Esc Anna Nery 2021;25(spe):e20210014

Repercussions of the COVID-19 pandemic on the emergency pre-hospital care service and worker's health

Repercussões da pandemia pela COVID-19 no serviço pré-hospitalar de urgência e a saúde do trabalhador

Repercusiones de la pandemia por COVID-19 en el servicio de urgencias prehospitalarias y la salud de los trabajadores

Daiane Dal Pai[1]
Mariana Pereira Gemelli[2]
Eduarda Boufleuer[2]
Polla Victória Paim Rodrigues Finckler[2]
Jeanini Dalcol Miorin[3]
Juliana Petri Tavares[1]
Dinorá Claudia Cenci[4]

1. Universidade Federal do Rio Grande do Sul, Departamento de Enfermagem Médico-Cirúrgica. Porto Alegre, RS, Brasil.

2. Universidade Federal do Rio Grande do Sul, Escola de Enfermagem. Porto Alegre, RS, Brasil.

3. Universidade Federal de Santa Maria, Programa de Pós-Graduação em Enfermagem. Santa Maria, RS, Brasil.

4. Prefeitura Municipal de Porto Alegre, Núcleo de Educação do Serviço de Atendimento Móvel de Urgência de Porto Alegre. Porto Alegre, RS, Brasil.

Corresponding author:
Polla Victória Paim Rodrigues Finckler.
E-mail: pollavictoriapaim@gmail.com.

Submitted on 01/28/2021.
Accepted on 06/02/2021.

DOI:https://doi.org/10.1590/2177-9465-EAN-2021-0014

Abstract

Objective: To identify the repercussions of the COVID-19 pandemic on the Emergency Mobile Service of a capital of the southern region of Brazil and worker's health. **Method:** Exploratory, qualitative and descriptive study conducted with a total number of 55 workers from 16 teams of SAMU, via online form. Thematic content analysis was applied. **Results:** The categories were identified: (1) Perception of changes related to COVID-19: workers notice a higher demand for respiratory related symptoms, losses in relations with network services in light of the new protocols and an increase in the response time for the cleaning up ambulances and attire and unattire; (2) Difficulties related to Personal safety equipment (PSE) and training: they feel exposed to the risk of contamination, worrying about protection resources; (3) The social and health effects on the worker: feelings of fear and insecurities about their own health and their families, as well as the limitations of social distancing. **Considerations and implications for practice:** The pandemic had repercussions on work flows and routines, as well as generating new needs regarding biological precaution and emotional support.

Keywords: Occupational Health; Working Conditions; Emergencies; Coronavirus Infections; Pandemics.

Resumo

Objetivo: conhecer repercussões da pandemia pela COVID-19 no trabalho e na saúde dos profissionais do Serviço de Atendimento Móvel de Urgência (SAMU) de uma capital da região Sul do Brasil. **Métodos:** estudo qualitativo do tipo exploratório-descritivo, realizado com 55 trabalhadores de 16 equipes do SAMU, por meio de formulário eletrônico. Aplicou-se análise de conteúdo temática. **Resultados:** foram identificadas as categorias: (1) mudanças percebidas frente a COVID-19: percebem aumento nas demandas assistenciais por agravos respiratórios, prejuízos nas relações com serviços da rede face aos novos protocolos e aumento do tempo resposta pela higienização das ambulâncias e paramentação/desparamentação; (2) dificuldades em relação aos Equipamentos de Proteção Individual (EPIs) e ao treinamento: sentem-se expostos ao risco de contaminação, preocupando-se com recursos de proteção; (3) os efeitos sociais e sobre a saúde dos trabalhadores: relataram sentimentos de medo e insegurança quanto à sua saúde e dos familiares, bem como as limitações do distanciamento social. **Considerações finais e implicações para a prática:** a pandemia repercutiu sobre fluxos e rotinas laborais, bem como gerou novas necessidades acerca da precaução biológica e suporte emocional.

Palavras-chave: Saúde do Trabalhador; Condições de Trabalho; Emergências; Infecções por Coronavírus; Pandemias.

Resumen

Objetivo: Conocer las repercusiones de la pandemia por COVID-19 en el trabajo y en la salud de los profesionales del Servicio de Atendimiento Móvil de Urgencia (SAMU) de una capital de la región Sur de Brasil. **Métodos:** Estudio cualitativo, exploratorio-descriptivo, contestado por 55 trabajadores de los 16 equipos del SAMU, mediante formulario electrónico. Se aplicó análisis de contenido temático. **Resultados:** Se identificaron las categorías: (1) Cambios percibidos frente a COVID-19: reportaron un aumento en las demandas de asistencia por problemas respiratorios, pérdidas en la relación con los servicios de la red debido a los nuevos protocolos, y también un aumento en el tiempo de respuesta para la limpieza de ambulancias y vestirse/desvestirse; (2) Dificultades en relación al EPP Equipo de Protección Personal y al entrenamiento: Se sienten expuestos al riesgo de contaminación, preocupándose por los recursos de protección; (3) Los efectos sociales y de salud de los trabajadores: informaron sentimientos de miedo e inseguridad sobre su salud y sus familias, así como las limitaciones de distancia social impuestas por la pandemia. **Consideraciones finales e implicaciones para la práctica:** La pandemia repercutió en los flujos y rutinas laborales, además de generar nuevas necesidades en materia de precaución biológica y apoyo emocional.

Palabras clave: Salud Laboral; Condiciones de Trabajo; Urgencias Médicas; Infecciones por Coronavirus; Pandemias.

INTRODUCTION

COVID-19, a disease caused by the new coronavirus SARS-CoV-2, is considered a public health emergency and due to its high transmissibility, it was considered at the highest level of alert by the World Health Organization, because in only six months, it spread around the world[1] with Brazil standing out in number of cases and deaths.[2,3] The COVID-19 pandemic is an unprecedented challenge to science and society, demanding rapid and diverse responses from health systems that need to be reorganized in all its components to face this pandemic.[4]

The mechanisms of action, transmission and treatment for COVID-19 are not yet well defined, increasing the risk of exposure for professionals working in the care of victims of the disease and also for those providing direct assistance to any patient,[5] since testing is not widespread and there is no consensus about asymptomatic transmission. With these characteristics, COVID-19 required changes with strong impact for the health services and for the professionals who are on the front line of care.

Healthcare workers are a risk group for COVID-19 because they are exposed to a high viral load in direct contact with infected patients. In addition, they are under tremendous stress when caring for these patients, many of whom are severely ill and often face inadequate working conditions.[5]

In China, it is reported that the contamination of workers was favored by inadequate protection at the beginning of the epidemic, justified by the lack of knowledge about the pathogen. Subsequently, the frequent and prolonged exposure to potentially contaminated patients, the intensification of the workday and the greater complexity of the work tasks, with reduced breaks and rest, indirectly increased the probability of infection of health professionals by compromising the care of their own protection. Finally, the scarcity of personal protective equipment (PPE) was also mentioned as a reality in the Chinese scenario of directly increasing the risk of contamination by the new coronavirus.[6]

The Mobile Emergency Care Service (SAMU), as an essential component of the Emergency Care Network (ECN), is inserted in the context of patient care, victims of COVID-19. The SAMU is responsible for providing assistance in emergencies that require immediate transportation to hospitals, as well as transportation between hospitals.[7]

The offer of care in pre-hospital mobile units is conditioned to the restrictions of physical space, time and operational circumstances of work, the number of professionals in the teams, the equipment available and the procedures performed.[8] Such characteristics can confer a higher risk of exposure to COVID-19, which makes it essential to implement broad preventive measures before, during and after all the care provided.[7] An Iranian study[9] conducted with health care workers working in the context of the pandemic of COVID-19, including pre-hospital service, showed that 87% of the participants experienced a very significant increase in workload, 80.85% expressed dissatisfaction with the frequent change of protocols, prevention and treatment methods and the consequent negative effects of this on their performance. A total of 70.23% of the participants experienced a sense of loss of control and loss of confidence in their current situation, with a scarcity of protective devices and the difficulty of using them.

The new work and health conditions imposed on SAMU workers by the pandemic are still little known and represent an important gap in scientific knowledge, requiring studies to support actions aimed at workers' health. It is noteworthy that the motivation for this study was due to the concern with the work and health of the professionals who work in the SAMU facing the pandemic of COVID-19, since this service is one of the gateways to the health system, which receives and directs the patient to the different levels of care, in an organized system of reference and counter-reference.[7] Besides being an indispensable service to the population, it is of interest to glimpse aspects that involve the health and safety of workers, given their increased exposure to physical and mental illness during the pandemic.

In view of the above, the objective of this study is to understand the repercussions of the pandemic by COVID-19 on the work and health of professionals working in the Mobile Emergency Care Service (SAMU) of a capital city in southern Brazil.

METHODS

This is a qualitative, exploratory and descriptive study. We followed the criteria of the Consolidated criteria for reporting qualitative research (COREQ), which guides qualitative research.

Study conducted in the Mobile Emergency Care Service (SAMU), which provides specialized public pre-hospital mobile service to serious situations of health damage of various natures. The SAMU under study covers a territorial area of 495.390 km^2 and an estimated population based on the 2010 Census of 1,483,771 people.

The study included Nursing Technicians, Nurses, Doctors and Drivers who work in the 16 SAMU teams (13 Basic Life Support teams and three Advanced Support teams) distributed in 14 bases in different parts of the capital. All professionals (N=247) working at the SAMU during the data collection period (May to July 2020) were invited to participate in the study, which included 89 nursing technicians, 62 physicians, 27 nurses, 60 drivers, nine administrative and/or radio operators. Professionals on vacation and/or sick leave of any nature were excluded and the sample of study participants consisted of all workers who answered the electronic form (n=55).

The information was collected using a script with open and closed questions in a Google Form, sent to all professionals working in the SAMU of a capital city in southern Brazil, via institutional address and social network, with the support of the institution's Center for Continuing Education. The open and closed questions contained in the form were designed by the authors and focused on the characteristics of the participants, (age, professional category, and gender were questioned); the perception of the impact of the pandemic of COVID-19 on the work, (we asked how the SAMU service was impacted by the pandemic, how the access to PPE and its use occurred, as well as the preparation to attend suspected or confirmed cases of COVID-19; and the health of the workers, being questioned if

and how working in the pandemic affected their mental health, their social/family routine, and how the professionals felt about the exposure (risks) of infection by COVID-19. The answers to the questions (n=55) composed a database from which the textual set submitted to analysis was extracted. The non-response to the form was considered as refusal after three contact attempts.

The data obtained was analyzed using content analysis of the thematic type,[10] beginning with the pre-analysis, with intense floating reading until the impregnation of the material, letting flow the first impressions that emerged to the researcher, then began the phase of exploration of content for subsequent construction of categories, reducing the material to words and speeches and finally the interpretation of results according to the literature data.[9]

The study followed the ethical precepts of Resolution 466/2012. It was authorized by the SAMU Coordinator and, subsequently, approved by the Research Ethics Committee of the institution under CAAE: 20147019.5.3001.5338 and opinion 4.049.189, dated May 26, 2020. By filling out the form anonymously, the worker consented to participate in the study. The results were presented, using fragments of the participants' answers, being identified with codes referring to the professional category, followed by the number related to the order in which the forms were filled out.

RESULTS

A total of 55 workers participated in the study: 20 nursing technicians (36.36%), 15 drivers (27.27%), 12 physicians (21.82%) and 8 nurses (14.55%), among which 33 were male (60%) and 22 female (40%). The age range of workers was 20-39 years (32.73%), 40-59 years (60%), and above 60 years (7.27%). Regarding the time working at the SAMU, the mean was 8.89 years (± 6.25).

The experiences of SAMU professionals from a capital city in the South region of Brazil in the midst of the COVID-19 pandemic could be understood from the categories: (1) perceived changes facing COVID-19; (2) difficulties regarding PPE and training; (3) the social and health effects on workers.

Perceived changes facing COVID-19

The effects of the pandemic moment on the health system are perceived by SAMU workers through the profile of care and flows in the ECN. In addition to the new routine of care to suspected cases of COVID, the professionals reported a change in the profile of requesters, noting that the requests for trauma were reduced in detriment of calls for respiratory diseases.

> *[...]we never know if the patient is a case of COVID or not. So contact and respiratory precautions are being applied for all patients. There has been an increase in demand in the regulation of respiratory symptoms not eligible for SAMU care.* (MED 4)
>
> *Apparently there was a reduction in trauma cases.* (ENF 5)

The measures to contain coronavirus infections required adaptations throughout the health care network and SAMU professionals experienced the impacts of this at the entrance doors of hospital and emergency services.

> *Flow is very difficult. The hospitals are full of restrictions and protocols that hurt us.* (CON 9)
>
> *[...]made it difficult for us to access emergency care and hospitals, because not everyone is prepared and there are still many doubts and fears.* (TE 9)

The response time, determined by the time between the request for service and the service provided by the SAMU, is an important indicator to assess the quality of service. The new protocols required to prevent the spread of infections have brought concern to workers who have always prioritized the shortest response time:

> *More protocols, longer response time by PPE, more ambulances in OA [out of action] for sanitization.* (MED 5)
>
> *With the new biosafety protocols I believe that the response time has increased, taking into account the use of more PPE, the care with disinfection after each care and the time for terminal cleaning in suspicious care.* (TE 4)

Another perceived change was the increased interest of workers in the use of PPE and the sanitation of vehicles in the pandemic scenario.

> *Initially, what changed was the use of PPE that until February the vast majority did not use. For example, the mask was never used unless we knew it was a case of tuberculosis or meningitis [...].* (ENF 7)
>
> *I have increased the use of PPE and sanitization of vehicles, equipment and hands. I believe that by decreasing the viral load that I can come in contact with, I will decrease my risks.* (ENF 2)

Difficulties regarding Personal Protective Equipment (PPE) and training

In the process of dressing and undressing, difficulties related to information about the calls, how to use PPEs, insecurity and fear of contamination were pointed out.

> *I make use of the material provided to me, which are not always adequate or of good quality. We don't receive waterproof overalls! Some items are only available in a sector with specific hours opposite to my shift, which often makes access difficult! Besides the fear of taking the uniform used on duty to be cleaned at home.* (TE 3)
>
> *Sometimes the lack of information in regulation makes preparation difficult. I believe that full overalls would be*

more appropriate. However, in a pre-hospital environment, due to the small size of the team and the need to deal with scenery, equipment, care and records, the chance of protection gaps increases. (MED 8)

Yes, our decontamination place is at the headquarters, a tight place and next to where the ambulance is washed. (TE 13)

Regarding the quality of PPEs, the results also pointed to the insecurity experienced by professionals, mainly associated with the characteristics of the work performed.

Clothing makes the job much more stressful, and hinders mobility, visibility, and agility. For those who work on the street, indispensable skills are hindered, and this is very stressful. Just knowing that I will be dressed up for a long time makes me want to cry. (TE 20)

I use PPE and it could be of a much higher quality, since the PHCT [Pre-Hospital Care] teams are directly linked to a scenario of uncertainty. We need more protection, since any patient is a potential victim. I've seen situations where the patient's family member said that I was wearing "a bag of garbage", such is the quality of what is provided. (TE 2)

I work in basic support and our PPE is inferior compared to the advanced ones that use coveralls. (CON 14)

I use the PPE, but I don't find it adequate, our TNT aprons are short, the disposable caps are small, those with long hair are exposed, we haven't received the overalls (uniform) for a long time, and we wash them at home every shift. (TE 13)

The face shields are of very poor quality, touch the nose, fog up, and reflect a lot of light, making it difficult to see. Overalls are not available for everyone and when they are, they are not the right size. (ENF 8)

The research participants reported having received new protocols for care during the pandemic, but felt that practical training was lacking, especially because of the risk of contamination in dressing, de-parenting, and cleaning the vehicles.

The drivers received no orientation and no specific training for COVID-19. (CON 1)

I don't feel prepared. I haven't had any practical training, only written "standards. (MED 7)

[...]in the case of training, there was no specific training for COVID, only guidance through TN (technical notes). (TE 3)

The health and social effects on workers

Insecurity and fear of the unknown and of contaminating family members were aspects that stood out in the reports of SAMU workers.

Fear and insecurity when faced with a totally different situation: a disease that has no defined treatment and that we don't know how it would evolve in us. Fear of contaminating family and friends or anyone. A lot of insecurity about everything! (TE 12)

I often take a shower with the baby crying at the bathroom door, wanting to be held. But I have a ritual when I get home. (TE 20)

We are afraid of contracting COVID-19 and contaminating our family members, but the moment I accepted to enter the health area, I did good to no one, always using PPE in the care for our safety and that of the patient. (CON 13)

I have distanced myself from my mother who is in the risk group, I have distanced myself from family and friends because I am always in contact with suspicious cases. (TE 16)

A lot of fear of contagion. Fear of needing a respirator and not having one. Fear of not seeing your family members. Fear of contaminating your family members. Fear of being isolated. Insecure about the regulation. Insecure about the efficiency of the PPEs. Since the social isolation I don't ride the bus anymore out of fear. (TE 10)

The new coronavirus demanded special care to avoid contamination, the main one being social distance. The reports bring the changes that occurred in the social life and the difficulty to keep the distance, especially from family members, which represents an addition to the emotional demands of the worker.

I stopped doing many things that were important to me. I decided on the need for isolation because I was too exposed at work. I haven't seen my family since the beginning of the pandemic. (TE 8)

I lived mostly with my parents who are elderly and now I am estranged from them. They are totally isolated. I have to switch shifts and do several shifts in a row to get some days off, so I stay in isolation until I'm sure I don't have symptoms, and then I go there. ...] my elderly parents, without friends and family, are depressed. (ENF 6)

Social adaptations impact the health of workers to the extent that SAMU professionals perceive themselves as potential vectors of contamination because they are in daily contact with the population.

The only thing I do is work and come home. I haven't met with my parents in almost four months. I don't go to the gym anymore, which was an activity that I really liked. We are semi-open regime inmates. (ENF 7)

Whenever there is a large exposure to confirmed patients, I have performed a home isolation. I avoid physical contact

with family members and sleep in a separate room from my wife and children. (MED 4)

[...]I am either at work or I am confined at home. I no longer socialize with other family members. (TE 15)

The changes in the way of living and the fear generated by the pandemic caused several psychic effects and use of medications, according to the reports of the research participants. Anxiety, insomnia, irritation, and tiredness were described.

The insecurity, the fear of getting sick and contaminating the family and patients who are already fragile, cause insomnia, emotional lability and irritation. (TE 4)

I am having a hard time dealing with all of this. I have panic phases, I sleep badly, I'm on anxiety medication. ...] I was freaking out on duty and crying all the time out of concern for my colleagues on the front line. (ENF 6)

I often feel very tired. I don't feel like working. (TE 18)

DISCUSSION

SAMU professionals reported perceived changes in the organization of work and the flow of care. Given the lack of information about the suspected and/or confirmed cases of COVID-19, it is worth considering that professionals need to equip themselves with PPE in all cases of care.[7] The perceived increase in infection control measures is in line with the recommendations[11] that for each suspected or confirmed COVID 19 care, the ambulance should be properly cleaned immediately after the patient's transfer, still at the destination unit. PPE should be used to decontaminate the vehicle, including disinfecting the stretcher in the vehicle and the vehicle floor with a detergent solution.[11]

Faced with this new process, it is observed that the increase in demands may impact the response time, in line with the workers' concerns. In addition, a study[12] has already highlighted that the lack of resources can also increase the response time, worsening the clinical conditions of the victims.

In addition to changes in response time, the professionals reported changes in the profile of calls, which are more related to flu syndromes with a decrease in trauma care. Although there is no study that shows these changes in the profile and its relationship with the current pandemic scenario, data from DATASUS agree with the professionals' reports. When comparing the number of hospitalizations due to injuries, poisonings, and other external causes between March and June 2019 with the data from this same segment in 2020, a 46.36% reduction in cases is identified. It is noteworthy that in June 2020, there were 103 occurrences, while in 2019, in that month alone, there had been 1,321.[13]

In addition to the increase in the number of COVID-related calls, the relationship between pre-hospital care and emergency services at the time of care transfer has become even more delicate. The transfer of care between pre- and in-hospital teams was already a problem even before the new virus, since the lack of a comprehensive protocol to organize the passage of data is considered a weakening of this moment.[14, 15, 16]

Thus, it is inferred that the changes brought by the pandemic to the SAMU's activities have increased the challenges previously experienced, especially the fragility of the processes related to patient and worker safety. No studies were found to test the effectiveness of the PPE available in Brazil, and the results of a systematic review showed that the use of face masks and eye protection are associated with a much lower risk of infection, but none of these interventions provided complete protection against infection.[17]

Since the risks of contamination by the new coronavirus are increased by the uncertainties of PHC, it is known that PPE is essential in the protection of health workers in the current pandemic. Therefore, with the progression of the pandemic, access to PPE for health care workers, as well as the possibility of shortages in places with high demand for care have become a concern and are related to the direct increase in the risk of contamination by the new coronavirus.[18,19]

Moreover, the testimonies portray that PPE hinders the mobility, visibility and agility required in the PHC. Often, workers perform their tasks without the proper use of PPE and without concern about exposure to risks, demonstrating the lack of a culture of safety against biological risk. A literature review identified that the dilemma generated between saving the patient's life and taking care of one's own protection was also recognized as a hindrance to the adherence to standard precautions.[20]

It is still worth considering that, sometimes, the understanding of the worker regarding the need for adherence to Standard Precautions (SP) is greater than the adherence itself. The perception of inefficiency of protective measures can influence the attitudes adopted when facing risk situations, and despite representing protection, the PPs do not totally free the professional from the risk of getting injured and acquiring an occupational disease[20] and, even with PPE, nursing professionals are vulnerable to contamination by the new virus.[21] This circumstance made the concern with the availability and quality of PPE prominent among SAMU professionals at this time of pandemic.

In addition to the perceptions of professionals related to PPEs, the need for qualification to act in the face of COVID-19 was identified. It is valid to consider the importance of training, since the pandemic evolves faster than the prevention measures for the new risks, making it urgent to develop risk recognition skills when dealing with changing situations.[18]

A Colombian study reported the use of clinical simulation as an appropriate methodology to address cases related to COVID-19 in the emergency room and intensive care unit, showing improved efficiency in PPE placement and exchange with decreased contamination.[22] The training activities, presential, or even virtual, as for example, the use of video training can help ensure the physical and mental integrity of the professionals and the precision and clarity of the actions in face of this scenario.[23]

Considering the reports about the insufficiency of training and capacity building, it is worth considering that in the health services, there were numerous attempts and mobilizations to adapt to the new context of assistance in facing the pandemic. However, the reports only bring changes in internal protocols and technical standards, and the workers claim not to have had institutional training related to COVID-19.

An Australian study of paramedics concluded that one factor that hinders compliance with COVID-19 related training protocols and training is the pattern of pre-hospital care, the unpredictable and uncontrolled conditions of paramedics that limit the opportunity to apply proper infection control procedures.[23] Additionally, a survey of emergency medical services professionals in the United States in the midst of the COVID-19 pandemic highlighted the lack of institutional policy on social distancing practices, despite the existence of some recommendations, as well as deficits in educational and administrative protocols related to COVID-19, which presents itself as a serious public health problem that must be urgently addressed.[24]

The data on the illness of professionals in the context of COVID-19 is still inconsistent, as the numbers increase daily, without, at times, the health authorities being able to distinguish between workers and the general population. The fact is that we are living through the greatest health crisis of the century, and the professionals who care, are on the margins of care by the entities that employ them and by the entities that supervise employers.[25]

The reports of the participants of this study confirm this information, because it could be evidenced that the changes caused by the pandemic affect the health and social routine of the professionals who work to combat the coronavirus. About the findings, it is pondered that the fear of the participants is supported by the high occurrences of contamination and death of health professionals. In March 2021, Brazil added 23% of the deaths of nursing professionals in the world, surpassing 699 deaths.[26] Data from the national council of the nursing category released in November 2020 showed 1,500 deaths in 44 countries.[27] By April 2021, 810 doctors in Brazil had already lost their lives due to the pandemic.[28]

The changes in the way of life described by the participants of this research as an aspect that impacts the health of workers were also evidenced in another study.[29] The abrupt change in the way of living and working affects frontline professionals, causing symptoms such as anxiety, stress, depression, fear, anguish, and altered sleep,[30] in line with the reports of SAMU workers.

A study of 1,257 physicians and nurses, working and not working in the front line, revealed a considerable proportion of symptoms of depression (50.4%), anxiety (44.6%), insomnia (34.0%) and anguish (71.5%).[31] Given these findings, there is an urgent need for operationalizing psycho-emotional support for these individuals in coping with negative feelings and difficult circumstances experienced by health professionals.[32]

Review study suggests that the impacts of quarantine can be long-lasting and steps should be taken to make this period tolerable, such as maintaining clear communication and providing mental health care.[33] Another study conducted in 2015, during the Middle East Respiratory Syndrome (MERS) epidemic, showed that mental health problems in people after 4 to 6 months of isolation can be prevented with mental health support for vulnerable individuals.[34] Considering these data, it reinforces the importance of special attention to health professionals who are on the front line, since they add the increased and differentiated demand at work with the lack of social alternatives to give balance to psychic health.

The coronavirus pandemic has permeated the entire social fabric, sparing practically no area of collective or individual life, with repercussions in the sphere of mental health.[35] The transformations in family dynamics, such as the closing of schools, businesses and public places and the limitation or even prohibition of the practice of physical and leisure activities, the changes in routines and work and the distancing lead both the general population and health professionals to feelings of helplessness, abandonment and insecurity due to the economic and social repercussions caused by the pandemic.[32] The evidence of these repercussions in the proposed context refers to the emotional needs exposed in the workers' speeches, which reflect the private sphere and are added to the operational changes of the service facing the lethality and transmissibility of COVID-19.

FINAL CONSIDERATIONS AND IMPLICATIONS FOR PRACTICE

The study reveals the experiences of SAMU professionals from a capital city in southern Brazil in the midst of the pandemic by COVID-19, revealing perceived changes in the flow of care. The workers perceived an increase in demands for respiratory diseases, felt losses in the relationships established with other services in the network due to new protocols at the entry gates of different services that have interfaces with the SAMU and negative impacts on the response time of the service at the expense of increasing infection control measures on ambulances and on the process of paring and de-paring.

SAMU workers reported a perception of high exposure to the risk of contamination, concern about the availability and quality of PPE, and expressed interest in technical and scientific improvement to act in the pandemic. Facing a disease of high transmissibility and lethality in acceleration and, very unknown, the professionals described the fear of contracting the COVID-19, as well as the impacts on their own families. These experiences impact the psychological health of the workers, who also experience the social limitations imposed by the pandemic, restricting the opportunities to relieve the emotional, cognitive, and physical tensions of the work.

Studies that reveal situations experienced during a new pandemic can contribute to legacies in facing serious and unknown situations that affect public health, in which health workers represent essential agents. However, exploratory and descriptive studies are considered low evidence, which is a limitation of this study. It is believed that the form is a limited

resource for qualitative research, which could be more in-depth in recorded face-to-face interviews.

The study advances health knowledge and the field of studies and practices in worker health, as it reveals the experiences of professionals who work directly in the frontline care of patients who are victims of COVID-19. The results contribute to the understanding of the effects of the pandemic on work organization and SAMU workers, as well as subsidize the formulation of strategies aimed at promoting measures to protect workers' health.

Mediation groups to monitor emotional impacts and continuing education strategies to align processes under construction can provide important support to SAMU professionals and minimize factors that cause illness and absence from work. All the experiences brought by the pandemic of COVID-19 should leave legacies in the consolidation of protection measures for health workers, considering that the health team should always be in the front line to combat outbreaks, new diseases and pandemics that emerge.

AUTHOR'S CONTRIBUTIONS

Study design. Daiane Dal Pai. Mariana Pereira Gemelli. Eduarda Boufleuer. Polla Victória Paim Rodrigues Finckler. Jeanini Dalcol Miorin. Juliana Petri Tavares. Dinorá Claudia Cenci.

Data collection or production. Daiane Dal Pai. Mariana Pereira Gemelli. Eduarda Boufleuer. Polla Victória Paim Rodrigues Finckler. Jeanini Dalcol Miorin. Juliana Petri Tavares. Dinorá Claudia Cenci.

Data analysis. Daiane Dal Pai. Mariana Pereira Gemelli. Eduarda Boufleuer. Polla Victória Paim Rodrigues Finckler. Jeanini Dalcol Miorin. Juliana Petri Tavares. Dinorá Claudia Cenci.

Interpretation of results. Daiane Dal Pai. Mariana Pereira Gemelli. Eduarda Boufleuer. Polla Victória Paim Rodrigues Finckler. Jeanini Dalcol Miorin. Juliana Petri Tavares. Dinorá Claudia Cenci.

Writing and critical revision of the manuscript. Daiane Dal Pai. Mariana Pereira Gemelli. Eduarda Boufleuer. Polla Victória Paim Rodrigues Finckler. Jeanini Dalcol Miorin. Juliana Petri Tavares. Dinorá Claudia Cenci.

Approval of the final version of the article. Daiane Dal Pai. Mariana Pereira Gemelli. Eduarda Boufleuer. Polla Victória Paim Rodrigues Finckler. Jeanini Dalcol Miorin. Juliana Petri Tavares. Dinorá Claudia Cenci.

Responsibility for all aspects of the content and integrity of the published article. Daiane Dal Pai. Mariana Pereira Gemelli. Eduarda Boufleuer. Polla Victória Paim Rodrigues Finckler. Jeanini Dalcol Miorin. Juliana Petri Tavares. Dinorá Claudia Cenci.

ASSOCIATED EDITOR

Antonio José Almeida Filho

SCIENTIFIC EDITOR

Ivone Evangelista Cabral

REFERENCES

1. World Health Organization. Coronavirus Disease (COVID-19) Dashboard [Internet]. Geneva: WHO; 2020 [cited 2020 Jul 30]. Available from: https://covid19.who.int/
2. Roser M, Ritchie H, Ortiz-Ospina E, Hasell J. Coronavirus Pandemic (COVID-19) [Internet]; 2020 [cited 2020 Aug 03]. Available from: https://ourworldindata.org/coronavirus
3. Brasil. Ministério da Saúde. Secretaria de Vigilância em Saúde. Painel Coronavírus [Internet]. Brasília; 2020 [cited 2020 Aug 08]. Available from: https://covid.saude.gov.br/
4. Medina MG, Giovanella L, Bousquat AEM, Mendonça MHM, Aquino R. Primary healthcare in times of COVID-19: What to do? Cad Saúde Pública. 2020;36(8):e00149720. https://doi.org/10.1590/0102-311X00149720.
5. Teixeira CFS, Soares CM, Souza EA, Lisboa ES, Pinto ICM, Andrade L et al. The health of healthcare professionals in coping with the Covid-19 pandemic. Cien Saude Colet. 2020 set;25(9):3465-74. http://dx.doi.org/10.1590/1413-81232020259.19562020. PMid:32876270.
6. Wang J, Zhou M, Liu F. Reasons for healthcare workers becoming infected with novel coronavirus disease 2019 (COVID-19) in China. J Hosp Infect. 2020 mar;105(1):100-1. http://dx.doi.org/10.1016/j.jhin.2020.03.002. PMid:32147406.
7. Marques LC, Lucca DC, Alves EO, Fernandes GCM, Nascimento KC. COVID-19: Nursing care for safety in the mobile pre-hospital service. Texto Contexto Enferm. 2020 jun 22;29:e20200119. http://dx.doi.org/10.1590/1980-265x-tce-2020-0119.
8. Castro GLT, Tourinho FSV, Martins MSFV, Medeiros KS, Ilha P, Santos VEP. Proposal for steps towards patient safety in mobile emergency care. Texto Contexto Enferm. 2018;27(3):01-09. https://doi.org/10.1590/0104-070720180003810016.
9. Ardebili ME, Naserbakht M, Bernstein C, Alazmani-Noodeh F, Hakimi H, Ranjbar H. Healthcare providers experience of working during the COVID-19 pandemic: A qualitative study. Am J Infect Control. 2020 Oct 06;S0196-6553(20)30896-8. https://doi.org/10.1016/j.ajic.2020.10.001.
10. Minayo MCS. Análise qualitativa: teoria, passos e fidedignidade. Cien Saude Colet. 2012;17(3):621-6. http://dx.doi.org/10.1590/S1413-81232012000300007. PMid:22450402.
11. Gov UK. Guidance COVID-19: guidance for Ambulance Trusts Updated 13 March 2020 [Internet]; 2020 [cited 2020 Aug 10]. Available from: https://www.gov.uk/government/publications/covid-19-guidance-for-ambulance-trusts/covid-19-guidancefor-ambulance-trusts
12. Khorasani-Zavareh D, Mohammadi R, Bohm K. Factors influencing pre-hospital care time intervals in Iran: a qualitative study. J Inj Violence Res. 2018 jun 23;10(2):83-90. http://dx.doi.org/10.5249/jivr.v10i2.953. PMid:29935017.
13. Brasil. Ministério da Saúde. Datasus – Tecnologia da Informação a Serviço do SUS. Morbidade hospitalar do SUS – por local de internação – Rio grande do Sul [Internet]. Brasília; 2020 [cited 2020 Aug 16]. Available from: http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sih/cnv/nirs.def
14. Jamishidi H, Jazani RK, Alibabaei A, Alamdari S, Kalyani MN. Challenges of cooperation between the prehospital emergency services in the handover of victmis of road traffic accidents: A qualitative study. Invest Educ Enferm. 2019;37(1):70-9. http://dx.doi.org/10.17533/udea.iee.v37n1e08.
15. Hovenkamp GT, Olgers TJ, Wortel RR, Noltes ME, Dercksen B, ter Maaten JC. The satisfaction regarding handovers between ambulance and emergency department nurses: An observational study. Scand J Trauma Resusc Emerg Med. 2018;26(1):28. http://dx.doi.org/10.1186/s13049-018-0545-7. PMid:29669572.
16. Fitzpatrick D, McKenna M, Duncan EAS, Laird C, Lyon R, Corfield A. Criticomms: A national cross-sectional questionnaire based study to investigate prehospital handover practices between ambulance clinicians and specialist prehospital teams in Scotland. Scand J Trauma Resusc Emerg Med. 2018;26(45):2-11. http://dx.doi.org/10.1186/s13049-018-0512-3. PMid:29859121.
17. Chu DK, Akl EA, Duda S, Solo K, Yaacoub S, Schünemann HJ et al. Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic

review and meta-analysis. Lancet. 2020 jun 27;395(10242):1973-87. http://dx.doi.org/10.1016/S0140-6736(20)31142-9. PMid:32497510.

18. Almeida IM. Health protection for healthcare workers in COVID-19 times and responses to the pandemic. Rev Bras Saúde Ocup. 2020. http://dx.doi.org/10.1590/scielopreprints.140.
19. Gallasch CH, Cunha ML, Pereira LAS, Silva-Junior JS. Prevention related to the occupational exposure of health professionals workers in the COVID-19 scenario. Rev enferm UERJ. 2020;28(1):1-6. https://doi.org/10.12957/reuerj.2020.49596.
20. Cunha QB, Camponogara S, Freitas EO, Pinno C, Dias GL, Cesar MP. Fatores que interferem na adesão às precauções padrão por profissionais da saúde: revisão integrativa. Enferm foco. 2017 Apr;8(1):72-76. http://dx.doi.org/10.21675/2357-707X.2017.v8.n1.980.
21. United Nations. COVID-19 highlights nurses' vulnerability as backbone to health services worldwide [Internet]; 2020 Apr 07 [cited 2020 Aug 08]. Available from: https://news.un.org/en/story/2020/04/1061232
22. Díaz-Guio DA, Ricardo-Zapata A, Ospina-Velez J, Gómez-Candamil G, Mora-Martinez S, Rodriguez-Morales AJ. Cognitive load and performance of health care professionals in donning and doffing PPE before and after a simulation-based educational intervention and its implications during the COVID-19 pandemic for biosafety. Infez Med. 2020 jun;28(suppl. 1):111-7. PMid:32532947.
23. Anderson C, Pooley JA, Mills B, Anderson E, Smith EC. Do paramedics have a professional obligation to work during a pandemic? A qualitative exploration of community member expectations. Disaster Med Public Health Prep. 2020 jun 24;14(2):1-7. http://dx.doi.org/10.1017/dmp.2020.212. PMid:32576316.
24. Gibson C, Ventura C, Collier GD. Emergency Medical Services resource capacity and competency amid COVID-19 in the United States: Preliminary findings from a national survey. Heliyon. 2020;6(5):e03900. http://dx.doi.org/10.1016/j.heliyon.2020.e03900. PMid:32368629.
25. Souza e Souza LPS, Souza AG. Brazilian nursing against the new Coronavirus: who will take care for those who care? J Nurs Health. 2020;10(n. esp.):e20104005. https://doi.org/10.15210/JONAH.V10I4.18444.
26. Conselho Federal de Enfermagem. Mortes de enfermeiros por covid voltam a subir e batem recorde em março [Internet]. Brasília: COFEN; 2021 Mar 31 [cited 2021 Apr 29]. Available from: http://www.cofen.gov.br/mortes-de-enfermeiros-por-covid-voltam-a-subir-e-batem-recorde-em-marco_86149.html
27. Conselho Federal de Enfermagem. Brasil representa um terço das mortes de profissionais de Enfermagem por covid-19 [Internet]. Brasília: COFEN; 2021 Jan 01 [cited 2021 Apr 29]. Available from: http://www.cofen.gov.br/brasil-responde-por-um-terco-das-mortes-de-profissionais-de-enfermagem-por-covid-19_84357.html
28. Conselho Federal de Medicina. Conselhos regionais de medicina. Memorial aos médicos que se foram durante o combate à COVID-19 [Internet]. Brasília: COFEN; 2021 [cited 2021 Apr 29]. Available from: https://memorial.cfm.org.br/
29. Portugal JKA, Reis MH da S, Barão ÉJ da S, Souza TTG de, Guimarães RS, Almeida L da S de, Pereira RM de O, Freire NM, Germano SNF, Garrido M da S. Perception of the emotional impact of the nursing staff in the face of the COVID-19 pandemic: experience report. Rev. Eletrônica Educ. 2020;(46):e3794. https://doi.org/10.25248/reas.e3794.2020.
30. Prado AD, Peixoto BC, da Silva AMB, Scalia LAM. The mental health of health professionals in front of the COVID-19 pandemic: an integrative review. Rev. Eletrônica Educ. 2020 Jun 26;(46):e4128. https://doi.org/10.25248/reas.e4128.2020.
31. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N et al. Factors associated with mental health outcomes among healthcare workers exposed to coronavirus disease 2019. JAMA Netw Open. 2020 mar 23;3(3):e203976. http://dx.doi.org/10.1001/jamanetworkopen.2020.3976. PMid:32202646.
32. Moreira WC, Sousa AR, Nóbrega MPSS. Mental illness in the general population and health professionals during COVID-19: A scoping review. Texto Contexto Enferm. 2020;29:e20200215. http://dx.doi.org/10.1590/1980-265x-tce-2020-0215.
33. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet. 2020 mar 24;395(10227):912-20. http://dx.doi.org/10.1016/S0140-6736(20)30460-8. PMid:32112714.
34. Jeong H, Yim HW, Song YJ, Ki M, Min JA, Cho J et al. Mental health status of people isolated due to Middle East Respiratory Syndrome. Epidemiol Health. 2016;38:e2016048. http://dx.doi.org/10.4178/epih.e2016048. PMid:28196409.
35. Lima RC. Distancing and social isolation by Covid-19 in Brazil: impacts on mental health. Physis. 2020;30(2):e300214. http://dx.doi.org/10.1590/s0103-73312020300214.