

Research Article

Patient's Perception of Using Telemedicine During COVID-19 Pandemic

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The COVID-19 pandemic was driving the transformation of all aspects of people's life including healthcare services to manage the spread of the virus. The direct health service delivery approach must be immediately limited and switched to telemedicine which is a service that utilizes information and communication technology to provide remote health services. The study aimed to describe the patient's perception of using telemedicine during the COVID-19 pandemic. The study was a descriptive cross-sectional design and 63 patients who experienced telemedicine service at a private hospital in Pekanbaru, Indonesia, were involved and chosen by purposive sampling technique in June 2021. Data related to the topic were taken by using an online self-administered questionnaire which proved valid and reliable. Descriptive analysis by using SPSS was performed after data about patients' perception of using telemedicine during the COVID-19 pandemic was available. The study showed 60.3% of participants who used telemedicine service were young adults and university graduates (84%). They also had good knowledge about COVID-19 (84%) and 63.5% of participants had a positive perception of using telemedicine. It can be concluded that although telemedicine was an alternative health service method during the COVID-19 pandemic, participants who used the service had a positive image of the experience.

Keywords: telemedicine, patient perception, COVID-19

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1. INTRODUCTION

COVID-19 is a newly emerging disease from the upper respiratory tract that has never been discovered before and spread across the globe as a global emergency. It has become an enormous-scale epidemic and was started in Wuhan, China, with morbidity and mortality of more than 1000 people in each suffered country [1]. Data from February 2021 reported 112 million COVID-19 cases globally with 63 million patients recovered from the disease and the death of 2,47 million people. In Indonesia, there were 1,29 million cases of COVID-19 and 34.691 mortality cases. Riau province had 30.858 COVID-19 cases and 746 people died because of the disease [2].

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The rise of COVID-19 cases has happened briefly because the virus could spread and infect anyone with no regard to age or any circumstances and needed an immediate response [3]. Physical distancing as one of the main interventions to prevent the spread of the virus had dramatically transformed people's life. The restriction meet people and gather in one place made conventional workplaces, schools, and public space became irrelevant during the pandemic situation. Adaptation to the situation made information technology the main player in any field including the healthcare system to replace face-to-face contact with virtual meetings [4].

World Health Organization (WHO) has already recommended the development and implementation of e-health as the alternative during COVID-19 pandemic to replace direct service in a hospital with digital platforms such as telemedicine [5]. Telemedicine is an innovation of information technology in healthcare service that offer distant care to the patient [6]. This innovation can be used as primary care for the public by connecting patients from home with physicians and nurses who stay at the hospital through videos, voices, and real-time motions.

Telemedicine has been applied even before the COVID-19 pandemic in developed countries and showed success as care has become more accessible, cheaper, and enhanced quality of care [7]. Telemedicine's advantages include cost-effectiveness, increased access to specialized services, potential to reduce SARS-CoV-2 infection, and potential to alleviate the current or emerging physician shortage in many nations. However, limitations in funding, skilled human resources, and high-end digital technology have become barriers to adapting to telemedicine. Research showed that only 4.6 % of nurses were experts in the skill level of nursing informatics [8]. Other disadvantages include issues with the security of patient data, a lack of technological resources in low-income and some middle-income countries, and physicians' uncertainty due to the difficulties in conducting patient examinations [7]. That is why developing countries are struggling to implement this innovation compared to the developed ones

The Indonesian Ministry of Communication and Information Technology stated that during COVID-19, the number of telemedicine application users had dramatically increased and more than 15 million people accessed the application and reducing hospital visits. Santa Maria Hospital in Pekanbaru has offered telemedicine during COVID-19 with around 20- 50 patients per day [9]. However, the hospital started the telemedicine program due to the pandemic situation and never before. All healthcare providers were still adapting to the new method and technology which would affect the delivery of care. The evaluation related to the service needed including the patient's

perception. This study aimed to describe the patient’s perception of using telemedicine during the COVID- 19 pandemic.

2. MATERIALS AND METHODS

The study used a descriptive cross-sectional method. A valid and reliable online self-administered questionnaire was being delivered to collect data related to the patient’s perception of using telemedicine during the COVID- 19 pandemic. The sample of this study was 63 patients who experienced telemedicine service at a private hospital in Pekanbaru, Indonesia, and was chosen by purposive sampling technique in June 2021. The sample criteria were patients more than 17 years old and who agree to participate in the study. Descriptive analysis by using SPSS was performed after data about patients’ perception of using telemedicine during the COVID- 19 pandemic was available. Ethical clearance for this study was obtained from the Health Research Ethics Committee, STIKes Payung Negeri Pekanbaru, with certificate No. 0022/STIKES PN/KEPK/2021.

3. RESULTS

3.1. Characteristics of Respondents

TABLE 1: Characteristics of Respondents.

No	Characteristics	Frequency (n= 63)	Percentage (%)
1	Age Late Teens (17-20 yrs old) Young adult (21- 39 yrs old) Middle adult (40- 59 yrs old) Late adult (60-65 yrs old) Total	13 19 5 63	1.6 60.3 30.2 7.9 100
2	Gender Male Female Total	13 50 63	20.6 79.4 100
3	Education Level High school graduate University graduate Total	10 53 63	15.9 84.1 100
4	Employment Unemployment Housewife Private employees Entrepreneur Total	1 14 42 6 63	1.6 22.2 66.7 9.5 100

Based on table 1, the majority of respondents were young adults (60.3%), female (79.4%), graduated from university (84.1%) and private employees (66.7%).

3.2. Patient's Knowledge Related to COVID- 19

TABLE 2: Patient's Knowledge Related to COVID- 19.

Patient's knowledge		Frequency (n= 63)	Percentage (%)
Good	Enough	53 10	84.1 15.9
Total		63	100

Based on table 2, the majority of respondents had good knowledge related to COVID-19 (84.1%).

3.3. Patient's Perception of Using Telemedicine

TABLE 3: Patient's Perception of Using Telemedicine.

Patient's perception		Frequency (n= 63)	Percentage (%)
Positive	Negative	40 23	63.5 36.5
Total		63	100

Based on table 3, 63.5% respondents had positive perception on using telemedicine during COVID-19 pandemic.

4. DISCUSSION

The respondents in this study were young adults (60.3%), graduated from university (84.1%), and had good knowledge related to COVID-19 (84.1%). People in their young adults until early elderly have a better understanding of knowledge compared to other groups of ages. This is not merely from their education but also information, knowledge, and experience which have gained during their life. In addition, the age group also determines the daily social media usage such as WhatsApp, Instagram, and Facebook [10]. This study showed that young adults were responsive to completing the questionnaire using information technology. The respondents' educational background supported the fact that they had good COVID-19 knowledge. Education level affects the way people absorb information, the higher their education, the easier they understand current information [11].

The majority of respondents in this study were female (79.4%) and private employees (66.7%). This study exposed that more women than men used telemedicine during the COVID-19 pandemic. Previous research discovered that women were more adaptable and accepting to comply with health protocols related to the COVID-19 pandemic

compare to men [12]. Women are also better at managing their health and have good health-seeking behavior [13]. Related to the employment status, more than half of the respondents worked in the private sector. Interactions with a co-worker during office hours and organization protocol during the pandemic help them to be aware of the situation.

This study indicated that respondents had a positive perception of using telemedicine during the COVID-19 pandemic (63.5%) even though the study took place in developing countries and a hospital that was new to implementing the method. This result agrees with the previous belief that although the ongoing crisis forced the widespread adoption of telemedicine rather than being voluntarily implemented, which undoubtedly appeared to be a significant challenge, once these obstacles are successfully overcome, electronic consultations may become a common means of communication within medical care. After gaining experience with telemedicine, both patients and physicians will likely discover the benefits of remote medical counseling in everyday practice. These benefits include the convenience of smart working for the patient, time and resource savings for the physician, improved access to consultations, and increased opportunities for follow-up and communication [14].

This study supported previous studies which exposed that patients were satisfied with telemedicine [15,16,17,18]. They typically attribute their satisfaction with telemedicine to the convenience of reduced travel times and costs. Patients who are pleased with their telemedicine encounters value their relationship with the clinician as well as the user experience as a whole, including accessibility and ease of use [17]. On this platform, patients who interacted with providers and expressed high levels of satisfaction commented on important aspects of medical communication, particularly skills that demonstrate relationship building that is centered on the patient. This suggests that positive ratings are not solely based on prescription receipt and that relationships between clinicians and patients can be established in a video-first model without the need for an initial in-person encounter [16].

As the method was just available during COVID-19, all the respondents were new to the technology. However, patients are recognizing the value of telemedicine during COVID-19. They are not intimidated by telemedicine-related technology and are more open to experimenting with it [18]. Despite concerns about shortened physical exams and prescription limits, the majority of patients preferred the option of telemedicine video visits. They also believed that the doctor-patient relationship would not suffer, that they had confidence in their or their surrogate's technical abilities to navigate the video visit, that privacy concerns were comparable to those of other technologies, that

they had few concerns about the cost, and that a video alternative to an in-person visit might increase access, save time, and increase comfort and safety [19].

5. CONCLUSION

In general, this study indicated that respondents had a positive perception of using telemedicine during the COVID-19 pandemic even though the study took place in developing countries and a hospital that was new to implementing the method. Therefore, telemedicine can be applied to improve the quality of care and health accessibility. However, in implementing a new method of delivering care such as telemedicine, healthcare provider need to evaluate how patients accept and adapt to the care that has been given, especially one involving technology.

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CONFLICT OF INTEREST

There is no conflict of interest in this research.

References

- [1] Lu H, Stratton CW, Tang YW. The Wuhan SARS-CoV-2—What's next for China. *J Med Virol.* 2020; 92(6):546-547.
- [2] Kemenkes RI. Pedoman dukungan kesehatan jiwa dan psikososial pada pandemic covid-19. *Gerakan Masyarakat Hidup Sehat.* Jakarta: Direktorat Jenderal Pencegahan dan Pengendalian Penyakit Kementerian Kesehatan RI Tahun 2020. 2020.
- [3] Mona N. Konsep Isolasi Dalam Jaringan Sosial Untuk Meminimalisasi Efek Contagious (Kasus Penyebaran Virus Corona Di Indonesia). *Jurnal Sosial Humaniora Terapan.* 2020;2(2).
- [4] Fadhila R, Afriani T. Penerapan Telenursing Dalam Pelayanan Kesehatan: Literature Review. *Fakultas Ilmu Keperawatan Universitas Indonesia. Jurnal Keperawatan Abdurrab.* 2020;3(2).

- [5] World Health Organization (WHO), United Nations Children's Fund (UNICEF). Pelayanan kesehatan berbasis komunitas, termasuk penjangkauan dan kampanye, dalam konteks pandemi COVID-19. 2020.
- [6] Ariyanti S, Kautsarina. Kajian Tekno-Ekonomi pada Telehealth di Indonesia. Buletin Pos dan Telekomunikasi. 2017;15(1):43-54.
- [7] Florea M, Lazea C, Gaga R, Sur G, Lotrean L, Puia A, et al. Lights and shadows of the perception of the use of telemedicine by Romanian family doctors during the COVID-19 pandemic. *Int J Gen Med*. 2021;14:1575.
- [8] Guna SD, Nita Y, Premono SJ. Barriers and opportunities of using electronic nursing record in Indonesia: Nurses' Perspective. *ICIC Express Letters Part B: Application*. 2020;11(12):1159-1164.
- [9] Santa Maria Hospital Medical Record. 2021.
- [10] Romziyah B. Hubungan Tingkat Pengetahuan Dan Sikap Masyarakat Dalam Upaya Pencegahan Covid-19 Menggunakan Immunomodulator Herbal Di Desa Kenteng Kecamatan Susukan Kabupaten Semarang. 2020.
- [11] Chirwa GC. Socio-economic Inequality in Comprehensive Knowledge about HIV in Malawi. *Malawi Med J*. 2019;31:104–111.
- [12] Fatimah D. Ora obah, ora mamah: studi kasus gender pada sektor informal di masa pandemi COVID-19. Friedrich Ebert Stiftung (FES). 2020.
- [13] Noviana, F. Kajian Pengetahuan dan Alasan Pemilihan Obat Herbal pada Pasien Geriatri di RSUP Dr. Sardjito Yogyakarta. Universitas Sanata Dharma. 2011.
- [14] Sosnowski R, Kamecki H, Joniau S, Walz J, Klaassen Z, Palou J. Introduction of telemedicine during the COVID-19 pandemic: A challenge for now, an opportunity for the future. *Eur Urol*. 2020;78(6):820.
- [15] Holtz BE. Patients perceptions of telemedicine visits before and after the coronavirus disease 2019 pandemic. *Telemed e-Health*. 2021;27(1):107-112.
- [16] Elliott T, Tong I, Sheridan A, Lown BA. Beyond convenience: Patients' perceptions of physician interactional skills and compassion via telemedicine. *Mayo Clinic Proceedings: Innovations, Quality & Outcomes*. 2020;4(3):305-314.
- [17] Nguyen M, Waller M, Pandya A, Portnoy J. A review of patient and provider satisfaction with telemedicine. *Curr Allergy Asthma Rep*. 2020;20(11):1-7.
- [18] Mishra V. Factors affecting the adoption of telemedicine during COVID-19. *Indian J Public Health*. 2020;64(6):234.
- [19] Tasneem S, Kim A, Bagheri A, Lebret J. Telemedicine video visits for patients receiving palliative care: A qualitative study. *Am J Hosp Palliat Med*. 2019;36(9):789-794.