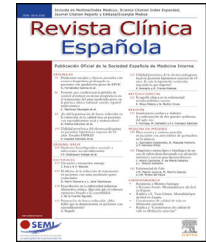




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EDITORIAL

Telemedicine for COVID-19[☆]

Telemedicina aplicada a COVID-19

The World Health Organization defines telemedicine as “The delivery of healthcare services by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries.”¹ Therefore, according to the means of communication, telemedicine can be done via text (email, Facebook Messenger[®], WhatsApp[®]), video (Skype[®], Zoom[®], Microsoft Teams[®], Facetime[®], etc.) or audio (telephone). It can be synchronous (real-time text, video, or audio) or asynchronous (by email), and can involve various individuals (patient-physician, physician-physician, healthcare worker-patient, or healthcare worker-physician).

In order to carry out telemedicine between the patient and healthcare personnel, verbal consent, the reason for the consultation, availability of the medical record, recommendations, and a record of the time spent on the consultation and on the analysis of the medical record data are needed.²

A systematic review published in 2018³ evaluated the safety and efficacy of telemedicine in the following clinical areas: telemental health, telerehabilitation, teledermatology, teleconsultations, and others, such as management of oral anticoagulation therapy, nutrition, and treatment of diabetic foot ulcers. According to this study, telemedicine turned out to be equivalent to a conventional medical appointment both in diagnostic and therapeutic facets. Teleconsultations seem to lead to greater frequency of contact between the physician and the patient, but appointments were shorter.^{4,5} Moreover, telemedicine has been shown to reduce hospitalization rates when used for anticoagulation therapy consultations⁶ or for malnutrition in elderly patients.⁷

Despite the potential benefits of telemedicine, to date, its use and practice have not had a specific, sufficiently detailed regulation in our legal code. Article 26.3 of the current Code of Medical Ethics and Deontology reminds us that

the clinical exercise of medicine by means of consultations exclusively via letter, telephone, radio, the press, or the internet is contrary to deontological codes. In certain circumstances, this could entail the exercise of the pertinent disciplinary power since it is understood that an appropriate patient-physician relationship inevitably implies personal, direct contact.⁸ However, the document concludes that teleconsultations could be ethically valid so long as patient confidentiality is safeguarded, it serves as support for making decisions during the care process, and it does not entirely substitute in-person consultations. Nevertheless, it is obvious that it is a reasonable alternative in the exceptional circumstances we are living through and, most of all, for the safety of patients and public health in general.

It is evident that there are multiple benefits to telemedicine in the care of patients with COVID-19. On the one hand, it limits possible exposure and spread of the virus both in the emergency department and in the hospitalization area. On the other hand, it reduces the use of personal protective equipment. A recent article provides information on how to perform telemedicine via telephone or videocall for patients with suspected COVID-19 in the United Kingdom.⁹ Although the article describes a theoretical framework in detail, there is little information on the safety of telemedicine in home healthcare of patients with COVID-19.

In this issue of *Revista Clínica Española*, Martínez-García et al.¹⁰ present the results of a pioneering study on telemedicine with telemonitoring for follow-up on patients with COVID-19. In the study, electronic consultations were used in order to triage patients, provide medical advice, or refer them to the emergency department for evaluation.

In a period of one month, 765 cases of COVID-19 were detected, of which 313 were followed-up on using telemedicine and telemonitoring. Of those 313 patients, a total of 224 (72%) were patients in outpatient follow-up since diagnosis and 89 (28%) were patients who had required hospital admission due to severe COVID-19. Follow-up was performed by healthcare personnel who collected information through a smartphone application. The clinical data

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(temperature and O₂ saturation measured by pulse oximetry three times per day) were reviewed daily along with the electronic medical record for the treatment of symptoms or referral of the patient to the emergency department if there were any alarm symptoms.

The program was extraordinarily effective. Among patients with COVID-19 in outpatient follow-up since diagnosis, no at-home deaths occurred. A total of 20 patients (9%) were referred for evaluation in the emergency department; 18 were admitted to the hospital (8%) and two of them died. Among patients in follow-up after discharge from the hospital due to COVID-19, there were no at-home deaths and only one patient (1%) was readmitted to the hospital. At the end of the study, 224 (72%) patients had been discharged and 78 continued in follow-up.

On March 11, 2020, the Director-General of the World Health Organization declared the disease caused by SARS-CoV-2 (COVID-19) a pandemic. The spread and progress of the pandemic has put the capacity of healthcare systems in dozens of countries to the test and has given rise to a plethora of information, opinion articles, and contingency plans, many of them within a theoretical framework without confirmation through the scientific method.

The article by Martínez-García et al.¹⁰ is a study of real-world practice that demonstrates that telemedicine with telemonitoring used for patients with COVID-19 is a safe and effective tool for the outpatient monitoring and triage of patients. This study may serve as a reference for the preparation for future epidemic outbreaks with similar characteristics.

References

1. Telemedicine-Opportunities and developments in member states [Internet]. 2nd ed. Geneva, Switzerland: WHO press; 2010 [Accessed 5 May 2020] Available from: https://www.who.int/goe/publications/goe_telemedicine.2010.pdf
2. Gadzinski AJ, Andino JJ, Odisho AY, Watts KL, Gore JL, Ellimoottil C. Telemedicine and eConsults for hospitalized patients during COVID-19. *Urology*. 2020;30419–22, doi:10.1016/j.urology.2020.04.061, pii:S0090–4295.
3. Shigekawa E, Fix M, Corbett G, Roby DH, Coffman J. The current state of telehealth evidence: a rapid review. *Health Aff (Millwood)*. 2018;37:1975–82, doi:10.1377/hlthaff.2018.05132.
4. Bunn F, Byrne G, Kendall S. The effects of telephone consultation and triage on healthcare use and patient satisfaction: a systematic review. *Br J Gen Pract*. 2005;55:956–61.
5. Downes MJ, Mervin MC, Byrnes JM, Scuffham PA. Telephone consultations for general practice: a systematic review. *Syst Rev*. 2017;6:128, doi:10.1186/s13643-017-0529-0.
6. Lee M, Wang M, Liu J, Holbrook A. Do telehealth interventions improve oral anticoagulation management? A systematic review and meta-analysis. *J Thromb Thrombolysis*. 2018;45:325–36, doi:10.1007/s11239-018-1609-2.
7. Marx W, Kelly JT, Crichton M, Craven D, Collins J, Mackay H, et al. Is telehealth effective in managing malnutrition in community-dwelling older adults? A systematic review and meta-analysis. *Maturitas*. 2018;111:31–46, doi:10.1016/j.maturitas.2018.02.012.
8. Ilustre Colegio Oficial de Médicos de Madrid. Recomendaciones del ICOMEM sobre «Telemedicina» ante la crisis sanitaria. [Accessed 5 May 2020] Available from: <https://www.icomem.es/adjuntos/adjunto.2651.1585061604.pdf>.
9. Greenhalgh T, Koh GCH, Car J. Covid-19: a remote assessment in primary care. *BMJ*. 2020;368:m1182, doi:10.1136/bmj.m1182.
10. Martínez-García M, Bal-Alvarado M, Santos-Guerra F, Ares-Rico R, Suárez-Gil R, Rodríguez-Álvarez A, et al. Telemedicina con telemonitorización en el seguimiento de pacientes con COVID-19. *Rev Clin Esp*. 2020, doi:10.1016/j.rce.2020.05.013.

J. Ena

*Servicio de Medicina Interna, Hospital Marina Baixa,
Villajoyosa, Alicante, Spain*

E-mail address: ena_jav@gva.es

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