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Letter to the Editor: “Telehealth and Telemedicine in the COVID-19 Era: A World of Opportunities for the Neurosurgeon”



As a result of the coronavirus disease 2019 (COVID-19) pandemic, the year 2020 has global implications for health that have not spared neurosurgeons and neurosurgical practices. The COVID-19 threat has restricted face-to-face physician–patient communication, potentially to reduce viral spread and thus to flatten the curve. This relative restriction in communication has increased the demand for virtual medical visits to support patients with neurosurgical problems. This scenario has provided a unique opportunity for the widespread use of telehealth as a solution to this problem.^{1–3}

The term telehealth refers to remote health care for patients through the use of computer and telecommunication technologies. Telemedicine is part of telehealth and focuses specifically on clinical services that use technology for remote care.³ Through this modality, the patient from his or her residence manages to contact health personnel, who follow-up and control their case. The first published use of telemedicine dates back to the 1970s.¹ In the United States, the use of technology for medical purposes was applied for several years to specific populations such as inmates, people living in rural areas, or patients who had physical difficulties in getting to the health center. Globalization and the advent of new electronic and digital equipment made it essential that the neurosurgeon participate actively in this new scenario.⁴

In the field of neuroscience, the first use of telemedicine focused on the evaluation of stroke patients for thrombolysis candidacy. Over time, applications continued to expand to include neuro-trauma, epilepsy, Parkinson disease, stroke rehabilitation, and chronic pain, among others.⁵ Despite these advances, the use of telemedicine in neurosurgery has been limited. Barriers have included an unclear or unidentified need for telemedicine services, medico-legal problems related to providers reimbursement, interstate licensing, lack of universal access to technology, patient confidentiality, and liability for negligence.^{1,3,6}

Currently, in response to the sudden emergence of severe acute respiratory syndrome coronavirus 2, health care systems have been under pressure to weigh the aforementioned limitations to meet the increased demand for health care, encouraging the abrupt creation and implementation of telemedicine programs. The effect of this modality on neurosurgery has been positive for both neurosurgeons and patients.^{1,3}

In the COVID-19 era, among the main benefits that telemedicine provides to the neurosurgeon, we can mention that it allows the neurosurgeon to reach the patient remotely without being exposed to patients who could be positive for COVID-19; enables the neurosurgeon to use time more efficiently; facilitates the neurosurgeon to differentiate routine cases from neurosurgical emergencies and to decide a behavior; expedites preparation to receive and evaluate patients upon admission to hospital; and it allows the neurosurgeon monitor patients properly, e.g., the postoperative controls, vascular pathology, and brain tumors, which lend themselves to easier evaluation through telehealth visits.^{1,2}

The wide variety of free software currently available, such as Skype, Messenger, Viber, Google Hangouts, Zoom, Webex, and WhatsApp; adequate lighting; good camera quality; and a good Internet connection allow for the proper evaluation of patients. The 4G Internet connection currently is available everywhere, and there are also mobile phones with a good-quality cameras in which you can download such software. All this allows the neurosurgeon to perform easily a precise and complete neurosurgical examination.^{1,2}

Similarly, telemedicine in neurosurgery in the wake of the COVID-19 pandemic has provided a unique opportunity to increase the educational experience of neurosurgeons in formation or neurosurgery residents, so that they can get a closer look at a variety of teaching and communication styles, including how to approach shared decision-making and informed consent for a wide number of pathologies.⁴ It has also allowed them to receive classes of experienced neurosurgeons who remain at home, since they usually belong to the most vulnerable age groups, so their knowledge and skills can be best used through telemedicine encounters, guiding ethical decisions about appropriate neurosurgical interventions, or preserved for specific cases of neurosurgery.⁷

In the COVID-19 era, the main advantages offered by telemedicine for a patient are that it provides greater availability of health care for populations with inconveniences to receiving medical care, especially for specialized medical care such as neurosurgery; eliminates geographic barriers while adhering to COVID-19 safety guidelines; patients can avoid traveling (and being exposed to the virus); and reduces lost work due to hospital visits and reduces patient expenses.^{1,2,5} Likewise, it allows patients to be adequately examined according to their symptomatology, along with their medical and surgical history, allowing them to be identified as potential candidates for surgical intervention or conservative treatment.¹

In this order of ideas, in the context of the current pandemic, the main objective of hospitals should be to reduce staff within the facilities to avoid exposure to the virus. This measure should also be implemented in the interaction between doctors. Therefore, educational courses and personal meetings between the doctor and the rest of the hospital staff “online” should always be available.³

Considering the aforementioned, we can say that telemedicine is a promising and effective tool to continue the neurosurgical care of patients in the era of COVID-19. Current circumstances have encouraged more neurosurgeons to establish telemedicine as part of their daily practice, not only on the job side but also on the academic side, in the case of being a professor. In this way, knowing the many benefits that telemedicine provides for both neurosurgeon and patients, we urge neurosurgical centers to take advantage of this alternative provided by technology and to educate patients in its correct use, to ensure their safety, to reduce the spread of severe acute respiratory syndrome coronavirus 2 among physician–patients, and to contribute to a decrease in global statistics.

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