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Editorial article

Teleconsultation and videoconsultation forever?☆

Teleconsulta y videoconsulta ¿para siempre?

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E-health arises from the application of information and telecommunication technologies to promote health and encompasses a set of tools such as telemedicine or mobile health, among others, which allow for the development of innovative, patient-centred care models that improve accessibility, quality and efficacy.¹ E-health has proven to be an essential ally in responding to patients' needs during the health crisis caused by the coronavirus disease 2019 (COVID-19),² but it also offers valuable tools to solve other health system challenges, such as chronic care and the shortage of health professionals. It also favours the development of the doctor-patient relationship by enabling care that is more centred on the patient's autonomy, experience and needs, which is why national and international organisations are already recommending the development of strategies to enhance its implementation.³

One of the main areas of e-health is telemedicine, defined as the remote provision of healthcare services through information and communication technologies and systems, which can be carried out between doctor-patient or between healthcare professionals.³ Telemedicine can be provided in real time (or synchronously), such as teleconsultation or telephone consultation (audio only call) or videoconsultation (with audio and video), where the patient and professional (or 2 professionals) are available at the same time, or it can also be provided in non-real time (or asynchronously), by storing and sending information, which will be subsequently assessed by the professional, such as the use of email, chats or exchange of images such as teleradiology or teleradiology, or telemonitoring.⁴

Videoconsultation is one of the most developed forms of telemedicine in recent years, thanks to improvements in connectivity and the development and widespread use of mobile phones and applications, which create the digital channel where medical care can be delivered anywhere. Videoconsultation provides certain advantages, as it provides much more information than telephone visits, by allowing visual contact. It facilitates communication and the possibility to perform a visual inspection of the patient, see the general condition of the patient, examine the pres-

ence of oedema in the lower limbs, check for respiratory effort, see if there are skin lesions or identify medication.⁵ To optimise the physical examination, the patient (or companion) can be shown how to self-examine and use mobile applications or devices that allow the collection of vital signs. Videoconsultation has been shown to be more effective than telephone appointments in the treatment of certain disorders such as depression,⁶ but in general teleconsultation offers a quality of care comparable to that of video visits. Sometimes using less technology brings advantages and it is in these contexts where the telephone visit is most useful. Some of these scenarios include consultations with the elderly or visually impaired, patients with limited income, with restricted phone data plans, without proper digital literacy, or when eye contact generates anxiety or embarrassment, when dealing with sensitive issues. The flexibility of a telephone visit, which facilitates contact wherever the patient is, is better adapted to the busy lives of many and avoids absenteeism.⁷

The COVID-19 pandemic has driven a rapid transformation of clinical care, accelerating the implementation of new virtual care models, which have gone from being a novelty to an eager expectation for the future.⁸ During the pandemic, e-consultation has proven to be an effective alternative that facilitates patient-centred care in an accessible and safe way,⁸ but beyond the fact that it can be considered a very useful means in exceptional situations, it brings advantages that will reconsider its use in day-to-day care processes outside the exceptionality of a pandemic. These advantages benefit the patient, the practitioner and the health system alike; it certainly improves the patient's experience of self-care, which is demonstrated by the high satisfaction rates.¹⁰ Users highlight its ease of use, flexibility, comfort and savings in time and money by reducing travel, with the consequent ecological impact by reducing CO₂ emissions, as well as greater safety by minimising the risk of infection, as we have experienced with the COVID-19. These advantages are also experienced by healthcare workers, as they facilitate work-life balance and remote work and are a well-accepted alternative for healthcare professionals.¹⁰ The majority of those who have conducted e-visits believe that they provide quality health care⁹ and claim that they intend to continue with this mode of care once the pandemic is over¹¹ and believe that its implementation will be permanent.⁸ It also brings benefits to healthcare organisations by moving care from health facilities to homes and mobile devices. It increases the efficiency of consultations by being

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shorter in duration, once the rapid learning process of using the new software has been overcome. Improves accessibility to services by ensuring continuity of care, reducing waiting lists and prioritizing the patients who need it most, directing them towards adequate healthcare circuits. At the same time, it allows for swift communication between care levels, avoiding unnecessary referrals.¹² In addition to the advantages perceived by the different users, there is evidence that telemedicine improves the health of the population¹³ and reduces healthcare costs, especially for certain chronic diseases such as diabetes or cardiovascular diseases.¹⁴ That is why different scientific societies already recommend its use.⁵

Although the main *utility* of tele- or video-consultation is to perform follow-up and discuss results of complementary tests, it has also proved to be an excellent alternative for first consultations and even urgent problems. It is a great ally in providing a first diagnostic approach to a health problem and requesting the necessary tests, although on occasions a subsequent face-to-face care is essential. It is also very useful in the follow-up of chronic diseases, after discharge from the hospital, in the provision of second opinions on the disease by other professionals and in the optimization of processes in radiology, dermatology or infectious diseases.¹⁵ In addition to facilitating outpatient follow-up, during hospital admission it allows communication between professionals, patients and relatives, essential when there is a restriction on accompanying persons. The use of synchronous videoconsultation with family members in the patient's own room optimizes the time dedicated to providing information.

Virtual care also has certain *limitations*, not being the best care option for certain reasons for consultation, such as chest pain, dyspnoea or ear pain, among other conditions in which physical examination is essential and where face-to-face care remains the choice approach.¹⁶ Moreover, the quality of virtual care depends not only on the reason for the consultation, but also on other specific patient factors, such as the presence of certain limitations that may hinder proper care via telemedicine, e.g., hearing or vision difficulties and cognitive impairment. This makes it necessary to improve *triage* procedures to optimise telemedicine services, identifying warning signs in order to prioritise the patients who need it most and to discriminate which form of care is most appropriate in each case (face-to-face or non-face-to-face). This will ensure that our patients receive the best possible care, at the right time, by the right person, using the right means.⁹

Despite the benefits of telemedicine, we do not expect to see a major disruptive impact in healthcare as has happened in other sectors, as telemedicine alone cannot solve all clinical demands, but it can solve many of them. According to some studies up to 75% of physical visits may not be necessary and could be resolved remotely.⁵ All this suggests that telemedicine is here to stay,⁸ and in the near future we will see remote and face-to-face care integrated into care circuits; virtual visits will complement face-to-face care and telemedicine will probably lose its “tele-” prefix and simply become medicine.¹⁷ Considering the population bias, the Sanitas experience supports this hypothesis; despite offering telemedicine services since 2016, at that time only 3% of consultations were electronic. Since the pandemic, this percentage has risen to 25%, with more than one million virtual consultations carried out since the emergence of COVID-19. Once the situation returned to normal, this figure remained stable due to the high level of satisfaction and loyalty, reflected in the recurrence of this type of assistance.¹⁸

The Spanish Medical Association has accepted tele- and video-consultation as medical acts, and as such they are subject to the same regulation,¹⁹ but there are still many *challenges* to overcome that require redefining the care model in order to ensure its correct implementation. This is shown by the low Fenin index of digital maturity of healthcare services in Spain, which recommends promoting patient empowerment, the availability of e-health tools for

professionals, the technological infrastructure of healthcare organisations and data analysis tools for decision-making. It is therefore essential to use platforms that ensure privacy, security and confidentiality, and good connectivity to optimise the quality of service and access to medical data. The interoperability of information systems as well as the correct prescription of treatments by means of e-prescription or the verification of identity and obtaining informed consent remotely will be necessary. Professionals will also need to have sufficient time available for e-consultation, with specific dedication in their daily schedule, avoiding overlaps in their planning. They must also be adequately encouraged and trained, not only in digital skills to overcome resistance to change, but also in communication, a skill that becomes even more important with the use of these new tools. It is up to them to determine the possible benefits and limits of their use, and it is essential to respect their autonomy to decide on the appropriateness of using these new methods of medical care, to identify the technological tools that provide greater security and usability, and to protocolise the services that can be performed remotely and integrate them into existing clinical workflows. In the same way, the main challenges that affect patients must be solved, such as the lack of devices or Internet access or adequate digital literacy.

We firmly believe that teleconsultation and video-consultation will be key tools for solving the healthcare challenges of the future, but more research will be needed to identify the different areas in which telemedicine will bring clear benefits, and above all to guide this digital transformation from a clinical need perspective, as the digitisation of healthcare is not the goal, but rather a process-improvement solution. This is the only way to ensure that both patients and professionals not only accept e-consultation, but also see their healthcare experience improved and learn to live with this other way of doing medicine on a permanent basis.

References

- Morcillo C, González JL. Nuevas tecnologías digitales en la práctica médica. *Med Clin Barc.* 2020;154:20–2.
- Mehrotra A, Ray K. Rapidly converting to “Virtual Practices”: Outpatient care in the era of Covid-19. *NEJM Cataly.* 2020. <http://dx.doi.org/10.1056/CAT.20.0091>.
- WHO guideline: Recommendations on digital interventions for health system strengthening. Geneva: World Health Organization; 2019.
- Reed ME, Parikh R, Huang J, Ballard DW, Barr I, Wargon G. Real-time patient–provider video telemedicine integrated with clinical care. *N Engl J Med.* 2018;379:1478–9.
- Barrios V, Cosín-Sales J, Bravo M, Escobar C, Gámez JM, Huelmos A, et al. La consulta telemática para el cardiólogo clínico en tiempos de la COVID-19: presente y futuro. Documento de consenso de la Sociedad Española de Cardiología. *Rev Esp Cardiol.* 2020;73:910–8.
- Choi NG, Marti CN, Wilson NL, Chen GJ, Sirrianni L, Hegel MT, et al. Effect of telehealth treatment by lay counselors vs by clinicians on depressive symptoms among older adults who are homebound: A randomized clinical trial. *JAMA Netw Open.* 2020;3:e2015648.
- Shreibati JB. When low tech wins. *N Eng J Med.* 2021;385:581–3.
- Shah R, Schulman K. Do not let a good crisis go to waste: Health care's path forward with virtual care. *NEJM Cataly.* 2021. <http://dx.doi.org/10.1056/CAT.20.0693>.
- Croymans D, Hurst I. Telehealth: The right care, at the right time, via the right method. *NEJM Cataly.* 2020. <http://dx.doi.org/10.1056/CAT.20.0564>.
- Zorrón Cheng Tao Pu L, Raval M, Terbah R, Singh G, Rajadurai A, Vaughan R, et al. Video consultations during the coronavirus disease 2019 pandemic are associated with high satisfaction for both doctors and patients. *JGH Open.* 2021;5:542–8.
- Stone RL. How an Ohio-based physician organization overcame internal hurdles and launched a telehealth service as Covid-19 shutdowns loomed. *NEJM Cataly.* 2020. <http://dx.doi.org/10.1056/CAT.20.0515>.
- Schettini P, Shah KP, O'Leary CP, Patel MP, Anderson JB, Cho AH, et al. Keeping care connected: e-Consultation program improves access to nephrology care. *J Telemed Telecare.* 2019;25:142–50.
- Flodgren G, Rachas A, Farmer AJ, Inzitari M, Shepperd S. Interactive telemedicine: Effects on professional practice and health care outcomes. *Cochrane Database Syst Rev.* 2015;9:CD002098. <http://dx.doi.org/10.1002/14651858.CD002098.pub2>.
- Schwamm LE, Chumbler N, Brown E, Fonarow GC, Berube D, Nystrom K, et al. On behalf of the American Heart Association Advocacy Coordinating Committee.

- Recommendations for the implementation of telehealth in cardiovascular and stroke care: A policy statement from the American Heart Association. *Circulation*. 2017;135:e24e44.
15. Tan SJ, Ingram PR, Rothnie AJ, Whitmore TJ, Robinson JO, Hatch JB, et al. Successful outpatient parenteral antibiotic therapy delivery via telemedicine. *J Antimicrob Chemother*. 2017;72:2898–901.
 16. Sperber NR, King HA, Steinhäuser K, Ammarell N, Danuss S, Powers BJ. Scheduled telephone visits in the veterans health administration patient-centered medical home. *BMC Health Services Research*. 2014;14:145.
 17. Dorsey ER, Topol E. Telemedicine 2020 and the next decade. *Lancet*. 2020;395:859.
 18. Morcillo C, Tizon D, Marzal D, Tomás JF. Digital health solutions implemented by Sanitas hospitals to maintain continuity of care during COVID-19 pandemic. *Med Res Arch*. 2020;8:8.
 19. La Telemedicina en el Acto Médico. Comisión central de deontología. Organización Médica Colegial de España [accessed: 10 Jun 2020]. Available from: doi.org/10.18103/mra.v8i8.2228.