

The Effect Of Social Media As A Health Promotion Media In An Effort To Increase Coronavirus Disease Knowledge (Covid-19) In East Java Province

Siti Mudrikatin, S.Si.T, M.Kes

Husada College of Health Sciences in East Java

Email: mudrisiti@gmail.com

Abstract

Case of COVID-19 dated May 15, 2020 in Indonesia there was an increase continuously there were 262,919 people in monitoring, 34,360 patients were monitored, positive COVID-19 there were 16,496 people, recovered 3,803 people, died 1,076 people, data in East Java province showed cases COVID-19 people were monitored 22,497 people, patients under surveillance 4,625 confirmed cases of COVID-19 there were 1,921 people, so it was necessary to increase public knowledge about coronavirus (COVID-19) by providing information with health promotion media that most people preferred was social media. The study used qualitative and analytic design with nonequivalent control group design, a sample of 120 respondents from 2 cities, namely Surabaya, there were 60 respondents as an intervention group and 60 respondents in the city of Mojokerto as a control group in East Java Province. The respondent's knowledge variables were measured using a self-administered method questionnaire before and after the treatment was given. The intervention group and the control group which included the characteristics of the respondents namely age, education and social media access behavior about coronavirus (COVID-19) there were no differences in variables. There was no difference in the level of knowledge of respondents in the intervention group (mean = 42.19) and the control group (mean = 39.34) before treatment ($p = 0.278$). There was a significant difference between respondents' knowledge of the intervention group before (mean = 42.19) and after (mean = 78.64) treatment in the intervention group with ($p = 0,000$). There was no difference in the level of knowledge of respondents in the control group before (mean = 39.34) and after (mean = 40.22) ($p > \alpha$, $\alpha = 0.05$). Multivariate test of knowledge is obtained OR = 2,816 which means that if the community has good knowledge about COVID-19 disease then it has an opportunity to provide information through social media 2,816 times compared to people who have less knowledge. This research shows that the influence of social media as a media for health promotion in an effort to increase knowledge of coronavirus (COVID-19) in East Java Province. Increase social media about coronavirus (COVID-19) so that it can increase public knowledge in minimizing the spread of coronavirus (COVID-19).

Keywords: COVID-19, Knowledge, Social Medi

1. Intruduction

On 30 January 2020, WHO declared the COVID-19 outbreak in China as a Public Health Emergency for International Concern that poses a high risk to countries with vulnerable health systems. The emergency committee has stated that the spread of COVID-19 can be disrupted by early detection, isolation, prompt maintenance, and the adoption of a robust system for tracking contacts. [1] Other strategic objectives include ways to ensure clinical severity, transmission rates, and optimize treatment options. The main objective is to minimize the economic impact of viruses and to fight misinformation on a global scale. [1] Given this, various agencies have committed to making articles related to COVID-19 available immediately through open access to support an integrated global response [2].

They recommend avoiding traveling to high-risk areas, contact with symptomatic people, and meat consumption from areas with known COVID-19 outbreaks. Basic hand hygiene steps are also recommended, including frequent hand washing and the use of PPE such as face masks. The Japan-based company Bespoke Inc. has also launched a chatbot supported by artificial intelligence (Bebot) which provides up-to-date information on efforts to reduce the coronavirus outbreak, preventative measures that can be taken, and check the symptoms [4]

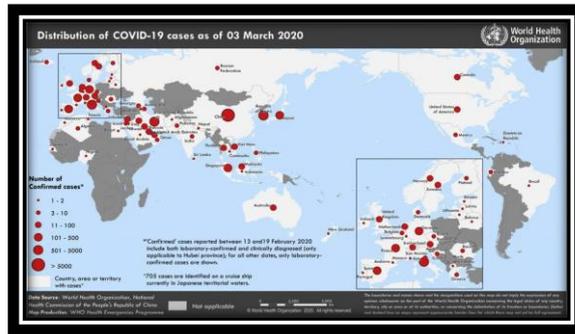
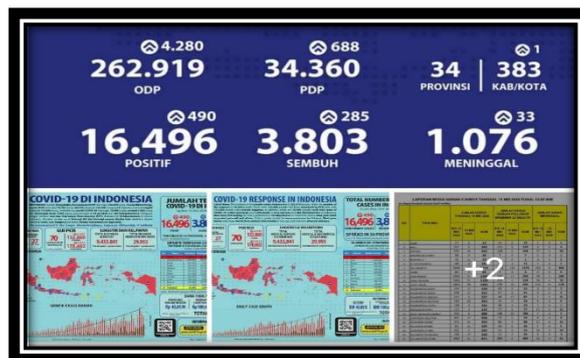


Figure 1: Illustration of COVID-19 confirmed geographic distribution. Accurate data for March 2020.

Image map 1 shows that on March 3, 2020 there were 90,870 confirmed cases of COVID-19, 80,304 of which were confined to China. Of the Chinese cases, 67,217 were confirmed in Hubei Province with the remainder reported in 34 provinces, regions and cities in China. [14] The remaining 10,566 cases were identified in 72 countries including Japan, the US and Australia. 166 of these cases were fatal (Philippines, Japan, Korea, Italy, France, Iran, Australia, Thailand and the US). It is important to note that these figures are likely to be underestimated, because the data presented only reflect diagnoses confirmed by the laboratory.

Data in Indonesia shows the number exposed to COVID-19 on the map in Figure 2 below:



Data in Indonesia shows the number exposed to COVID-19 on the map in Figure 2 below:

On the map in figure 2 shows the Government announced that Patients Under Supervision (PDP) increased to 34,360 people and Monitoring Insiders (ODP) increased to 262,919 people now co-19 cases reached 16,498 people, patients recovered 3,803 people and 1,076 people died. Infographic update on handling the acceleration of COVID-19 in Indonesia dated May 15, 2020 at 12.00 WIB "United against COVID-19" [5].

Data in East Java Province also continues to increase. In the spread of coronavirus (COVID-19) in East Java according to map 3 below:

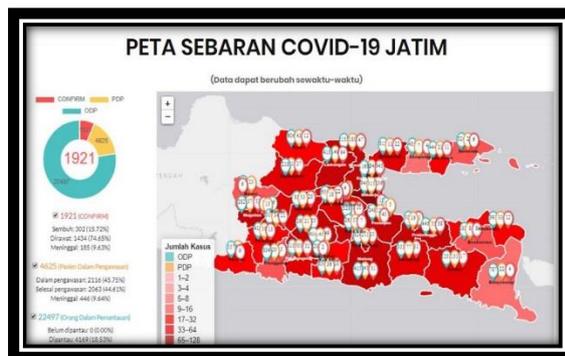


Figure 3: Illustration of COVID-19 confirmed geographic distribution. Accurate data for May 2020.

On the map above, there are 1,221 people, this data shows that transmission cases are still quite high, so that a total of 123 people died. The number of patients still being treated at the hospital is 1124 people. from 20,116 today, up 20,401 people. The data above shows an increase in transmission of COVID-19 in East Java.

Several studies that define the pathophysiological characteristics of COVID-19 have great uncertainty about the mechanism of its spread. Current knowledge is largely derived from similar coronaviruses, which are transmitted from human to human via a respiratory apparatus [20] Usually, respiratory viruses are most infectious when patients are symptomatic. However, there is increasing evidence to show that transmission between humans can occur during the asymptomatic incubation period of COVID-19, which is estimated to be between 2 and 10 days [11-13].

Various bodies including the WHO and the US Centers for Disease Control and Prevention (CDC) have issued recommendations to prevent further spread of COVID-19 [6-10] They recommend avoiding traveling to high risk areas, contact with symptomatic people, and meat consumption from areas with known COVID-19 outbreaks. Basic hand hygiene steps are also recommended, including frequent hand washing and the use of PPE such as face masks. The Japan-based company Bespoke Inc. has also launched a chatbot supported by artificial intelligence (Bebot) which provides up-to-date information on efforts to reduce the coronavirus outbreak, preventative measures that can be taken, and symptom checkers [11].

The need for accurate, precise and up-to-date information is increasingly needed along with the rapid development of information technology. This encourages the public and agencies to utilize the information technology. Which can be positive or negative will affect the emergence of a problem, especially health problems. Information structuring that will be carried out regularly, clearly, precisely and quickly and can be presented in a report certainly greatly supports the smooth operation of the organization's operations and the right decision making. Today, the website is not only accessed by using a browser on the desktop, but is accessed on a tablet or on a smartphone. Thus the development of social media as a medium for health promotion in efforts to prevent transmission of COVID-19 in East Java Province is needed.

The development of the disease is almost balanced even more than the rate of population growth in Indonesia, every second the population in Indonesia is affected by a disease that we do not necessarily find a cure, every new human individual feels himself experiencing the disease when experiencing symptoms that begin to interfere with the actions taken one of them is a doctor and a hospital. The role of the hospital as one of the health agencies has not been sufficient in the publication of information about health, even though the hospital's actions in promoting the disease and its handling have been carried out [13]. Many factors are unknown due to notices, publications or any information provided by practitioners or health institutions. Like disease, technological development has reached the level of anyone, anytime anywhere can get information very quickly and cheaply. One of the media to deliver information quickly with technology is one of internet reliability.

The need for accurate, precise and up-to-date information is increasingly needed along with the rapid development of information technology [14,16]. This encourages diverse communities and information agencies regardless of their nature that can be of positive or negative value which will affect the onset of a problem, especially health problems [15]. Information structuring that is carried out regularly, clearly, precisely and quickly and can be presented in a report certainly supports the smooth operation of the organization's operations and the right decision making. Nowadays, the website is not only accessed using a desktop browser, but is also accessed on tablets or smartphones. Thus the influence of social media as a medium for health promotion in efforts to prevent transmission of COVID-19 in East Java Province [17].

2. Methodology

This study uses a quantitative approach, is a quasi-experimental design model nonequivalent control group design. Development of health promotion media through social media uses qualitative [18].

The population in this study were all people in the province of East Java who were exposed to COVID-19. The total population is 29,936 people. Determination of sample criteria is very helpful for researchers to reduce bias on the results of the study, there are two sample criteria namely inclusion criteria and exclusion criteria. Inclusion criteria are general characteristics of research subjects in the target population and in the affordable population [24].

Characteristics of the sample that can be included in the inclusion criteria in this study include people exposed to COVID-19, willing to follow the process during the study, cooperative, exclusion criteria do not have social media, active in using social media, sick, moved from the East Java region. The size of the sample using the formula of comparison of two sample samples. This formula was chosen because this study was to compare the Oversight Patient group and the Monitoring Insider group so that the sample size was 51 samples, in anticipation of respondents coming out during the study the number of samples was added by 15% of the sample count [23]. thus obtained 60 samples in the intervention group and 60 control groups so that a total sample of 120 samples in East Java Province.

Sources of research data from primary and secondary data. Primary data collection is done by questionnaire questions containing the characteristics of respondents and questions given before treatment and after treatment [23]. Secondary data taken to complete the data needs for this study include general data about health promotion with social media about coronavirus (COVID-19). Research tools used in data collection in the form of questionnaire questions containing the characteristics of respondents and questions given before treatment and after treatment include health promotion media about coronavirus (COVID-19) and questionnaires containing the characteristics of respondents.

Data collection was taken using a structured questionnaire. Respondents fill out their own questionnaire that has been given and data collection is carried out before and after treatment [18,24]. Before analyzing the data, this research conducted data processing using a computer which was carried out through a process with stages of editing, scoring, coding, data entry, tabulation. Data analysis was performed univariate analysis by means of existing variables arranged descriptively using frequency distribution tables, bivariate analysis using Paired T-Test to test the comparative hypothesis of two samples correlated with the ratio scale, multivariate analysis was done by connecting more than two variables and looking at which factor is the most dominant influence on the dependent variable [24,25].

3. RESULT

3.1. Development of health promotion media

The method used in focus group discussions is conducted to find out health information about coronavirus (COVID-19) that has been obtained, the source of information accessed, material needs, media desires, social media access behavior, most respondents said that information about coronavirus disease (COVID-19) provides benefits because it can increase knowledge about coronavirus (COVID-19), besides that respondents can pour out their hearts with the administrator. The results of respondents' answers regarding criticism and suggestions for social media obtained that most of the information provided was complete with internet-based social media.

3.2. Characteristics of respondents

Respondents were obtained from patients who were supervised and people who were monitored in the Surabaya city area as a treatment group and Mojokerto city as a control group from the age of the results of the independent T-Test comparative statistical tests obtained p values = 0.413 ($p > \alpha$, $\alpha = 0.05$), it can be interpreted that there is no difference in the age of the respondents in the intervention group and the control group. The education of Mann Whitney U-Test statistic results obtained $p = 0.752$ ($p > \alpha$, $\alpha = 0.05$), so it can be interpreted that there is no difference in the age of respondents in the intervention group and the control group. Social media access behavior The average frequency of access to information on prevention of transmission of COVID-19 is the

majority six times a week, the majority of repetitions are 2 times, the most frequently used is a cellphone or smartphone, the place most often used for access is at home.

3.3. Knowledge before treatment

The results of the Independent T-Test statistical test showed that the difference in knowledge scores in the intervention group the mean value was 42.19 and the control group before treatment was given an average value of 39.34 which means that both groups had knowledge that was not different from the value of $p = 0.278$ ($p > \alpha$, $\alpha = 0.05$).

3.4. Knowledge after treatment

Statistical test results of Independent T-Test score of knowledge about coronavirus (COVID-19) after treatment showed that there were differences in the average score in the intervention group that was 78.64 and the control group had an average value of 40.22 which means that both groups had different knowledge with a value of $p = 0.001$ ($p < \alpha$, $\alpha = 0.05$).

3.5. Knowledge before and after treatment

Based on the results of different tests Paired T-Test scores before and after treatment in the intervention group obtained knowledge value $p = 0,000$ with ($p < \alpha$, $\alpha = 0.05$) can be interpreted that there is a significant difference in the knowledge score in the intervention group that is given treatment, while in the control group knowledge values $p = 0.072$ ($p > \alpha$, $\alpha = 0.05$) can be interpreted that there is no difference in the control group. Multivariate test of knowledge is obtained OR = 2,816 which means that if the community has good knowledge about coronavirus (COVID-19) then it has an opportunity to provide information through social media 2,816 times compared to people who have less knowledge.

4. DISCUSSION

The role of health promotion media in health education is very important. Health promotion media is very helpful in the process of health communication. Health promotion media can support the delivery of messages through predetermined channels by providing a more detailed and in-depth explanation of health material [26,27,28,29].

Good health promotion media are media that can deliver health messages to the target and are easily understood in accordance with predetermined goals. Development of health promotion media is carried out systematically using P-Process Theory. This theory is composed of stages of development starting from audience analysis, strategy design, development and testing, implementation and monitoring and evaluation [29,30].

This study was conducted in 2 groups: an intervention group that was given treatment in the form of a health promotion media to prevent transmission of COVID-19 by using social media and a control group was carried out in the city of Jombang, the results of a statistical test of internet access including social media. There is no difference in the educational background in the intervention group and the control group.

A person's knowledge is formed from information and experience that has been obtained. The results of statistical tests show that the sources of information include on the website, the website is a source of information that is often accessed widely by the public along with the increased ability to access the internet. The source of information that more respondents access is prevention of transmission of disease [31].

Social media access behavior there is a difference in the time of access in the intervention group and the control group ($p = 0.009$), while in other variables there is no difference in the frequency of social media access when accessing the internet ($p = 0.496$), social media accounts owned, order of priority for access social media more often.

The results of this study are in line with research on exposure to computer-based media that can increase respondents' knowledge in the intervention group about infectious diseases [31]. Comparison of measurement results before and after treatment shows that there is still a need to increase the provision of information about stigma and discrimination against sufferers of coronavirus (COVID-19).

5. CONCLUSION

The intervention group and the control group which included the characteristics of the respondents ie age, education and social media access behavior, history of access to information on prevention of COVID-19 transmission were no different variables.

There was no difference in the level of knowledge of respondents in the intervention group (average = 42.19) and the control group (mean = 39.34) about preventing transmission of COVID-19 before treatment ($p = 0.278$).

There was a significant difference between the knowledge of the intervention group respondents about the prevention of transmission of COVID-19 before (average = 42.19) and according (average = 78.64) treatment of information on prevention of transmission of COVID-19 through the website in the intervention group with ($p = 0,000$).

There was no difference in the level of knowledge of the control group respondents about the prevention of COVID-19 transmission before (mean = 39.34) and after (mean = 40.22) ($p > \alpha$, $\alpha = 0.05$).

Multivariate test of knowledge is obtained OR value = 2,816 which means that if people have good knowledge about coronavirus (COVID-19), then they have the opportunity to provide information through social media 2,816 times compared to people who have less knowledge.

References

- [1] Organisasi Kesehatan Dunia, Novel Coronavirus (2019-nCoV), Laporan Situasi - 12 (2020).
- [2] Pusat Pengendalian dan Pencegahan Penyakit, 2019 Novel Coronavirus, (2020) <https://www.cdc.gov/coronavirus/2019-ncov/about/transmission.html>.
- [3] C. Rothe, M. Schunk, P. Sothmann, et al., Penularan infeksi 2019-nCoV dari kontak tanpa gejala di Jerman, *N. Engl. J. Med.* (2020) NEJMc2001468. Epub sebelum dicetak.
- [4] Q. Li, X. Guan, P. Wu, et al., Dinamika transmisi awal di wuhan, Cina, dari novel pneumonia yang terinfeksi corona, *N. Engl. J. Med.* (2020) NEJMoa2001316. Epub sebelum cetak.
- [5] Laporan Situasi Organisasi Kesehatan Dunia, Penyakit Coronavirus 2019 (COVID-19).
- [6] Menteri Kesehatan RI. Situasi Virus COVID-19 di Indonesia. 5 Mei 2020.
- [7] Dinas Kesehatan Jawa Timur. Data terupdate COVID-19. 14 Mei 2020.
- [8] Bespoke, Bebot Meluncurkan Bot Informasi Coronavirus Gratis, (2020) [https:// www. bespoke.io/index.html](https://www.bespoke.io/index.html)
- [9] WHO. Pengawasan global untuk infeksi manusia dengan coronavirus baru (2019-nCoV). 2020. [https://www.who.int/publications-detail/global-surveillance-for-human-infection-with-novel-coronavirus-\(2019-ncov\)](https://www.who.int/publications-detail/global-surveillance-for-human-infection-with-novel-coronavirus-(2019-ncov)) (diakses 11 Februari 2020).
- [10] Kementerian Kesehatan RI. Pedoman Pencegahan Pengendalian Coronavirus Disease (COVID-19). Dokumen Resmi Per 27 Maret 2020.
- [11] Menteri Kesehatan RI. Protokol Isolasi Diri Dalam Penanganan Coronavirus disease (COVID-19). 16 Maret 2020
- [12] Kepala Pusat Kesehatan Haji. Upaya pencegahan penyebaran COVID-19 Kepada Seluruh Jemaah Haji di Indonesia. 18 April 2020
- [13] Barakhsanova, E.A et. Al. Internet Access and Youth of Yakutia Awareness on the Health-Promotion Factor. *International journal of environmental end Science Education* Vol.11, No.18, 11477-11484, 2016.
- [14] Wangberg, Silje C. et.al. Relations Between Internet use, socio- economic status (SES), social support and subjective health. *Health Promotion International*, Vol.23 No.1 doi:10.1093/heapro/dam039 Advance Access Published 13 Desember 2007.
- [15] Levac & Sullivan. Interactive social media interventions for health behavior change, health outcomes, and health equity in the adult population *Cochrane Database of Systematic Reviews* 2018, Issue 2. Art. No.: CD012932: doi:10.1002/14651858. CD012932. www.cochranelibrary.com. 2018
- [16] Flora, J.A., & Maibach, E. W. The Role of Media Across Four Levels of Health Promotion Intervention. *Annu. Rev. Public Health* 1989.10:181-201. 2000.
- [17] Palsdottir, Agusta. Preferences in the use of social media for seeking and communicating health and lifestyle information *Research*, 2014, 19 (4) paper 642. 2014.
- [18] Burhan Bungin, *Analisis data Penelitian Kualitatif, Pemahaman Filosofis dan Metodologis kearah Penguasaan Model Aplikasi*. Jakarta, PT Raja Grafindo Persada, 2005.

- [19] Machfuedz. I. Pendidikan Kesehatan Bagian dari Promosi Kesehatan. Tramaya. Yogyakarta. 2006
- [20] Notoatmodjo S. Promosi Kesehatan dan Perilaku. Rineka Cipta. Jakarta. 2007.
- [21] Zulazmi. M, Zafriel. T, Sudarti. K, Perencanaan Pendidikan Kesehatan Sebuah Pendekatan Diagnostik, LW. Greemn. MW. Krueter, SG. Deeds, KB. Patridge, Proyek Pengembangan FKM, Depdikbud, Jakarta. 2004.
- [22] Green, LW. Health Promotion Plannin: An Education and Envioronmental Approach. University of Texas Health Science Center at Houston. 1991.
- [23] Notoatmodjo S. Metodologi Penelitian Kesehatan. PT. Rineka Cipta. Jakarta. 2002.
- [24] Kusnanto, Hari. Metode Penulisan Kualitatif Dalam Riset kesehatan. Aditya Media, Yogyakarta. 1998.
- [25] Sudarwan. Menjadi Peneliti Kualitatif, Pustaka. Bandung. 2002.
- [26] Matter, S., Kang, J.H. Media. In: Darity WA, Jr., ed. International Encyclopedia of the Social Sciences. 2nd ed. Detroit: Macmillan Reference USA. 2008.
- [27] Daniel, M., Green. L.W. Health Promotion and Education. In: Breslow L, ed. Encyclopedia of Public Health. New York: Macmillan Reference USA. 2002.
- [28] Rasberry, C., Goodson, P. Health Education. In: English FW, ed. Encyclopedia of Educational Leadership and Administration. Thousand Oaks, CA: SAGE Reference. 2006.
- [29] Ratzan, S., Payne, J.G., Sculte, S.K. Health Communication. In: Anderson NB, ed. Encyclopedia of Health and Behavior. Thousand Oaks, CA: SAGE Reference. 2004.
- [30] Health Communication Partnership. The New P-Process, steps In Steps In Strategic Communication. John Hopkins Bloomberg School Communicaton Partnership. Baltimore. 2003.
- [31] Cornelius, J.B., St. Lawrence, J.S. Receptivity of African American Adolescents to an Prevention Curriculum Enhanced by Text Messaging. Journal for Specialists in Pediatric Nursing. 2009.