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Application of Telemedicine to Outpatient Satisfaction Based on Technology Acceptance Model Approach

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Abstract

The purpose of the study was to analyze application of telemedicine to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. In this study, the research design used was correlational analytic. The population in this study were all outpatients who had used telemedicine services at the Fifa Medika Nganjuk Clinic with 143 users in the last 3 months (June, July, and August). Determination of the number of samples based on the Krejcie table with a population between 140 to 149, the sample used was 103 respondents. Data analysis in this study used statistical test. The results show that actual use has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Perceived usefulness has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Intention to use has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Perceived easy to use has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Attitude toward using has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic.

Keywords
actual use; perceived usefulness; intention to use; perceived easy to use; outpatient satisfaction

I. Introduction

Advances in communication and information technology have changed the way people communicate around the world, both in developed and developing countries and in all aspects of people's lives, including health. The use of communication and information technology in health includes telemedicine, which is the use of electronic communication and information technology to provide clinical services when health workers and patients are in different locations.

The coronavirus disease 2019 (COVID-19) pandemic that has occurred since the beginning of 2020 has had a very broad impact, especially on changes in human interaction patterns. Although various efforts have been made, the increase in positive cases of COVID-19 continues to experience a sharp increase. This situation has an impact on the availability of hospital inpatient rooms and a decrease in community visits as a result of community concerns for treatment at the hospital. People are afraid that when they interact with nurses and doctors, they will catch COVID-19. Public concerns about the risk of transmission in hospitals can affect the stability of hospital admissions and patient satisfaction with hospitals. At this time, users of health services not only see the end result in the form of healing, but they also assess what they see and feel during the service.

Restrictions on social interaction and concerns about the transmission of the COVID-19 virus are momentum to change the mindset from offline or face-to-face treatment to treatment with a telemedicine approach. Telemedicine is one of the strategies to prevent the spread of COVID-19 that has been implemented in many countries, because through telemedicine patients and medical personnel do not need to meet directly in one place but still communicate through an application (Song et al., 2020).

Based on data from the Ministry of Health, there was a drastic decrease in the number of visits to the National Health Insurance service at health facilities during the COVID-19 pandemic to 70.69 million people, where previously in 2019, the number of visits to the National Health Insurance service at health facilities was 433.39 million. Then during the COVID-19 pandemic in 2020 it became 362.7 million. Research in the United States on the level of patient satisfaction in outpatient polyclinics showed that from 10 patients who visited it was known that 6 patients (60%) complained about the care services provided were not in line with expectations and 4 other people (4%) said they were dissatisfied with the facilities provided. given is relatively long and has a complicated process (Hou et al., 2020). Based on the preliminary study data that the researchers conducted on October 15-16, 2021 at the Fifa Medika Nganjuk Clinic, it was found that the telemedicine services provided there were specifically for diseases with mild symptoms such as acute respiratory infections, common cold, fever, dizziness, and headaches. toothache, skin diseases such as allergies and itching, diarrhea, and some controlled chronic diseases such as diabetes mellitus, hypertension, asthma, where there are no signs of an emergency. Telemedicine services for patients in October weeks 1 and 2 were obtained from 113 patients with 65 (57%) having a common cold, 24 (21%) patients experiencing acute respiratory infections, 4 (3.5%) having controlled diabetes mellitus, 3 (2.6%) had hypertension, 1 (0.9%) patients had diarrhea, 3 (2.6%) had asthma and 13 (11.5%) patients had headaches and joint pain. Based on the results of researcher interviews with 23 patients who visited the Fifa Medika Nganjuk Clinic on October 15-16, 2021, 9 (39%) patients were dissatisfied with the services received at the Fifa Medika Nganjuk Clinic. According to the results of the interview, the client explained that during treatment at the Fifa Medika Clinic, he was quite worried about the transmission of COVID-19 transmission because the use of tools and facilities was not disinfected after each examination.

Poor service from health workers causes patient disappointment and dissatisfaction with doctors and hospitals (Sesilia, 2020). The quality of medical services is the focus of the community during the pandemic. The community expects the guarantee of service, capability, skill and patience of the medical team to carry out their duties. Good health services can be felt by patients in the form of maintaining patient safety, reducing service negligence, improving service quality, diagnosing diseases and actions accurately, as well as the way doctors convey information to patients. Conventional health services in hospitals, patients will assess the quality of services starting from the first time they come, the service process, the costs incurred, until the patient goes home. If the perceived service is not as expected, the patient is dissatisfied and ultimately will not be loyal to the hospital (Wulaisfan and Fauziah, 2019). The high number of complaints and dissatisfaction with nursing services in hospitals or clinics can affect patient confidence so that it affects patient loyalty during treatment and examinations.

Alternative solutions are needed to increase the patient's sense of security and comfort during care and treatment in health care facilities. In telemedicine health services, patients interact with medical and paramedical personnel online, starting from registration, consultation and prescribing drugs.

User experience is the key to whether a technology implementation succeeds or fails, because no one cares how good a system is if it doesn't work well. One of the information system evaluation models that are widely used in the field of health services is the technology acceptance model. The use of the technology acceptance model is based on the opinion of Venkatesh and Davish (2000) which states that so far the technology acceptance model is a concept that is considered the best in explaining user behavior towards new information technology systems. The technology acceptance model is a method developed from the theory reasoned action model that explains the behavior of information technology users based on beliefs, behavioral attitudes, behavioral interests, and actual users (Saputra, 2014).

A good response to a technology serves as a psychological encouragement of preference, where it is assumed that the more positive a person's assessment of a product/service is, the higher the probability that someone will buy or use it. The fourth construct of the technology acceptance model is the use intention, namely the desire and tendency to reuse the technology that has been used. The final construct is the actual use of the technology in question.

Some of the challenges that must be anticipated by the government in designing telemedicine in Indonesia are equitable network access, especially in remote areas. The government is also expected to be able to start providing training and education on the benefits of telemedicine to health workers and the general public, especially during the pandemic. The government needs cross-sectoral collaboration in overcoming this health gap, such as health professional organizations, Non-Governmental Organizations, Corporate Social Responsibility, and communities that focus on efforts to improve health services and focus on the early implementation of telemedicine as a preventive and rehabilitative disease (Istifada et al. al., 2018).

The purpose of the study was to analyze application of telemedicine to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic.

II. Research Method

In this study, the research design used was correlational analytic. Correlational analysis is research that aims to determine the relationship of two or more variables with the data collection process which is only carried out once for each research variable (Asyraini et al., 2022; Jibril et al., 2022; Octiva et al., 2021). This research has obtained a certificate of ethics with the number: 2776/KEPK/XI/202.

Population is a group or collection of objects or objects that will be generalized from the results of research (Pandia et al., 2018; Pandiangan et al., 2018). The population in this study were all outpatients who had used telemedicine services at the Fifa Medika Nganjuk Clinic with 143 users in the last 3 months (June, July, and August). The sample is a part taken from the whole object of research and is considered to be a true representative of the population (Pandiangan, 2015; Pandiangan, 2022). Determination of the number of samples based on the Krejcie table with a population between 140 to 149, the sample used was 103 respondents.

The research instrument is a tool used to measure the observed natural and social phenomena (Octiva, 2018; Pandiangan, 2018; Pandiangan et al., 2021). The research instrument used as a measuring tool in the study was a questionnaire and observation.

Data analysis in this study used statistical test. Statistical test is a calculation to estimate the parameters of sample data taken randomly from a population (Octiva et al., 2018; Pandiangan et al., 2022; Tobing et al., 2018).

III. Results and Discussion

Statistical Test

Table 1. Statistical Test of the Application of Telemedicine to Outpatient Satisfaction Based on Technology Acceptance Model Approach at the Fifa Medika Nganjuk Clinic (N=103)

Variable	R	R Squared	Beta	P Value	Anova (Sig)
Actual Use	0.746	0.556	0.297	0.000	0.000
Perceived Usefulness	0.580	0.337	0.065	0.000	0.000
Intention to Use	0.768	0.590	0.762	0.000	0.000
Perceived Easy to Use	0.728	0.529	0.270	0.000	0.000
Attitude Toward Using	0.681	0.464	0.376	0.000	0.000

The results show that actual use has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Perceived usefulness has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Intention to use has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Perceived easy to use has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Attitude toward using has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic.

Based on the results of the study, it was found that the most outpatient respondents had good actual use of technology acceptance model at the Fifa Medika Nganjuk Clinic as many as 78 respondents (75.7%). Based on the results of the study, it was found that the most respondents had good satisfaction with good actual use in outpatients based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic, totaling 68 respondents (66%).

Users of an application will feel happy to use a system if they believe that the system is not difficult to use and is proven to increase the productivity of a user. Telemedicine comes from the Greek, which consists of the word tele which means far away; and medical which means health services by health workers. From this, experts then define telemedicine as the combination of information communication technology with medical expertise to provide health services without being limited by space or carried out remotely (Jamil et al., 2015). Telemedicine in real time (synchronous telemedicine) can be as simple as the use of a telephone or a more complex form such as the use of surgical robots. Synchronous telemedicine requires the presence of both parties at the same time, for that we need a liaison media between the two parties that can offer real time interaction so that one party can carry out health care. Another form of synchronous telemedicine is the use of medical equipment that is connected to a computer so that interactive health inspections can be carried out (Ikatan Dokter Indonesia, 2018).

Based on the results of the study in accordance with the theory which reveals that the actual use is the patient and has a good perception response with patient satisfaction in good outpatient services. Telemedicine is also from various studies proven to improve the quality of health. The use of telemedicine with automated telephone patients also showed significant effectiveness. Direct and actual use affects satisfaction because it relates to the direct interaction of the patient with telemedicine. The use of medical devices used by

patients supports the service process carried out by service providers to patients who receive health services directly.

IV. Conclusion

The results show that actual use has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Perceived usefulness has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Intention to use has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Perceived easy to use has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic. Attitude toward using has a partial effect to outpatient satisfaction based on technology acceptance model approach at the Fifa Medika Nganjuk Clinic.

Suggestions in this study are:

1. Suggestions for Respondents

The results of the study can add to the public's insight about the benefits and obstacles in the use of telemedicine so that they can adapt to these changes.

2. Suggestions for Research Places

The results of the study can be used as an evaluation material for hospitals to improve health services for patients, especially in telemedicine services.

3. Suggestions for Educational Institutions

The results of the research can be useful for adding insight and knowledge, while for further researchers this research is useful as a reference for basic data and development materials for further research on telemedicine.

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