

Telemedicine and COVID-19: a literature review

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ABSTRACT

In March 2020, the pandemic state caused by Sars-Cov-19 (COVID-19) was declared by the World Health Organization. Due to social isolation, medical care by telemedicine became an essential tool. This article will analyze scientific productions and the legislation in force about telemedicine in the pandemic. This is a systematic review of the literature, which considered 15 original articles published between 2019 and 2021. The searches were conducted in the "Biblioteca Virtual em Saúde" (Public Health Virtual Library) and SciELO databases. The selected articles address two thematic aspects: the advances in telemedicine at the time of COVID-19 and the doctor-patient relationship in telemedicine. In conclusion, regulations on the use of telemedicine are an advance in society, despite the existence of certain difficulties. In the doctor-patient relationship, challenges can be overcome using an objective and explanatory language.

Keywords: Telemedicine; Coronavirus Infections; Doctor-Patient Relationship; Legal Security.

RESUMO

Telemedicina e Covid-19: uma revisão de literatura

Em março de 2020, a Organização Mundial da Saúde declarou pandemia da *coronavirus disease 2019* (Covid-19). O isolamento social revelou a necessidade de expandir o atendimento médico por meio da telemedicina. Este artigo objetiva realizar uma análise do uso da telemedicina como recurso de atendimento à saúde e suas implicações na relação médico-paciente. Trata-se de uma revisão sistemática de literatura, que considerou 15 artigos originais publicados entre 2019 e 2021. As buscas foram realizadas nas bases de dados Biblioteca Virtual em Saúde e Scientific Electronic Library Online. Os artigos selecionados levam em consideração dois aspectos temáticos: avanços da telemedicina em tempos de Covid-19 e a relação médico-paciente na telemedicina. Em conclusão, a regulamentação da telemedicina é um avanço na sociedade, apesar da existência de certas dificuldades a serem superadas. Já na relação médico-paciente, é possível superar os desafios por meio de uma linguagem objetiva e explicativa.

Palavras-chave: Telemedicina; Relações Médico-Paciente; Infecções por Coronavírus; Segurança Jurídica.

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Introduction

At the end of the year 2019, the world was surprised by the emergence of a new type of coronavirus in the city of Wuhan, China, which was named Sars-CoV-2. Analyzing the work of Fauci, Santos et al.¹ they describe that, in March 2020, the World Health Organization declared a pandemic of coronavirus disease 2019 (COVID-19), characterizing it as a disease of high clinical severity and high lethality, whose prevention involves distancing, social isolation and interruption of collective activities. Thus, faced with a scenario never before experienced by contemporary society, social relations have undergone several changes. And it would be no different in the doctor-patient relationship, which had to quickly adapt to the new safety recommendations in an attempt to reduce the contagion by the virus, while meeting the other health demands that continue to be present in the daily life of society.

Telemedicine, despite being applied in several health sectors, still had some restrictions regarding its use. Thus, on April 16, 2020, Law No. 13,989 was published, which provides for the use of telemedicine during COVID-19. This feature has been a successful tool and was the main wide-ranging technological innovation implemented during the pandemic; however, legal uncertainty on the subject is still common among health professionals and the institutions involved².

Despite all the benefits, many ethical issues still permeate the use of telemedicine, as this transformation directly affects the doctor-patient relationship³. Therefore, given the relevance and contemporaneity of the theme, this study aims to analyze the use of telemedicine as a health care resource and its implications for the doctor-patient relationship.

Materials and methods

This is a literature review, in which the selection of articles was made according to the following phases: selection of the guiding question; survey of scientific articles in selected databases; evaluation based on inclusion and exclusion criteria; full analysis of the articles; results presentation.

In the first phase, the question that guided the research was: what are the challenges faced in telemedicine in the COVID-19 pandemic? Subsequently, the survey of articles took place in March and April 2021, when a virtual search was carried out in the Virtual Health Library (VHL) and Scientific Electronic Library Online (SciELO) databases. They were used alternately, with connection of the terms through the boolean operator AND and, separately, the Descriptors in Health Sciences (DeCS): telemedicine, doctor-patient relationships, coronavirus infections and legal security.

In the search, 214 articles were identified, of which those who met the following inclusion criteria were considered eligible: articles in Portuguese and Spanish, available in full, free and published between 2019 and 2021. Of the articles found, 191 were excluded, according to the exclusion criteria: duplicate articles, letters to the editor, case reports, brief reports, monographs, editorial, articles with titles and abstracts inconsistent with the proposed theme

The full reading of the 23 selected articles was carried out by the authors of this study and, after analysis, the final sample of this review was prepared considering fifteen articles, which met the inclusion criteria (Figure 1).

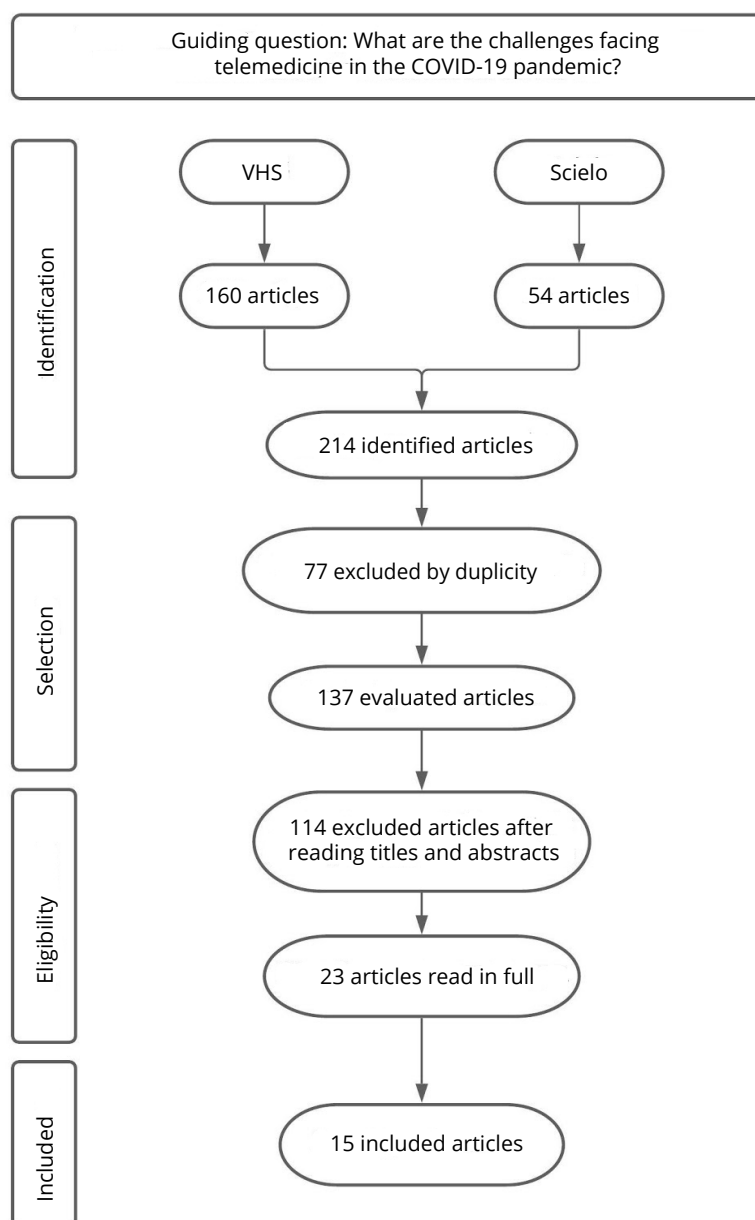


FIGURE 1 – FLOWCHART OF THE ARTICLE SELECTION PROCESS IN THE REVIEW

Results and discussion

After analyzing the selected articles, they were cataloged as shown in Table 1, in order to facilitate its visualization, being observed the predominance of studies in the year 2020.

In order to better understand the contents of each article, we used the strategy of presenting the studies taking into account two thematic aspects: advances in telemedicine in the days of COVID-19 and the doctor-patient relationship in telemedicine.

TABLE 1 – CATALOG OF ANALYZED STUDIES ACCORDING TO AUTHOR/YEAR, JOURNAL, TITLE AND PURPOSE

AUTOR/ANO	PERIÓDICO	TÍTULO	OBJETIVO
Macinko J et al.; 2020 ⁴	Cad. Saúde Pública	Seeking medical care due to symptoms related to COVID-19 and cancellation of medical appointments due to the epidemic among older Brazilian adults: ELSI-COVID-19 initiative.	To examine the prevalence of symptoms in COVID-19, the search for health care due to these symptoms, and the cancellation of previously scheduled surgeries or other procedures, due to the pandemic, in a representative sample of Brazilian adults aged 50 years.
Lavinsky J, et al.; 2020 ⁵	Brazilian Journal of Otorhinolaryngology	Update on COVID-19 for the Otolaryngologist: a document on the position of the Brazilian Association of Otolaryngology and Cervico-Facial Surgery (ABORL-CCF)	Review of the main recommendations of national and international scientific societies, decisions by government bodies and class councils.
Accorsi TA, et al.; 2020 ⁶	Einstein (São Paulo)	Assessment of patients with acute respiratory symptoms during the COVID-19 pandemic via telemedicine: clinical characteristics and impact on referral	To characterize the variables associated with emergency referral after a telemedicine consultation during the COVID-19 pandemic.
Celuppi IC et al.; 2021 ⁷	Cad. Saúde Pública	An analysis of the development of digital health technologies to face COVID-19 in Brazil and worldwide	It aims to compile and analyze some experiences in the use of digital technologies in health, to minimize the impacts of COVID-19.
Freitas BAC et al.; 2021 ⁸	Rev. Brasileira De Educação Médica	Experience of rapid deployment of pioneering telehealth service during the COVID-19 crisis	Experience report of the implementation process of the specific telehealth service for COVID-19, a partnership between academics and service.
Bertasso CP et al.; 2020 ⁹	Rev. Bras. de Educação Médica	Telemedicine in long-stay institutions for the elderly as social accountability in the context of COVID-19	To describe an experience report in the 43 long-stay institutions for the elderly (Ilpis) – public and private – in the city of São José do Rio Preto, with the aim of monitoring residents and employees in relation to COVID-19.
Marquez VJR; 2020 ¹⁰	Rev Colomb Gastroenterol	Teleconsultation in the Coronavirus Pandemic: challenges for post-COVID-19 telemedicine	Describe an experience on the implementation of a teleconsultation service in a medical-surgical service institution.

AUTOR/ANO	PERIÓDICO	TÍTULO	OBJETIVO
Castro FAG et al.; 2020 ¹¹	Rev Bras. Med Fam Comunidade.	Rural telemedicine and COVID-19: expanding access where distance was already the rule	To report the experience of a Family Health team, linked to the Medical Residency Program in Family and Community Medicine at the Federal University of Ouro Preto (PRMMFC-Ufop) in the introduction of a telemedicine service in a rural SUS scenario.
Caetano R et al.; 2020 ¹²	Rev. de Enferm. do Centro-Oeste Mineiro	Health education and information: initiatives by telehealth centres to confront COVID-19	Identify tele-education and health information initiatives aimed at fighting the COVID-19 pandemic offered by the State Telehealth Centers linked to the <i>Telessaúde Brasil Redes</i> Program.
Esteves LSF et al.; 2020 ¹³	Enferm. Foco	Telehealth in COVID-19 times: reception, network organization and teaching-service integration	To report the experience of teaching-service articulation for the implementation of telehealth services as mechanisms for organizing the flow of care in the Health Care Network in a medium-sized municipality in the west of São Paulo.
Soares DA et al.; 2020 ¹⁴	Rev Saúde Pública	COVID-19 telescreening in SUS users with at-risk conditions: experience report	To describe the design and preliminary data for the implementation of a COVID-19 telescreening and telemonitoring program for users of the Unified Health System with risk conditions for worsening.
Caetano, R et al.; 2020 ¹⁵	Cad. Saúde Pública	Challenges and opportunities for telehealth in times of pandemic by COVID-19: a reflection on spaces and initiatives in the Brazilian context	Discuss the contribution of telemedicine in COVID-19 times.
Garcia MV et al.; 2020 ²	J Bras Pneumo.	Telemedicine, legal security and COVID-19: where are we?	Legal security and telemedicine in COVID-19
Medeiros AMB et al.; 2020 ³	Research, Society and Development	The challenges of telemedicine facing the doctor-patient relationship in the time of COVID-19	Identify the challenges that permeate the use of telemedicine and the impact of physical distancing from the doctor-patient relationship during the pandemic caused by Sars-Cov-2.
Maldonado J. et al; 2021 ¹⁶	Cadernos do Desenvolvimento	Impacts of COVID-19 on telemedicine in Brazil	It aims to identify the main impacts of the new coronavirus on telemedicine in Brazil in the short term.

Source: Elaborated by the authors.

Advances in Telemedicine in the Times of COVID-19

The recent authorization for telemedicine activities in the national territory happened in an exceptional way, in the context of COVID-19, being valid only for the duration of the pandemic. Telemedicine activities prevent close contact, reducing the chance of infection by the COVID-19 virus, speeding up the dissemination of accurate information, providing teaching platforms, and promoting access to expert opinion in remote locations². The Law published was No. 13,989, on April 16, 2020¹⁷.

Currently, there is the possibility of wide and comprehensive use of telemedicine, including teleorientation, telemonitoring, teleinterconsultation and teleconsultation, for a complete and humanitarian service to isolated patients or those who are unable to physically/presential access to the doctor, with full autonomy and discretion of the professional as to the form, method and content of care/treatment, with a view to broad health care and protection of life, increased by the current state of need⁵.

Within the scope of public health, some important initiatives in the provision of services based on telemedicine stand out. On April 1, 2020, the Ministry of Health (MS) launched TeleSUS, a free pre-clinical remote care service for anyone to ask questions and even consult with a health professional. In addition, the tool allows the MS, through active search, to monitor the health of the population, that is, to identify people vulnerable to COVID-19 in advance. The MS's Tele-ICU project stands out, available to all hospitals in the country that have intensive care unit (ICU) beds for patients with COVID-19¹⁶.

In the field of private health, hospitals of excellence aim to develop a new market based on preventive medicine and the sale of check-up exams, for what they had already built before the pandemic in structures with multidisciplinary teams and equipment. With the liberalization of teleconsultation, even if temporarily, the excellent hospitals increase their reach to attract new customers, reinforce their strategies to create new packages of services integrated to preventive health, as well as reinforce their brand in teleconsultation services to providers of smaller health services.¹⁶

However, according to Caetano,¹² in his literature review, some difficulties for the rapid and wide implementation of telemedicine have been pointed out by specialists in the field, which are accentuated at this time of the COVID-19 pandemic, such as activation licensing requirements and payment to providers; insurance against medical errors applied to telemedicine; compliance with data confidentiality and security regulations; and the establishment of protocols for the management of laboratory tests, prescriptions and scheduling.

Accorsi,⁶ in the cross-sectional and retrospective study carried out between March and May, comments that, despite the multiple conceptual advantages, the implementation, regulation and acceptance of telemedicine by the medical community has been slow, as well as the proof of its effectiveness through medical evidence. However, the pandemic increased the availability of telemedicine and quickly demystified its limitations, allowing more scientific data collection to justify its implementation.

Esteves¹³ highlighted, in his quantitative, descriptive study in the form of an experience report, that, although telehealth has been developed with a focus on health management and education about the coronavirus pandemic, during the "live work in action", he showed his potential in the management of other clinical situations. In this sense, in addition to the expected results, there was an important impact on the management of patients with suspected and confirmed dengue and anxiety disorders related to social isolation.

The trend towards adopting telemedicine, catalyzed by the context of the COVID-19 pandemic and the technologies associated with the 4.0 revolution, is concrete. Therefore, it requires the improvement of national and territorial articulation, as well as international relations in health and public and private strategies. The analysis of this trend, without any determinism, is essential not only to prospect what the future of the health system will be, but also to guide actions and public policies of the present aimed at consolidating the SUS and achieving universal access to health in the future.¹⁶

The doctor-patient relationship in telemedicine

An important discussion is the doctor-patient relationship with the use of telemedicine. One of the foundations of medicine is the face-to-face clinical examination, supported by tact and general assessment of the patient's condition, which provides better accuracy of diagnosis and, above all, of adequate treatment. The individual relationship between doctor and patient suffers from multiple influences, such as trust resulting from personal contact and prolonged coexistence that encourages intimacy, reading body language, cultural issues such as the human warmth involved in this relationship, psychological comfort, etc., questioning whether teleimaging can effectively replace personal contact, as there is the potential to establish impersonal and non-humanized relationships.¹⁶

According to Freitas,⁸ teleconsultation can be carried out by technological means of communication. Thus, it should be avoided that it looks like a "telemarketing service" or a robotic service, taking into account that it is necessary to avoid an impersonal "checklist". It is fundamental, initially, to establish the reason for the telephone contact, whether teleorientation or teleconsultation. In the case of a teleconsultation, the severity criteria for the early adoption of relevant behaviors should be investigated. The medical professional must make room for the patient's questions, address his feelings and, if necessary, use the NURS tool: call him by name (naming), understand him (understanding), respect him (respecting) and support him (supporting).

Still from the perspective of Freitas,⁸ the physician should clarify the patient's questions, if any. And, at the end of the consultation, so that the understanding of the conversations discussed during the consultation is corroborated, the doctor must ask the patient to repeat what he understood of what was discussed. If any information has been mismatched, clarifying it again is of paramount importance for the clarity of the propositions and prescribed treatments. Say goodbye cordially and make himself available so that, in case of worsening, new symptoms or questions, the patient can call again. Giving guidelines clearly and objectively, and informing about the monitoring that will be carried out, if indicated, is important.

It should be noted that face-to-face contact between doctor and patient is extremely important and should not perish. However, in some cases, such as that of isolated populations or in specific contexts, such as the COVID-19 pandemic, telemedicine presents itself as a solution for eliminating the implications arising from the face-to-face distance factor, especially in Brazil, a country with a large dimension territorial and unequal distribution of health services.⁹

Bringing the foregoing closer to what is explained in the Code of Medical Ethics in its article 32, it is up to the medical professional to use all available means of health promotion and prevention, diagnosis and treatment of diseases, scientifically recognized and within their reach, in favor of the patient.¹⁸

Finally, Maldonado¹⁶ states that it is worth highlighting, among others, legal security, economic interests, information security, adequate infrastructure, education and training of health professionals, ethical and regulatory issues, better regulated doctor-patient relationship and cultural issues. The large number of initiatives developed in recent months, both by the public and the private sector, signals that, once the health crisis is over, there will be a need to move forward in the discussion of these restrictions, especially a regulatory standard that allows the introduction of telemedicine effectively and efficient, in the context of humanized care and universal health care.¹⁶

Final considerations

The regulation of the use of telemedicine, directly influenced by the COVID-19 pandemic scenario, is an advance in society that will hardly return to the previous situation. It can be noted that both private and public services have benefited from such a change, such as TeleSUS, which now serves anyone and also monitors vulnerable populations for COVID-19. It is noteworthy that there is still no real proof of the effectiveness of this type of service, as well as there are still

certain difficulties, such as the performance of exams and the aspect of legal security for the doctor in view of this new way of care.

It is worth noting that telemedicine, through its virtual care tools, enabled the access of patients who were unable to attend face-to-face care, due to the current context of the pandemic. And, together, this service made it possible to monitor and screen patients who really need face-to-face care, thus preventing more individuals from being exposed to the hospital environment, which is considered a place of risk. With regard to the doctor-patient relationship, the lack of physical contact makes it difficult to investigate and obtain information present in the clinical examination that goes beyond verbal dialogue. Therefore, the physician may have problems in understanding the diagnosis. It is also observed that it is possible to overcome this challenge through closer relationships. For this, it is necessary to demonstrate verbal and gestural understanding of the patient, in addition to empathy associated with a response with simple, objective, explanatory language and that allows an opening to possible questions, aiming at the patient's understanding of the disease and also of the proposal for continuity and treatment.

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