

# Use Of Telehealth in Outpatients Settings During The Pandemic Covid-19: A Literature Review

Wiwin Sulistyawati, Indah Jayani, Susmiati, Endang Mei Yunalia<sup>4</sup>, Arif Nurma Etika<sup>5</sup>

Program Studi Ilmu Keperawatan,  
Universitas Kediri, Indonesia

**Email:**

wiwin.sulistyawati@unik-kediri.ac.id

## ABSTRACT

**Background:** In the covid-19 pandemic, physical distancing has been necessary to help prevent disease transmission. This makes outpatients afraid and worried about going to the hospital. Telehealth is one of the solutions for treating patients in the covid-19 pandemic. Telehealth helps patients consult with health professionals to get a cure. The application of telehealth in outpatient services is carried out by several methods.

**Purpose:** The purpose of literature review is to identify the telehealth method used in outpatients during covid-19 pandemic.

**Methods:** The data base used in making this review of literature are Science Direct, Ebscohost and Google Scholar published in 2020. This literature review searched for studies with the keyword "Telehealth" or "Telemedicine" or "Outpatients" or "Covid-19 pandemic" and selected 4 articles from electronic database.

**Results:** The results of the study found several telehealth methods used in outpatients during covid-19 pandemic such the virtual orthopedic examination, virtual telemonitoring covid-19 clinic for obstetric patient, telemedicine for neuro oncology patient and facial plastic surgery.

**Conclusion:** Telehealth is an appropriate method of health care used in outpatients during the covid-19 pandemic to reduce and prevent covid-19 transmission.

**Keywords:** Telehealth, Telemedicine, Outpatients, Covid 19 pandemic

*Received : October 5, 2020*

*Accepted : November 27, 2020*

*Published : November 30, 2020*

*Copyright © 2020 IIK STRADA Indonesia  
All right reserved.*



*This is an open-access article distributed under the terms of the Creative Commons Attribution-ShareAlike 4.0 International License.*

## BACKGROUND

The emergence of the novel coronavirus disease 2019 (Covid-19) has drastically impacted the delivery of medical care worldwide. Its long incubation period, high transmission rate and estimated 3% mortality has quickly made it a global pandemic (Wang, C, Horby PW, Hayden FG, 2020). The rapidity with which the pandemic has spread has resulted in the depletion of hospital resources and increased health expenditures. Additionally, the risk of occupational exposure for health care providers poses a significant barrier to the delivery of timely and effective patient care (Zou L, Ruan F, Huang M, 2020). This pandemic condition forces us as health workers to limit ourselves to direct contact with patients. As physical distancing measures take hold and medical resources are directed toward COVID-19, the traditional patient-physician visit has been revisited with the rapid acceleration of the telemedicine (Daggubati et al., 2020).

An emerging technology for more than 25 years, telemedicine uses electronic and digital platforms to exchange medical information for improved consumer health (Daggubati et al., 2020). Telemedicine, the provision of clinical services via the use of communication technology between patient and provider, is one such resource that may be effectively implemented during this time. Telemedicine may refer to transfer of static images or video between patients and physicians via mobile devices or the use of audiovisual telecommunications software to facilitate correspondence in real time. Implementation of such services has become progressively feasible with the corresponding increase in availability of smartphones, webcam-enabled personal computers, and high speed internet (Hollander JE, 2020).

During this pandemic, telemedicine has been applied in several health care settings, especially outpatient care. Treatments that use telemedicine include facial plastic surgery, Neurosurgical Oncology Care, Orthopaedic and Women with Mild COVID-19. The method of applying telehealth to outpatients is carried out differently. Therefore, the authors are interested in reviewing the application of telemedicine in outpatient health services during the Covid-19 pandemic.

## OBJECTIVE

The purpose of literature review is to identify the telehealth method used in outpatients during covid-19 pandemic.

## METHODS

The method used in the review literature uses strategies in a comprehensive manner, such as search for articles in research journal databases, internet searches, review article. The data base used in making this review of literature are Science Direct, Ebscohost and Google Scholar published in 2020. This literature review looking for studies with the keywords “Telehealth” or “Telemedicine” or “Outpatient” or “Covid-19 Pandemic” found 10 articles from electronic databases. Then 4 articles were selected according to the researcher's topic.

## RESULT

**Table 1. Article review**

Author	Title	Location Setting	Method	Telehealth Method
Tom Shokri, MD and Jessyka G. Lighthall, MD, FACS.	Telemedicine in the Era of the Covid-19: Implications in Facial Plastic Surgery.	Facial Plastic Surgery	Literature Review	Live teleconsultation, live visits via zoom and American Well Platform. Synchronous real time audiovisual visits, including initial consultations and follow ups for cosmetic surgery, rhinoplasty trauma and cancer reconstruction (Shokri & Lighthall, 2020).
Lekhaj C, Daggubati, Daniel G. Eichberg, Michael E.Ivan, Simon Hanft, Alireza Mansouri, Ricardo J. Komotar, Randy S. D’Amico, Brad E. Zacharia	Telemedicine for Outpatient Neurosurgical Oncology Care : Lessons Learned for the Future During the Covid-19 Pandemic.	Neurosurgical Oncology Care	(Qualitative Study) Multiinstitution experience	Telemedicine-specific considerations for each step and stakeholder of the appointment (physician, patient, scheduling, previsit, imaging, and physical examination) are examined (Daggubati

				et al., 2020).
Miho J. Tanaka, MD, Luke S. Oh, MD, Scott D. Martin, Md, and Eric M. Berkson, MD.	Telemedicine in the Era of Covid-19.The virtual Orthopaedic Examination	Orthopaedic	Qualitative Study	The Telemedicine used in the orthopaedic examination is in the form of virtual visits, virtual examination, and completing the virtual assessment (Miho J. Tanaka, MD, Luke S. Oh, MD, Scott D. Martin, MD, and Eric M. Berkson, 2020).
Nicole M. Krenitsky, MD MBA, Jessica Spiegelman, MD, Desmond Sutton, MD, Sbaa Syeda, MD, Leslie Moroz, MD MS	Primed for a Pandemic: Implementation of Telehealth Outpatient Monitoring for Women with Mild COVID-19	Obstetric Patient with Covid-19	Qualitative Study	Telemedicine which is used in obstetric patients is virtual telemonitoring clinics for obstetric patient with covid-19 (Krenitsky, Spiegelman, Sutton, Syeda, & Moroz, 2020).

## DISCUSSION

The covid-19 pandemic has an impact on health services. Hospitals have responded by delaying elective cases and suspending nonessential services. Various evidence-based guidelines have been published regarding modifying practices during this time of the pandemic (Gardiner S, 2012). Various evidence-based guidelines have been published regarding modifying practices during this time of the pandemic. Telemedicine, the provision of clinical services via the use of communication technology between patient and provider, is one such resource that may be effectively implemented during this time (Hollander JE, 2020). Telemedicine may refer to transfer of static images or video between patients and physicians via mobile devices or the use of audiovisual telecommunications software to facilitate correspondence in real time (Hollander JE, 2020). The telemedicine method that is applied to facial plastic surgery is via live teleconsultation for the initial consultation and in the postoperative setting to evaluate the healing of the surgical site and patient concerns, or during more pressing problems to screen patients to determine if they need immediate evaluation (Hollander JE, 2020).

Implementation of telemedicine in orthopaedic case is virtual orthopaedic examination. At the time of scheduling, patients are asked to prepare for their virtual visit and are given a checklist. In addition to confirming audiovisual capabilities prior to the visit, patients are given specific instructions on camera positioning, body positioning, setting, and attire to improve the efficiency of the visit. During the examination, digital tools can be utilized as needed. In the setting of outpatient injury evaluations, a systematic virtual examination can aid in triaging and managing common musculoskeletal conditions (Miho J. Tanaka, MD, Luke S. Oh, MD, Scott D. Martin, MD, and Eric M. Berkson, 2020). Telemedicine represents an invaluable tool for facilitating safe and timely patient communication and delivery of health care services for the facial plastic surgeon. While limitations exist, specifically with respect to the capacity to perform comprehensive physical exams or procedures, a generalized consultation with overview of patient concerns, and postoperative findings may be reasonably performed. This may allow for further triage in determining the acuity of concerns necessitating early intervention as well as a decrease in overutilization of health care resources (Shokri & Lighthall, 2020).

A virtual telemonitoring clinic for obstetric patients with mild COVID-19 offers an effective surveillance strategy as it allows for close monitoring, direct connection to in person evaluation, minimization of patient and provider exposure, and scalability (Krenitsky et al., 2020). The experience of designing and implementing a virtual COVID-19 clinic demonstrated its effectiveness in monitoring patients with mild symptoms, allowing for close patient monitoring, efficient patient interaction with the health system, readily available escalation of care, and minimal provider exposure (Krenitsky et al., 2020). telemedicine visits reduce external exposure of these immunocompromised patients, family, care partners, and staff. For individuals with a neuro-oncologic diagnosis, challenges before the pandemic have included neurologic impairments—often requiring accompaniment by care partners—and long-distance travel for tertiary neurosurgical oncology care. Thus, the availability of telemedicine capabilities presents a clear advantage for these individuals, as it facilitates complete consultations and follow-up visits from the comfort of their homes (Daggubati et al., 2020).

Telemedicine platform for neuro oncology are Synchronous platforms and asynchronous platform. Synchronous platforms allow for the patient and the neurosurgery team (physician, advanced practice clinician, nurse, resident, and/ or fellow) to connect at the same time, whereas asynchronous platforms afford distant electronic communication and monitoring at different times. Asynchronous forms of telemedicine, including e-mail and secure messaging, have been increasingly used, but the rapid expansion of video conferencing capabilities and smartphones have paved the way for synchronous forms of telemedicine. The current platforms available range from simple telephone voice conferences to more immersive video conferencing.(Daggubati et al., 2020).

## CONCLUSION

Telemedicine is an alternative health service program that can be applied to outpatient services during the Covid-19 pandemic. The use of telemedicine in outpatient services is suitable for minimizing transmission of Covid-19, and minimizing direct contact between health workers and patients. The telehealth in outpatient settings method is carried out by several methods including Live teleconsultation, live visits, virtual examination, completing the virtual assessment, and telemonitoring virtual clinics.

## ACKNOWLEDGMENTS

The author wish to thank all research collaboration from Kadiri University.

## CONFLICT OF INTEREST

There is no conflict interest.

## REFERENCES

- Daggubati, L. C., Eichberg, D. G., Ivan, M. E., Hanft, S., Mansouri, A., Komotar, R. J., ... Zacharia, B. E. (2020). Telemedicine for Outpatient Neurosurgical Oncology Care: Lessons Learned for the Future During the COVID-19 Pandemic. *World Neurosurgery*, 139, e859–e863. <https://doi.org/10.1016/j.wneu.2020.05.140>
- Gardiner S, H. T. (2012). Telemedicine and plastic surgery: a review of its applications, limitations and legal pitfalls. *J Plast Reconstr Aesthet Surg*, 65(3), e47–e53.
- Hollander JE, C. B. (2020). Virtually perfect? Telemedicine for covid-19. *N Engl J Med.*, DOI: 10.1056/NEMJp2003539.
- Krenitsky, N. M., Spiegelman, J., Sutton, D., Syeda, S., & Moroz, L. (2020). Primed for a Pandemic: Implementation of Telehealth Outpatient Monitoring for Women with Mild COVID-19. *Seminars in Perinatology*, 151285. <https://doi.org/10.1016/j.semperi.2020.151285>
- Miho J. Tanaka, MD, Luke S. Oh, MD, Scott D. Martin, MD, and Eric M. Berkson, M. (2020). Telemedicine in the Era of COVID-19: The Virtual Orthopaedic Examination. *J Bone Joint Surg Am*, 1–7.
- Shokri, T., & Lighthall, J. G. (2020). Telemedicine in the Era of the COVID-19 Pandemic: Implications in Facial Plastic Surgery. *Facial Plastic Surgery & Aesthetic Medicine*, 22(3), 155–156. <https://doi.org/10.1089/fpsam.2020.0163>
- Wang, C, Horby PW, Hayden FG, G. G. (2020). A novel coronavirus outbreak of global health concern. *Lancet*, 395, 470–473.
- Zou L, Ruan F, Huang M, et al. (2020). SARS-CoV-2 viral load in upper respiratory specimens of infected patients. *N Engl J Med.*, 382(12), 1177–1179.