

Implications of the COVID-19 pandemic on access to health services

Implicações da pandemia de COVID-19 no acesso aos serviços de saúde

Implicaciones de la pandemia de COVID-19 en el acceso a los servicios de salud

RESUMO

Objetivo: analisar as implicações da pandemia de COVID-19 no acesso aos serviços de saúde. Métodos: web survey entre junho e julho de 2020 com 798 usuários dos serviços de saúde, com 18 anos ou mais, selecionados em bola de neve. Dados foram coletados com questionário eletrônico enviado em redes sociais ou e-mail. Resultados: Das 355 consultas e 270 exames agendados, um terço não ocorreu devido cancelamento pelo serviço ou desistência do paciente. Mesmo com sintomas importantes, a maioria não procurou atendimento por medo de contrair COVID-19. A telemedicina mostrou-se facilitador importante para os participantes. Conclusão: necessário que população tenha dispositivos com acesso à internet para que a telemedicina se torne recurso viável de atendimento eletivo, associado a estratégias de diferenciação de fluxos entre serviços de saúde para garantir a manutenção do acompanhamento e controle de condições crônicas, sobretudo àqueles com limitações no uso de tecnologias de acesso remoto.

DESCRIPTORES: Acesso aos Serviços de Saúde; COVID-19; Assistência Integral à Saúde.

ABSTRACT

Objective: to analyze the implications of the COVID-19 pandemic on access to health services. Methods: web survey, collected in June and July 2020. 798 users of health services, aged 18 years or older, selected in a snowball. Data were collected with an electronic questionnaire sent on social networks or e-mail. Results: Of the 355 consultations and 270 exams scheduled, one third did not occur due to service cancellation or patient withdrawal. Even with important symptoms, most did not seek care for fear of contracting COVID-19. Telemedicine proved to be an important facilitator for the participants. Conclusion: it is necessary for the population to have devices with internet access so that telemedicine becomes a viable resource for elective care, associated with strategies for differentiating flows between health services to ensure the maintenance of monitoring and control of chronic conditions, especially for those with limitations in the use of remote access technologies.

DESCRIPTORS: Health Services Accessibility; COVID-19; Comprehensive Health Care.

RESUMEN

Objetivo: analizar las implicaciones de la pandemia de COVID-19 en el acceso a los servicios de salud. Métodos: encuesta web entre junio y julio de 2020 con 798 usuarios de servicios de salud, de 18 años o más, seleccionados en bola de nieve. Los datos se recogieron con un cuestionario electrónico enviado por redes sociales o correo electrónico. Resultados: De las 355 consultas y 270 exámenes programados, un tercio no se realizó por cancelación del servicio o retiro del paciente. Incluso con síntomas importantes, la mayoría no buscó atención por temor a contraer COVID-19. La telemedicina demostró ser un facilitador importante para los participantes. Conclusión: Es necesario que la población cuente con dispositivos con acceso a internet para que la telemedicina se convierta en un recurso viable para la atención electiva, asociada a estrategias de diferenciación de flujos entre los servicios de salud para asegurar el mantenimiento del seguimiento y control de las condiciones crónicas, especialmente para aquellas con limitaciones en el uso de tecnologías de acceso remoto.

DESCRIPTORES: Accesibilidad a los Servicios de Salud; COVID-19; Atención Integral de la Salud.

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INTRODUCTION

The COVID-19 pandemic caused impacts in the economic, social, political and cultural sphere of the world population, and evidenced global fragility in confronting these situations. The rapid spread of the new coronavirus, characterized by severe acute respiratory syndrome-SARS, has dramatically affected the population and health systems.¹

The process of providing care by health services required rapid adaptation and numerous changes, which changed access and care for patients around the world, with a rapid transition to telemedicine in general health routines.²

In the United States, there was an impact from the demand for outpatient clinics, with clinics closed and elective procedures postponed or canceled. In the Brazilian context, the consequences were alarming. The scarcity of labor in number and qualification, lack of financial resources, restricted number of beds for intensive care generated impacting problems in our environment.³

The low effectiveness of virus containment actions during the first months of the pandemic exposed disparities in the provision of public and private services in the Brazilian healthcare area.³ Regarding the demand for care during the pandemic, a study with 45,161 patients with chronic

conditions found that only 25.5% of these people (11,291) sought health care.⁴

The evolution of the pandemic brought about global changes in the provision of health services, with increased access to services mediated by technologies to also optimize emergency care and avoid crowding in outpatient and elective services.⁵ Several experiences provided virtual care on websites and applications to facilitate consultations, as well as teleconsultation and information services, in addition to monitoring patients with chronic diseases by telemedicine.⁵ From the patients' perspective, virtual assessments had no difference compared to face-to-face assessments and there was high satisfaction with remote access.⁶⁾

The media have released a lot of data regarding the drop in the number of health care visits since the beginning of the pandemic. However, so far, the scientific literature has produced little on the real loss of routine health care in the Brazilian context, which is one of the many challenges imposed on health managers in coping with crises.⁷

Little is known about studies that analyzed the types of care and exams canceled or rescheduled, as well as the barriers faced by users. It is urgent to understand such changes in access to health services in times of a pandemic and thus provide robust information

on facilitators and obstacles so that managers and decision-making bodies can conduct crises with greater assertiveness.⁸

With the signs of impact on elective and outpatient care, it is questioned how access to health services was in times of the COVID-19 pandemic in the view of users. In order to answer this question, the aim of this study is to analyze the implications of the COVID-19 pandemic on access to health services.

METHODS

Cross-sectional study using an internet survey guided by the recommendations of Strengthening the Reporting of Observational Studies in Epidemiology (STROBE), carried out between June and July 2020.

The sample selection included users of health services from Brazilian public or private health services aged 18 years and over, residing in Brazil, without distinction of gender and ethnicity. People without internet access to access the questionnaire, with limitations in reading and writing the Portuguese language without interlocutors with the digital medium, were excluded.

The sample was established by convenience and non-probabilistic, in a snowball to comply with social isolation measures of the period. This strategy allows the parti-

participant to share the invitation and identify potential contacts for the survey, including populations that are difficult to access or whose real number is not known.⁹

The snowball selection began by inviting potential participants who met the inclusion criteria, called “seeds”, that is, the first guests, who make up the zero wave.¹⁰ From these, new participants were indicated (wave one) who indicated others (wave two), and the collection ended when the last wave no longer produced results, totaling 33 days of data collection. Participants who answered the questionnaire but did not meet the inclusion criteria were discarded in the processing of the database.

Considering that this study began in the state of São Paulo, it sought adult users of health services, regardless of class or gender, a sample of participants predominantly from the southeastern region of Brazil with a specific profile was obtained, which configure previously known sampling biases.¹⁰ Faced with this, without intending to generalize the data obtained, the focus was to produce scientific evidence to consolidate data widely disseminated in communication vehicles in times of a pandemic, and thus, raise considerations and stimulate further studies.

As an instrument for data collection, a self-administered questionnaire was prepared using the Google forms[®] tool, available with free access on the Internet, avoiding typing errors and storing the raw data, entered by the participant himself. The questionnaire contained questions about sociodemographic characteristics, age, gender, education, marital status, average family income. The type of health service used, treatment, health monitoring and treatments performed, reports of signs or symptoms during the first half of the pandemic, consultations performed, barriers, barriers, obstacles and facilitators for access to health services in the same period.

The questionnaire was validated by 5 judges using a Likert-type scale (1 = non-equivalent item; 2 = item needs major revision; 3 = equivalent item, with minor changes; and 4 = absolutely equivalent item), in order to measure perceptions and

attitudes according to the answers. 13 Items with scores of 1 or 2 were revised or eliminated, and those with scores of 3 and 4, the concordance index was analyzed. Next, a pre-test was carried out with 10 users of health services, chosen at random, who received the link to access the questionnaire, with 100% positive feedback on the clarity of its completion. These individuals did not participate in the final sample.

The final version of the questionnaire was published on the social networks “Facebook[®], Whatsapp[®], LinkedIn[®], Instagram[®]”. Invitations were also sent by e-mail, to expand the recruitment of participants, from the researchers' contact list. Upon completing the form, the answers were automatically saved in a database through Google[®] extension applications, restricted to the research team.

The project was approved by the Research Ethics Committee of the School of Nursing of Ribeirão Preto, University of São Paulo with Certificate of Presentation for Ethical Appreciation n^o 31524520.0.0000.5393, under opinion n^o 4.078.109/2020, in compliance with resolution 510/ 16, respecting the required ethical standards. Descriptive statistics with frequencies and percentages were used for data analysis.

RESULTS

To analyze the implications of the COVID-19 pandemic on access to health services, the sample has 798 participants between 18 and 85 years old, with a mean age of 40.6 and a median of 39 years (sd= 14.4), with the majority being female, 591 (74.1%). Most reside in the state of São Paulo 631 (79.1%), Minas Gerais 78 (9.8%) and Mato Grosso 30 (3.8%), among other Brazilian states.

Regarding education, 334 (41.9%) have a postgraduate degree, 312 (39.1%) are graduates, 135 (16.9%) have secondary education and 17 (1.8%) have elementary education. There are 467 (58.5%) married and 331 (41.5%) single, divorced or widowed. The average income above 4 minimum wages for 566 (70.9%) of the participants.

Regarding the type of health service where they receive health care, most participants report having access to supplementary health plans, 569 (71.3%) while 100 (12.5%) report using the public health service, only 8 (1%) reported seeking private health services. In this sample, 118 (14.8%) claim not to use any health service.

Regarding the health treatments that participants routinely undergo, with annual appointments, this study reveals 512 (64.0%) reports of this nature during the year 2020. When asked about the type of health treatment, cardiovascular diseases stand out (CVD). Also noteworthy are 61 (11.9%) self-reported treatments in the area of psychiatry and mental health, which include depression, anxiety, panic disorder, sleep disorders and binge eating, followed by dyslipidemia and other endocrine disorders associated with obesity, in addition to diabetes, as shown in Table 1.

This study also questioned the problems or altered health conditions that are not accompanied by a health professional, and the data show 119 (14.9%) people in this condition. As a highlight in this number, 27 respiratory problems (22.7%), 21 endocrine (17.6%) and 11 gastrointestinal disorders (9.2%) are currently not treated.

Regarding the medical appointments scheduled for the first half of 2020, 355 (44.5%) have an appointment. However, approximately one third (n=126) was not performed due to cancellation by the service or the patient who did not attend.

Regarding elective medical exams, 270 (33.8%) participants had some scheduled exam. However, an alarming data draws attention because about a third of these 270 scheduled exams (n=88/32.5%) were not performed. Some were pending rescheduling, or were simply canceled, or the examination did not take place, as the patient withdrew from attending (Table 2).

This study analyzed access to health services under unscheduled conditions, in which the patient needed to seek care. According to the results, there are 540 (67.7%) reports of symptoms from the beginning of the pandemic until July 2020. Cardiological symptoms and pain are hi-

ghlighted, as well as respiratory symptoms. Table 3 details the symptoms reported by the participants.

This study questioned whether the participant sought a health service between March and July 2020, in scheduled situations or not, and the data obtained reveal 346 visits. Of these, 158 (45.7%) were appointments that took place in the office, 84 (24.3%) were hospital appointments, 36 (10.4%) in UPA, 36 (9.8%) in UBS and only 28 (8.1%) via telemedicine, with consultations mediated by remote access or video calls through messaging applications.

For 208 people, 26% of the sample, some situation or condition made it difficult for them to access health services in the first half of the pandemic. Results of this study highlight that the fear of contracting COVID-19 was the main obstacle for 119 (57.2%) of the reports. In addition, the fact that services are too full for 27 (13.0%) people, which also refers to the fear of contagion.

It is worth noting the reports of people who did not know if they could be assisted ($n=26/12.5\%$), due to lack of information from the services themselves. There are also reports that the difficulty encountered was due to the unavailability of the service for services other than COVID-19 ($n=24/11.5\%$). Other situations considered difficult to access health services relate to the user's understanding of considering their symptom as non-urgent (3.8%). Self-medication and home care, with 2 incidences each (1.0%), appear as reasons for not seeking health services.

When asked about the facilitators to access a health service, 317 (39.7%) participants stated that they realized that there are resources that make this type of care possible. In detailing these facilitators, the data reveal 1,383 citations that facilitate access to health services, in the participants' perception (Table 4).

DISCUSSION

The profile obtained is related to user characteristics due to the data collection strategy, which is characterized by keeping

Table 1 – Ongoing health treatments during the first half of the pandemic. (n=512) Ribeirão Preto, SP, Brazil, 2020.

Self-reported treatment	n (%)
Cardiology (hypertension, heart failure, arrhythmia)	194 (37,8)
Psychiatry (Depression, anxiety, panic, psychiatric disorders, sleep disorders and binge eating)	61 (11,9)
Dyslipidemia	55 (10,7)
Endocrinology (hypothyroidism/obesity/post bariatric)	45 (8,8)
Diabetes	45 (8,8)
Dermatology	15 (2,9)
Rheumatology (arthritis, arthrosis, osteoporosis)	15 (2,9)
Pneumology (Asthma, bronchitis, rhinitis)	13 (2,5)
Gynecology (Menopause, polycystic ovaries, endometriosis)	12 (2,3)
Urology	12 (2,3)
Gastroenterology (gastritis, reflux, Crohn's disease)	11 (2,1)
Neurology (Migraine, epileptic seizures, Cerebrovascular Accident - CVA)	8 (1,6)
Ophthalmology	7 (1,4)
Oncology / Hematology	7 (1,4)
Others (Physiotherapy, post-transplantation, infectology, nutritionist, obstetrics and orthopedics)	12 (2,3)
Total	512 (100,0)

Source: the authors. 2022

Tabela 2 – Exames médicos agendados e não realizados durante o primeiro semestre de pandemia (n=88). Ribeirão Preto, SP, Brasil, 2020

Exam	Rescheduled	Canceled	Patient withdrawal	Total
Blood	10	2	2	14
Holter/Echo or electrocardiogram/treadmill	6	3	3	12
Gynecological	4	6	-	10
Ultrasound	2	5	2	9
Endoscopy	3	2	-	5
Colonoscopy	3	-	-	3
Resonance	2	1	-	3
Tomography	-	2	1	3
Ophthalmological	-	3	-	3
Biopsy	1	1	-	2
X-ray	-	-	1	1
Others	2	3	-	5
Not specified	5	12	1	18
Total	38	40	10	88

Source: the authors. 2022

in part the profile of the nucleus to which the sample started or originated.¹⁰ Consi-

dering that the sample selection was generated in the academic environment, one

can understand the greater participation of people with postgraduate degrees and family income above the Brazilian average, and over 30 years old, an age that corresponds to almost 58% of the Brazilian population in 2019.¹¹

The type of health service used by the study participants is consistent with the profile of the data published by the National Supplementary Health Agency which, in December 2021, reported that states in the southeast region have more than 30% of the population with access to supplementary health, composing with the southern region, the highest user coverage rates.¹²

In this study, CVD were the most prevalent in terms of ongoing treatments. In this sense, psychiatric illnesses and problems related to obesity were also highlighted. As for the treatment and monitoring of these conditions, most had scheduled medical appointments, but about a third were not carried out due to cancelation by the service or patient withdrawal. Considering that mental health is weakened by a crisis and that it had a greater influence on injuries during the pandemic, especially in the population with pre-existing comorbidities and a history of issues related to mental health¹³, there is a negative impact of the pandemic on access to health services in the studied sample, related to the follow-up of their treatments.

The results corroborate a Brazilian study in which people with chronic conditions did not seek health services in the same period, due to the difficulty in scheduling or canceling scheduled appointments, and symptoms related to mental illnesses, specifically depression, were the most prevalent.¹⁴ It is noteworthy that the majority of study participants had health insurance, in contrast to the Brazilian reality, which allows inferring that both the public and private networks had considerable losses in the elective care provided.

The pandemic caused logistical, structural and human resource demands, directly affecting the care and follow-up of elective procedures. In 2020, the National Supplementary Health Agency - ANS (Agência

Table 3 – Self-reported symptoms during the first half of the pandemic. (n=540).
Ribeirão Preto, SP, Brazil, 2020

Self-reported symptom	n (%)
Cardiological (chest pain/ palpitations/ hypertensive crisis)	166 (30,7)
Pains (Migraine/headache, Joint, lumbar, muscle and spine pain)	124 (23,0)
Neurological (CVA, labyrinthitis, mental confusion, tingling in limbs, dizziness, fainting)	99 (18,3)
Breathing (Sinusitis, allergic rhinitis, flu, tonsillitis, pneumonia, bronchitis, fatigue, tiredness)	42 (7,8)
Psychological (Panic syndrome, anxiety and depression)	21 (3,9)
Infectious (COVID-19) (zyka, dengue, urinary tract infection and fever)	18 (3,3) 11 (2,0)
Gastric (Nausea, reflux, diarrhea, gastritis, abdominal pain)	15 (2,8)
Sleep disorders	10 (1,9)
Renais (Renal colic, renal calculus and pyelonephritis)	9 (1,7)
Dermatological (hair loss, hives, dermatitis)	6 (1,1)
Odontological	2 (0,4)
Vascular (thrombosis and aneurysm)	2 (0,4)
Ophthalmological	1 (0,2)
Orthopedics (fracture)	1 (0,2)
Others (Weakness, dry mouth, tremors, chills, neck lump)	13 (2,4)
Total	540 (100,0)

Source: the authors. 2022

Table 4 – Quotes about facilitators for access to health services (n=1383).
Ribeirão Preto, SP, Brazil, 2020

Facilitators	n (%)
Medical care via internet (video call and message)	453 (32,8)
Medical assistance over the phone	288 (20,8)
Home service	248 (17,9)
Health information offered on official websites	173 (12,5)
Health information via radio and television	123 (8,9)
Availability of specific agenda/times so as not to interrupt	56 (4,0)
Communication/Information official bodies and services	36 (2,6)
Organization and flows of defined and specific services	6 (0,4)
Total	1.383 (100,0)

Source: the authors. 2022

Nacional de saúde suplementar) reported a drop in medical consultations, among all specialties, of around 20% compared to the previous year. 1%, which directly reflects health problems without proper follow-up and treatment, whether clinical or surgical. (15)

In line with this survey, other studies confirm that the pandemic has had a great impact on treatment and access to health services, people with health problems have postponed their evaluations and exams have been canceled, with frank difficulty in monitoring, which negatively impacted the health of the population. (16-17)

Among the elective exams, about a third were not performed due to cancellation by the service, in large part, but also due to patient withdrawal. Similar data of this behavior were evidenced in Italian health services, in the same period, when 32.4% faced a delay of a scheduled medical service and 13.2% refused to go to the office for fear of contracting COVID-19. (18)

In general, this study revealed a decrease in imaging exams of around 30%, between cancellations, rescheduling and patient absence. This impact was recorded with even greater proportions in a North American study, in which the volume of images throughout the system decreased by 55% between April 7th and 13th, 2020, with mammograms and nuclear medicine exams being the most affected modalities, decreasing by 93% and 61%, respectively. In the same year, the Brazilian supplementary health service reported a 28% drop in mammograms and 31% in colonoscopies. (14)

Faced with the finding of the loss of exams, which include elementary screening tests and in addition to control exams, new questions are raised about the impact of the pandemic on the control and monitoring of chronic conditions, with a special alert to the area of oncology. In this sense, reflections emerge on how to guarantee protection against the spread of pandemic infections among professionals and patients and, at the same time, guarantee the routine of elective exams, so necessary for the prevention and control of a wide range of diseases.

To do this, strategies are needed to maximize quality, reduce repeat and rescheduled procedures, improve the patient experience while reducing the risk of infection for staff, and ensure sufficient capacity, with technical and operational innovation, reduction of permanence rates in services and review of service flow. (19-20)

This study revealed alarming results about symptoms reported by participants possibly neglected due to the fact that they did not seek a health service, even in the imminence of severity. Faced with complaints of precordial pain, arrhythmias, dizziness and tingling in the limbs, it was evident that many of these people did not seek care. Similarly, Italians in the same period had such behavior, when 6.5% avoided care, even with an acute onset problem, and 1.5% avoided the emergency department when needed. (18)

Research carried out in France with patients undergoing outpatient treatment evaluated the consequences of the lockdown - LD, in the first half of 2020. Healthy lifestyle habits have regressed in quality and quantity, and LD has had important repercussions on patients, hence the need to raise awareness among these patients and, above all, to restructure the care system that has been severely disrupted by COVID-19. (21)

These data are even more worrying because they involve symptoms of severe and high lethality associated with coronavirus infection. And, given the fragile operational capacity of the services to maintain care for serious and urgent cases concomitantly with COVID-19 care, it is imperative that the services are attentive and focused on structuring flows for urgent and emergency care.

On the other hand, a Chinese study found that interventions were carried out via remote access, via the internet, telephones and letters, and this mechanism transformed the reality of Chinese health services and allowed carrying out health follow-ups, screening patients, carrying out therapies and monitoring patients in order to meet this demand. However, in the present study, less than 10% of consultations were

via telemedicine, which evidenced the incipient use of this technology.

In Brazil, there was a long and difficult path until the officialization and legalization of remote access resources by regulatory bodies, and, consequently, the structuring of telemedicine and tele-nursing services. (23) Likewise, there was a period until users understood and sought this type of service, which certainly influenced the adaptation to this new service format.

We evaluated inequalities in the use of North American telemedicine and video calls for consultations with patients scheduled for consultations in primary care and specialized outpatient clinics. Results showed that older, non-English speaking patients had fewer telemedicine visits, and older black and Latino women of lower socioeconomic status made less use of video telemedicine. These results suggest that more efficient delivery of health care through higher technological tools does not guarantee more access to health care or better health outcomes. (24) In our study, even with a sample profile of higher levels of education and income, telemedicine was not very present as a care option, even though it was recognized as a viable resource.

This finding makes the prospects on how to provide the necessary resources for effective telemedicine in our environment even more complex, in view of the inequality of technological resources and internet provision for society as a whole. In addition to the cognitive requirements that involve the use of devices such as computers, tablets and cell phones for video calls, it is predictive that people know and trust this resource applied to health care, and above all, that they have quality access to the internet.

The analysis of the results obtained in this study showed that, in the perception of the participants, telemedicine is an important facilitator of access to the health service. The expansion of this method is a viable alternative to guarantee access to the health service during social isolation, safe and effective, in order to maintain the health professional-patient bond, free from the risk of contamination and allows remote access with different professionals and services

regardless of location. It still has important benefits regarding the dissemination of health guidance content and improves direct communication with patients.^{22,24}

In line with the results presented here, it is known that video calls obtained a high degree of satisfaction and were seen as a facilitator in times of a pandemic 2 and it can be a low-cost alternative that is easy to spread among the population. However, it is worth considering a limitation of this resource, which is focused on symptoms and does not allow clinical evaluation combined with physical examination by the professional, a necessary tool to identify alterations and conduct certain health treatments.²⁵ Hence the need for data collection carried out by trained and experienced professionals, with well-designed protocols.

The cultural adaptation of the virtual care model to the reality of the Brazilian population and the unified health system requires an effort to be continued beyond the health crisis and current needs, it is necessary to expand technologies and infrastructure investment in the Brazilian network, as well as adaptation to patients who do not have access to such technologies.²⁵

A previous study proposed sought reasons for inequality in access to telemedicine, considered that the pandemic came to exacerbate the inequity of access, and in its results, have already signaled harm to the elderly, low-income black and Latino women, and people with native language difficulties, in using telemedicine in times of a pandemic. Therefore, there is an urgent need to develop comprehensive strategies in order to minimize differences and to eliminate the false idea that technology is the solution to problems of access to health services in different populations.^{2,23,25}

The results obtained are of great relevance as they translate the view of service users, proving that there has been a significant loss in access to services for elective care in our environment.

These are, therefore, imminent reflections that must permeate the management of health services in the face of pandemics in providing consistent and sufficient ac-

tions to ensure that primary care is maintained with quality and safety. Additionally, planning of actions based on the concepts of different flows for care in the context of

Several experiences provided virtual care on websites and applications to facilitate consultations, as well as teleconsultation and information services, in addition to monitoring patients with chronic diseases by telemedicine. From the patients' perspective, virtual assessments had no difference compared to face-to-face assessments and there was high satisfaction with remote access.

primary care is suggested, in order to maintain population demand in a different way from emergency care in times of a pandemic.

All surveys have limitations. Among the limitations of this study, we can highlight the possible results that are not representative of the population, due to the existence of socioeconomic differences between people who use the Internet and the rest of the population (higher education level and income); probably the response rate tends to be lower than that of traditional means and one should consider the increased difficulty of recruiting participants, due to the excess of research and the use of long questionnaires during the pandemic, which in turn can create barriers for future research; in addition, the fact of restricting the population to be researched to people with Internet access may be a limiting factor to the detriment of traditional research methods.

As for the contributions to practice, they consist of the implications for the advancement of scientific knowledge in the area of health and nursing. The popularization of computers and Internet connection is already a reality, which contributes to the improvement of research in the health area with this methodology; these types of surveys provide less time to complete, speed up the inclusion of new names in the sample and have a low application cost because they do not use paper; reach a large number of respondents from different locations and different health contexts. The tabulation of results is facilitated, which reduces possible errors and makes the analysis of results quick, which contributes to the dissemination of results.

CONCLUSION

This study made it possible to analyze the implications of the COVID-19 pandemic on access to health services, with regard to the dynamics related to scheduling appointments and elective exams and conducts in the face of the demands for care in the face of symptoms presented by the population during the pandemic.

It found negative implications of the pandemic on access to health services, configured as missed appointments and elective exams, in addition to negligence in the face of symptoms reported in this

population, with a potential health risk. In addition, telemedicine was considered a facilitating resource in the maintenance of follow-ups and care in health services, viable and real in our midst.

However, for the effective use of telemedicine, essential requirements are necessary, from the provision of quality access to the

internet for different populations, strategies and care for the elderly, with communication limitations, in addition to the specific preparation of professionals, based on well-designed clinical protocols, so that teleconsultations are effective and safe.

Additionally, it is urgent that strategies be implemented to differentiate care

flows between health services to ensure the maintenance of monitoring and control of chronic conditions, health exams and other elective services, without being interfered with or influencing demands for emergency services in times of a pandemic.

REFERÊNCIAS

- Guan W, Ni Z, Hu Y, Liang W, Ou C, He J, et al. Clinical characteristics of coronavirus disease 2019 in China. *N Engl J Med*. 2020;382(18):1708-1720. doi: <http://dx.doi.org/10.1056/NEJMoa2002032>.
- Fankhauser GT. Delivering High-Quality Vascular Care via Telehealth during the COVID-19 Pandemic. *J VasSurg*. 2020;72(1):6-7. doi: <https://doi.org/10.1016/j.jvs.2020.04.010>.
- Almeida WS, Szwarcwald CL, Malta DC, Barros MBA, Souza Júnior PRB, Azevedo LO, et al. Changes in Brazilians' socioeconomic and health conditions during the COVID-19 pandemic. *Rev Bras Epidemiol*. 2021;23:e200105. doi: <https://doi.org/10.1590/1980-549720200105>
- Tasca R, Massuda A. Estratégias para reorganização da Rede de Atenção à Saúde em resposta à Pandemia COVID-19: a experiência do Sistema de Saúde Italiano na região de Lazio. *Rev APS*. 2020;2(1):20-27. doi: <https://doi.org/10.14295/aps.v2i1.65>.
- Bashshur R, Doarn CR, Frenk JM, Kvedar JC, Woolliscroft JO. Telemedicine and the COVID-19 pandemic, lessons for the future. *Telemed J E Health*. 2020;26(5):571-573. doi: <https://doi.org/10.1089/tmj.2020.29040.rb>.
- Chaudhry H, Nadeem S, Mundi R. How satisfied are patients and surgeons with telemedicine in orthopaedic care during the COVID-19 pandemic? A systematic review and meta-analysis. *Clin Orthop Relat Res*. 2021;479(1):47-56. doi: <https://doi.org/10.1097/CORR.0000000000001494>.
- Steffens I. A hundred days into the coronavirus disease (COVID-19) pandemic. *Euro Surveill*. 2020;25(14):2000550. doi: <https://doi.org/10.2807/1560-7917.ES.2020.25.14.2000550>.
- Hallal PC, Horta BL, Barros AJD, Dellagostin AO, Hartwig FP, Pellanda LC, et al. Trends in the prevalence of COVID-19 infection in Rio Grande do Sul, Brazil: repeated serological surveys. *CiênsaúdeColetiva*. 2020;25(suppl 1):2395-2401. doi: <https://doi.org/10.1590/1413-81232020256.1.09632020>.
- Costa BRL. Bola de Neve Virtual: O Uso das Redes Sociais Virtuais no Processo de Coleta de Dados de uma Pesquisa Científica. RIGS [Internet]. 9º de junho de 2018 [citado 3º de outubro de 2022];7(1). Disponível em: <https://periodicos.ufba.br/index.php/rigs/article/view/24649>.
- Parker C, Scott S, Geddes A. Snowball sampling. SAGE research methods foundations, 2019. doi: <https://dx.doi.org/10.4135/9781526421036831710>.
- Instituto Brasileiro de Geografia e Estatística (IBGE). Sistema de Estatísticas Vitais. [Internet]. 2020 [cited Jan 15, 2022]. Available from: <https://www.ibge.gov.br/estatisticas/sociais/populacao/9110-estatisticas-do-registro-civil.html?=&t=destaques>.
- Ministério da Saúde (BR). Agência Nacional de Saúde Suplementar. Tabelas de beneficiários de planos de saúde, taxas de crescimento e cobertura. [Internet]. 2022 [cited Jan 10, 2022]. Available from: <https://www.gov.br/ans/pt-br/aceso-a-informacao/perfil-do-setor/dados-gerais>.
- Pedersen MT, Andersen TO, Clotworthy A, Jensen AK, Strandberg-Larsen K, Rod NH, et al. Time trends in mental health indicators during the initial 16 months of the COVID-19 pandemic in Denmark. *BMC Psychiatry*. 2022;22(25). doi: <https://doi.org/10.1186/s12888-021-03655-8>.
- Borges KNG, Oliveira RC, Macedo DAP, Santos JC, Pellizzer LGM. O impacto da pandemia de COVID-19 em indivíduos com doenças crônicas e a sua correlação com o acesso a serviços de saúde. *Rev Cient Esc Estadual Saúde Pública Goiás "Candido Santiago"*. 2020;6(3):e6000013.
- Agência Nacional de Saúde Suplementar (ANS). Mapa Assistencial da Saúde Suplementar. [Internet]. 2020 [cited Jan 12, 2022]. Available from: <https://app.powerbi.com/view?r=eyJrjoiZDFkODkxNzMtODgwNC00ZT-FILtG2MzUtZmEwNDViNmU1ZWl4IiwidCI6IjlkYmE0ODBJLTRmYtctND-JmNC1iYmEzLTBmYjEzNmVmYmU1ZiIj9>.
- Benali F, Stolze LJ, Rozeman AD, Dinkelaar W, Coutinho JM, Emmer BJ, et al. Impact of the lockdown on acute stroke treatments during the first surge of the COVID-19 outbreak in the Netherlands. *BMC Neurol*. 2022;22(1):22. doi: <https://doi.org/10.1186/s12883-021-02539-4>.
- Ferreira AL, Rodrigues A, Estorque AV, Julião IHVM, Lobo SLCB, Ribeiro MG, et al. Desafios impostos pelo isolamento social na pandemia de COVID-19 ao acompanhamento de diabéticos e expostos ou infectados por HIV em um hospital universitário pediátrico. *Resid Pediatr*. 2020;10(3). doi: <https://doi.org/10.25060/residpediatr-2020.v10n3-403>.
- Gualano MR, Corradi A, Voglino G, Bert F, Siliquini R. Beyond COVID-19: a cross-sectional study in Italy exploring the covid collateral impacts on healthcare services. *Health Policy*. 2021;125(7):869-876. doi: <https://doi.org/10.1016/j.healthpol.2021.03.005>.
- Parikh KD, Ramaiya NH, Kikano EG, Tirumani SH, Pandya H, Stovicek B, et al. COVID-19 pandemic impact on decreased imaging utilization: a single institutional experience. *Acad Radiol*. 2020;27(9):1204-1213. doi: <https://doi.org/10.1016/j.acra.2020.06.024>.
- Cadoni S, Ishaq S, Hassan C, Bhandari P, Neumann H, Kuwai T, et al. COVID-19 pandemic impact on colonoscopy service and suggestions for managing recovery. *Endoscopy International Open*. 2020 Jun 24;08(07):E985-9. doi: <https://doi.org/10.1055/a-1196-1711>.
- Aajal A, El Boussaadani B, Hara L, Benajiba C, Boukhouk O, Benali M, et al. Les conséquences du confinement sur les maladies cardiovasculaires. *Annales de Cardiologie et d'Angéiologie*. 2021 Apr;70(2):94-100. doi: <https://doi.org/10.1016/j.ancard.2021.01.006>.
- Jiang X, Deng L, Zhu Y, Ji H, Tao L, Liu L, et al. Psychological crisis intervention during the outbreak period of new coronavirus pneumonia from experience in Shanghai. *Psychiatry Res*. 2020;28;286:112903. doi: <https://doi.org/10.1016/j.psychres.2020.112903>.
- Brasil. Lei nº 13.989, de 15 de abril de 2020. Dispõe sobre o uso da telemedicina durante a crise causada pelo coronavírus (SARS-CoV-2). [Internet]. 2020 [cited Jan 10, 2022]. Available from: https://www.planalto.gov.br/ccivil_03/_ato2019-2022/2020/Lei/L13989.htm. Acesso em 15 set. 2021.
- Eberly LA, Kallan MJ, Julien HM, Haynes N, Khatana SAM, Nathan AS, et al. Patient Characteristics Associated With Telemedicine Access for Primary and Specialty Ambulatory Care During the COVID-19 Pandemic. *JAMA Network Open*. 2020;3(12):e2031640. doi: <https://doi.org/10.1001/jamanetworkopen.2020.31640>.
- Caetano R, Silva AB, Guedes ACCM, Paiva CCN, Ribeiro GR, Santos DL, Silva RM. Challenges and opportunities for telehealth during the COVID-19 pandemic: ideas on spaces and initiatives in the Brazilian context. *Cad Saúde Pública*. 2020;36(5):e00088920. doi: <https://doi.org/10.1590/0102-311X00088920>.