

Commentary: Tele-COVID-19: does it improve the provision of health services?

A. DI TRANA¹, F.P. BUSARDÒ¹, G. RICCI², A. SIRIGNANO²

¹Department of Excellence of Biomedical Sciences and Public Health, University "Politecnica delle Marche" of Ancona, Ancona, Italy

²Section of Forensic Medicine, School of Law, University of Camerino, Camerino, Italy

Since the first Coronavirus Disease-19 (COVID-19) outbreak in the urban area of Wuhan (China) in December 2019, the entire society has been facing an unprecedented situation posing several challenges. The declaration of Covid-19 as pandemic by the World Health Organization (WHO) on March 11, 2020, depicted the necessity of changes in everyday life management as we usually intended¹. Due to the lack of an effective cure, prolonged isolation, restrictive measures, physical distancing represented the mandatory emergency measures to contrast, or at least try to contain, the uncontrolled spread of this deadly disease². Several emergency measures were adopted worldwide by the governments, with the promulgation of emergency decrees and the temporary restructuration of the public health system, to face the resources shortage, especially in the most affected countries^{3,4}.

Consequently, the international healthcare systems had to adopt unconventional solutions to manage not only COVID-19 patients with critical needs but also other patients requiring healthcare assistance. Thus, innovative and technological tools were developed or implemented whenever they were already available⁵.

As defined by the WHO, telemedicine is the "delivery of health care services, where patients and providers are separated by a distance", as in case of forced isolation during COVID-19 pandemic⁶. Information and communication technology is therefore used for the essential exchange of information for evaluation, education of health professionals, and indeed for the diagnosis and treatment of patients. According to the WHO survey, only 50% of a member state of the United Nations Organization applied specific national telehealth policy in their country, with a prevalence of teleradiology programs, at the end of 2015.

Beside the monitoring of COVID-19 patients' health⁶, other chronic diseases progression could take advantage from telemedicine, especially in order to reduce the COVID-19 infection risk for fragile patients. In particular, diabetes mellitus, cardiovascular diseases, chronic stabilized pulmonary diseases, cancers, rare pathologies have also been suggested as possible pathologies to address telemedicine services⁵. Furthermore, particular concerns have been posed to people with substance use disorders and psychiatric patients who might be affected by the exceptional psychological stress caused by the pandemic^{7,8}.

During the pandemic, telephone, videocall, and messaging platforms have been internationally adopted as a telemedical tool, especially for triages, diagnosis and cancer follow-up with satisfactory results^{5,9}. Moreover, some applications or existing platforms and systems were particularly helpful as a planning tool, especially in large medical equips⁵. Although the usage could be controversial due to misinterpretations of the information, also the responsible and attentive spread of information through social-media showed to be effective in reporting clear and unambiguous health-related information^{9,10}.

Nonetheless, the sudden necessity to telemedicine practices posed some technical issues due to the inadequacy of public health systems, but also several ethical and legal concerns have been raised¹¹. First, the management of patient data posed important questions about the privacy that could be affected due to the lack of data security systems and specific regulations. However, a rapid response to the problem was registered by the companies providing information technology support to telemedicine during the pandemic crisis. Furthermore, professional conduct and patient-doctor relationships appeared to be controversial and poor defined by standard prac-

tices and legislation¹¹. Several general guidelines were proposed by the national institutions and the scientific community to harmonize the applied procedures in telemedicine, but a standardization of those procedure is not yet reached^{11,12}. Also, reimbursement for new digitals services provided during the COVID-19 emergency requires specific regulatory response and adequate payment models, which should take into account also the technical fees to support the required technology infrastructure¹³. Finally, more inclusive policies should be considered to make the technology more accessible to the marginalized population, such as older isolated patients, in order to obtain the best advantages by the telemedicine principles¹⁴.

Conclusions

The best success of telemedicine during the COVID-19 era has been surely the prevention of useless risky exposure of the fragile population to the infection and the monitoring of the new virus spread. The necessity of a rapid response to the unprecedented needing of distancing between patient and medical staff produced several technological tools that contributed to the improvement of current medical practices and continuous provision of healthcare to patients¹⁵. The future perspective of the reached progress should consider the international harmonization of telemedicine practices, also considering more inclusive policies.

Conflict of Interest

The Authors declare that they have no conflict of interests.

References

- 1) Giorgetti A, Oraziotti V, Busardò FP, Pirani F, Giorgetti R. Died with or Died of? Development and testing of a SARS CoV-2 significance score to assess the role of COVID-19 in the deaths of affected patients. *Diagnostics* 2021; 11: 190.
- 2) Pesaresi M, Pirani F, Tagliabracchi A, Valsecchi M, Procopio AD, Busardò FP, Graciotti L. SARS-CoV-2 identification in lungs, heart and kidney specimens by transmission and scanning electron microscopy. *Eur Rev Med Pharmacol Sci* 2020; 24: 5186-5188.
- 3) Ricci G, Pallotta G, Sirignano A, Amenta F, Nittari G. Consequences of COVID-19 outbreak in Italy: medical responsibilities and governmental measures. *Front Public Heal* 2020; 8: 1-6.
- 4) Tambone V, Boudreau D, Ciccozzi M, Sanders K, Campanozzi LL, Wathuta J, Violante L, Cauda R, Petrini C, Abbate A, Alloni R, Argemí Renom J, De Benedictis A, Galerneau F, García-Sánchez E, Ghilardi G, Hafler JP, Linden M, Marcos A, Onetti Muda A, Pandolfi M, Pelaccia T, Picozzi M, Revello RO, Ricci G, Rohrbaugh R, Rossi P, Sirignano A, Spagnolo AG, Stammers T, Velázquez L, Agazzi E, Mercurio M. Ethical Criteria for the Admission and Management of Patients in the ICU Under Conditions of Limited Medical Resources: A Shared International Proposal in View of the COVID-19 Pandemic. *Front Public Health*. 2020 ; 8: 284.
- 5) Monaghesh E, Hajizadeh A. The role of telehealth during COVID-19 outbreak: a systematic review based on current evidence. *BMC Public Health* 2020; 2: 1-9.
- 6) World Health Organization. WHO I Telehealth. Accessed February 2, 2021. <https://www.who.int/gho/goe/telehealth/en/>
- 7) Chiappini S, Guirguis A, John A, Corkery JM, Schifano F. COVID-19: The hidden impact on mental health and drug addiction. *Front Psychiatry* 2020; 11: 767.
- 8) Di Trana A, Carlier J, Berretta P, Zaami S, Ricci G. Consequences of COVID-19 lockdown on the misuse and marketing of addictive substances and new psychoactive substances. *Front Psychiatry* 2020; 11: 584462.
- 9) Bokolo AJ. Use of telemedicine and virtual care for remote treatment in response to COVID-19 pandemic. *J Med Syst* 2020; 44: 132.
- 10) Crocamao C, Viviani M, Famigliani L, Bartoli F, Pasi G, Carrà G. Surveilling COVID-19 emotional contagion on Twitter. *Eur Psychiatry* 2021 Feb 3: 1-21. doi: 10.1192/j.eurpsy.2021.3. Epub ahead of print.
- 11) Nittari G, Khuman R, Baldoni S, Pallotta G, Battinetti G, Sirignano A, Amenta F, Ricci G. Telemedicine practice: review of the current ethical and legal challenges. *Telemed E Health* 2020; 26: 1427-1437.
- 12) Istituto Superiore della Sanità. Indicazioni Ad Interim per Servizi Assistenziali Di Telemedicina Durante l'emergenza Sanitaria COVID-19, 2020.
- 13) Keesara S, Jonas A, Schulman K. Covid-19 and health care's digital revolution. *N Engl J Med* 2020; 382; e82.
- 14) Eghtesadi M. Breaking social isolation amidst COVID-19: a viewpoint on improving access to technology in long-term care facilities. *J Am Geriatr Soc* 2020; 68: 949-950.
- 15) Ricci G, Campanozzi LL, Nittari G, Sirignano A. Telemedicine as a concrete response to covid-19 pandemic. *Rivista Italiana di Medicina Legale e del Diritto in Campo Sanitario*. 2020; 2020.