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RESEARCH ARTICLE

Public perceptions about telemedicine services for COVID-19 self-isolating patients

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Abstract

Background: The COVID-19 pandemic has changed the delivery of healthcare, including the adoption of distance delivery of care. Telemedicine was commonly used to expand the reach and access of health services and prevent the spread of COVID-19. This is particularly important for self-isolating patients at home. Despite this importance, few studies have evaluated public perceptions on this service. **Objective:** To describe public perceptions about telemedicine services for COVID-19 self-isolated patients. **Method:** An observational research design with cross-sectional approach was conducted on patients who had experienced COVID-19 self-isolation. Respondents were recruited using a consecutive sampling method. They were asked to complete an online questionnaire measuring perceptions about telemedicine services. The results were analysed using descriptive statistic. **Result:** Overall, 130 respondents participated in the survey. Large portion of respondents perceived the benefits and the need for telemedicine services for COVID-19 self-isolated patients. WhatsApp was the most common platform used for the services. The majority of respondents agreed that telemedicine was the best option for delivering health services during COVID-19 pandemic. **Conclusion:** Telemedicine has important applications for care during the COVID-19 pandemic and especially for self-isolating patients.

Introduction

The COVID-19 pandemic has forced most countries to implement stringent policies to limit the spread of the virus by imposing lockdowns and travel restrictions. This has presented challenges for delivering health services as the government also advised those with minor to moderate symptoms of COVID-19 to self-isolate (Al-Hazmi, Sheerah, & Arafa, 2021).

Self-isolation is an important method used to control the infection rate of COVID-19, especially for people who suffer only mild to moderate symptoms (WHO, 2020). Instructions for self-isolation were devised to help patients understand the process and risks of conducting self-isolation at home. Staying updated on the latest information and guidance on COVID-19 is important for contributing to increased adherence to self-isolation guidelines as individuals are more aware of the risks and infection statistics (Mehraeen *et al.*, 2020). Therefore, telemedicine can be effectively used as a means to provide information and care to patients.

During the pandemic, the use of telemedicine has dramatically increased as an avenue to ensure routine care for self-isolated patients (Valentino, Skinner, & Pipe, 2020). Nowadays, telemedicine has become more accessible even for non-COVID-19 patients (Gillman-Wells, Sankar, & Vadodaria, 2021). This shows that telemedicine can have potential benefits post-COVID-19 pandemic. Telemedicine can be an adjunct to face-to-face consultation. This is particularly important for patients with chronic diseases (Goyal & Kumar, 2021).

Despite its benefits, a number of studies have demonstrated potential barriers and challenges to the use of telemedicine by providers and patients. It has been predicted that people would have different expectations about the use of telemedicine before and after the pandemic (Holtz, 2021). Patient interest in

telemedicine might be increased, particularly among those living in urban and high-income areas. However, this might be different in the rural and low-income who are supposed to receive the services (Haque *et al*., 2022). The perception of patients has determined their willingness to receive telemedicine services, yet this has been under-represented in relation to self-isolation patients (Sharara *et al*., 2021). Therefore, this study aims to explore the public perception of telemedicine services for self-isolated COVID-19 patients.

Methods

This study used an observational research design with a cross-sectional approach involving self-isolated COVID-19 patients. Using consecutive sampling, 130 respondents were obtained. A questionnaire on public perceptions of telemedicine services has been tested for validity and showed good reliability. The data were measured on a four-point Likert scale from strongly agree to strongly disagree. Data collection was carried out online from September to December 2021. This research has obtained ethical clearance No. 216/EC/KEPK-S2/06/2022. Data were analysed descriptively.

Results

Most of the respondents (62.3%) were female, and the majority were within the age range of 11-25 years (Table I). Interestingly, WhatsApp has been commonly used as a platform for delivering care through telemedicine services, as indicated by the majority of participants (95.4%).

Most respondents (72.3%) agree that telemedicine is very helpful for self-isolated patients and that it is easy to access (74.6%) and was useful during the COVID-19 pandemic (64.6%) (Table II). However, it is interesting to note that a significant portion of respondents (20.7%) did not prefer to continue using telemedicine for further care.

Table I: Respondent characteristics (n = 130)

Variables	Sub-variables	Frequency (n)	Percentage (%)
Gender	Female	81	62.3
	Male	49	37.7
Age (years)	11-25	105	80.7
	26-45	18	13.9
	46-65	7	5.4
Platform for telemedicine	WhatsApp	124	95.4
	Others	6	4.6

Table II: Patient perceptions of telemedicine services (n = 130)

Statements	Percentage of responses (%)			
	Strongly Agree	Agree	Disagree	Strongly Disagree
Telemedicine is useful for self-isolation patients	19.2	72.3	6.9	0.8
Health workers deliver telemedicine services effectively	14.6	73.1	10.8	0.8
Telemedicine services are accessible	11.5	74.6	11.5	0.8
Patient Data Security is not an issue in telemedicine services	19.2	71.5	8.5	0
Telemedicine services are effective for consultation	20.0	68.4	10.0	0.8
I will use telemedicine services more often	9.2	66.9	20.7	2.3
Telemedicine is important during COVID-19 pandemic	27.7	64.6	6.2	0.8
Telemedicine is a solution for self-isolation patients	22.3	71.5	4.7	0.8
Telemedicine can improve quality of life of self-isolation patients	16.1	72.3	10.0	0.8
Telemedicine reduces cost for care during self-isolation	17.7	73.1	8.5	0

Discussion

The fact that most of the respondents were female and young adolescents may indicate that this population are more likely to follow self-isolation guidance. According to Laorden and colleagues (2021), there is evidence that male identity is related to a more severe prognosis from COVID-19, whereas female identity was significantly and independently associated with a lower mortality risk. In addition, young adults do not require

hospitalisation as they have minor symptoms from COVID-19 infections due to their strong immune systems (Jin *et al*., 2020). This is in contrast to elderly patients who are prone to systemic inflammation and pulmonary and extrapulmonary organ damage leading to higher mortality (Wei *et al.*, 2020).

The use of WhatsApp has been common for telemedicine services, including in this study. WhatsApp Messenger is one of the most popular applications for dispensing telemedicine, and its use as such is increasing worldwide (Meeuwis, van Rooijen, & Verhagen, 2020). WhatsApp prevents patients from unnecessary travel to and from hospitals (Malwade *et al*., 2021). WhatsApp was also considered easy to use for both lay people and professionals (Loy *et al*., 2022; Semprino *et al*., 2020).

This study highlights the benefits of telemedicine, including its safety, convenience, timesaving nature, labour-saving, and cost-saving healthcare delivery method; this conclusion is also found by previous studies (Li *et al*., 2020). Patients can obtain recommendations for medicines or follow-up actions from pharmacists or other allied health professionals, including how to keep calm during self-isolation (Hermansyah *et al.*, 2019; Sari & Wirman, 2021).

The survey findings have strengthened the fact that telemedicine is a convenient and satisfactory model for providing healthcare services during the pandemic (Khan *et al*., 2021), particularly for the asymptomatic and elderly population with comorbidities (Huang *et al*., 2022). Telemedicine as a service has many benefits, including conserving healthcare resources such as personal protective equipment, ensuring the delivery of high-quality patient care, and ensuring social distancing to minimize the spread of infections (Loeb *et al*., 2020). In addition, as reported by Calton, Abedini and Fratkin (2020), telemedicine has been used in ambulatory care. In fact, it can provide comprehensive recovery after a COVID-19 infection (Gilmutdinova *et al*., 2021).

The most significant barriers to accessing telemedicine services are issues with payments (insurance and repayment costs), lack of a stable internet connection and lack of coordination between different sectors of the health system (Ameri *et al.*, 2020). However, this study perceived that the future of telemedicine is bright, and it has the potential to act as a game-changer in the healthcare sector, especially for outpatient care.

The findings of this study should be considered carefully due to several important limitations. These include: the limited number of samples and the sampling technique used, the superficial assessment for measuring perceptions, and the customs for conducting telemedicine and self-isolation can vary among countries and health systems.

Conclusion

Telemedicine has important applications for care during the COVID-19 pandemic and especially for self-isolating patients.

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