

Ehealth Literacy in Improving Rural Community Health Services in Indonesia



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ABSTRACT: The Ministry of Health has designed the TEMENIN (Telemedicine Indonesia) application since 2017 for health workers in all regions of Indonesia. The use of TEMENIN is expected to accelerate patient health services, not only during the COVID-19 pandemic but also in other health services. For this reason, human resources for health workers who can adopt e-health are needed. However, because of its implementation, there are still some areas for improvement in the TEMENIN application. The Indonesian Ministry of Health issued the KOMEN 2.0 application (Online Medical Consultation) as an update from TEMENIN. This study aims to identify and find out the activities of various e-health-based communication platforms used to improve the quality of health in Indonesia, especially the use of the KOMEN Application. The theories and concepts used in this research are the theory of Diffusion of Innovation, health communication, and telehealth literacy. The method used is descriptive qualitative by conducting in-depth interviews with the parties involved in using the KOMEN application in the Indonesian region, observing and studying the literature. The validity of the research uses source triangulation. Based on the research results, the activity of using the KOMEN application is still not optimal. This is because only some health workers have the same e-health literacy regarding the same KOMEN application, and the availability of infrastructure still needs to support the maximum use of KOMEN, especially in the 3T region in Indonesia.

KEYWORDS: Health Communication, TEMENIN, KOMEN, e-health literacy

INTRODUCTION

The Covid 19 pandemic is still a global topic of conversation, all countries in the world continue to strive to reduce the death rate from Covid 19 [1], [2]. Various efforts have been made by the Indonesian government to reduce the death rate of Covid-19 patients [3], [4]. Based on provisional data on the Ministry of Health's website (31 January 2022) there are an additional 10,185 positive cases of Covid 19 in Indonesia [5]. To reduce the rate of spread of COVID 19, the Indonesian government uses telemedicine as a medium of communication to improve health services in Indonesia, during the COVID 19 pandemic. According to the WHO (World Health Organization) telemedicine is health services provided by professional health workers in the form of diagnosis, treatment and prevention of disease and injury, research and evaluation for individuals and communities who have constraints far from the location of health service facilities. So that by using information and communication technology it is possible to exchange valid information in the provision of health services [6].

The use of telemedicine in Indonesia has the potential to overcome various health service problems [7], [8]. This is done because the distribution of doctors in Indonesia is not evenly distributed, more than half of the doctors work on the island of Java. In fact, the ratio of doctors in Indonesia is the second lowest in Southeast Asia after Cambodia [9]. The presence of telemedicine is an alternative in overcoming the rate of spread of COVID-19, even in the future telemedicine can be used as a medium for health communication after the COVID-19 pandemic ends.

One of the telemedicine applications currently being promoted by the Indonesian Ministry of Health is the TEMENIN (Telemedicine Indonesia) application as a communication medium for health facility services spread across Indonesia. Temporary data of doctors who are members of TEMENIN are: 136 radiologists, 186 cardiologists, 136 obstetricians, and 377 general practitioners [10]. Even though not all doctors are connected to TEMENIN, it is hoped that the application can be an alternative in overcoming disparities in health services in the 3T (outermost, lagging, frontier) regions. Thus TEMENIN is not only specifically used during the COVID 19 pandemic, but in the future it can be used to improve the quality of health services in Indonesia in general [11], [12].

Permenkes No.20. year of 2019 concerning the Implementation of Telemedicine Between Health Service Facilities states that telemedicine is the provision of remote health services by health professionals using information and communication technology,

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including the exchange of information on diagnosis, treatment, prevention of disease and injury, research and evaluation, and continuing education of health service providers for the benefit of improving individual and community health.

However, during the COVID 19 pandemic, both health workers and the public had not fully utilized the platform, so that the rate of spread of COVID 19 had not been controlled [13], [14]. One of the obstacles faced is that not all citizens have good digital literacy related to the health sector. So that digital technology can be utilized in encouraging the welfare of life. The use of digital technology has not been fully utilized to create quality health in Indonesia [15], [16]. So that people should be encouraged to use digital media as an alternative to achieve prosperity. One of the indicators for the Human Development Index is the health sector, so that if citizens are guaranteed their health, then the goal of realizing the welfare of the nation is not something that is difficult to achieve [17][18].

Health communication according to Notoatmodjo [19] is a systematic effort to positively influence people's health behavior, by using various principles and methods of communication, both interpersonal communication and mass communication. The development of information and communication technology provides opportunities for the dissemination of information about health among health workers, between health workers and patients. Health communication is the art of communication in order to promote the health and well-being of individuals and communities [20]. Health communication examines the use of communication strategies so that people get information about health so that it influences their behavior to live a healthy life. Effective health communication should: be unbiased and non-judgmental, adapted to the culture of the audience, easy to access, easy to implement, according to the needs of the audience, there is a balance between benefits and risks for the audience [21].

Various efforts have been made by the Indonesian government to improve the quality of health services, one of which is by using Telemedicine called TEMENIN. Telemedicine refers to the use of telecommunications and information technology to provide clinical health services to individuals remote or isolated areas [22]. Based on Permenkes No. 20 of 2019 concerning the Implementation of Telemedicine Services between Health Facilities Services, it is stated that telemedicine is the provision of remote health services by health professionals using information and communication technology including the exchange of information on diagnosis, treatment, prevention of disease and injury, research and evaluation, and continuing education of health service providers for the benefit of improving individual and community health. Telemedicine Indonesia (TEMENIN) is a telemedicine service that can be performed by health workers (doctors) including: TeleRadiology, Tele EKG, Tele USG, and Tele Consultation. Adoption of information and communication technology must be carried out in order to accelerate the improvement of health services in Indonesia.

The adoption process requires continuous persuasion so that individuals can know the value of a technological innovation, namely relative advantage, compatibility, complexity, trialability and observability [23], [24], [25]. Diffusion is the process of adopting an innovation so that the innovation is accepted by the adopter. Rogers further said in the theory of the diffusion of innovation (1995) that in decision making by adopters Rogers suggested there were five tasks, namely: knowledge, persuasion, decision, implementation, and confirmation. Adoption of new ideas will work well if there are similarities for the interacting parties, for example beliefs, education, social status, and so on.

The development of science and communication technology that continues to grow has led to an increasingly broad understanding of literacy [26], [27]. Literacy, in the words of Lambs [28], is the capacity to locate, assess, use, and communicate through a variety of resources, including written, visual, aural, and auditory resources. So that literacy is not only interpreted by reading and writing skills [29], [30]. But you also have to master communication skills when exchanging information. Along with the development of information and communication technology, there are 2 problems in literacy [31], namely: (1) the exponential increase in the amount of information and communication in the global information society, (2) knowledge of human resources in the global information economy.

Telehealth is a telecommunications technology that is used to improve health information and health services in areas that have problems with geographical conditions, access, social levels, and culture [32]. So that in its development, telehealth literacy can be interpreted as the ability to communicate health information through various information and communication technologies in the form of text, audio, video, digital-based messages [30], [33]. For this reason, health workers, both doctors and nurses, are encouraged to utilize information and communication technology in providing the framework to improve the quality of health services [34], [35].

METHODS

In order to provide a description or description of an event to the object under study as clearly as possible, this study used a descriptive method using a qualitative approach, namely to observe. According to Mooney [36] that descriptive case study research explains the phenomenon studied [36]. It is predicted that this research will reveal a variety of telemedicine-based communication activities conducted among healthcare institution services. The research locations were conducted in several Community Health Centers spread across West, Central and East Indonesia, as well as in the Jabodetabek area

Data collection techniques using To obtain data as information about the problem under study, the following methods are implemented:

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1. Observation, namely data collection by observing the symptoms related to research, where the observations are recorded as additional data.
2. Literature Study, namely collecting data from various other reference books that are considered relevant to the research problem and used as a guide for solving research problems.
3. In-depth interviews with various parties regarding the use of the TEMENIN Application
4. Documentation, other references in the form of photographs or drawings related to research problems.

Meanwhile, the data analysis technique used is as stated by Miles & Huberman [37] that data analysis consists of three interrelated sub-processes: data reduction, data presentation, and conclusion/verification [37]. While the data validity method uses triangulation, which is checking data by utilizing something outside the existing data as a comparison to the data. In this study checking data through other data sources.

RESULT AND DISCUSSION

E-Health Communication Services in Indonesia

In order to improve health services in Indonesia, the Indonesian Ministry of Health issued Permen No. 20 of 2019 concerning telemedicine, namely the provision of long-distance health services for professionals engaged in the health sector to use communication technology as a medium for exchanging information to provide health services for individuals and communities on an ongoing basis including diagnosis, treatment, prevention of disease and injury, research and evaluation. Until now, the use of telemedicine by the public is still considered as a long-distance digital technology simply for teleconsulting health facility providers (Faskes) with patients. So that telemedicine can accelerate the handling of patients in overall health services for both patients and doctors, between Health Service Facilities (Faskes), and between Health Workers (Nakes).

The existence of the Permenkes encourages the use of Information and Communication Technology (ICT) in health services. The maximum use of ICT will build a health ecosystem, especially in building a communication ecosystem for health workers at various levels, from local to national. Furthermore, the Ministry of Health issued 3 main programs in health communication technology to encourage optimal health services. The three programs are:

1. Integrating health data based on an accurate and complete database so that the quality of health is more guaranteed and reliable.
2. The availability of applications in health services will increase efficiency in health services at the health center level, clinics, hospitals, laboratories and pharmacies.
3. The communication technology ecosystem in the health sector will create collaboration and a digital innovation ecosystem as a whole in all elements involved, namely government, industry and society.

Telemedicine is expected to improve health services efficiently and comprehensively. However, it must be remembered that information and communication technology (ICT) is a tool in nature, and does not replace direct (face-to-face) services. Simultaneously the Ministry of Health uses 2 (two) forms of telemedicine-based services:

1. Telemedicine Hospital Base, namely telemedicine that is used between health facilities
2. Telemedicine Community Base, namely telemedicine from health facilities to the community.

In order to accelerate health services as a whole, telemedicine between health facilities called TEMENIN (Telemedicine Indonesia) is the choice of media for communication between health facilities in all health centers and hospitals across Indonesia. TEMENIN was launched in 2017, but not many parties have used it. Before the use of TEMENIN was determined, the Ministry of Health had conducted trials in several regions in Indonesia. In 2020 trials were carried out in Medan, Serang, South Jakarta, Yogyakarta and Gorontalo. Next in 2021 the trial will be expanded to include Medan, Jambi, Prabumulih, East Jakarta, Cirebon, Surakarta, Malang, Samarinda, Makassar, Manado, Denpasar, Jayapura and Metro. The trial was carried out with the aim of:

1. Testing telemedicine financing mechanisms
2. Assess the efficiency and effectiveness of telemedicine-based services
3. Evaluating the satisfaction of telemedicine users.

To continue to improve health communication services that are more efficient, fast and sustainable, the Ministry of Health has made a new innovation by launching the KOMEN application. Several features in the TEMENIN application have developed according to the needs of health care workers and patients. Starting January 19, 2021 TEMENIN changed its name to KOMEN (Online Medical Consultation). The KOMEN 2.0 application is a development of the TEMENIN 1.0 application, which was previously used by the Indonesian Ministry of Health. The various types of telemedicine provide an opportunity for the public and health workers to carry out consultations regarding the type of service needed.

The presence of KOMEN provides hope in accelerating health services between health facilities. KOMEN's e-health-based communication technology has contributed to the implementation of sustainable health. The development of information and communication technology provides opportunities for various parties to innovate in various fields. Health as an indicator of the Human Development Index can encourage people to get decent work. Good health conditions enable a person to increase income which ultimately drives his welfare.

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E-Health Cultural Literacy and Adaptation

Adapting to the use of technology is not easy, especially digital technology as a tool so that work is done quickly and efficiently. Adoption of KOMEN-based information technology as an application that can speed up health service connections has not been fully successful, this is due to the fact that not all health workers are willing and able to quickly adopt KOMEN. In order to encourage the use of the KOMEN application, the most difficult thing to do is to change the culture of health workers from conventional to digital.

The culture of adopting innovation is one of the obstacles in implementing the use of KOMEN between health facilities. Not all health workers can directly apply KOMEN in providing health services. Understanding of the importance of digital technology in health services has not been felt by all health workers. Therefore it takes the same understanding and belief in the adoption of KOMEN. All parties must have the same perspective, followed by one's skills in using KOMEN as an e-health platform in Indonesia.

In addition, paternalist culture as one of Indonesia's philosophical values is still believed by the community, especially people who live in the 3T (Disadvantaged, Forefront, Outermost) regions. Based on Presidential Decree No. 63 of 2020 concerning the determination of underdeveloped regions in 2020-2024 there are 62 regencies. Disadvantaged areas are areas that have low quality of development compared to other regions on a national scale. Meanwhile, geographically it is located in the frontier and outermost areas. The gap does not only cover physical facilities, such as an internet connection, but also understanding and ability to access the internet, in this case skills in using the KOMEN application. Therefore, individual abilities are needed to improve service skills using e-health.

Not only the ability to use digital technology but also communication skills are important for health workers. Health workers must be able to provide information that is understood by other parties so that an understanding occurs. Messages sent via KOMEN can be quickly responded to and followed up. So far, the obstacle experienced is the length of time in responding to messages conveyed through KOMEN. While the patient's condition must be quickly served because of the critical situation. For this reason, the readiness of Health Workers is needed to respond to every message sent by other Health Facilities. This will break the chain of long service times, so that decisions can be made more quickly and efficiently. In fact, patients do not have to be transferred to other health facilities, given Indonesia's geographical conditions which are sometimes difficult to reach by public transportation.

The process of adapting to the culture of using digital technology must be built from within the individual health worker. Some are lazy to use the KOMEN application because they are used to the culture of writing on paper, especially for making patient referrals, or consulting other doctors to get consideration in treating patients. In fact, according to the health workers, they feel it is faster through social media WhatsApp, directly contacting the intended individual, on the grounds that they already know them well. There were even those who immediately used the telephone to contact familiar Health Workers. On the one hand, this is a challenge because, when using TEMENIN, it takes time to wait for the response from the authorities or other designated hospitals. In a crisis situation it is felt that it is not optimal, because doctors, nurses, midwives have to wait, while patients must be treated immediately. This weakness is no longer found in the KOMEN application, because there is a 15 minute time limit for waiting for a response. If there is no response, another doctor who also has the same qualifications will respond. This is a solution in the KOMEN application, so that patients who need fast treatment can also be handled optimally.

Digital literacy gaps in society still occur in various regions, technological advances must be balanced with the ability to use technology. Because of the level of convenience that telemedicine provides, it is easy for many to carry out various health consultations through the telemedicine platform. Often the consequences are ignored if the doctor misdiagnoses because the wrong communication conveys messages related to health complaints.

Many users do not consider the impact of miscommunicated messages, because not all diseases can be consulted by simply writing or providing photos on the telemedicine platform to the intended doctor. Such as complaints of toothache, physical condition changes such as red rashes, dizziness, and so on. All of these complaints must be seen directly by the doctor, so that if written down it will be interpreted differently by the treating doctor. Not to mention the condition of the consultation will not be optimal if the media used is of inadequate quality. Like smartphone photo cameras, not all are of the same quality, depending on the resolution of each camera. If the resolution is low, the results of the photo may not match the original. Therefore digital technology literacy is needed for the community before they use digital media. Digital literacy is not only limited to search and the ability to access, but must also be followed by the ability to process and understand the various effects of using technology.

Implementation of E Health Communication in Indonesia

Telemedicine Hospital Base

Various efforts have been made by the Ministry of Health of the Republic of Indonesia in realizing a sustainable health ecosystem. Efforts have been made in order to realize the 3 (three) pillars of health transformation, namely increasing access to primary health services, improving the quality of health services for referred patients, and utilizing digital technology to support optimal health services. For this reason, the Indonesian Ministry of Health continues to make improvements, especially in the use of

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information and communication technology in e-health. The resolutions to build e health communication that have been carried out by the Indonesian Ministry of Health are:

1. Create a long-term strategic plan as a blue print in the development of e-health services in various health sectors.
2. Develop digital information and communication technology-based infrastructure, including hospital management information systems, health center management information systems, e-health-based electronic medical records.
3. Building collaboration with various parties, especially the private sector and other profit institutions in providing 3 health services.
4. Develop e health that can be reached by the whole community, such as TEMENIN (Telemedicine Indonesia) and Sehatpedia.
5. Developing a center of excellence and an integrated e-health network both intra and inter-agency.
6. Developing models of public health information systems in a sustainable, response time and emergency manner, such as SIRANAP (Inpatient Information System) and SISROUTE (Integrated Referral Information System).

The use of telemedicine between health facilities from 2019 to 2021 has increased, as shown in the following table:

Table 1. Total Number of Faskes to Faskes Telemedicine Services

Year	Total
2019	1349
2020	2201
2021	1898

(Source: The Ministry of Health of the Republic of Indonesia, 2021)

The table shows an increase in the use of telemedicine. The year 2021 during the Covid 19 pandemic, was the highest number of telemedicine use, indicated by the decreased number of Covid 19 patients, as many as 1898 cases (14% decrease). This is often found in areas that are difficult to reach by public transportation, the availability of a number of health personnel in the area, as well as an adequate number of hospitals/Puskesmas to accept inpatients. Regarding the use of telemedicine as a media for health communication, there are several obstacles in its implementation, including:

1. Limited and unstable internet and electricity network access
2. Application registration permissions
3. Licensing related to medical practice
4. Determination of teleconsultation financing rates
5. Incompatibility of processes, structures and incentives
6. Individual work culture that is still conventional

To further encourage the use of telemedicine-based e-health, the government, in this case the Ministry of Health, must immediately take corrective steps, one of which is to make regulations governing telemedicine in more detail. In order to increase the use of telemedicine, regulations regarding:

1. Licensing for telehealth practices managed by the Ministry of Health
2. Exchange of information between health facilities, including patient privacy and face-to-face interactions between health workers and patients
3. The mechanism for administering e-health services
4. Privacy of patients and health workers in health services through e health
5. The ethics of using e health in administering e health

Telemedicine Community Base

In addition to regulations on health practices managed by the Ministry of Health in the form of inter-Faskes, re-regulation must also be carried out on telemedicine which is managed by the private sector. Based on the permit issued by the Ministry of Health in 2019, there are 11 telemedicine platforms that are managed by the private sector that can be used by the public for Covid 19 services. In February 2022, the number of telemedicine platforms increased to 17 telemedicine platforms, namely Aido Health, Alodokter, GetWell, Good Doctor, Halodoc, Homecare24, KlikDokter, KlinikGo, Lekassehat, Linksehat, Mdoc, Milvik Dokter, ProsSehat, SehatQ, Trustmedis, Vacular Indonesia, YesDoc. This platform is very useful during the Covid 19 pandemic, especially for patients who do private isolation.



Picture 1. Logos of the 17 Telemedicine Platforms

A digital communication culture must be built from the start when people use digital technology, so that when they use digital technology they understand the impact of exchanging wrong information will result in wrong solutions too. Communities must continue to be encouraged to understand digital communication information technology not only as media but media as a tool in communicating messages to other parties. Therefore the Ministry of Health is required to always remind the public that technology is a tool, so it cannot replace face-to-face communication that patients should have with doctors.

The continuous development of information technology has a direct impact on the world health sector. Various innovations and new developments have been formed to improve the health system in terms of technology utilization. One such innovation is the use of telemedicine in health services in Indonesia. The Indonesian government through the Indonesian Ministry of Health (KEMENKES) created the KOMEN (Online Medical Consultation) platform which is a development of the TEMENIN (Telemedicine Indonesia) platform.

The use of telemedicine in Indonesia is divided into two forms, namely Telemedicine Hospital Base and Telemedicine Community Base. The implementation of using the platform still has weaknesses, including:

1. Lack of adequate infrastructure, especially in 3T areas, starting from computers/laptops, internet, and cell phone cameras that are not of uniform quality.
2. Lack of dissemination of socialization and increasing digital literacy skills for all involved health facility users.
3. Lack of security systems built to prevent theft of sensitive patient data.

The limited availability of health workers in several areas is also an obstacle for the community to carry out consultations. The availability of specialist doctors is not available in all areas, causing people to look for them on the telemedicine platform without knowing which doctor to consult. If this is allowed to continue, it will endanger the patient's own condition, because each doctor has qualifications based on his Practice License. For this reason, awareness of the importance of using telemedicine independently should be built.

Realizing the utilization of digital technologies, it requires commitment from all stakeholders involved so that these problems can be resolved. The use of telemedicine is only as a tool in health communication services. Basically, health communication is patient-centered, so technology cannot replace the delivery of health services to patients. So that health workers still have to prioritize the human touch of communication in providing services to patients. E-health-based health literacy is not only carried out for health workers, but also the community regarding the use of telemedicine. Community involvement is needed so that they can disseminate health information to people whose areas are constrained by digital technology. One alternative that can be utilized is to utilize existing communities such as:

1. Family Welfare Development (PKK) is a social organization that aims to encourage women's participation and empowerment in Indonesia's development,
2. Karang Taruna is a youth community social organization that aims to provide guidance and empowerment in developing economic activities,
3. Community Information Group (KIM), which is a community social organization formed from, by, and for the community that aims to empower the information sector so that the information provides added value to members and the community
4. ICT Volunteers (RTIK), namely community social organizations that focus on increasing understanding and skills in the use of ICT

Therefore the presence of the community is one of the spearhead alternatives in e-health literacy. Building public awareness of the importance of digital technology in the health sector must continue to be carried out by collaborating with various stakeholders. As stated in the Declaration of the Information Society Summit, namely empowering local communities, especially remote areas,

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in the use of ICT and strengthening skills in content creation [38]. The Telemedicine Community Base can continue to be developed by involving the community and prioritizing local wisdom.

CONCLUSION

E-health literacy is an important part of using telemedicine platforms, especially in rural areas. Understanding the use of technology will provide convenience in increasing public knowledge regarding the use of digital technology. Low public knowledge will cause repeated mistakes, so that technology is no longer used optimally. The role of the community in implementing Telemedicine Community Base is a very important spearhead at the grassroots level. Therefore, partnerships are needed in building community literacy in the health sector.

In the future when the situation is normal, the use of telemedicine, which can be accessed by the community, must be reviewed. This is because there is still a gap in the understanding of telemedicine as an assisting medium for health communication. There are still many people who think that telemedicine is able to solve all health problems they experience. Even though not all health services can be communicated simply by writing a complaint without having to see the physical condition directly. Another thing that is not yet understood by the public is that doctors who are members of a privately managed telemedicine platform, in this case doctors, are not under the control or supervision of a hospital. The contract is made between the doctor personally and the platform provider, so that if a problem occurs the hospital is not held responsible.

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