

The Role of Telemedicine as Health Promotion Media during the Covid-19 Pandemic in Indonesia: A Systematic Review

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ABSTRACT

Background: WHO has declared COVID-19 as a worldwide pandemic in March 2020, which has prompted several countries to take steps to prevent its spread due to the increasing number of cases. One of the policies implemented in Indonesia is the PSBB, so it has an impact on all aspects including access to health services. The rapid development of information technology in the era of the industrial revolution 4.0 has a positive impact, especially for the effectiveness and efficiency of health services, namely the development of e-health which is one component to bring health services closer to the community, one of which is in the form of telemedicine. This study aims to describe the role of telemedicine as health promotion media during the current COVID-19 pandemic. **Methods:** This research used a literature study approach. This study used 6 reviewed articles. The data was extracted by determining the key variables and then analyzed descriptively which is presented in tabular form. **Results:** Telemedicine is widely used as a medium of health communication by the public. One of the reasons people use telemedicine in health communication at this time is that the COVID-19 pandemic condition makes patients too afraid and anxious to conduct face-to-face consultations and visit hospitals. Besides that, telemental Counseling on Reducing Adolescent Anxiety Due to Exposure to Covid 19 Information. In addition, telemedicine can also be applied in the field of nutrition in the implementation of nutritional care in hospitals. **Conclusion:** Telemedicine as a health promotion media can be utilized in various fields such as telegizi, telemedicine in midwifery and emergency room, telemental and telepsychology.

Keyword: COVID-19, Health Information, Health Promotion, Telemedicine.

INTRODUCTION

Sar-Cov 2 or COVID-19 which was determined by the World Health Organization (WHO) as a form of Public Health Emergency of World Concern (KMMD). The disease that spreads to all countries in the world is then designated as a pandemic in 2020. This is due to the development of COVID-19 cases which have increased significantly or have increased continuously in various countries in the world. In Indonesia, the first confirmed case of COVID-19 was on 02 March 2020 with two cases (Mustopa, Budiman and Supriadi, 2020). In May 2020, the death rate for COVID-19 cases also continued to increase, although the number of recovered COVID-19 patients also increased. The number of cases in Indonesia itself has increased continuously, up to November 18, which was still at 478,720 positive cases with 402,347 recovered and 15,503 people died

(Kementerian Kesehatan Republik Indonesia, 2020) while the Case Fatality Rate (CFR) due to COVID-19 in Indonesia are in the range of 3-4% percentage. The percentage of deaths due to COVID-19 in Indonesia is still quite high compared to other countries. This condition illustrates that Indonesia is one of the countries with the highest number of COVID-19 cases and effective handling efforts are needed so that the number of cases does not increase and the death rate can be reduced.

The Government of Indonesia has issued Presidential Decree No. 11 of 2020 concerning the Determination of the COVID-19 Public Health Emergency which states that the COVID-19 disease is a public health emergency that efforts must be made to overcome it. Based on this, the government has designed several strategies for implementing health protocols through the Decree of the Minister of Health of the Republic of Indonesia No. 382/2020 Regarding Public

Health Protocols in Public Places and Facilities in the Context of Prevention and Control of COVID-19. This is done as an effort to prevent and control COVID-19 (Kementerian Kesehatan Republik Indonesia, 2020). Several countries with an increase in cases have made efforts to prevent the spread, one of which is a lockdown policy. Indonesia is one of the countries that has implemented a lockdown to limit the spread of SARS-CoV2, in the form of large-scale social restrictions (PSBB) stipulated in Government Regulation (PP) Number 21 of 2020 concerning PSBB in the Context of Accelerating Handling of Covid-19. The PSBB policy issued has an impact on all aspects of daily life, including the difficulty of the community in getting access to health (Irianti *et al.*, 2021). This policy is also followed by a policy to limit activities outside the home and meeting people (physical distancing) as well as an appeal to use the telemedicine platform to obtain health services (Lubis, 2020).

The rapid development of information technology in the era of the industrial revolution 4.0 has a positive impact, especially for the effectiveness and efficiency of health services, namely the development of e-health which is one of the components to bring health services closer to the community. E-health is currently growing rapidly, mainly due to the perceived limitations of the health care system in developing countries. Coupled with the COVID-19 pandemic which forced the Indonesian people to do physical distancing, so that not a few consumer buying behavior also experienced a change from direct or offline purchases to online purchases (Tarmidi *et al.*, 2021).

One of them in the form of e-health is telemedicine. Telemedicine is the use of information technology as a communication medium in the provision of health services remotely or without face-to-face using telephone media, video calls, electronic messages, internet sites and other sophisticated communication tools (Mustikasari, 2020). Communication between doctors and patients is an important component in the patient's healing process because it includes providing good, friendly and calming services that actually triggers positive energy for patients to be optimistic about healing their illness. Empathy provided by

doctors through verbal and nonverbal communication will ultimately create good interpersonal relationships (creating a good interpersonal relationship), exchange of information (exchange of information), and medical decision making (Liansyah and Kurniawan, 2015).

Telemedicine, also known as healing at a distance, is becoming increasingly important, as the number of users increases significantly. The number of people using telemedicine services increased by 44% during the Covid-19 pandemic. Telemedicine can be done in two ways, namely direct (synchronous) and store-and-forward (asynchronous). In synchronous the client and service provider meet at the same time for interaction to occur, while asynchronous does not require direct attendance (filling out a complaint form on the google form or other methods as applied in the field), to be then carried out synchronously as a follow-up (Abigael and Ernawaty, 2020). This is an advantage in providing the right information to clients. In addition, it can also provide an increase in terms of effectiveness, increase in productivity and decrease the use of costs (Harno, K., T., Carlson and Viikinkoski, 2000).

The number of health application services (apps) or digital health service start-ups, continues to increase. These services include Halodoc, Alodokter, ProSehat, Yesdok, Klik doctor, Apasakitku, Pakdok, Go Doc, or the Ministry of Health's telemedicine application - Temenin (Telemedik Indonesia), Sehatpedia and others. From these applications, quite a lot of free services, thus the potential to attract users will be higher (Ganiem, 2020). Online health consultations are supported by doctors who have a background in health sciences who are able to analyze and diagnose the health conditions of their patients. However, it cannot be ignored, the existence of this online consultation site is also not without problems, difficulties in facilitating behavior and motivating patients are not effective. Another difficulty that arises and is quite serious is that the health information conveyed is sometimes less relevant so that it risks reducing the quality of service and patient trust (Iqbal and Husin, 2017). Furthermore, the question that often arises is how a doctor diagnoses a patient's illness only through the complaints submitted (not what is

shown) by the patient and how the patient trusts the results of the diagnosis.

Telemedicine is widely used health promotion media by the public. Telemedicine can be used as health promotion media in various fields such as in the field of maternal and child health within the scope of professional care of midwives, Telemental Counseling on Reducing Adolescent Anxiety Due to Exposure to Covid 19 Information. Telemedicine is very important to use during the covid-19 pandemic because it has many benefits, one of which is that people get health information (Fatmawati, 2021). One of the reasons people use telemedicine as health promotion media at this time is that the COVID-19 pandemic condition. Therefore, researchers are interested in conducting a systematic review of the role of telemedicine as health promotion media during the COVID-19 pandemic. This study aims to describe the role of telemedicine as health promotion media during the current COVID-19 pandemic.

METHODS

This study uses a literature review approach which examines research related to the use of telemedicine during the COVID-19 pandemic. The author uses Google Scholar as a literature source with the keyword that the author uses in the search for research articles is "The Use of Telemedicine during the Covid-19 Pandemic". This literature resource contains research conducted in Indonesia and visited. The source of the library is very complete and has keywords used in the search, making it easier for research that will be used as a guide in this research topic.

The technique used to extract and organize information is to create tables and variables such as research title, type, research design used, sampling method, data collection method and keys. information/research results. In this case, I read carefully the literature that I got and put it in the table that I made according to these variables. The first research procedure was by entering the keyword "Use of Telemedicine during the Covid-19 Pandemic" in Google Scholar and obtained as many as 228 articles. Then the author again limited the number of articles obtained based on articles published

within a period of 2 years with the same title, so that the number of articles found was 16 articles. The articles were then re-selected using several criteria set by the author, namely the inclusion and exclusion criteria used to limit the literature search. The inclusion criteria are:

1. The type of article is an article in a published journal
2. The article discusses the role of telemedicine during the COVID-19 pandemic
3. Articles can be downloaded

The exclusion criteria are research articles are only in the form of letters or abstracts. Then the articles selected based on the inclusion and exclusion criteria were 10 articles. Then selected 5 articles that are appropriate and support the topic. The data were analyzed descriptively which were presented in tabular form. The table contains the role of telemedicine during the Covid-19 pandemic.

RESULTS AND DISCUSSION

The following is the selection process for the article The Role of Telemedicine During The Covid-19 Pandemic in Indonesia. The selection process is as follows.

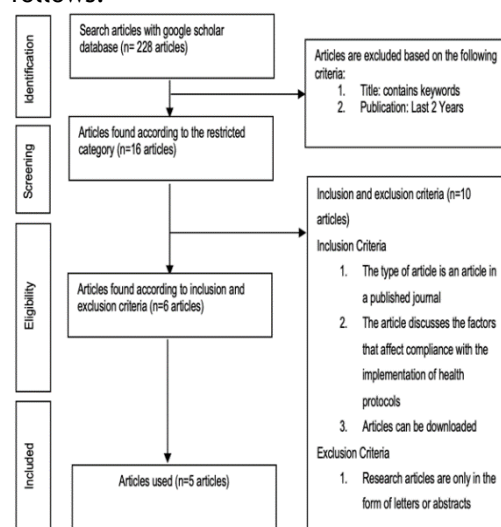


Figure 1. Article Selection Process The Role of Telemedicine as Health Promotion Media During The Covid-19 Pandemic in Indonesia

In the initial stage, 228 articles were found and then re-selected according to categories so that 16 articles were obtained. Then the 16 articles were re-selected with inclusion and exclusion criteria and 5 articles were obtained. The articles used in this study were 5 articles.

Based on the literature review, several roles of telemedicine as health promotion media were found during the Covid-19 pandemic. The roles are as follows

Table 1. The Role of Telemedicine as Health Promotion Media during The Covid-19 Pandemic in Indonesia

No	The Role Telemedicine	Description
1	The role of Telemedicine in the form of Tele-Nutrition (Briliannita, Marlissa and Kamaruddin, 2020)	Telemedicine in the form of telegizi is carried out with the aim of nutrition officers being able to understand and apply telemedicine in the implementation of nutritional care during the Covid-19 pandemic. This shows that telegizi can be used as one of the current health promotion media. Activities carried out with education use educational media in the form of an internet network video conference zoom meeting.
2	Telemedicine in the form of Midwifery Online Consultation (Irianti <i>et al.</i> , 2021)	Telemedicine in midwifery services can be used as health promotion media. Telemedicine in midwifery services as health promotion media is carried out in the form of online consultations using the Google Form media as the initial registration medium and electronic messages using WhatsApp as the follow-up media for consultations. The steps taken are to make online consultation information dissemination media in the form of electronic posters which is carried out by distributing through online media such as WhatsApp, linked, telegram, Instagram, Facebook, Twitter. The information listed on the poster includes the service provider's WhatsApp contact number, service time, types of services that can be accessed. The consultations were carried out as pregnancy consultations, postpartum consultations, family planning consultations, toddler and preschool baby consultations, reproductive health consultations.

3	Telemedicine in the form of Telemental Counseling (Freska, Sarfika and Refnandes, 2021)	Telemedicine can also be applied as a media for health promotion in the form of telemental health. Telemental health is a health promotion medium with an effective delivery method for treating various mental, emotional, behavioral, and relational health problems. While many of the therapeutic skills that lead to the effectiveness of face-to-face treatments are transferable, the effectiveness of telemental health requires unique skills
4	Telemedicine in the Emergency Room (IGD) (Martini, 2021)	Telemedicine can be used as health promotion media in health services, especially in the emergency room. The use of technology such as telemedicine is expected to minimize direct contact with the public with health workers, and break the chain of the spread of COVID-19. In addition, in order to improve the quality of health services, especially during the pandemic.
5	Telemedicine in the form of Telepsychology (Praptomojati, 2020)	Telemedicine can also be used as health promotion media in the field of psychology. This is implemented through the use of tele-psychology which covers several areas, including: as a provider of mental health information; screening, assessment, and monitoring; providing interventions and social support Online and distance interventions are also seen as being able to minimize the obstacles encountered in the face-to-face mental health service model.

The Covid-19 pandemic is a global pandemic that has had a major impact on all countries in the world. Experts explain that Covid-19 is a contagious infectious disease caused by a new type of corona virus. Genomic analysis revealed that SARSCoV-2 is phylogenetically related to several bat viruses such as acute respiratory syndrome (SARS-like) (Shereen *et al.*, 2020). During the industrial revolution 4.0, when technology and information progress was rapid,

computers, internet and smart phones were not strangers in everyday activities in society. Advances in technology and information provide very positive things, especially for effectiveness and efficiency in health services. One form is telemedicine. Telemedicine is the use of information technology as health promotion media in the provision of health services remotely or without face-to-face using telephone, video calls, electronic messages, internet sites and other sophisticated communication tools (Mustikasari, 2020). This can provide more variety in providing or carrying out activities related to improving the health status of the community. During the Covid-19 pandemic, this is the right condition to further implement telemedicine in the health sector. Based on the literature review, there are several roles of telemedicine that have been carried out including telegizi, online midwifery consultation, telemental counseling, telemedicine in the emergency room and in the form of telepsychology.

Nutrition workers are tasked with providing nutritional care to Covid-19 patients who are at risk of malnutrition and need proper nutritional support for optimal immunity and nutritional status. The provision of food for Covid-19 patients is no less important so that food is available that meets nutritional needs and is safe. Therefore, as a form of utilizing information and communication technology in the context of preventing the spread of Covid-19, the implementation of nutritional care can be carried out through telegizi. According to research telegizi helps parents in managing children's weight, improving protein and energy nutrient intake (Chai LK, Collins CE, May C, Brown LJ, Ashman A, 2020). Telegizi is one of the health promotion media that can be given for nutritional care to Covid-19 patients. Telegizi as a health promotion media is carried out through video conference zoom meetings. The role of telegizi as a health promotion medium in the implementation of nutritional care to patients during diet management, monitoring and evaluation of diet therapy to patients in hospitals effectively improves the condition or nutritional status of patients during treatment. This is evident in the research conducted by Kelly et al. (2016) that patients with chronic conditions

experienced improved dietary intake of vegetables, fruit and sodium through nutritional diet therapy using telegizi (Kelly *et al.*, 2016). The implementation of telegizi has been suggested by the government through the PermenkesNo.HK.02.01/Menkes/303/2020 about the implementation of health services through the use of information and communication technology in the context of preventing the spread of COVID-19 so that telegizi can be used in nutrition services in hospitals with reference to the nutritional care process in hospitals (Yunita, Asdie and Susetyowati, 2013). However, based on the results of research it was found that the use of telegizi applications as a health promotion media was still limited by patients and their families. This is due to the limited internet quota by nutrition officers and patients so that the implementation of nutrition services still uses visits to non-Covid-19 and Covid-19 patients while still implementing the health protocols that have been set (Briannita, Marlissa and Kamaruddin, 2020). This shows that the application of telegizi as health promotion media is still experiencing several obstacles and is not optimal, especially during the Covid-19 pandemic. This condition can be caused by people's habits that tend to do face-to-face and are not accustomed to using technology and information.

One of the problems that arise in the health sector, especially women's health, is the limited access of women to contraception and maternal and child health services. The widespread Covid-19 pandemic and health care centers that are not ready for this pandemic have caused primary service centers to restrict activities, including restrictions on midwifery service activities. This has an impact on the high contraceptive drop out rate which is around 10% of acceptors, a 15% increase in the number of unwanted pregnancies, delays in early detection of complications in pregnancy, increased morbidity in children who are not treated. Therefore, one of the roles of telemedicine as health promotion media, in this case, is in the form of online midwifery consultations using Google Forms as registration media and WhatsApp media as consultation media. In direct health services, people are usually less interested in discussing menstrual and vaginal

discharge problems because they are considered normal or embarrassing. This condition is caused because these problems are related to reproductive health. The existence of telemedicine in the form of online consultations makes a positive impact because clients feel they do not need face-to-face contact during consultations so that their situation will not be known directly (Irianti *et al.*, 2021). This creates openness when conducting counseling which is of course realized by fostering good relations and the sense of trust that is grown from a professional counseling process. The online consultation provided provides information services regarding women's health, both reproductive health and maternal and child health during the Covid-19 pandemic. The existence of telemedicine in the form of online consultation using online media, namely whatsapp media, provides an convenience for users of health services, especially midwifery. The use of telemedicine in Indonesia is very useful and considered efficient to bring health services closer to the geographical situation of Indonesia. The existence of online consultation using whatsapp media that has been provided is one of the media that helps in solving health problems, especially services for women's health (Prawirohardo, Pukovisa; Pratama, Peter; Librianty, 2019).

One of the other roles of telemedicine as health promotion media is in the form of telemental health. Telemental counseling has an important role in the use of teleconferencing software for therapy sessions during the COVID-19 pandemic. Telemental health is an effective delivery method for treating a variety of mental, emotional, behavioral, and relational health problems. While many of the therapeutic skills that lead to the effectiveness of face-to-face care are transferable, the effectiveness of telemental health requires unique skills (Freska, Sarfika and Refnandes, 2021). The form of telemental health applied can be in the form of text media and also social media. Text media can be leveraged to help people overcome the mental health challenges posed by COVID-19. This is because texts are also sent through individual devices so that texts are easily given to many people at once using an automated text messaging platform. Text messaging interventions have shown

effectiveness in behavioral health promotion and disease management. In addition, forms such as social media play a complex role in the management of mental health. On the one hand, it can provide a positive and supportive connection during times of physical isolation. Many people with mental illness are increasingly turning to social media to share experiences and seek mental health information and advice (Naslund, Potts and Michie, 2010).

In addition, telemedicine can also be used as health promotion media in emergency room services. Telemedicine services are carried out in the emergency room to reduce the number of people in the hospital, especially in the emergency room, the implementation of telemedicine in the emergency room can be carried out in the form of virtual video conference consultations carried out by patients and doctors or health workers before heading to the emergency room in the form of online communication using media social media such as whatsapp, telegram or short message service to carry out the initial diagnosis of the patient. Telemedicine is one of the strategies during the COVID-19 pandemic that can be used to increase patient satisfaction in health services (Martini, 2021). This is done to reduce contact between staff and patients. Another role of telemedicine is in the form of telepsychology. Telepsychology can cover several areas, including: as a provider of mental health information; screening, assessment, and monitoring; providing intervention; and social support (Lal and Adair, 2014). Online and remote interventions are also seen as being able to minimize the barriers encountered in the face-to-face mental health service model (Ritterband, L. M., Gonder-Frederick, L. A., Cox, D. J., Clifton, A. D., West, R. W., & Borowitz, 2003). Many studies show that these services have several advantages, such as better accessibility, lower costs, as well as flexibility, interactivity, and wider consumer engagement opportunities (Basavarajappa and Chand, 2017) (Christensen and Hickie, 2010) (Comer, 2015).

CONCLUSION

Telemedicine as a health promotion media can be used in various fields, namely in the field of nutrition for the implementation of nutritional care in

hospitals, namely telegizi, in the field of maternal and child health, namely midwifery consultation, telemental counseling on reducing adolescent anxiety due to exposure to Covid 19 information and telemedicine in the emergency room. In addition, telemedicine can also be applied in the field of psychology, namely telepsychology. Telemedicine is very important to use during the Covid-19 pandemic because it has many benefits for the community in obtaining health information. Therefore, telemedicine needs to be studied and applied in health care facilities gradually so that health services can run more effectively and efficiently.

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