
THE ROLES AND POLICIES FOR THE USE OF TELEMEDICINE IN HANDLING COVID-19 SELF-ISOLATION: LITERATURE REVIEW

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Abstract. The current COVID-19 pandemic has had various impacts on the world. The unpredictable spike in cases led to an explosion in patient numbers. The problem of limited treatment facilities forces patients to self-isolate at home. Along with technological advances, various facilities have also been created, one of which is telemedicine. This study aims to look at the role of telemedicine as a strategy for handling COVID-19 self-isolated patients in various countries. This study was conducted descriptively with a literature review. The search was carried out on articles published in Indonesian and English through Google Scholar, Pubmed, and Science Direct searches with the keywords COVID-19, home isolation, self-isolation, telemedicine, and telehealth. The search results obtained that the handling of COVID-19 patients in self-isolation with telemedicine is a solution to the need for monitoring patient health, where hospitals have difficulty being able to serve all patients who need hospitalization. It can be concluded that COVID-19 is a newly emerging disease, clinical symptoms and emergencies of each patient can certainly be different and difficult to predict. Telemedicine as a remote health service can be a means to facilitate clinical monitoring of patients during self-isolation. The implementation of telemedicine ensures the continuity of health services quite effectively and efficiently, the way telemedicine works helps protect patients and health workers from exposure to infection and reduces the burden on hospitals, so it is quite appropriate to be used as a strategy in handling if there is a spike in COVID-19 cases in the future or application to other similar circumstances.

Keywords: COVID-19, Home Isolation, Self Isolation, Telemedicine, Telehealth

Abstrak. Pandemi COVID-19 saat ini telah memberikan berbagai dampak bagi dunia. Lonjakan kasus yang tidak terduga menyebabkan ledakan jumlah pasien. Masalah fasilitas perawatan yang terbatas memaksa pasien untuk melakukan isolasi mandiri di rumah. Seiring dengan kemajuan teknologi, berbagai fasilitas juga telah diciptakan, salah satunya adalah telemedicine. Penelitian ini bertujuan untuk melihat peran telemedicine dalam penanganan pasien isolasi mandiri COVID-19 di berbagai negara. Penelitian ini dilakukan secara deskriptif dengan studi pustaka. Pencarian dilakukan terhadap artikel yang diterbitkan dalam bahasa Indonesia dan Inggris melalui pencarian Google Scholar, Pubmed dan Science Direct dengan kata kunci COVID-19, isolasi rumah, isolasi mandiri, telemedicine dan telehealth. Hasil penelusuran didapatkan bahwa penanganan pasien COVID-19 secara isolasi mandiri dengan telemedicine merupakan solusi dari kebutuhan pemantauan kesehatan pasien, dimana rumah sakit kesulitan untuk dapat melayani seluruh pasien yang membutuhkan rawat inap. Dapat disimpulkan bahwa COVID-19 sebagai penyakit baru yang muncul, gejala klinis dan kedaruratan setiap pasien tentu dapat berbeda dan sulit diprediksi. Telemedicine sebagai layanan kesehatan jarak jauh dapat menjadi sarana untuk memfasilitasi pemantauan klinis pasien selama isolasi mandiri. Penyelenggaraan telemedicine menjamin kelangsungan pelayanan kesehatan yang cukup efektif dan efisien, cara kerja telemedicine membantu melindungi pasien dan tenaga kesehatan dari paparan infeksi dan mengurangi beban rumah sakit, sehingga cukup tepat dijadikan sebagai strategi dalam penanganan jika ada lonjakan kasus COVID-19 di masa depan atau aplikasi untuk keadaan serupa lainnya.

Kata kunci: COVID-19, Isolasi di Rumah, Isolasi Mandiri, Telemedicine, Telehealth

INTRODUCTION

At the end of 2019, a new virus emerged from Wuhan (China) known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). This virus causes a disease called Coronavirus Disease 2019 (COVID-19). In Indonesia, the first COVID-19 case was reported on March 2, 2020.

Two and a half years have passed since COVID-19 first broke out, and various phenomena of the rise and fall of COVID-19 cases continue. New variants of COVID that mutate from time to time are also increasingly appearing. Statistical data shows that as of June 13, 2022, confirmed cases of COVID-19 in the world reached 540,620,133 cases, with 515,947,371 cases recovered and 6,331,682 cases

died (1). While in Indonesia, it is known that Confirmed Cases reached 5,693,702 cases, with 517,253 Active Cases, 88.3% Cure Rate, and a 2.6% Death Rate. (1)

The current COVID-19 pandemic has resulted in various impacts on the world. Health facilities face unpredictable conditions related to the number of cases and the patients and the adequacy of facilities that must be provided with infrastructure and human resources while handling patients, both patients with COVID-19 and non-COVID-19.

The high burden on hospitals due to many patients is undoubtedly very risky for health workers and patients. As a newly emerging disease at the beginning of the emergence of COVID-19, no country is ready to face a surge in cases. Health facilities such as hospitals also need time to prepare facilities to treat patients because of several infection prevention protocols that must be implemented.

Hospitals through the emergency department have a triage system, sorting patients based on the level of emergency and patient needs. With this triage system, patients who do not need a treatment room at the hospital will be sent home to self-isolate at home. This is intended to provide beds for patients who need more intensive medical help.

Meanwhile, the global development of science and technology has led to the emergence of new conveniences of life for the world's population, likewise technology in the field of medicine, including telemedicine. Telemedicine is promising to continue to grow. In the period before the COVID-19 pandemic, the use of telemedicine was applied among health workers in handling patient cases such as teleconsultation, teleradiology, tele-electrocardiography (tele- EKG), tele-ultrasonography (tele- USG), especially in remote areas with minimal supporting facilities. (2)

During the COVID-19 pandemic, telemedicine/telehealth itself attracted quite a bit of attention because several digital platforms provided doctor consultation services through telemedicine. Despite the pros and cons related to the implementation of telemedicine, the community responded well because the community needed it enough.

The large number of patients exposed to COVID-19 resulted in several obstacles that made it difficult for patients to get adequate treatment in hospitals, and

limited medical knowledge became a concern for patients in the process of self-isolation at home.

One of the causes of COVID-19 infection is the occurrence of sudden decompensation because "silent hypoxia" underlies the need for supervision carried out by health workers (3). Some of the literature created during the pandemic shows that telemedicine can be applied as a solution to the continuity of health services for COVID-19 patients so that patients can continue to receive medical services during exposure to COVID-19 and isolate at home effectively and safely, but indeed the policymakers are expected to participate in enabling e-healthcare practices to run under the law and protect privacy or data protection.(3)

METHODS

This study was conducted descriptively with a literature review approach. Literature searches were carried out on articles published in English and Indonesian published in 2020-2022 through a search on Google Scholar, Pubmed, and Science Direct using the keywords COVID-19, home isolation, self-isolation, telemedicine, and telehealth. Duplicated articles will be removed, after which the articles will be screened through titles and abstracts to determine if they match the theme. Articles with full text will be read and assessed based on the suitability of the inclusion criteria, namely articles published from 2020 to 2022, in English and Indonesian and discusses the use of telemedicine in the process of self-isolation in COVID-19 patients. Incomplete articles, in languages other than Indonesian and English, and discussing telemedicine before the COVID-19 pandemic or telemedicine applications that are not in the COVID-19 self-isolation process will be excluded. Search literature using the PRISMA flow according to Figure 1. We found 8 articles related to the implementation of telemedicine services for COVID-19 self-isolated patients.

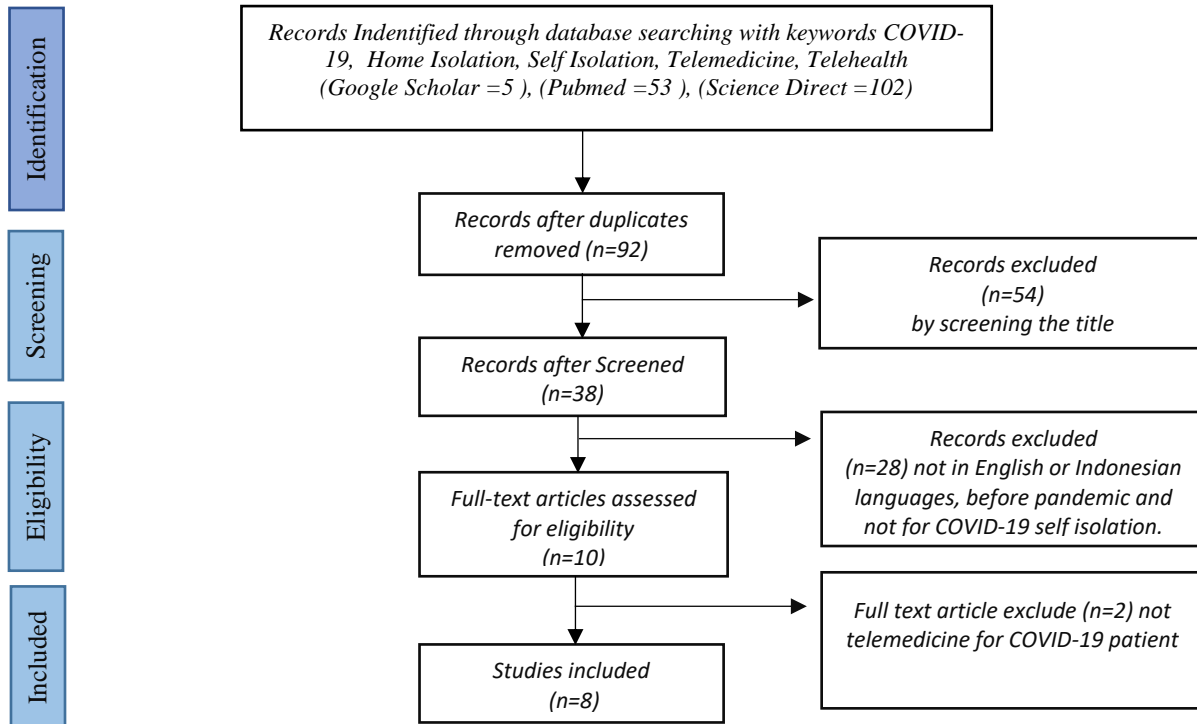


Figure 1. Flowchart of Study Selection According to PRISMA Guidelines

RESULTS

The results of a literature search were carried out on articles published in English and Indonesian published in 2020-2022 through a search on Google Scholar, Pubmed and Science Direct using the keywords COVID-19, home isolation, self-isolation, telemedicine, telehealth. After going through the selection process according to the PRISMA chart, 8

articles that met the criteria of this study were obtained, made in the form of a table of selection results.

Table 1. Selection Results of Scientific Articles

Author	Title	Aim	Method	Result
(4) Bryant et al., 2022	Outcomes of a home telemonitoring program for SARS-CoV-2 viral infection at a large academic medical center	Telemedicine serves as a viable option during the COVID-19 pandemic to provide home care, home isolation precautions, reduce unnecessary healthcare exposure, and ease hospital burdens.	a new telemedicine program to closely monitor patients infected with SARS-CoV-2 (COVID-19) at home. Participants are monitored using telephone or video	Results: Of the 1128 patients, 6.2% required hospitalization and 1.2% required ICU admission during the program. Hospitalization was more frequent in patients identified as high risk (14.2% vs. 2.7%, P < 0.001).

Author	Title	Aim	Method	Result
				<p>Conclusion: Home monitoring programs appear to be an effective and sustainable modality for the outpatient management of COVID-19.</p>
<p>(5) Pimlott et al., 2021</p>	<p>Clinical learnings from a virtual primary care program monitoring mild to moderate COVID-19 patients at home</p>	<p>CovidCare@Home Program in Toronto, Ontario, Canada.</p> <p>Objective: To describe the natural history, clinical management, and outcomes of patients living in communities with COVID-19</p>	<p>Methods: Observational, descriptive study was conducted with a retrospective chart review of 98 patients during the first 5 weeks of program implementation (8 April-11 May 2020); 73 of them with positive COVID-19 with symptom onset of 14 days who are isolating at home</p> <p>The initial virtual video assessment of CovidCare@Home was conducted by doctors from family medicine. Follow-up visits were made by video or telephone every 1-2 days, based on symptom severity, age, and comorbid medical condition.</p> <p>Patients were classified as mild, moderate, or severe according to WHO Criteria</p>	<p>Results: Patients in the program experienced mild disease (88%), and moderate (12.3%). Patients were 70% female (70%); with a mean age of 43.3 years. Nearly 40% had no comorbidities. Common symptoms were cough (65.8%), fatigue (60.3%), headache (42.5%) and myalgia (39.7%), followed by fever (32.9%), sore throat (21.9%), nasal congestion (21.9%) and rhinorrhea (20.5%). Headaches (51%) and anosmia (45.1%) were common in women; fever and shortness of breath among men (40.9%). Nine patients (12.3%) with worsening respiratory symptoms were referred to the hospital.</p> <p>Conclusion: Patients with mild to moderate COVID-19 disease can be managed safely and effectively in a virtual family medicine-led</p>

Author	Title	Aim	Method	Result
				<p>program, in the future can focus on continuing to review the existence of this service as “long haulers”</p>
<p>(6) Liu et al., 2020</p>	<p>Telehealth for noncritical patients with chronic diseases during the COVID-19 pandemic</p>	<p>Reduce unnecessary hospital visits by consulting general practitioners/specialists</p>	<p>Using video calls, Remote Patient Monitoring (RPM), Monitoring patients with chronic diseases, Preventing patients from dropping out of treatment due to fear of COVID-19 in accessing health facilities</p>	<p>Useful for handling patients with chronic diseases who are self-isolating, not only providing health services, but also providing motivation during treatment, lifestyle improvements such as diet and exercise, as well as other information in chronic disease care.</p> <p>Copresence Strategy: Reducing patient anxiety from not being able to visit the hospital, balancing the demand for the health care team, providing continuity of treatment when the pandemic ends.</p>
<p>(7) Adly, Adly and Adly, 2021</p>	<p>Telemanagement of home-isolated COVID-19 patients using oxygen therapy with noninvasive positive pressure ventilation and physical therapy techniques: Randomized clinical trial</p>	<p>This study aims to compare two non-pharmacological respiratory treatment methods for home isolation of COVID-19 patients using a newly developed Telemanagement health care system.</p>	<p>Methods: a randomized clinical trial of 60 patients with stage 1 pneumonia caused by SARS-CoV-2 infection. Group A (n=30) received oxygen therapy with bilevel positive airway pressure (BiPAP) ventilation, and Group B (n=30) received respiratory therapy techniques and</p>	<p>The COVID-19 pandemic has resulted in the need for a home-based solution as a way to support overwhelmed hospitals.</p> <p>Conclusion: The Telemanagement health care system is a promising method to help with bed shortages in hospitals, as it demonstrates effectiveness and</p>

Author	Title	Aim	Method	Result
			osteopathic manipulative physical therapy.	reliability in monitoring and managing patients with early-stage COVID-19 pneumonia.
(8) Hariandhanavudhi et al., 2022	Implementation of diabetes care and educational program via telemedicine in patients with COVID-19 in home isolation in Thailand: A real-world experience	<p>The outbreak of the coronavirus disease (COVID-19) in Bangkok led to a shortage of hospital capacity, and a home isolation system was established.</p> <p>This study describes Diabetes Self-Management Education and Support (DSMES) and glycemic management in isolated home patients infected with COVID-19.</p>	<p>Methods: Using a retrospective chart review of the results of monitoring glucose, insulin, and corticosteroid values.</p> <p>Monitoring is carried out through a communication group via the LINE app & telephone to assess the patient's clinical needs and needs.</p>	<p>Results: There were 119 patients (1,398 days of service), the mean age (SD) was 62 years, 85.7% had a history of type 2 diabetes, and 84.0% received corticosteroids. Insulin was used in 88 patients; 69 of them were insulin-naive during the first 10 days. The mean glucose level on day 1 was 280.6 (122.3) mg/dL and decreased to 167.7 (43.4) mg/dL on day 10. Hypoglycemia occurred in 1.4% of values. The majority of patients (79.5%) recovered at home.</p> <p>Conclusion: Treatment of diabetes and DSMES delivered via telemedicine to patients isolated at home during the COVID-19 pandemic is safe and effective.</p>
(9) Michaud et al., 2021	The feasibility of home self-assessment of vital signs and symptoms: A new key to telehealth for individuals?	The HYTECC study (HYperTENSives under confinement, self-assessment of vital signs and symptoms of COVID-19) is a prospective cohort study conducted in Laval (Quebec, Canada)	Study demonstrating the feasibility of remote implementation and use of a telehealth system in which comprehensive self-measurement of vital signs and	<p>Conclusion: it is important to improve, facilitate and optimize the use of simple and accessible technological tools in health.</p> <p>This study demonstrate the</p>

Author	Title	Aim	Method	Result
		<p>Monitor the patient's condition and vital signs during self-isolation</p>	<p>symptoms is carried out, with electronic transmission and self-management of patient data</p> <p>The patient is a self-isolated patient with positive SARS-CoV-2 PCR results, vital sign measurements were carried out twice a day for 14 days.</p> <p>Follow-up planning is given to patients who have unfavorable conditions from the results of measuring vital signs and symptoms during the self-isolation process.</p>	<p>feasibility of remote telehealth protocol initiation for individuals who are sick and symptomatic of COVID-19</p>
<p>(10) Bruni, Lalvani and Richeldi, 2020</p>	<p>Telemedicine-enabled accelerated discharge of patients hospitalized with COVID-19 to isolation in repurposed hotel rooms</p>	<p>The high need for isolation rooms for patients infected with COVID-19 makes the idea of using empty hotel rooms during a pandemic as a means of isolation, with monitoring with telemedicine, can be a step to release hospitals from being overwhelmed by critical points. there is capacity.</p>	<p>Telemonitoring is done on patients by monitoring oxygen saturation, heart rate, temperature, and breathing twice a day by medical personnel.</p> <p>The criteria for self-isolation patients in hotel rooms are stable patients, do not need oxygen and therapy via infusion, and can use smartphones.</p> <p>The patient has completed isolation 2 times in a row with negative results in PCR examination and improvement of clinical condition.</p>	<p>Results: The use of telemonitoring is adequate to monitor the patient's vital signs. In the 30 day period between April 1 and May 1, 239 patients, 126 were discharged home from hotel isolation without any complications and none of the patients were referred to hospital</p>

Author	Title	Aim	Method	Result
(11) Longo et al., 2022	Glucose control in home-isolated adults with type 1 diabetes affected by COVID-19 using continuous glucose monitoring	This study aimed to evaluate changes in blood glucose in patients isolated at home with type 1 diabetes infected with COVID-19 using a Continuous Glucose Monitoring (CGM) system.	Methods: included adults aged 18-45 years with type 1 diabetes, using CGM, monitored by telemedicine at the Southern Hospital of the Italian University. The 32 subjects who were quarantined at home with positive swabs for SARS-CoV-2 belonged to the COVID-19 group. 30 individuals with diabetes without COVID-19 formed the control group. The effect of COVID-19 on the blood sugar of infected patients was assessed at different time points [2 weeks before COVID-19 (Time 1), 2 weeks during-COVID-19 (Time 2) and 2 weeks after COVID-19 (Time 3)] and compared to those who were not infected.	Results: Young patients isolated at home with type 1 diabetes and COVID-19 showed worsened glucose control during COVID-19, compared with diabetic subjects of the same age without COVID-19 infection. Conclusion: By using the CGM technique, the patient's blood sugar can be monitored for improvement or worsening, so that decisions can be made regarding the treatment that will be carried out while the patient is in self-isolation.

DISCUSSION

COVID-19

COVID-19 is a disease caused by the Sars Cov-2 virus that attacks the respiratory system with general clinical symptoms such as fever, cough, and fatigue. Other symptoms that may arise are loss of smell and taste, nasal congestion, conjunctivitis, sore throat, headache, joint pain, nausea, skin rash, and diarrhea. Some individuals may also develop severe symptoms such as difficulty breathing, loss of appetite, confusion, chest pain, and high fever. (12)(13)

According to World Health Organization (WHO), all symptomatic patients may be able to transmit rapidly. To prevent transmission and speed up the healing process, COVID-19 patients must undergo

isolation in health facilities or self-isolation for patients with mild or asymptomatic symptoms. The optimization of all existing public facilities should be done to handle and control the cases properly. (12)

Self-Isolation

Regarding COVID-19, self-isolation is a procedure for individuals suspected or clinically confirmed with mild and moderate symptoms. Isolation is used for people with symptoms of COVID-19 or who have tested positive for the virus. Being in isolation means being separated from others, ideally in a medical facility where the patient can receive clinical care. If isolation in a health facility is impossible and the patient probably not be at risk for severe symptoms, it can be carried out at home. Isolation usually has done for at least ten days plus

an additional three days without symptoms. If the patient is infected and shows no symptoms, they must remain isolated for ten days from when the test results are positive. Patients with severe symptoms must be treated in hospital isolation rungs with supervision from health workers (14)

While quarantine is used for anyone who comes into contact with someone infected with the SARS-CoV-2 virus, whether he/she has symptoms or not, quarantine also mean that the person concerned remains separated from others because he has been exposed to the virus and may still be infected and can be carried out at a designated facility or home. Quarantine of COVID-19 means staying in a health facility or at home for 14 days. (12)

Carrying out an independent isolation process is certainly not easy, many challenges must be faced because the condition of the patient's residence does not necessarily support self-isolation at home, which also makes it difficult for patients who will self-isolate at home. (10)

In Indonesia, we mostly use the term self-isolation in all cases of self-isolation, both at health facilities and at home.

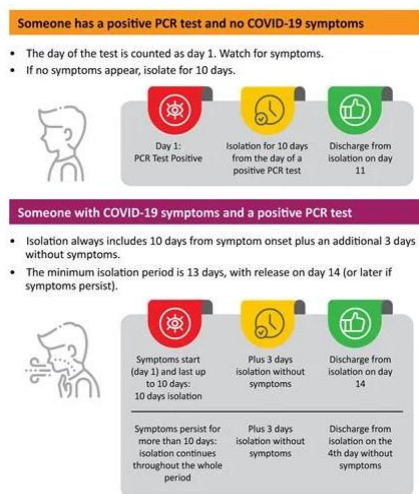


Figure 2. Isolation Procedures for COVID-19 Patients

In principle, patients with confirmed COVID-19 without symptoms and mild symptoms do not require hospitalization. Self-isolation can be carried out in a centralized self-isolation facility or at home. (15)

Telemedicine

Telemedicine is a process of remote health services used by health workers and patients by using information and communication technology devices as communication media. Telemedicine is a form of health service in the form of diagnosis, therapy, and

disease prevention. What distinguishes telemedicine from telehealth is that telemedicine is the provision of services by doctors only, while telehealth denotes services provided by health professionals in general including nurses, pharmacists, and others. (16)

In the literature search that has been carried out, it is found that these two terms are often juxtaposed together as similar services, perhaps because they are essentially collaborative services. The scope of this research is telemedicine used by COVID-19 patients or suspects who are self-isolating at home. Telemedicine is a medical service carried out by health workers in the form of consultation or monitoring/observation of the patient's condition during treatment. Meanwhile, based on the service procedures organized by the Ministry of Health, telemedicine for self-isolated patients is an online consultation facility with doctors on one of the platforms in collaboration with the Ministry of Health.(13) The use of telemedicine is also undeniable, besides making it easier for health workers and patients to carry out the treatment process, it is also a new facility that can increase income for health facilities such as hospitals, especially for hospitals in big cities.

Policy Telemedicine

In Indonesia, the policy that regulates telemedicine activities is the Minister of Health Regulation (PERMENKES) Number 20 of 2019 concerning the implementation of Telemedicine Services between Health Service Facilities. This PERMENKES was ratified in 2019, at which time the COVID-19 pandemic had not yet occurred. During the COVID-19 pandemic, the Ministry of Health issued the Decree of the Minister of Health (KMK) of the Republic of Indonesia Number HK.01.07/MENKES/4829/2021 concerning Guidelines for Health Services Through Telemedicine During the Corona Virus Disease 2019 (COVID-19) Pandemic. In the KMK, it is explained as related to the use of telemedicine as an effort to prevent the risk of transmission and handle COVID-19 self-isolation patients.(2) (15)

Implementation of Telemedicine in Handling COVID-19 Self-Isolation in Indonesia

Prior to the COVID-19 pandemic, the application of telemedicine focused on the use of health workers in Indonesia, as regulated in PERMENKES no 20 of 2019 including teleconsultation, teleradiology, tele-ECG, and tele- usg. During the COVID-19 pandemic, telemedicine was widely and massively used for various health needs. In a study conducted by Liu et al., patients who have chronic diseases and are in isolation from COVID-19, which makes it impossible to visit medical personnel, need support to continue their treatment for chronic diseases, and be motivated to stay in a good lifestyle. Whether it

is physical exercise or diet, therefore the use of telehealth is very important and recommended. (6)

Still, with the research of Liu et al., patients with home hemodialysis are also helped by the existence of telehealth facilities by health workers to be able to continue to manage hemodialysis by themselves at home without having to come to a hemodialysis center. (6)

In Zhai et al., article, they build a system that oversees a region in Henan, China, to lead and coordinate all medical personnel who provide services both in isolation centers, hospitals, clinics, and patient homes in other remote areas. Their telemedicine system is used for monitoring the

patient's condition, exchanging knowledge, and assessing the readiness of the facility. (17)

In Indonesia, the government has regulated the use of telemedicine during a pandemic with the Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07/MENKES/4829/2021 concerning Guidelines for Health Services Through Telemedicine During the Corona Virus Disease 2019 (COVID-19) Pandemic. Telemedicine for self-isolated patients organized by the Ministry of Health (Kemenkes) was intensively utilized by the community during the surge in cases of the Delta Varian COVID-19 in the middle of 2021, at which time the occupancy rate of isolation room beds was very high, which resulted in not accommodating patients who needed treatment, So they are forced to self-isolate at home.

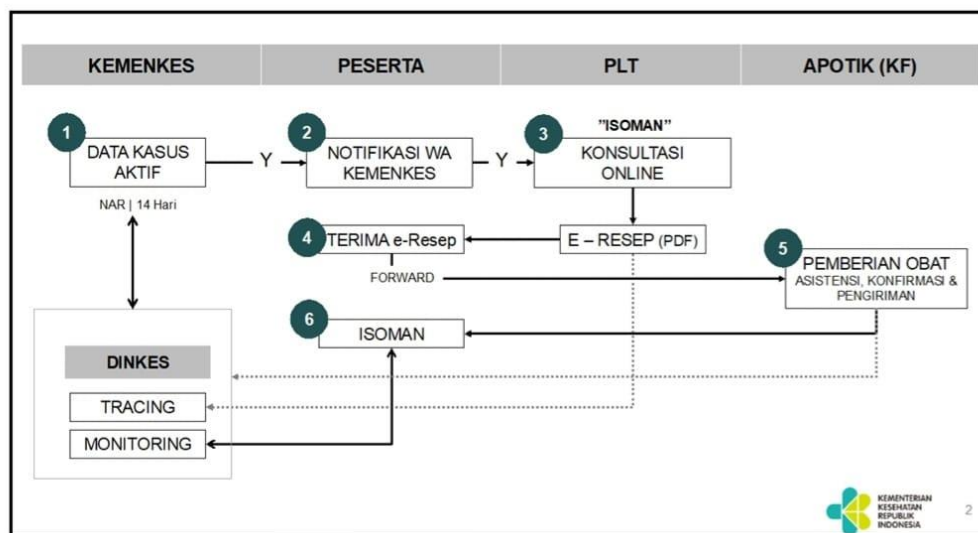


Figure 3. Flow of Health Services for COVID-19 Patients Who Perform Independent Isolation Through Telemedicine Platforms Provided by the Government

Telemedicine services organized by the Ministry of Health can be accessed on the <https://isoman.kemkes.go.id> page, in collaboration with 11 telemedicine platforms to provide doctor consultation services and free drug delivery for people affected by COVID-19. These 11 platforms include Alodokter, Getwell, Good Doctor, Halodoc, Klikdokter, Klinikgo, Link Sehat, Milvink, Prosehat, SehatQ and YesDok. This service is carried out to make it easier for people who are in self-isolation able to access health services without having to visit the hospital. Initially, this service could be accessed in early July 2021 for the DKI Jakarta Province due to the high number of cases in the capital, but in mid-July, this telemedicine service was expanded to Bogor, Depok, Tangerang, and Bekasi due to the increasing number of COVID-19

patients. Currently in 2022 the scope of this service can be accessed even wider, namely Karawang, Bandung, Semarang, Surakarta, Jogjakarta, Surabaya, Malang, Denpasar, Nusa Dua, Medan, Palembang, Balikpapan, Banjarmasin, Manado and Makassar.

With technological advancements, the Ministry of Health has several applications in the National COVID-19 control program, one of which is the PeduliLindung application, the Ministry of Health has also affiliated with laboratories that carry out PCR and Antigen tests to detect COVID-19. Positive test results can be read directly in the Ministry of Health's COVID-19 database known as the New All Record (NAR), patients will receive messages through the Ministry of Health's Whastapp platform

and can conduct free consultations using a platform that has collaborated with the Ministry of Health. Patients without symptoms (OTG) and with mild symptoms can self-isolate at home and will be given

drug packages following the provisions of the Ministry of Health. Thus, the hospital can focus on treating patients with moderate and severe symptoms.

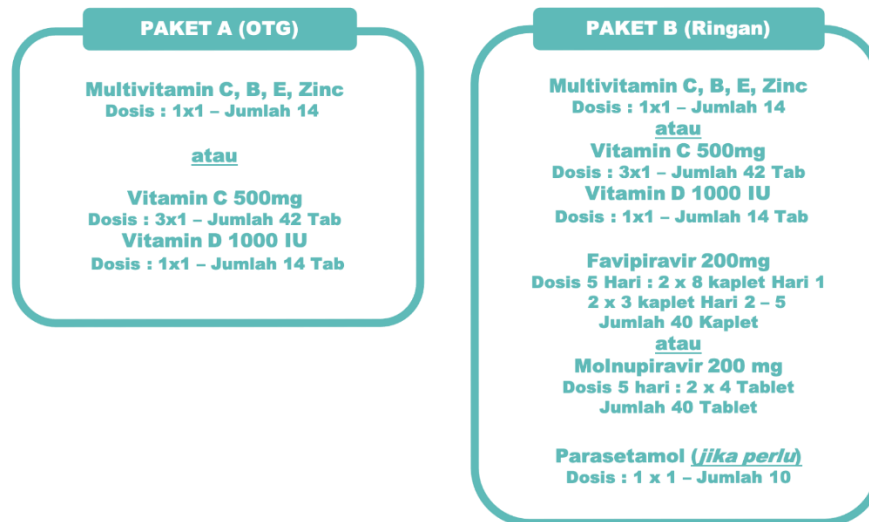


Figure 4. Package of Self-Isolating Drugs from the Ministry of Health

The utilization of telemedicine facilities has also increased significantly based on one of the application platforms, which stated there is a 30% increase in users of this service in 2021 compared to 2020. (18)

Based on data from the Katadata Insight Center, new users in telemedicine services reached 44% in the last six months due to the provision of self-isolation solutions for COVID-19 patients. This data is based on a survey of 2,108 respondents conducted by Katadata.(19)

Challenges in Telemedicine Services

Although it has potential as a strategy for handling patients during the COVID-19 pandemic, the use of telemedicine cannot be separated from several challenges that can affect the success of its users. Technically, medical doctors and patients may encounter several obstacles because it is carried out virtually, including the delivery process and the communication skills of doctors and patients, which significantly affect the quality of medical information obtained during the telemedicine process. Of course, a process carried out virtually cannot replace the accuracy of a manual physical examination when it is carried out in person.

The effectiveness of telemedicine also depends on the quality of images and videos. It requires a

qualified telecommunications network to support the smooth process of video calling/the use of telemedicine provider applications. In addition, medical personnel may need knowledge and skill enhancement to use virtual technology and equipment. Therefore, it is necessary to provide training to doctors in using telemedicine. Likewise, from the patient side, users of telemedicine services can come from various demographic aspects. It is necessary to consider the patient's ability to use cellular phones/computers and the ease of using specific applications. The challenge is also in procuring software and hardware facilities; of course, it requires sufficient funds to complete the equipment and networks to provide telemedicine services.

Regarding ethics and patient privacy, with the electronic platform policy, it is necessary to consider the confidentiality of patient data and the legality of health workers who provide services to patients. We all know that health workers need a permit to carry out medical practice. With the provision of prescriptions to patients, doctors who carry out telemedicine services are fully responsible for potential risks. (20)

Limitation of Research

In the literature search and selection process, much literature discussed the implementation of telemedicine concerning COVID-19. However, the

most dominant was a discussion of the function of telemedicine as a solution to access and continuity of patients suffering from certain diseases to be still able to seek treatment and not be at risk of contracting it. However, the specific literature discussing telemedicine concerning patients undergoing self-isolation due to exposure to COVID-19 is quite limited

CONCLUSION

During the COVID-19 pandemic, there were social restrictions and isolation applications for patients. COVID-19, a newly emerging disease, still cannot predict the extent to which infected patients cause clinical symptoms and emergencies. Hospitals, as the spearhead in health services, are not comfortable and quite risky places. When there is a spike in cases, the burden that increases due to the number of patients who need medical help results in a significant burden due to the large number of patients who cannot be accommodated. Due to the limited number of beds, many patients are self-isolating. Telemedicine as a remote health service can be an adequate means to facilitate the process of monitoring the patient's condition while self-isolating. Thus, the patient can remain monitored and be immediately given treatment and referral if the condition worsens. Telemedicine can mobilize all aspects of health potential to reduce disease transmission, ensure security to provide online health services, protect patients, clinicians, and the public from exposure to infection, and finally reduce the burden on health care providers. In conclusion, it is appropriate enough to be used as a strategy in handling if there is a spike in COVID-19 cases in the future, as well as applications for other similar circumstances.

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