Analysis of a telemonitoring service for patients with COVID-19 from a professional's perspective

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Abstract

This article analyzes a telemonitoring (TM) program for patients with suspected or diagnosed COVID-19 in Goiânia, Brazil, from the health professional's perspective. A qualitative, descriptive, and exploratory study was conducted using semi-structured interviews with 41 professionals who worked in the service. Thematic content analysis was performed, and the data was classified and categorized using a code system based on the study's theoretical framework and the contents that emerged spontaneously from the interviews. Three categories emerged. The primary challenges were people refusing the TM calls for fear of scams, difficulty locating and contacting patients, the high demand for the service, the lack of coordination between the TM service and the public health network, and the circulation of fake news among the population. Health professionals improved their communication skills and comprehensive remote care. The results also highlight the significance of health education processes and the need to provide emotional support to patients. TM prevented unnecessary visits to health facilities, allowing face-to-face care to be prioritized in favor of those who needed it most.
Keywords: Telemedicine; Telemonitoring; COVID-19

Resumen

Análisis de un servicio de telemonitorización de pacientes con COVID-19 desde la perspectiva del profesional

Este artículo tiene como objetivo analizar un servicio de telemonitorización (TM) para pacientes con sospecha o diagnóstico de COVID-19 en la ciudad de Goiânia desde la perspectiva del professional de salud. Investigación con enfoque cualitativo, descriptivo y exploratorio, en la que se recolectaron datos a través de entrevistas semiestructuradas con 41 profesionales que actuaban en el servicio. Se realizó el análisis de contenido temático y se construyó el sistema de codificación utilizado para clasificar y categorizar los datos a partir del marco teórico de la investigación y de los contenidos que surgieron espontáneamente de los discursos. Se describieron tres categorías. Los principales desafíos enfrentados fueron el miedo y la negativa de las personas a recibir la MT por miedo a las estafas, la dificultad para localizar y contactar a los pacientes, la alta demanda de atención, la falta de articulación entre el servicio de MT y la red, y la difusión de noticias falsas entre la población. Profesionales de la salud mejoraron sus habilidades de comunicación y atención integral a distancia. Se destacó la importancia de los procesos de educación en salud y la necesidad de brindar apoyo emocional a los pacientes. El MT evitó visitas innecesarias a las unidades de salud, permitiendo optimizar la atención presencial a quienes realmente la necesitaban.
Palabras clave: Telemonitorización; Telemedicina; COVID-19

Resumo

Análise de um serviço de telemonitoramento a pacientes com COVID-19 na perspectiva do profissional

Este artigo tem como objetivo analisar um serviço de telemonitoramento (TM) a pacientes com suspeita ou diagnóstico de COVID-19 no município de Goiânia na perspectiva do profissional de saúde. Pesquisa de abordagem qualitativa, descritiva e exploratória, em que se realizou coleta de dados por meio de entrevistas semiestruturadas com 41 profissionais que atuaram no serviço. Realizou-se análise temática de conteúdo, e o sistema de códigos utilizado para classificar e categorizar os dados foi construído com base no referencial teórico da pesquisa e nos conteúdos que emergiram espontaneamente das falas. Três categorias foram descritas. Os principais desafios enfrentados foram o receio e a recusa das pessoas em receber o TM por medo de golpes, a dificuldade de localizar e contactar os pacientes, a alta demanda de atendimento, a falta de articulação do serviço de TM com a rede, e a disseminação de notícias falsas entre a população. Os profissionais de saúde aperfeiçoaram a habilidade comunicacional e de cuidar à distância de uma forma integral. Destacou-se importância dos processos de educação em saúde e da necessidade de prestar suporte emocional aos pacientes. O TM evitou idas desnecessárias a unidades de saúde, possibilitando otimização do cuidado presencial para quem efetivamente precisava.
Palavras chave: Telemonitoramento, Telemedicina, COVID-19

Introduction

The first records of COVID-19¸ infection caused by the new coronavirus SARS-CoV-2 occurred in December 2019 in China[1]. With high transmissibility and consequent spread throughout the world, the disease imposed a need for health services to reorganize and adapt quickly to a scenario of a large number of serious cases, overload of care, and the concern to reduce contagion[2]. Among the proposed actions for coping with the disease, distance information and communication technologies (ICTs) were identified as an effective and viable alternative[3].

In this context, professionals and managers from the Municipal Health Department of Goiânia (SMS/GOIÂNIA) and the Telemedicine and Telehealth Center (NUTTs- Núcleo de Telemedicina e Telessaúde) of the Medical School of the Universidade Federal de Goiás (FM/UFG) agreed to establish measures to deal with to the pandemic in the municipality, with the offer of follow-up via telemonitoring (TM) for suspected and confirmed patients with COVID-19.

In its first year of operation, the service monitored 102,000 people at 3 levels of care: a multidisciplinary health team to care for patients from the database imported from the E-SUS Notifica system; medical care for patients referred from the first level with warning signs or aggravation; and psychological assistance for patients referred from the previous levels who presented mental suffering[4].

Evidence on the impact of telemonitoring on patients with COVID-19 is still under construction. However, preliminary results from studies around the world and studies that evaluated telemonitoring in other diseases suggest that this can be an important tool in the control of pandemics[5]. Another relevant aspect is that the COVID-19 pandemic has accelerated the process of using telemedicine by health professionals. Professionals quickly moved from traditional face-to-face consultations to telephone or video consultations in challenging circumstances[6].

Considering the rapid spread and impact of the pandemic, and the possibility of new infectious and contagious emergencies in public health in the world, it is necessary to analyze the services created as a strategy to face the pandemic, as well as to analyze the professional performance of this new demand, paying attention to their future challenges and prospects. In this sense, the objective of this article is to analyze, from the perspective of a team of professionals, the results, barriers, and lessons learned with the telemonitoring service for patients with suspected or diagnosed COVID-19 in a large Brazilian city.

Method

This is research with a qualitative, descriptive, and exploratory approach. To carry out this investigation, the guide for writing qualitative research reports was used: Consolidated criteria for reporting qualitative research (COREQ)[7].

The population of this study consists of 552 health professionals who worked in the telemonitoring service from 03/24/2020 to 03/24/2022. Seventy health professionals who performed teleconsultations with patients suspected or diagnosed with COVID-19 for a period longer than one month at TS-GO were contacted, who were invited to participate in the study through instant messaging software. Twenty-nine did not respond or did not accept to participate in the survey.

Semi-structured individual interviews were applied with those who agreed to participate in the research until the response saturation process was perceived, totaling 41 interviews with the professionals. The closure of data collection due to theoretical saturation occurs when new interviews are interrupted due to the researcher's perception that the data obtained are redundant and do not add new information[8]. In this study, the saturation process was perceived from the thirty-sixth interview. Another five interviews were carried out to confirm saturation.

The characterization of the professionals interviewed was obtained from the application of a structured questionnaire with information on age, gender, professional training, time working in the area, previous experience with telemedicine tools, and time working in the COVID-19 telemonitoring service.

Data collection was carried out through semi-structured interviews carried out remotely, using Zoom software. The guiding questions of the interview addressed the professionals' perceptions regarding the effectiveness and impact of telemonitoring for the health system; perceptions of professionals regarding the challenges and potential of telemonitoring for the health system; and suggestions for improving the telemonitoring service.

For analysis of the data from the literal transcription of the interviews, the methodology of thematic content analysis[9] was adopted, which foresees the extraction of the nuclei of meaning present in the data corpus through the identification of significant categories that respond to the objectives of the study. The thematic content analysis takes place in the following steps: data ordering, pre-analysis, material exploration, aggregation and categorization, treatment of results, and interpretation of data. Considering the volume and complexity of the data collected, WebQDA was used to manage data analysis. This is software based on a collaborative environment and distributed over the web[10].

The code system used to classify and categorize the data extracted from the transcription of the interviews was built based on the theoretical framework of the

research, in integration with the contents that emerged spontaneously from the speeches of the interviewed professionals. The data content analysis process allowed the construction of three categories. Quotes from the participants' speeches will be presented in the results section to illustrate the findings of this investigation; each citation will be identified by the letter P (for professional) and the corresponding number of participant.

All participants signed the informed consent form for the study, which was submitted and approved by the Ethics and Research Committee of the Universidad Federal de Goiás, through opinion 38089120.5.0000.5083.

Results

We interviewed 41 professionals who worked in telemonitoring. Of these, 37 were female. The average age of these professionals was 39 years old. The average time of professional training was 13 years. The participants worked in telemonitoring, on average, for 9 months and only one professional had previous experience with this type of work. Among the professional categories, 10 were physicians, 9 were psychologists, 8 were nurses, 6 were nursing technicians, 3 were nutritionists, 2 were physiotherapists, 1 social worker, 1 physical educator, and 1 dentist. As for the type of telemonitoring, 22 worked on the general TM, 10 were on the medical referenced TM, and 9 were on the psychological referenced TM. Three categories emerged after analyzing the interviews and are described below.

Contributions of telemonitoring to health services

In this category, improvements to the health service brought about by the TM and lessons learned for the construction and improvement of similar services in the future were described. Telemonitoring avoided unnecessary trips to health units, enabling the optimization of face-to-face care for those who needed it. Guidance, removal of doubts, medical evaluation, prescription of medication, and delivery of a certificate were carried out remotely. According to the statements, when people felt safe and accompanied, they demanded less face-to-face monitoring.

The early detection of worsening signs and symptoms was reported as fundamental by the study participants. This occurred through systematic and periodic assessment of signs and symptoms, monitoring of oxygen saturation, and access to medical telecare by the service.

The distribution of an oximeter, guidance on the use of the device, and monitoring of the oxygen saturation of contaminated patients were also highlighted. Hiring more people, in sufficient numbers to carry out an effective TM, was another issue raised. As described in the speeches, we observed that the presence of devices with a camera in the TM service would help a lot in the provision of care, either through the perception of clinical signs or the patient's psychological state.

Table 1: Category - Contributions of telemonitoring to the health system. Extracted from interviews with professionals who worked in telemonitoring. Goiania, Brazil, 2022.

Subcategory name	Exemplary record units
To avoid an unnecessary visit to a health facility	I think it helped a lot to reduce the impact on face-to-face emergency care, you know? Because they had many patients who didn't need to go to the emergency room. We ended up unburdening this service in emergencies and primary units. P16 Asymptomatic, but I was insecure, I wanted to look for an emergency room, and it was nice that we could advise him to stay at home because he will infect other people. P24
Early detection of signs and symptoms of worsening	I evaluate telemonitoring as an extremely relevant and effective strategy, in the sense of guiding those patients who were having symptoms, and warning signs at the beginning and who had no idea what the disease was getting worse, despite all the information given by the means of communication. P19
Evaluation and monitoring of saturation	We managed to guide, sometimes I called patients who thought they were fine and had low saturation. P35
Increase the service team and expand the service	The demand exploded. We were able to call a quarter of the patients in general because it was much more patient than the installed capacity. And then when I talk about installed capacity, it's not just infrastructure and equipment, but people, RH. P31
Technological improvement and use of video	This part of improving even the technological resource, you know? Better headphones, being able to have cameras so we can see who we are working with, so we can have this visual contact because we didn't have it. P30

Source: Created by the authors

Resistance and barriers to telemonitoring

This category discussed the resistance and barriers faced by the team of professionals to perform the TM, as shown by the recording units in Table 2. When asked about the main obstacles to performing the TM, several lines emerged about people's fear, that the call was an attempted phone scam. People were unaware of the existence of a telemonitoring service and often refused to pass on information, answer calls, or hung up the phone during the call. According to the participants, the service should have been publicized among the population at the time of notification and in the media.

Another reported difficulty was the inconsistency of patient location data. The contacts that appeared in the system, originating from the notifications made in the health services, were often wrong, which did not allow the connection. TM professionals also reported that the dissemination of false news and the spread of denialism through social networks made many patients and family members unamenable to carry out some guidelines.

At times, especially at the height of the pandemic, the number of people to be monitored exceeded the capacity of the service and professionals to carry out the follow-up. Many people were not reached at these times. The difficulty of many patients in accessing or using technologies was placed as an obstacle to TM, as well as the low functional health literacy of part of the population, which also made it difficult to carry out the instructions given.

The lack of an effective intrasectoral and intersectoral approach was highlighted as a major obstacle. Telemonitoring professionals were unable, most of the time, to refer the patient to undergo tests in the municipal network, pick up medications or undergo a face-to-face evaluation safely and systematically. There was also no formal articulation between other municipal departments and the TM service. At times, the behaviors and protocols of face-to-face services, such as length of absence or discharge criteria, were not in line with the guidelines of the TM service.

Table 2: Category - Resistances and barriers to telemonitoring. Extracted from interviews with professionals who worked in telemonitoring. Goiania, Brazil, 2022.

Subcategory name	Exemplary record units
Lack of articulation with the network	When we needed to refer a more serious patient, we had no communication with the emergency service and often the patient did not get adequate care despite our guidelines. P16
	I think that intersectoral work needs to be done, health can't work alone [...]. I think that health, education, assistance, housing, and the judiciary all need to work in an integrated and intersectoral way. P1
High service demand	When it was right at the peak, we had a queue of four, five thousand, we reached six, seven thousand people. So, with the team we had, it was impossible to monitor everyone, right? So, many times we already caught it at the end, and others we could no longer monitor. P2
Fear and ignorance of the population regarding the service	I remember a patient that I called and he thought we were having a scam because there was a lot on television that he was having a scam, and he said: "I go where you are". I know I get scared of him. P12
	It was very little publicized. The health units could disclose at the end of the collection, for example, that someone would get in touch to do this type of service, because a lot of people when we called, wow, they said it was a prank, that we wanted to steal information, that wasn't going to answer anything, hung up the phone on his face, that was going to report it. P25
	I think that a challenge, like, that we follow throughout the pandemic, maybe it was all that oscillation of information, sometimes it works, sometimes it works, sometimes it doesn't and of course, I'm even considering the fake news component. We always had to try to align with the patients and some were not very receptive. Resolution of doubts in the face of so many conflicts that were taking place in early treatments, in the treatment itself, with the covid kit and such. P14
Difficulty locating and contacting patients	Very poorly filled notifications with very inconsistent phone, wrong phone, lab phone. So, apart from those phones that were inconsistent, that we couldn't talk at all, and some we tried to do an active search, a fourth of them were inconsistent. P31
Low literacy and digital exclusion	It's an issue of access, access to networks, and access to the internet, so the lower the purchasing power, sometimes the greater the difficulty in locating the patient, because sometimes they didn't have good internet,

the problem is even digital exclusion. P31

I noticed this a lot, especially middle-aged and elderly people, they had difficulty even answering the phone, or sometimes they didn't answer, sometimes they had this difficulty in accessing it, you know? P18

Sometimes the patient was in doubt about how to take the medicine, sometimes someone told him and he forgot to ask something there when taking it that he had a doubt. Or a doubt, for example, when using an oximeter. P8

Source: Created by the authors

Comprehensive and longitudinal distance care

The need for a comprehensive approach to patients, welcoming, longitudinal follow-up, health education, and distance care and mental health were the themes described in this category. Professionals improve the ability to approach the patient integrally, considering their complexity. Telemonitoring made it possible to welcome, support and reassure patients by offering guidance and information regarding symptoms and care needs at home or other points in the healthcare network. Insecurity and an excess of missing information were often catalysts for the suffering experienced by patients and their families.

Initially, the TM service aimed to monitor the clinical and epidemiological aspects of patients. However, as the work was being developed and the consequences of the pandemic emerged, the need to offer psychological support to patients was perceived. The lines in Table 3 describe how much mental suffering was present in the calls and that some professionals did not feel prepared to deal with this demand.

The importance of longitudinality in the follow-up of a patient by the same professional was highlighted. In addition, the importance of patient follow-up in the various stages of care and an integrated manner with other health services was pointed out, including suggesting home visits. In the TM service, it was not possible to organize a work process in which the same professional accompanied the same patient until the end every time, but in some moments this occurred.

Table 3: Category - Comprehensive and longitudinal distance care. Extracted from interviews with professionals who worked in telemonitoring. Goiania, Brazil, 2022.

Subcategory name	Exemplary record units
Welcoming and guiding patients	We found people very afraid, very scared, like, with no idea what to do, thinking they were going to die and, that way, we could be there, give a word, guide, forward to the doctor, forward to the psychologist, have that daily follow-up. So, it was wonderful because people felt very insecure, and most of them had very high anxiety, so the importance, like, of monitoring these people's lives. P23
Monitoring of mental health demands	It was excellent, like, welcoming, listening at a time of such great human fragility, it was extremely important, to monitor, both from the point of view of the disease and support, emotional support. P29
	I think putting a doctor and a psychologist would help much more than putting a dentist, nutritionist, speech-language therapist, or pharmacist. When I was there it had everything. So, we try to help, but most of the time I would transfer them to a psychologist, then later in the monitoring they started to be a psychologist, then it got better, and we would pass them on to a psychologist. I can even reference it, but I don't know how to deal with it. P39
Longitudinality	So, one of the difficulties that we sometimes faced with telemonitoring was the issue of continuity of patient treatment P23
	In a few days, we called the same patients, and we asked about their condition, then as it got worse, it depended a lot on how the patient was doing, and evolution, we got to feel it. P41

Source: Created by the authors

Discussion

Contributions of telemonitoring to health services

The prevention of unnecessary trips to face-to-face services and the early identification of signs of aggravation have been reported in several experiences of telemonitoring of patients with COVID-19 in Brazil and worldwide. The decrease in contagion, mortality and the optimization of face-to-face resources were other observed consequences of the TM[11,12,13].

One action that helps to explain the reported outcomes is the monitoring of patient saturation. One of the

manifestations of COVID-19 pneumonia is silent hypoxia, in which the patient does not manifest symptoms of respiratory distress at first. Thus, saturation monitoring is an important predictor of worsening in this preclinical phase[14]. Other experiences around the world have noticed this need to monitor the saturation during the process and evaluated it as a positive increase in the care provided[15].

The use of video contact was also a strength reported in other experiences. At first, for logistical reasons, many telemonitoring services around the world used only the telephone for contact. However, as the services were organized, the video tool was incorporated into calls and brought greater satisfaction to patients and health professionals[16]. Interpretation of body language and visualization of some clinical signs of patients are lost during monitoring that uses only audio, and the image resource, even partially, allows better evaluation[17].

The information brought by TM professionals points out ways to be repeated and others to be improved in future experiences. Investment in tools for monitoring clinical signs and transmitting images will bring even more improvement to the already enormous benefits of TM.

Resistance and barriers to telemonitoring

Refusal to answer phone calls was observed in another Brazilian study that used phone calls to fight COVID-19: 39% of contacts were not answered. There was also difficulty in accessing patients via telephone due to inadequate records. The use of instant messaging software printed materials, dissemination, and the involvement of community health agents to update records were some of the strategies used to overcome the problem[18]. During the pandemic, several criminals took advantage of the installed panic to carry out scams through links released in messaging apps and phone calls. Most of the time, the aim was to extract data from the victim. With this, the population often began to discredit the telephone contacts and messages received[19]. As suggested by the participants, a process of disclosing the TM service at the time of notification and their telephone numbers on social media could dispel part of this fear.

A study carried out on the dissemination of false news and denialism during the pandemic showed that the main fake news disseminated related to ineffective treatments, the use of COVID-19 as a political strategy, and bank scams. The research found that the dissemination of false news promoted the discredit of health institutions and low adherence to prevention measures and treatments with proven efficacy[20].

Another study, a retrospective cohort that evaluated 48,000 patients in a telemonitoring service for people with COVID-19 in Spain, demonstrated good acceptance by the population and high adherence to the TM[11]. On the other hand, randomized studies that evaluated TM in other countries and chronic conditions showed service acceptance rates ranging from 50 to 90% by patients[21,22]. Adequate training on the management of technological resources, on the disease, and standardized actions performed by professionals were cited as key aspects to achieve a high level of adherence[23].

As for health inequalities due to the digital divide, other studies around the world warn about the risk that the pandemic will accentuate them[24,25]. A study carried out in France showed that the reorganization of the French health system during the pandemic with the increase in telemedicine promoted inadequate assistance for the most vulnerable population[24]. A study carried out in Bangladesh, where the population's difficulty in using telemedicine services and low health literacy was observed, suggested the involvement of community health agents in helping residents of the communities where they work[26].

Remote care or support tools allow the effective and reliable management of thousands of patients in a short period, ensuring care in times of acute shortage of health professionals and physical structure[26]. However, it does not relieve the management of the need to hire and mobilize an even greater number of professionals for the peak moments of the disease. As described in an article that analyzed the construction of a service to combat COVID-19 in the United States, the massive investment in human and technological resources allows quick responses in times of health crisis[25].

Effective public policies must consider articulations and intersectoral actions that involve health with social assistance, education, and other sectors[27]. It is important to point out that places that did not know how to coordinate the various actions of health equipment had worse outcomes during the pandemic. An adequate intrasectoral and intersectoral approach, which incorporates care technologies into the pre-existing network in an articulated way and considers community resources, including the participation of PHC, promotes better results in managing the pandemic[28]. The integration between educational institutions and health services, as demonstrated in other experiences of telemonitoring patients with COVID-19[29,30], is also a valuable resource to qualify and enhance the actions developed.

A rapid literature review study, carried out in 2021, sought the main barriers to the implementation of telemonitoring services for patients with COVID-19 in the world. Issues such as technological limitations, a small number of guidelines and research on the use of telemedicine in this scenario, concerns about the confidentiality of information, poorly trained professionals for the service, and lack of material and financial resources[25] were found in the works analyzed. Among the elderly and people with difficulty

accessing technologies, family support was essential for monitoring[26].

The inconsistency of identification data in medical records with health services, such as telephone numbers, e-mails, and addresses represents a challenge for the adoption of remote monitoring technologies comprehensively, in addition to the difficulty of many patients in accessing information technologies. Updating data in health services and raising awareness among health professionals about the importance of reliable records are alternatives to improve this scenario.

It should also be noted that the mismatch between the TM service and the public health network that offers face-to-face care limited the impact of the TM service actions. The optimization of spaces for dialogue between the services and a coordinated management that integrates the various network resources with the TM can enhance the positive results in the management of pandemics and health crises.

Comprehensive and longitudinal distance care

As described by Ornell et al[31], the absence of proven effective treatments and the spread of false news increase the population's fear and insecurity. Another author[32] even suggests the need for a more agile and proactive posture by health services to combat misinformation. Work carried out in developed countries described that in the feedback extracted from the population regarding the TM service, one of the most outstanding benefits was the security offered by the guidelines. In a period of so many uncertainties, being in contact with health professionals provides the opportunity to clarify doubts and access reliable information[11]. Telemedicine had already proven to be useful for guiding and welcoming the population in other epidemiological emergencies[12]. The use of telecommunications by health services was also identified as a valuable tool for disseminating knowledge to the population[33].

The use of telehealth services for psychological support has been used since the beginning of this century with positive results[34]. Another known issue is the opening and decompensation of mental disorders in the population during health emergencies, already documented in the SARS epidemic in 2002 and H1N1 in 2009[35]. Uncertainties during the pandemic period, circulation restrictions, economic problems, fear of contagion, and mourning bring negative impacts on the mental health of the population[35]. Feelings such as anger, anxiety, irritability, fear, and sadness are often present in face-to-face or distance meetings between patients, family members, and health professionals, generating the need for greater attention and psychological support by care services[36,37]. According to documents and guidelines prepared by the Inter-Agency Standing Committee (IASC), a forum established by the UN to deal with humanitarian crises,

health services must organize themselves to absorb this flow of mental health care and train professionals from different areas to carry out this care[38].

The TM can be a connection between the patient and the care network. Another possible use of the TM is in the post-discharge care of hospitalizations. A study that followed the post-discharge care of children affected by COVID-19 with TM demonstrated the potential of the service in avoiding readmissions and early identification of complications[13]. Another study described TM as a guaranteeing tool for PHC follow-up in the context of the pandemic[39].

The safety that the TM brought to the patients being monitored, in a context of a lack of material and human resources, and concern about contagion, was an important factor in combating misinformation and avoiding unnecessary visits to face-to-face services. Another highlight was the need for emotional support in almost all monitoring and the insecurity of some professionals in conducting these cases. Therefore, training activities should be developed for workers for this service profile and the hiring of a larger number of psychologists and psychiatrists.

Considering that there are a series of consequences and symptoms in post-COVID-19, the construction of TM services must consider the longitudinality and comprehensiveness of follow-up. This can occur during the duration of the disease, with proper storage of patient information and each telemonitoring, in addition to the follow-up of each person being carried out by the same professional. Another impacting factor would be the follow-up of these patients´ post-discharge from the TM with articulation and exchange of information with the installed network, especially the PHC.

Final considerations

Telemonitoring, from the perspective of professionals, helped to contain the pandemic by avoiding unnecessary visits to health services, detecting early signs of aggravation, in addition to clarifying doubts and offering greater security to the population in a time of great uncertainty and misinformation.

It was also highlighted that the psychological support offered was fundamental for the development of the TM service and reception for the population. Training professionals from all areas to deal with mental suffering in similar contexts, in addition to hiring psychology professionals, were identified as highly relevant actions.

As for the perceived difficulties, the resistance and fear of receiving TM call raised the importance of developing strategies to publicize the services in the media and social networks for the population. Another problem that was raised and that should be considered in the construction and development of new TM services is the systematization and

formalization of flows that involve the existing health network and provide longitudinality and integrality of care.

Another limiting points were the wrong identification data, coming from the notification forms, which made it difficult to locate the patients. In the technological challenges, the need for constant training and updating of the team in the use of telecommunication tools was highlighted. The incorporation of video into the follow-up process was another highlight.

These findings have limitations, as they were produced from the exclusive view of professionals. We suggest other studies that also evaluate the perception of the monitored patient. However, considering the health emergency, the number of professionals mobilized and the large number of patients monitored in this TM service, the challenges, and potentialities reported here can be the basis for building new services in a similar context.

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