Exploring The Effectiveness of Telemedicine as A Hospital Strategy in Bali

I Wayan Artha Pradana (1)  
Ida Ayu Oka Martini (2)

Universitas Pendidikan Nasional (1)(2)

wynart24@gmail.com (1)  
dayuokamartini@undiknas.ac.id (2)

ABSTRACT
The Covid-19 pandemic has prompted an adaptation of new habits. In the health sector, telemedicine has developed into an option to reach health services. Health practitioners and patients are getting used to using telemedicine. However, with the easing of the pandemic situation in the new normal era, the sustainability of telemedicine is a concern. This study aims to determine the effectiveness of telemedicine for its users and how telemedicine can be a strategy for hospitals. This research uses a qualitative descriptive method. Respondents in this study consisted of hospital leaders, specialist doctors, and patients at several hospitals in Bali. Validation of data using triangulation technique. SWOT analysis is used to analyze telemedicine as a hospital strategy. The results of this study found that telemedicine was felt to be effective for use as a health service. This is based on the user's perceived benefits and success in meeting health care needs. As a hospital strategy based on SWOT analysis, telemedicine has strong strengths and opportunities compared to its weaknesses and threats. Telemedicine has become an effective health service for patients and health practitioners. As a strategy, hospitals can develop telemedicine to be even more advanced by improving quality that prioritizes cost efficiency, time, and effectiveness of therapy. This is based on the user's perceived benefits and success in meeting health care needs. As a hospital strategy based on SWOT analysis, telemedicine has strong strengths and opportunities compared to its weaknesses and threats. Telemedicine has become an effective health service for patients and health practitioners. As a strategy, hospitals can develop telemedicine to be even more advanced by improving quality that prioritizes cost efficiency, time, and effectiveness of therapy.

Keywords: telemedicine; effectiveness; strategy; SWOT

INTRODUCTION
At the beginning of 2020, the world community was shocked by the emergence of an infectious disease caused by the corona virus. In an effort to reduce the number of cases of COVID-19, the government issued various policies. The Policy for the Implementation of Restrictions on Community Activities (PPKM) is the government's effort to limit the movement of people in order to control the spread of Covid-19 (Reditiya and Darma, 2023; Wardana and Darma, 2020; Dewi and Darma, 2022; Murti and Darma, 2021; Mimaki et al.,
This policy also affects patient access to hospitals, apart from the priority of facilities for handling Covid-19 patients, and because many patients are worried about getting infected if they come to the hospital (Pramesti and Darma, 2023; Bali and Darma, 2019; Romauly and Darma, 2023; Dewi and Darma, 2022).

As a solution, the government urges to intensify the implementation of telemedicine. Telemedicine is a health consultation process between doctors and patients carried out from different places far from each other through audio and audio visual telecommunications facilities. The development of telemedicine was pushed significantly by the pandemic. Although there is still a need for more improvements, especially in terms of adaptation, telemedicine has received a positive response because of the perceived convenience. In addition to socialization and the frequency of telemedicine implementation, it still needs to be increased among health service providers because the majority of people are still not familiar with telemedicine (Dewanta et al., 2023; Sudiwedani and Darma, 2020; Oyagi and Darma, 2021; Idayanti et al., 2020; Narolita and Darma, 2020; Umami and Darma, 2021; Wirantaja and Darma, 2023; Wulandari and Darma, 2020). This can be seen from the survey results from the Central Statistics Agency (BPS) showing that 58.2% of respondents did not know about telemedicine.

The post-pandemic situation becomes the next challenge for the development of telemedicine. Its sustainability depends again on the resistance of the community’s behavior to the adaptation of new habits before and of course the experience felt with this service. Technological factors that are growing rapidly can be a mainstay support for the growth of telemedicine (Adnyasuari and Darma, 2017; Martani and Darma, 2023; Purwaningsih and Darma, 2021; Restudana and Darma, 2022; Kusuma and Darma, 2020; Kumarawati and Darma, 2021; Putra dan Darma, 2019; Arianti et al., 2019; Darma, 2005; Darma, 2012; Darma, 2006; Dewi and Darma, 2019; Asri and Darma, 2020; Sukerta and Darma, 2014; Permanasari and Darma, 2013; Saefulloh and Darma, 2014; Mahyuni et al., 2020; Darma, 1999; Artawijaya and Darma, 2015; Febrianti and Darma, 2023; Sanjaya and Darma, 2023; Permana and Darma, 2020; Ginantra et al., 2017; Wibawa and Darma, 2023; Sanjaya and Darma, 2023; Solin et al., 2023; Wijaya and Darma, 2022; Desyanta and Darma, 2020; Shaviti and Darma, 2020; Handayani and Darma, 2021; Krismajayanti and Darma, 2021; Puriati and Darma, 2021; Widana and Darma, 2021; Praswary and Darma, 2021; Dewi and Darma, 2021; Monica and Darma, 2022). Several public hospitals in Bali have implemented telemedicine...
services. During the pandemic, health consultations via telemedicine are carried out as an option for people who are worried about coming to the hospital. In the process, the hospital has tried several methods and platforms to support this telemedicine service (Gunadi and Darma, 2022; Anggarini and Darma, 2021; Chrisandita and Darma, 2021; Mahendrawati and Darma, 2021; Darma, 2006).

In understanding user behavior in using telemedicine and perceptions of its effectiveness, this study uses the Theory of Reasoned Action. The theory of reasoned action suggests that the proximal cause of behavior is not an attitude, but an intention to carry out the behavior. Intention underlies a person's decision to carry out a behavior. Decision making by a person to carry out a behavior is the result of a rational thought process. Within the framework of the theory of reasoned action, attitudes are transformed indirectly in the form of overt behavior through the mediation of a psychological process called intention.

To see how the implementation of telemedicine in Bali and its potential in the future, this study seeks to explore through users’ perceptions of the effectiveness of telemedicine. This study aims to identify and analyze telemedicine as a hospital strategy in the new normal era. Hospitals as health care provider facilities try to analyze telemedicine as a service option. Strategic efforts are a concern both in terms of regulation and also quality assurance which is the main guide in providing health services to the community. The results of this study are expected to contribute thoughts and insights.

METHOD

This research is a descriptive research with a qualitative approach. Researchers chose to use descriptive because they wanted to explore naturally and more deeply about telemedicine based on the experiences and opinions of the elements involved in the implementation of telemedicine. Researchers have the assumption that there is a link between the perspectives of patients, health workers, and hospital management in responding to this service. A detailed and thorough explanation of the elements used as sources is believed to provide an overview of the prospects for telemedicine.

The location of this research is in a hospital in Bali. The main thing that the researchers consider is the implementation of telemedicine which has been running in several hospitals in Bali. Based on the experience of researchers, hospitals have tried several telemedicine scenarios, both using startups as third parties or directly without third party intermediaries. In addition, its location is in Bali and is quite popular among the public because it has been around
for a long time. This is a consideration to overcome the geographical limitations of the researchers as well as the practicality in determining informants as sources of information.

Data collection in this study was carried out in two ways, namely through interviews (interviews) and documentation studies. In this study, research informants were selected using purposive sampling technique. There were 11 informants in this study consisting of patients, doctors, and hospital leaders. For data validation using source triangulation and technique triangulation. The stages of data analysis are reduction, data modeling, SWOT analysis, and drawing conclusions.

RESULT AND DISCUSSION

Hospital management support is an important factor in the implementation of telemedicine. As part of the service, telemedicine is made up of administrative lines, SOPs, and of course promotions. This is the hospital's effort to support the operation of this service. As stated by dr. YK is the leader at the hospital in Badung.

“Once we agreed to provide telemedicine, then we made a line. So from the beginning, how do patients make reservations for telemedicine, then start consulting with doctors according to the agreed hours, after that the preparation of the medicine, payment via transfer, and arriving at the delivery of the medicine. Then from the marketing team doing promotions, so that people know that at the hospital we can already serve telemedicine, you know”

“In order for this consultation via telemedicine to run smoothly, of course we have prepared good equipment. Our IT team and technicians have prepared laptops, webcams that can display images clearly, as well as good microphones and headsets so that the voices of patients and doctors can be conveyed clearly. Besides that, the most important thing is of course a stable internet network.”

From extracting information about implementation in the field, patients stated that telemedicine made it easier for them to access health services. What patients consider beneficial is that they can save time both on the way to the hospital and also on queuing time.

“It's really good, I like telemedicine because it can save time. Especially now that the roads are often jammed, not to mention arriving at the hospital, you have to queue for a long time.”

“If you use telemedicine, you are usually immediately informed of the schedule for the consultation. Later when it's time, we just have to standby in front of the cellphone. And so far it's been good, never late”
Safety from the risk of disease transmission in the hospital is also the reason patients choose telemedicine. Even though the hospital has implemented health protocols and screened visitors, some people are still worried.

"Honestly, I'm still a little scared to go to the hospital. My mother has diabetes and has regular check-ups every month to an internal medicine doctor, because there are comorbidities like this, so I'm worried. So yes, I just tried to use telemedicine for routine control. According to the doctor's directions, I also provided a digital blood pressure device and a blood sugar check so that I could tell the doctor whether the dose was changed or how."

“I once went to a dermatologist using telemedicine, because I tried to go to a general practitioner but it didn't get better. Want to get a patent drug all. I'm just afraid to go to the hospital, he said that there is a new variant of covid. So, it's better to consult from home because the disease is not an emergency either”

The patient's goal to get treatment results that match expectations is one of the patient's considerations in choosing telemedicine. Healing after the therapy given by the doctor and clarity about his condition are the things that the patient pays attention to.

"I am satisfied with the treatment given by the doctor via telemedicine. At that time, I continued to sneeze and run a cold, after being given medicine via telemedicine, thankfully it has improved, even though I have only taken the medicine 2 times”

This is also agreed by Dr. AW, a specialist in internal medicine at a hospital in Denpasar. According to him throghtelemedicine, the diagnosis process can be faster.

“In diagnosing patients, 80% of information about the patient's condition can be obtained through anamnesis, we explore the conditions and diagnoses that the patient may experience through certain questions. Now, through telemedicine, it is enough to do that, the process is fast to determine a working diagnosis and we can quickly give therapy advice”

For patients who require ongoing consultation, telemedicine considered to increase patient compliance for routine check-ups. Especially in psychiatric patients who are usually more comfortable not coming to crowded places. This was conveyed by dr. I specialize in psychiatry at a hospital in Badung.

“Since telemedicine was introduced, my patients have been more diligent for control. Previously not routine, especially patients with cases of psychosis or anxiety disorders. Indeed, usually patients with this condition are not conducive if they are in a crowded situation.”

The ease of monitoring patients who cannot go to the hospital because they have to self-isolate is also a benefit for doctors. This was expressed by dr. O lung specialist.
"Currently, not all COVID-19 patients need to be treated, even more with mild symptoms and can self-isolate at home. But most patients are anxious because they don’t know how to monitor their condition at home. So with telemedicine, I can help to provide consultations and monitor the patient's condition. I usually recommend during isolation to have a thermometer and oximetry ready."

Ease of getting medicine is something that is preferred by patients who use the service telemedicine. Patients assume that medicines that come from hospitals have guaranteed safety and quality. In addition, the drugs given are definitely the same as those recommended by doctors during telemedicine.

“I like the medicine service, because the medicines that come are in accordance with what the doctor has told me during telemedicine. I used to have telemedicine in an online application, I was given a photo of a prescription. So you have to look for yourself again, sometimes at the pharmacy you can't find the prescribed medicine and instead the pharmacist is advised of another alternative, so you're confused.”

This is also a concern from the doctor's side, where by providing services telemedicine from the hospital, doctors feel confident that their patients will receive the prescribed medication. As stated by Dr. A, an internal medicine specialist.

“For me it is very important to make sure patients get the drugs I prescribe. Do not let the patient have difficulty getting medicine outside so that he does not take medicine, and later it will affect the success of therapy. So that's an important support for telemedicine services. And so far, during the next telemedicine control, the patients I check have met my expectations.”

Conventional consultation where the patient meets directly with the doctor. It is undeniable that the patient's psychic perception when he can interact directly with the doctor both face to face and touch is a determining factor in the success of treatment. For Dr. A, an internal medicine specialist, this is a challenge for him telemedicine. However, after several times examining patients with telemedicine, Dr. A found that listening to voices together with face-to-face via telemedicine can provide an experience that is almost similar to touch for patients.

“I have subscribed to Dr. A, I have stomach acid and hypertension. Every month, headaches sometimes recur, and check with the doctor. Anyway, so that it can be handled by Dr. A, it usually heals. Now with telemedicine, you can't hold it like that, but how come you can meet face to face and hear his voice directly, it feels more calm and comfortable. He is really friendly and caring, which is what I like.”
Based on the patient’s experience, the hospital still maintains the quality of service even though it is carried out in an unusual way. Apart from the need for an adaptation process, hospitals see this as one of their ways to develop in terms of digitizing health services. This was clearly stated by Dr. YK as the leader in one hospital in Badung.

“When it comes to health services, hospitals always adhere to the principles of quality improvement and patient safety. We also apply this in the implementation of telemedicine. We ensure that patients get the best possible service. And thanks to telemedicine, we can explore to expand the development of hospital digital systems. Previously, we had used the hospital management information system since 2019, so that the recording of patient medical records was carried out in electronic medical records, which of course were integrated with electronic prescriptions.”

The same thing was conveyed by dr S, who stated that telemedicine increase the variety of digital services within the hospital.

“Previously, online registration through the website, hospital application, and online BPJS application could be used. This feature can make it easier for patients to get a reservation number. In addition, electronic medical records are also very helpful for patients who need a history of medical information, for example for insurance purposes. With the addition of telemedicine, there is another digital service for our patients.”

New services that keep up with the times like this certainly invite attention and responses from patients. With a response, it is usually followed by an increase in awareness and the image of the hospital in the eyes of the public. As said by patients who often seek treatment in Gianyar.

“I once had telemedicine with a doctor there. Before registering we were told to download the hospital application first. Wow, that’s really cool in my opinion. I am sharing info with my family and acquaintances, if you are sick, you can use telemedicine using this application.”

The impact of opening the service telemedicine, also according to dr S, the coverage of the number of patients served has increased. With some patients in stable condition using telemedicine for control consultations, more patients who have more severe conditions but need control can be served. Due to the limited hours of practice, so far, patients often do not get a quota to come directly to the outpatient polyclinic.

Telemedicine as one way that is considered effective, is presented so that doctors can communicate with patients using audiovisual communication networks. Of course, this is in line with the principles of handling and preventing the transmission of Covid-19. The
government also supports by encouraging the use of telemedicine during the pandemic. In addition to the appeal, the government issued a regulation that strengthens this appeal. The first regulation began with the issuance of the Minister of Health Regulation No. 20 of 2019 concerning the Implementation of Telemedicine Services Between Health Facilities where regulated telemedicine activities are limited to telemedicine consultations between health workers with different fields or subspecialists. Along with its development, the government updated the regulations by issuing the Decree of the Minister of Health No. HK.01.07/MENKES/4829/2021 Regarding Guidelines for Health Services Through Telemedicine During the COVID-19 Pandemic. In this guideline, the boundaries of telemedicine have been expanded as health services that can be carried out directly between doctors and patients.

The Theory of Reasoned Action (TRA) or the theory of reasoned action which was first introduced by Ajzen & Fishbein (1975) shows a relationship between individual interests and behavior. This theory explains that a behavior is carried out by an individual who does have a basic interest or desire to do it (behavior intention) or in other words the individual's interest will determine his behavior. Based on this theory, the behavior of patients and doctors who accept telemedicine as a medium for health services can be based on the belief factor about the expectations of how health services should be carried out. Of course, this belief is not formed from one factor. The use of technology that has become commonplace in people's lives today has a big role in this change. Then the pandemic caused people's fear to have close interactions. And in the end, the policy holder, namely the government, provides concrete appeals and guidelines regarding the use of telemedicine.
Strength
- Efficiency (saving) cost and time
- The ability to use digital technology by doctors and patients is good
- The quality of the information obtained is almost the same as a direct visit
- Feel safe not exposed to the virus
- There is no need for long queues, or the consultation schedule tends to be timely and flexible
- Internet infrastructure and gadgets are already qualified, both from hospitals and patients

Weakness
- Not all patients have supporting medical devices owned by patients such as digital blood pressure measuring devices, thermometers, and oximetry.
- It is a long-standing practice that face-to-face consultations have become the primary method of outpatient visits.
- There is no standardized telemedicine financing regulation yet

Opportunities
- Perceived fear of going to the hospital encourages patients to use telemedicine
- There is already a specific policy from the government regarding telemedicine (Minister of Health Decree No. HK.01.07/MENKES/4829/2021 concerning Guidelines for Health Services Through Telemedicine During the COVID-19 Pandemic)
- Digital service support systems are growing rapidly, such as online goods delivery services to deliver medicines to patients' homes.
- People are already familiar with telemedicine services
- Many people already have mobile banking, making it easier for non-cash payments

Threat
- Many start-up applications create telemedicine services such as Halodoc, Alomedika, Grabhealth, and others
- There is a data leak concern

From the results of the SWOT analysis, it appears that the internal environment has found that the hospital's strengths in telemedicine are more than its weaknesses. The main
strength is in the ability of human resources and the availability of adequate hospital infrastructure to support the implementation of telemedicine that is convenient, fast, and easy.

Meanwhile, from the external environment in general, the opportunities that exist are greater than the threats that may occur. The main opportunity that appears is the existence of regulations from the government, which means that this telemedicine service is legal. So that its position is the same as other health services in terms of administration. Medical responsibility is attached to the doctor who performs and the obligation to pay for the services received is the responsibility of the patient who chooses telemedicine services.

**CONCLUSION**

From the results of research conducted by researchers in several hospitals in Bali by interviewing leaders, doctors, and patients about the effectiveness of telemedicine as a hospital strategy in the new normal era, it can be concluded that telemedicine has been effective for use as health services in hospitals. This is based on 2 things, the first is the benefits that are felt by both patients and doctors according to their experience in using telemedicine. The second is the success of meeting the needs in order to achieve the goal of using health services. Telemedicine can fulfill the main medical service component, namely consultation with a doctor, so that you can get treatment therapy with almost the same results when you do face-to-face offline.

In terms of hospital strategy, telemedicine is currently in a good position to continue to be used in the future. This is seen from the SWOT analysis which shows more elements of strength and opportunity. The strengths of telemedicine that hospitals have are time and cost efficiency, users who are familiar with the use of information technology, the effectiveness and safety of health services perceived by patients. Meanwhile, from the external environment, there are opportunities for government support for telemedicine services through regulations, the popularity of telemedicine among the public has increased during the pandemic, and online support services such as delivery services and cashless payments have become increasingly familiar to the public. Given this condition, hospitals are in a good position to develop telemedicine services by reinforcing quality that prioritizes cost efficiency, time, and effectiveness of therapy through an improved user experience approach. Attention to this is expected to make telemedicine a profitable and sustainable hospital strategy.
REFERENCES


