values. If the p-value is  $> 0.05$ , the variables are removed one by one, starting from the variable with the largest p-value until there are no more variables with  $p > 0.05$ . The detailed steps can be seen in the following table:

1. Results of the First Multivariate Analysis Model

**Table 5.11 Multivariate Analysis of the First Model of COVID-19 Prevention Efforts**

Variable	B	S.E.	Wald	df	Sig.	Exp (B)	95.0% C.I. for EXP(B)	
							Lower	Upper
Frequency	.644	.396	2.640	1	.104	1.903	.876	4.137
Attention	1.017	.466	4.765	1	.029	2.766	1.110	6.896
Health Literacy	.875	.397	4.864	1	.027	2.399	1.102	5.220
Constant	-3.901	1.021	14.606	1	.000	.020		

The table above shows that there are several variables with  $p > 0.05$ , so they need to be gradually removed from the model, starting with the variable with the highest p-value, which is the frequency variable.

2. Results of the Second Multivariate Analysis Model

**Table 4.12 Multivariate Analysis of the Second Model of COVID-19 Prevention Efforts**

Variable	B	S.E.	Wald	df	Sig.	Exp (B)	95.0% C.I. for EXP(B)	
							Lower	Upper
Attention	1.025	.461	4.948	1	.026	2.787	1.130	6.875
Health Literacy	.978	.389	6.325	1	.012	2.660	1.241	5.701
Constant	-3.101	.862	12.957	1	.000	.045		

- a. There are two independent variables related to COVID-19 prevention efforts with p-values  $\leq 0.05$ , namely attention with a p-value = 0.026, OR (Exp B): 2.787; and health literacy with a p-value = 0.012, OR (Exp B): 2.660.
- b. The attention variable with COVID-19 prevention efforts with a p-value = 0.026 and OR: 2.787 is the variable most related to COVID-19 prevention efforts. This means that students with high attention are 2.787 times more

likely to engage in COVID-19 prevention efforts compared to students with low attention levels.

- c. The health literacy variable with a p-value = 0.012 and OR (Exp B) 2.660 means that students with good health literacy are 2.660 times more likely to engage in COVID-19 prevention efforts compared to students with lower literacy levels.

## **Discussion**

COVID-19 prevention efforts refer to activities undertaken by the government, local authorities, and/or the community to avoid or reduce the risk, problems, and negative impacts of the disease (Anita et al., 2018). This research is a theoretical study related to COVID-19 prevention efforts by Laurence Green and journals that explain COVID-19 prevention efforts.

### ***Relationship between Frequency of Social Media Exposure to COVID-19 and COVID-19 Prevention Efforts***

From the analysis of the relationship between the frequency of social media exposure to COVID-19 and prevention efforts, a value of  $p = 0.043$  was obtained, which means there is a significant relationship between the frequency of social media exposure to COVID-19 and prevention efforts. This indicates that the hypothesis is not rejected. Based on the bivariate analysis results, there is a significant relationship between frequency and COVID-19 prevention efforts, which is consistent with the behavior theory proposed by Lawrence Green and according to the WHO. Green's theory explains two determinants of health problems, namely behavioral factors and non-behavioral factors. Furthermore, Green analyzes that behavioral factors are determined by three main factors, one of which is supporting factors, and exposure to media is included as one of the exposures to social media consisting of frequency, attention, and duration (Seno Aji et al., 2021).

This is also consistent with the research findings of Kundari, which found a significant relationship between media exposure, including frequency, and prevention behavior (Kundari et al., 2020). This study is also consistent with the findings of Asmuni, which found a significant relationship between the frequency of WhatsApp usage and COVID-19 prevention (Asmuni, 2021). Similarly, research in Jordan found a significant relationship between the use of social media platforms and public knowledge and awareness of health, changes in community behavior, and COVID-19 prevention (Al-Dmour et al., 2020).

This is because social media is the most widely used social network by the public, with 150 million internet users in Indonesia, with a penetration rate of 56% spread across all regions. This number is only slightly different from the number of mobile internet users, which is 142.8 million with a penetration rate, and there are 191.4 million social media users in Indonesia (aptika.Kominfo, 2021). Furthermore, research by Li et al. in Raina's study states that the frequency of social media usage significantly influences COVID-19 prevention behavior (Raina & Kartini, 2021).

This study is also supported by Liu et al.'s research, which states that the frequency of exposure to media activities, including media exposure levels, can

affect public health behavior. The influence of the media affects social norm perceptions formed through media exposure, and can motivate individuals to behave (Liu et al., 2020). Social media platforms have become an important part of information dissemination. Social media can help quickly disseminate new important information, such as COVID-19 transmission prevention and common symptoms in COVID-19 patients (Daniel et al., 2020).

According to Md. Nazrul Islam in his study titled Mass Media Influence on Changing Healthy Lifestyle of Community People During COVID-19 Pandemic in Bangladesh, mass media contribute to changing community behaviors and healthy lifestyles. This occurs both in rural areas, especially in densely populated urban areas. The density of the population affects the density of circulating information (Islam et al., 2021).

In the assumption of researchers in this new normal era, positive bias information can influence good perspectives in society. The higher the frequency of accessing information by the community, the more it will contribute to changing community behaviors and healthy lifestyles. This proves that digital culture in accessing information in Indonesia is very high. The demand to improve digital culture is also important in countering hoax news related to COVID-19 circulating widely through social media platforms such as Facebook, Twitter, Instagram, WhatsApp, and YouTube. The large number of people who are not information literate makes hoaxes spread faster.

The low frequency level and prevention efforts of these STIKes Cirebon students are also due to misconceptions about the new normal, based on the research results of Widha Anistya Suwarso, showing that public perceptions of the new normal COVID-19 vary. Most perceive it positively by following health protocols. However, on the other hand, there are still people who perceive the new normal negatively because they think the government has certain interests and the COVID-19 epidemic is over with the presence of vaccines (Suwarso, 2020).

The low exposure of students to COVID-19 information is also in line with the results of a survey by the Ministry of Communication and Informatics, based on the results of the survey, it was found that the level of accessibility of data and information, as many as 11.55 percent of students rarely access information about Covid-19. Then 13.65 percent of students rarely access information about Covid-19 from government sites, and 12.37 percent of students rarely access information about Covid-19 from non-government sites (Kemkominfo, 2020).

#### ***Relationship between Duration of Social Media Exposure to COVID-19 and COVID-19 Prevention Efforts***

From the analysis of the relationship between the duration of exposure to COVID-19 information and prevention efforts, a value of  $p = 0.606$  ( $p > 0.05$ ) was obtained, which means there is no relationship. This indicates that the hypothesis is rejected. This is in line with the research results of Cucu Sopiah, which obtained a coefficient value of 0.486 regarding the effect of the duration of gadget usage for social media on discipline behavior during the COVID-19 pandemic. The lower the use of gadgets for social media, the higher the discipline behavior, conversely, the

higher the intensity and duration of gadget usage for social media, the lower the health discipline behavior (Sopiah, 2021).

This research also aligns with Nur Najmi Based on this study, no significant relationship was found between social media use, COVID-19 knowledge, and behavior. This result may be due to the abundance of misinformation (hoaxes) circulating through social media, causing the public to distrust the information obtained. Gabarron et al. stated that the proportion of misinformation about COVID-19 obtained from social media posts ranges from 0.2% to 28.8% and this affects fear, panic, and stress related to COVID-19 (Raina & Kartini, 2021). These results are also consistent with the theory of dissonance (imbalance) which occurs because individuals have two conflicting cognitive elements within themselves.

The cognitive elements referred to are knowledge, opinions, or beliefs. If an individual experiences a stimulus or object and that stimulus elicits different/conflicting opinions or beliefs within the individual itself, then dissonance occurs. For example, these students believe that COVID-19 is a dangerous virus, so they believe that every student needs to follow health protocols, but on the other hand, these students also believe and are convinced that many people do not adhere to health protocols properly and that after vaccination, students no longer need to follow health protocols, so dissonance occurs (Westermann, 1989).

The low COVID-19 prevention efforts of these STIKes Cirebon students are also in line with the theory developed by Albert Bandura known as the Social Learning Theory. The environment is where someone forms and influences their behavior. According to Bandura, people learn from their interactions with others, either through observation or direct experience, so that the behavior of individuals is the result of learning from the people around them, especially those who are respected and who have a high status. In this case, the role of the family is very influential on the formation of health behavior, because family is the first social environment for an individual. Parents who serve as role models have the responsibility to maintain a healthy lifestyle for the family. Adolescents who are part of the family learn habits, attitudes, and behavior through family interaction patterns. Family behavior and patterns of interaction can influence the behavior and psychological conditions of adolescent children (lesilolo, 2019).

In the opinion of researchers that the duration of social media exposure to COVID-19 is not a determining factor in prevention behavior, one of the other factors found in the field is *the critical thing* of students, one of which is how students make excessive information generalizations from limited data or samples or information that does not yet have valid data or *hoaxes*, In this case, students need to consider in terms of the complexity of information on social media.

#### ***Relationship between Attention to COVID-19 Information via Social Media and COVID-19 Prevention Efforts***

From the analysis of the relationship between students' attention to COVID-19 and prevention efforts, a p-value of 0.038 was obtained, indicating a significant relationship between attention to COVID-19 and prevention efforts. This indicates that the hypothesis was not rejected. Multivariate analysis using multiple logistic regression revealed that the p-value became 0.026 ( $p < 0.05$ ), with an odds ratio

(OR) of 2.787. This can be interpreted as a relationship between students' attention to COVID-19 and COVID-19 prevention efforts, where individuals with high attention to COVID-19 have a 2.787 times greater likelihood of engaging in COVID-19 prevention efforts compared to students with low attention. In this study, students' attention to COVID-19 was found to be the dominant factor causing COVID-19 prevention efforts.

These research findings align with Resti Ayu Pratiwi's study titled "The Effect of COVID-19 News Exposure in Mass Media on Public Attitudes" with a p-value of 0.027. Exposure to COVID-19 news in mass media, including media type, exposure frequency, duration, and attention, generally yielded satisfactory evaluation results (resti ayu pratiwi, 2019).

According to Riza Hayati Ifroh's research on health literacy, media exposure, and behavior among young adults during the COVID-19 pandemic, information exposure—frequency, duration, and attention through mass and non-mass media—statistically correlates (p-value <0.001) with new habit adaptation behavior. Increasing media exposure to information through both mass and non-mass media can influence the health literacy of young people regarding COVID-19 and their disease prevention behaviors in the era of new habit adaptation.

The researchers assume that providing information through social media facilitates public access to health information and promotes positive behavioral changes. Social media serves as a superior tool with broad reach and interactivity, leading to improved public attention to health information, especially concerning COVID-19, due to the rapid and extensive exposure to social media among students. Social media technology facilitates better public knowledge about diseases and their prevention measures.

The increasing public attention to COVID-19 is supported by the ease of accessing information. The use of social media can also promote health by encouraging positive behavioral changes, thus complementing conventional health promotion methods. People often pay serious attention to one issue while giving only passing attention to another. This aligns with the Elaboration Likelihood Theory, which states that how individuals process information depends on motivation and ability (Kaddi et al., 2020).

According to the researchers, COVID-19 information is no longer the primary health information commodity among Information Societies, especially among students. Instead, it is produced and distributed among users on social media. Reduced production and distribution of COVID-19 information on social media lead to lower public attention to COVID-19, affecting people's preventive behaviors.

### ***Relationship between Health Literacy about COVID-19 via Social Media and COVID-19 Prevention Efforts***

From the analysis of the relationship between COVID-19 health literacy and prevention efforts, a p-value of 0.017 was obtained, indicating a significant relationship between health literacy about COVID-19 and prevention efforts. This indicates that the hypothesis was not rejected. Multivariate analysis using multiple

logistic regression revealed that the p-value became 0.012 ( $p < 0.05$ ), with an odds ratio (OR) of 2.660. This can be interpreted as a relationship between students' health literacy about COVID-19 and COVID-19 prevention efforts, where individuals with good health literacy have a 2.660 times greater likelihood of engaging in COVID-19 prevention efforts compared to students with lower literacy levels.

These research findings are not consistent with Riza Hayati Ifroh's study titled "Health Literacy, Media Exposure, and Behavior among Young Adults during the COVID-19 Pandemic," which found that statistical analysis showed no relationship between gender ( $p=0.748$ ), age ( $p=0.323$ ), and COVID-19 health literacy ( $p=0.788$ ) with new habit adaptation behavior (Ifroh & Asrianti, 2020). However, these findings are consistent with Nuryenni's study titled "The Relationship between Health Literacy Level and Community Compliance in Implementing Health Protocols during the COVID-19 Pandemic in Wajo Regency 2021," which found a significant relationship between health literacy level and community compliance in implementing health protocols during the COVID-19 pandemic in Wajo Regency (Nuryenni Putr, 2021).

Low health literacy in individuals, populations, and systems can have adverse effects on some or even all members of society. When people lack the ability to critically evaluate health information, it can lead to panic, disrupt the effectiveness of public health information dissemination and interventions, result in incorrect behaviors, and threaten social cohesion and political landscapes. Those who frequently use social media websites (such as Twitter, Facebook, and Instagram), have high exposure to social media, and read more about the coronavirus but have low literacy levels, may experience fear of COVID-19 and confusion in COVID-19 prevention efforts (Okan et al., 2020).

These research findings are supported by Immanuela Juan Lepian's study on the relationship between health literacy and COVID-19 prevention attitudes in society, which found a relationship between health literacy and individual attitudes toward COVID-19 prevention in society (labib, 2020). Most respondents in this study had low literacy levels, which could affect their ability to utilize health-related information useful for making health-related decisions in daily life (Imanuela Joana Lapian, Eva M. Mantjoro, 2022). This aligns with Warda's research, which indicates that low health literacy impacts poor health status, reduces disease management capacity, leads to misconceptions, and results in non-compliance with disease prevention and treatment measures (Warda, 2018). Studies by Spring state that health literacy empowers individuals and communities to participate in healthcare services, thereby improving health and well-being, addressing health inequalities, and building individual and community capacity (Spring, 2020).

The low contribution of health literacy may be due to the questionnaire used in this study, which measures four dimensions: seeking health information, understanding health information, analyzing health information, and deciding on the application of health information analysis. Therefore, the contribution of health literacy to COVID-19 prevention efforts falls into the low category because individuals have not maximized all four dimensions contained in the questionnaire.

Individuals who cannot understand COVID-19 information may have low health literacy levels. The analysis and evaluation of information are weaknesses

among students, leading to low engagement in COVID-19 prevention efforts. The increasing exposure to information about COVID-19 on social media among students does not necessarily lead to good prevention efforts. Critical thinking among students, including understanding and analyzing COVID-19 information on social media, is one of the current weaknesses. Students need to consider the complexity of information on social media when deciding to apply the results of health information analysis.

### **Research Limitations**

In the implementation of this research, of course, there are some limitations. The limitations of this research include:

1. In this study only used a few independent variables related to COVID-19 prevention efforts. and there are still several other variables that can explain and relate to COVID-19 prevention efforts
2. Interpreting the results of research data requires deeper learning so as to minimize the possibility of errors in interpreting it.
3. In this study, the data produced came from a questionnaire instrument based on the perception of respondents' answers, so that the conclusions drawn were only based on data concluded based on the results of direct interviews.

### **CONCLUSION**

The results of the research conducted regarding media exposure and health literacy levels with COVID-19 prevention efforts, from 122 student respondents, it can be concluded that the majority have low frequency of social media exposure to COVID-19 (52.5%) and long exposure durations (53.3%). Most also have low attention to COVID-19 information (77.9%) and poor health literacy (54.9%), as well as inadequate COVID-19 prevention efforts (59.8%). It was found that there is a relationship between the frequency of social media exposure and COVID-19 prevention efforts, as well as a relationship between attention and health literacy with COVID-19 prevention efforts. However, no relationship was found between the duration of social media exposure and COVID-19 prevention efforts. The dominant factor associated with COVID-19 prevention efforts is the attention of students to COVID-19 information. As a suggestion, students need to enhance digital literacy and consider the complexity of information on social media about COVID-19. Colleges are advised to implement integrated digital literacy education in the curriculum, while master's programs in public health can conduct further research development using qualitative methods. The public also needs to be more selective in accepting information from social media.

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