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Perception of Stress Among Healthcare Professionals Who Worked on the Frontline of COVID-19 at the Regional Hospital of Mato Grosso do Sul Rosa Pedrossian

Percepção do Estresse nos Profissionais de Saúde que Atuaram na Linha de Frente da COVID-19 no Hospital Regional do Mato Grosso do Sul Rosa Pedrossian

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Resumo

No ano de 2020, a pandemia da COVID-19 trouxe uma sobrecarga significativa para os trabalhadores da linha de frente no combate à doença. Essa pressão contribuiu para o colapso do sistema de saúde público e teve um impacto severo na saúde física e mental desses profissionais. Eles foram expostos a inúmeras dificuldades ao lidar com uma população que necessitava de cuidados de emergência. Como resultado, esses indivíduos passaram a demonstrar sinais de frustração, impotência, medo de contaminação e preocupações com a saúde de seus familiares, pacientes e colegas de trabalho da área da saúde. Este estudo teve como objetivo avaliar o impacto da crise causada pela pandemia na saúde mental dos trabalhadores da linha de frente, com ênfase nas consequências do estresse vivenciado durante esse período. Trata-se de um estudo de natureza longitudinal e quantitativa realizado no Hospital Regional do Mato Grosso do Sul (HRMS). Foi aplicado um questionário que incluía a Escala de Percepção do Estresse 10 (EPS-10) juntamente com três perguntas de múltipla escolha desenvolvidas pelos pesquisadores a 150 participantes (N=150). Destes participantes, 117 eram do sexo feminino e 33 do sexo masculino, sendo a maioria composta por técnicos de enfermagem. Os resultados revelaram que 51,33% dos profissionais participantes do estudo informaram apresentar níveis elevados e muito elevados de estresse, e 91 indivíduos desenvolveram distúrbios psiquiátricos, especialmente ansiedade, como resultado direto do impacto da pandemia. Portanto, torna-se urgente a necessidade de implementar intervenções voltadas para melhorar a saúde mental desses profissionais da linha de frente.
Palavras-chave: COVID-19. Saúde Mental. Serviços Centralizados no Hospital. Profissionais de Saúde.

Abstract

In 2020, the COVID-19 pandemic brought significant strain to frontline workers combating the disease. This pressure contributed to the collapse of the public healthcare system and severely impacted the physical and mental health of these professionals. They were exposed to numerous difficulties in dealing with a population in need of emergency care. As a result, these individuals began to show signs of frustration, helplessness, fear of contamination, and concerns about the health of their families, patients, and healthcare colleagues. This study aimed to assess the impact of the crisis caused by the pandemic on the mental health of frontline workers, with an emphasis on the consequences of stress experienced during this period. It is a longitudinal, quantitative study conducted at the Mato Grosso do Sul Regional Hospital (HRMS). A questionnaire was administered, including the 10-item Perceived Stress Scale (PSS-10) along with three multiple-choice questions developed by the researchers, to 150 participants (N=150). Of these participants, 117 were female and 33 were male, with the majority being nursing technicians. The results revealed that 51.33% of the study participants reported high and very high levels of stress, and 91 individuals developed psychiatric disorders, especially anxiety, as a direct result of the pandemics impact. Therefore, there is an urgent need to implement interventions aimed at improving the mental health of these frontline professionals.
Keywords: *COVID-19. Mental Health. Centralized Hospital Services. Health Personnel.*

1 Introduction

Work, for human beings, becomes fundamental due to the need to maintain social relationships, but personal dependence is also essential[1]. According to some authors, work may be a source of risk to the worker's health[2,3]. Stress is one of the main problems when investigating the workers' routine, since stress is defined by the complex psychophysiological reaction, by which the organism needs to react [4] and often presents as cause unusual situations, especially those considered threatening[5].

It was pointed out that workers who routinely interact with individuals who need help, such as health professionals, have a higher risk of developing mental health setbacks, such as stress[6]. Hospital environment has a very large amount of unhealthy disorders and a constant routine living with morbidity that may be the starting point for the onset of the suffering of professionals and an evident factor for the stress development[3].

Between 2019 and 2020, an outbreak of pneumonia was reported, of unknown etiology. The first cases arose in Wuhan city, Hubei province, in the People's Republic of China. And it was a virus that had not been identified in humans and was called Coronavirus 2, the acute respiratory syndrome (SARS-CoV-2), which produces the disease classified as COVID-19[7]. Number 19 refers to the year of the outbreak of the disease by the World Health Organization (WHO), which defined it as a

threat to global public health and local economies[8].

The concept of a pandemic is the consolidation of an outbreak that affects a specific area of coverage, with a sustained transmission, which spreads across several continents, in a short period of time. In less than a month WHO declared a COVID-19 outbreak that constituted a public health emergency of global importance. All to improve coordination, cooperation and global solidarity with the aim of stopping the spread of the virus[9].

In Brazil, the first case was on February 26th, 2020, and since then the country has maintained the highest number of cases and deaths in the continent[10]. The vulnerability of health workers is intrinsically linked to precarious conditions and the lack of Personal Protective Equipment (PPE). This situation is particularly worrying considering that Latin America was one of the last continents to be contaminated by COVID-19[11]. This reality reflects the high vulnerability of health workers, who need to assist the population in an emergency way.

It is known that infections are related to the lack of adequacy or failures in precautionary measures and protection against the outbreak, in addition to the scarcity of personal protective equipment (surgical masks and type PFF2 and appropriate clothing), presence of agglomerations, patients with the germ who maintained contact with health professionals, among other factors[12]. In Brazil, the pandemic has unveiled historical situations of neglect of public policies, including underfinancing of SUS, in addition to devaluation of the work of health professionals[13].

Health professionals deal at all times with the fear of death of patients and colleagues, with the fear of becoming a vehicle of the disease, the frustration of self-contagion and the impossibility of an effective decision, resulting in physical and mental exhaustion[14]. At the height of the pandemic, emotional and behavioral self-regulation was altered when, under threat/challenge, faced with the three basic psychological needs: competence, relationship and autonomy[15].

The prevalence of psychic suffering, perceived stress and burnout in its dimensions was high in this group of professionals active in the front line of the pandemic. The manifestations of those who work on the front line indicate a strong level of stress, fatigue and a lot of difficulty dealing with the increase of adverse conditions that the confrontation of the pandemic entails[15].

Long duties are usual, but were hampered with the impossibility of taking breaks, due to the attire, which needs to be undone and redone at each exit of the reserved area of patients with COVID-19. This is understood as necessary, but overload generator. The permanent confrontation with the risk of the contamination itself is highlighted[16].

Therefore, the objective of this research is to analyze the perception of stress in health professionals of the Regional Hospital of Campo Grande – MS, before the work they carried out in the front line of the COVID-19 pandemic.

2 Material and Methods

The study is longitudinal and was carried out at the Regional Hospital of Mato Grosso do Sul (HRMS). The target audience consisted of professionals who acted on the front line of COVID-19 (n=150), of both sexes, from the following areas: nursing technicians, physiotherapists, nurses and doctors. The research was approved by the Research Ethics Committee of Anhanguera UNIDERP University, on March 30th, 2022, with the opinion number: 5.321.688.

A questionnaire containing the Stress Perception Scale-10 adapted and associated with 3 multiple choice questions formulated by the researcher group was used as a data collection instrument, in order to associate stress with the COVID-19 pandemic period. All participants received the questionnaire printed on sheet A4 and the Free and Informed Consent Form (TCLE). During the collection period, the group was subdivided into several days and times, with the purpose of covering the numerous sectors and professionals.

2.1 Selection and description of research participants

The selection of participants was performed through a convenience sample. This implies that the participants were chosen based on their availability and accessibility, without following a specific sample calculation to ensure the statistical representativeness of the target population. The research was restricted to health professionals who worked at the Regional Hospital of Mato Grosso do Sul Rosa Pedrossian during the critical period of the pandemic as doctors, nurses, nursing technicians and physiotherapists. Inclusion and exclusion criteria were established to determine which professionals would be considered eligible to participate in the study, excluding those who were still away from work by medical certificates and/or who refused to sign the Free and Informed Consent Form (TCLE).

At the institution, there was the presence of several important professionals, such as nutritionists, psychologists, social workers, technicians from laboratories responsible for blood collection, blood bank technicians (considering the need for hemocomponents for many patients), and stretcher bearer. However, these professionals were not included in the research. The decision not to include them was based on several factors, such as the availability of time of professionals to participate in the interviews, the practicality of obtaining information from the group studied, as well as the need to focus on the analysis of a specific set of health professionals directly involved in the frontline of the fight against COVID-19.

Parte superior do formulário

2.2 Statistical analysis

The data collected were tabulated and analyzed using descriptive statistics (absolute and relative frequencies, category distributions and answers to multiple choice, mean and median questions) using Microsoft Office 2016 Excel

software. For global analysis, all data collected were placed in a single table, without distinction of sex, age or occupation.

To analyze the data of the adapted stress perception scale-10, it was necessary to apply interpretation [17], in which it was essential to inversion the values of questions 4,5,7 and 8, since they presented positive characteristics. Then, we performed the horizontal sum of the ten questions, resulting in values between 0 and 40.

From this, the group performed an interquartile division of the possible results values, segmented from 10 in 10 and classifying from 0 to 10: Perception of mild stress; 11 to 20: Perception of moderate stress; 21 to 30: Perception of high stress; and 31 to 40: perception of high stress. The three questions elaborated by the group of researchers contained the possibility of the interviewee selecting more than one alternative per question, with the descriptive option of "others".

3 Results and Discussion

Based on the 150 questionnaires applied, when the total tabulation of data was completed, it was possible to perform global analyzes regarding the sample. Of the total number of participants (N=150), 117 were female and 33 were male. In addition, the median age of the participants was 39 years, while the mean age was 40.5 years. We could also observe the number of respondents by profession, whose number was comprised of 05 physiotherapists, 14 doctors, 33 nurses and 98 nursing technicians, which consisted of representing most of the sample (Table 1).

Table 1- Distribution of overall frequency of the sample within their respective professions.

Professional category	N (%)
Nurse	22.00
Female	18.67
Male	3.33
Physiotherapist	3.33
Female	3.33
Doctor	9.33
Female	4.67
Male	4.67
Technician Nurse	65.33
Female	51.33
Male	14.00
Total	100

Source: research data.

From the application of the criteria established by the researchers, the inversion of the values of questions 4, 5, 7 and 8 was performed in the stress perception scale, since they presented positive characteristics and, soon after, the horizontal summation of each questionnaire was performed, reaching a result between zero (minimum score) up to 40 points (maximum score).

Taking into account the spectra of possible results, a frequency distribution was performed, divided into 4 stress levels:

a) Low level of stress, with results from zero to 10, being contemplated by seven people;
b) Medium level of stress, with results from 11 to 20, being contemplated by 66 people;
c) High level of stress, with results from 21 to 30, being contemplated by 68 people;
d) High level of stress, with results from 31 to 40, with a total of nine people being contemplated (Table 2).

Table 2 - Distribution of the score created from the stress perception scale-10 (modified) applied in each profession, separated by sex, by total quantity

	Low	Medium	High	Very High	Total
Nurse	2	12	18	1	33
Male	0	2	3	1	6
Female	2	10	15	0	27
Physiotherapist	0	3	1	1	5
Female	0	3	1	1	5
Doctor	2	7	3	2	14
Male	1	4	1	1	7
Female	1	3	2	1	7
Technician Nurse	3	44	46	5	98
Male	0	8	13	0	21
Female	3	36	33	5	77
Total	**7**	**66**	**68**	**9**	**150**

Source: research data.

The data allow us to observe that the high level of stress is the distribution that has the highest number of results in its size, responsible for 45.33% of the total sample. Subsequently, the mean level of stress presents a high amount of results, responsible for 44% of the total sample, having the second largest frequency distribution (Table 3).

Table 3 - Distribution of the score created from the stress perception scale-10 (modified) applied in each profession separated by sex in percentage

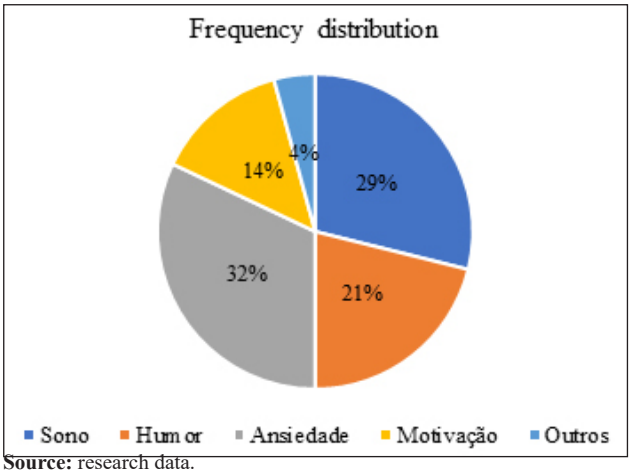
	Low	Medium	High	Very High	Total
Nurse	1.33%	8.00%	12.00%	0.67%	22.00%
Male	0.00%	1.33%	2.00%	0.00%	3.33%
Female	1.33%	6.67%	10.00%	0.67%	18.67%
Physiotherapist	0.00%	2.00%	0.67%	0.67%	3.34%
Female	0.00%	2.00%	0.67%	0.67%	3.34%
Doctor	1.33%	4.67%	2.00%	1.33%	9.33%
Male	0.67%	2.67%	0.67%	0.67%	4.68%
Female	0.67%	2.00%	1.33%	0.67%	4.67%
Technician Nurse	2.00%	29.33%	30.67%	3.33%	65.33%
Male	0.00%	5.33%	8.67%	0.00%	14.00%
Female	2.00%	24.00%	22.00%	3.33%	51.33%
Total	**4.66%**	**44.00%**	**45.34%**	**6.00%**	**100.00%**

Source: research data.

When evaluating the results obtained from the first multiple choice question, elaborated by the group of researchers, which had as objective to evaluate what remained altered in the psychological health of the interviewee, in the face of

the current routine, a total was obtained of: 82 answers to the "sleep" option; 60 answers to the "mood" option; 91 answers to the "anxiety" option; 39 answers to the "motivation" option and 12 answers to the "other" option. Thus, anxiety was the aspect that remained most altered (Figure 1).

Figure 1 - Distribution of frequency related to the change in psychological health of the interviewee



Source: research data.

When evaluating the results obtained from the second multiple choice question prepared by the group of researchers, which had the purpose of evaluating psychological changes that existed in the interviewee's routine, during the COVID-19 pandemic, which lasted until the time of the questionnaire response, it was obtained a total of: 49 answers to the "fear" option; 50 answers to the "distress" option; 62 answers to the "frustration" option; 53 answers to the "fragility" option and 18 answers to the "other" option. It was possible to observe that frustration was the aspect that remained the most in the current routine of the sample

When evaluating the results obtained from the third multiple choice question elaborated by the group of researchers, whose objective was to evaluate the factor resulting from the performance of the front line that most affected the psychological of the interviewees, a total was obtained of: 95 answers to the "Death" option; 65 answers to the "Missing Resource" option; 52 answers to the "Working team missing " option; 91 answers to the "Work Overload" option and 13 answers to the "Other" option. Thus, it was possible to observe that death was the factor that most affected the psychological of the sample.

The COVID-19 pandemic has brought a number of challenges for healthcare professionals around the world, especially for those who work on the front line. These professionals have been essential in treating infected patients, putting their own lives at risk while struggling to save others. However, this extreme situation can generate high levels of stress and negatively impact the mental health of these professionals.

Understanding the perception of stress in professionals working on the front line of COVID-19 is fundamental to evaluate the psychological impacts of the pandemic in this group and, consequently, develop strategies for prevention and treatment of these problems. It is in this context that the study carried out at the Regional Hospital of Mato Grosso do Sul Rosa Pedrossian is inserted.

Current research indicates that health professionals working on the front line of the COVID-19 pandemic are suffering high levels of occupational stress. Most of these professionals are female, with marital relationship, children and working hours of 40 hours, which can significantly influence their emotional aspects. Increased workload, exposure to the risk of virus contamination and fear of contaminating family members and friends are factors that contribute to the stress of these professionals[18].

Although most professionals have reported good working conditions, abrupt change in personal and professional daily life has generated emotional, physical and behavioral changes. Anxiety and fear are common feelings among these professionals, even after they have been vaccinated against the virus. Lack of psychological support can lead to a feeling of emotional and psychological helplessness, resulting in mental disorders, psychosomatic diseases and even Burnout syndrome[18].

The emotional, physical and behavioral changes of these professionals are directly related to the lack of safety, even after they have been vaccinated. They know that other professionals have been infected or died of COVID-19 and that they are at the same risk. The possibility of dealing with the death of COVID-19 patients and the lack of search for professional help also contribute to the stress of these professionals.

Occupational stress can lead to changes in the physical and mental health of these professionals, resulting in unfavorable health conditions. It is important that health professionals consider their emotional limits and seek professional help specialized in mental health to prevent or minimize the worsening of these health problems[18].

Authors report the results of a study that sought to understand the impact of the COVID-19 pandemic on the mental health of health professionals in Novo Hamburgo, Brazil[16]. The research found that the interviewed professionals had psychic suffering already in the interviews of entry to the study, manifested in different aspects and corroborated by specific inventories. The study identified that the overload on the front line of the pandemic is the main source of suffering, with stress and physical and emotional exhaustion (Burnout) not appearing to be modified by other conditions studied.

Previous studies indicated a high prevalence of high scores for SRQ-20 and PSS, but still lower than 40% of the group interviewed. In-depth interviews also found manifestations of overload and perception of stress, tension and fear, with 45% of the group with scores on the PSS at moderate, high or very high levels. Large epidemics challenge the mental health of health professionals, with suddenly increasing demands of

patients with severe conditions[16].

This study discusses the implications of COVID19 on the mental health of the population, highlighting that disaster conditions induce insecurity, fear and the need for behavior change. Components of disaster, such as death of loved ones, socioeconomic loss, and disturbances of normal behavior, can trigger negative mental conditions. The authors also explain that mental health symptoms peak the year following a disaster and then improve[19].

Resistance, resilience, recovery and chronic dysfunction are the groups of symptoms identified. Still, there are studies that suggest a variety of mental conditions related to COVID-19, such as depression, anxiety and post-traumatic stress disorder, but it points out that most individuals who experience a disaster do not develop psychopathology. Nevertheless, the impact of the pandemic on mental conditions may vary between countries and population groups[19].

Some authors discuss the experiences experienced by nurses who took care of patients with COVID-19[20]. The study identifies four themes: uncertainty and fear, change in the perception of time and space, change in the meaning of "caring" and changes in roles and relationships, noting that fear and uncertainty permeated all nurses' experiences, especially at the beginning of the pandemic. However, nurses also demonstrated a high sense of responsibility, choosing to stay with patients despite the fear of contracting the infection.

Attitude toward duty and responsibility has become a shared value by the entire community of health professionals. The meaning of "caring" in the COVID-19 pandemic consists of proximity, gestures of care and protection and action despite the distance. The well-being of health professionals has a strong clinical implication for the quality of the results sensitive to hospital service. They conclude by discussing the need for adequate ethical aspects to be at the center of nursing discipline and the importance of developing nursing as a discipline through academic teaching[21].

4 Conclusion

Based on the results obtained in this research, we can conclude that the professionals who worked in the front line of COVID-19 at the Regional Hospital of Mato Grosso do Sul Rosa Pedrossian were widely impacted by stress, and most participants presented medium and high levels of stress. In addition, anxiety was the most impacted aspect in the psychological health of the interviewees, followed by frustration as an aspect that remained most in the current routine. The most striking factor of the psychological of the interviewees was death.

Given the results of this research, it is evident the need to prioritize the mental health of professionals who work in the front line of COVID-19, since stress has been a reality for the majority of respondents. It is essential that there is investment in public policies that enable the prevention and treatment of these problems, including emotional support measures and psychotherapy, as well as specific training to deal with extreme stress situations. In addition, spaces for discussion and sharing experiences should be created to foster the resilience and well-being of these professionals. It is essential that society values and recognizes the work of these professionals, offering them the support and resources necessary to face this challenging moment.

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