

Stress assessment: Mental and work aspects of postgraduate medical professionals in Family Health during the COVID-19 pandemic.

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Evaluación de estrés: Aspectos mentales y laborales de los profesionales médicos de posgrado en Salud de la Familia durante la pandemia de COVID-19.

RESUMO

Objetivo: avaliar a presença de estresse e caracterizar os aspectos pessoais e do trabalho de profissionais médicos integrantes da Pós-Graduação em Saúde da Família durante a pandemia do COVID-19. Método: estudo quantitativo, descritivo e exploratório realizado com aplicação do inventário de Sintomas de Estresse em 395 médicos pós-graduandos em Saúde da Família e que atuam na Estratégia Saúde da Família pelo Programa Mais Médicos, respeitando os princípios éticos das Resoluções 466/12 a 510/16. Resultados: 43,80% dos profissionais médicos estavam com estresse, a maior parte na fase de resistência (72,25%) com prevalência de sintomas psicológicos (43,35%). Conclusão: A mudança dos fluxos e rotinas do processo de trabalho na Atenção Primária em Saúde relacionados à pandemia do COVID-19 favoreceu ao desenvolvimento do estresse e seus sintomas psicológicos da fase de resistência.

DESCRITORES: Estresse Emocional. Pandemia por COVID-19. Saúde da Família.

ABSTRACT

Objective: to assess the presence of stress and characterize the personal and work aspects of medical professionals who are members of the Graduate Program in Family Health during the COVID-19 pandemic. Method: quantitative, descriptive and exploratory study carried out with the application of the Stress Symptoms inventory in 395 postgraduate physicians in Family Health who work in the Family Health Strategy through the Mais Médicos Program, respecting the ethical principles of Resolutions 466/12 a 510/16. Results: 43.80% of medical professionals were under stress, most in the resistance phase (72.25%) with prevalence of psychological symptoms (43.35%). Conclusion: The change in the flows and routines of the work process in Primary Health Care related to the COVID-19 pandemic favored the development of stress and its psychological symptoms in the resistance phase.

DESCRIPTORS: Emotional Stress. Pandemic by COVID-19. Family Health.

RESUMEN

Objetivo: evaluar la presencia de estrés y caracterizar los aspectos personales y laborales de los profesionales médicos integrantes del Programa de Posgrado en Salud de la Familia durante la pandemia de COVID-19. Método: estudio cuantitativo, descriptivo y exploratorio realizado con la aplicación del inventario de Síntomas de Estrés en 395 médicos posgraduados en Salud de la Familia que laboran en la Estrategia Salud de la Familia a través del Programa Mais Médicos, respetando los principios éticos de las Resoluciones 466/12 a 510 / dieciséis. Resultados: el 43,80% de los profesionales médicos se encontraba bajo estrés, la mayoría en fase de resistencia (72,25%) con prevalencia de síntomas psicológicos (43,35%). Conclusión: El cambio en los flujos y rutinas del proceso de trabajo en Atención Primaria de Salud relacionado con la pandemia COVID-19 favoreció el desarrollo del estrés y sus síntomas psicológicos en la fase de resistencia.

DESCRIPTORES: Estrés emocional. Pandemia por COVID-19. Salud de la familia

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INTRODUCTION

COVID-19 is highly contagious, being transmitted by the new coronavirus through aerosols, such as saliva, through physical contact between people or contact between surfaces and contaminated objects. It can manifest as a flu-like syndrome, mild to severe dyspnoea, with diarrhea and cardiovascular repercussions. ¹

In Brazil, the first case was confirmed on February 25th, 2020, and currently has 20.741.815 confirmed cases, with about 579.308 registered deaths and 59.840.253 people fully vaccinated against the disease. With the COVID-19 Pandemic, the logic of production of care in health services was affected with new assistance flows in Primary Health Care (PHC) due to the overcrowding of outpatient services, especially for mild cases of the disease and other health problems. ²

In this context, 411 doctors from the Mais Médicos Program started the Specialization Course in Family Health of the Permanent Education Program in Family Health (PEPSUS - Programa de Educação

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Permanente em Saúde da Família) of the Federal University of Rio Grande do Norte (UFRN), which reorganized the course for the perspective of COVID-19 making it possible to identify the mental health problem of medical professionals on the front lines of the fight against the Pandemic. In APS, the doctors from the Mais Médico Program (PMM), created by Law n. 12871 of October 22nd, 2013, fill important care gaps in the country by integrating health teams, especially in remote places and urban peripheries. ^{3,4}

Stress in humans is a complex emotional reaction of physical, psychological, mental and hormonal components that develops in a four-phase model of alertness, resistance, near-exhaustion and exhaustion with specific symptoms in each phase. The physical and mental implications of stress in adults and for their productivity influence the quality of life and make decision-making difficult, controlling it in difficult times will reduce tension and heightened emotion and facilitate the work process. ^{5,6}

With the collapse of health services, the long hours of health work and the effects of social distancing - the main effective prac-

tice in controlling the disease - there is a considerable impact on the mental health of health workers and the population in general.^{7,8} Thus, the aim of this study was to assess the presence of stress and characterize the personal and work aspects of medical professionals who are members of the Graduate Program in Family Health during the COVID-19 pandemic.

METHOD

This is a quantitative, descriptive and exploratory study to identify the relationship between stress, social and occupational factors associated with the COVID-19 pandemic in medical professionals at a Family Health Unit (UBS), from September to November 2020.

The Distance Specialization Program is linked to the Laboratory of Technological Innovation in Health (LAIS - Laboratório de Inovação Tecnológica em Saúde) and the Department of Distance Education (SEDIS/UFRN) through an agreement with the Ministry of Health. 2020 with five groups of graduates started with doctors from the PMM. The study population consisted of all doctors from the Family Health Strategy (ESF - Estratégia Saúde da Família), students from class II, comprising 620 medical professionals from different Brazilian states.

The sample consisted of 395 PMM physicians and PEPSUS graduate students residing in the states of Amazonas, Amapá, Roraima, Pará, Paraná, Bahia, Minas Gerais, São Paulo, Ceará, Paraíba, Pernambuco, Rio Grande do Norte, Sergipe. The sampling was for convenience (non-probabilistic) of professionals from contact and interest through an invitation to participate in the research in the Virtual Learning Environment (AVA - Ambiente Virtual de Aprendizagem) platform of the course.

For inclusion, physicians should be regular PEPSUS students, work in the ESF through the Mais Médicos Program, and accept the consent to participate in the research by signing an Informed Consent Form (ICF). Students disconnected from PEPSUS and/or who did not respond to

the questionnaire on the AVA Platform of the course were considered excluded.

For data collection, a semi-structured questionnaire was used, consisting of 25 questions on sociodemographic, occupational and work-related aspects and quality of life in the COVID-19 pandemic. In addition, the Stress Symptoms Inventory for Adults was used 5 (Lipp-ISSL Test).

Updated in 2005, this inventory of symptoms is divided into three tables of what the respondent felt in the last 24 hours, in the last month and in the last three months, having its own manual with considerations for correction, evaluation and interpretation of the arrest data only for the professional of psychology in the country. ISSL is a test that can assess whether the individual has any symptoms or signs of stress, or even if he is prone to it. In addition, it points to the stress phase (alert, resistance, near-exhaustion and exhaustion) and indicates the type of predominance of symptoms between physical and psychological. 5

Therefore, the ISSL was interpreted by a psychologist linked to this research and to PEPSUS. The database was built in EXCEL format, version 2017, tabulated and the presence or absence of stress was identified, considering the phase and the predominance of physical and/or psychological symptoms in the face of stress. For sociodemographic, occupational and other variables related to quality of life and COVID-19, descriptive tables and application of statistical tests were made using the free statistical software R, version 4.2.0. For qualitative variables, a descriptive analysis was performed using absolute and relative frequency distributions (%).

The study is linked to the project "IN-SERVICE TRAINING AND QUALIFICATION OF THE BRAZILIAN HEALTH SYSTEM FROM THE DISTANCE EDUCATION OF THE PERMANENT EDUCATION IN FAMILY HEALTH PROGRAM" approved by the Research Ethics Committee of UFRN, CAAE: 29817419.7.0000.5292 linked to PEPSUS, following all procedures with regard to scientific research with human

beings, in accordance with Resolutions 466/12 to 510/16 of the National Health Council and National Research Ethics Commission in the Ministry of Health of the Government of Brazil.

RESULTS

The profile of the research subjects was characterized by male (56,20%) and female (43,80%), with the most prevalent age group being that aged up to 30 years (42,78%) followed by age between 31 and 40 years (39,24%). As for marital status, most are single (48,10%) or married with a stable union (45,57%). Regarding training, he has a degree (85,06%) and specialization (10,89%), with a time of service in the service of up to 3 years (87,09%), the vast majority of which work in direct care to patients with suspected cases of contamination by COVID-19 (89,87%).

Regarding the work process of PEPSUS postgraduate physicians in the pandemic, Table 1 presents the main characteristics:

The survey revealed that 57,22% of physicians/students received training to treat/care for patients with COVID-19 in their work environment. Regarding the work process, 46,84% of respondents considered that conventional personal protective equipment (PPE) was sufficient to prevent COVID-19 contamination in their work environment; 53,92% informed that PPE is available in sufficient quantity to carry out their activities.

Regarding the biosafety standards adopted, 33,92% considered that they are sufficient to prevent infection by COVID-19 in health professionals, however, 31,39% contracted COVID-19 in their work environment, where they obtained the following classification for disease severity: mild asymptomatic (23,39%), mild symptomatic (57,26%), critical (1,61%) and severe (17,74%). Of the total number of physicians/students surveyed, 33,92% considered that they could become infected with the new coronavirus in their work environment.

Analyzing the items that make up the Lipp-ISSL test in different periods of time,

Table 1: Characteristics of the work process in the pandemic

Profile of professionals		Absolute frequency	%
Received some training to treat/care for patients with COVID-19	No	169	42,78
	Yes	226	57,22
Considers that conventional personal protective equipment is sufficient to prevent COVID-19 from being contaminated in your work environment	No	112	28,35
	Yes	185	46,84
	Maybe	98	24,81
In their workplace, personal protective equipment is available in sufficient quantity to carry out their activities	No	57	14,43
	Yes	213	53,92
They consider that the biosafety standards adopted in their workplace are sufficient to prevent COVID-19 contagion in health professionals	Partially	125	31,65
	No	117	29,62
	Yes	134	33,92
	Partially	144	36,46
They contracted COVID-19 in their work environment	No, I took the negative laboratory test	198	50,13
	No, and without any laboratory tests	73	18,48
	Yes, with a positive laboratory test	115	29,11
	Yes, but I didn't perform testing	9	2,28
They contracted COVID-19 in their work environment	No	271	68,61
	Yes	124	31,39
COVID-19 classification	Mild asymptomatic	29	23,39
	Mild symptomatic	71	57,26
	Critical	2	1,61
	Severe	22	17,74
They think they can get infected with the new coronavirus in their work environment	Yes	185	68,27
	Maybe	79	29,15
They think they can get infected with the new coronavirus in their work environment	No	6	2,21
	Doesn't know / Doesn't report	1	0,37
	Total	395	100,00

Source: Research, 2021

Table 2: Stress assessment, its classification and types of symptoms in physicians from health units in Primary Health Care, Brazil, 2020.

VARIABLES		ABSOLUTE FREQUENCY	%
Presence of stress	Yes	173	43,80
	No	222	56,20
Stress classification	Alert	4	2,31
	Resistance	125	72,25
	almost exhaustion	32	18,50
	Exhaustion	12	6,94
Type of stress symptom	Psychological	75	43,35
	Physical and psychological	50	28,90
	Physical	48	27,75

Source: Research, 2021

in the last 24 hours, in the last week and/or in the last month that respondents reported feeling, the most frequent symptoms for stress were both physical and psychological. In the period of the last 24 hours, the item with frequency greater than 48% was muscle tension (muscle pain); in the last week, the change in appetite stood out with 71,9% (n=284), followed by a feeling of constant physical weariness (>40%), constant tiredness and excessive irritability; in the last month, the most frequent symptoms were excessive tiredness and insomnia (frequency >49%).

Finally, Table 2 shows the results of the stress assessment of FHS workers by the PMM according to the Lipp-ISSL test.

The results obtained show that 43,80% of medical professionals were under stress, in which the classification of this varied among the survey participants between the phases of Alert (2,31%), resistance (72,25%), almost exhaustion (18,50%) and exhaustion (6,94%). The type of stress symptoms in 43,35% was psychological, 27,75% prevailed physical symptoms and 28,90% physical and psychological.

DISCUSSION

In order to contain the advances of COVID-19 and promote a safe work environment, the World Health Organization 9 issued protocols with various preventive measures, as well as courses and training aimed at continuing education for health professionals in the midst of a pandemic situation. 10 Corroborating this finding in the literature, this study identified that only half of the PMM postgraduate physicians received training to treat/care for patients with COVID-19 in their work environment, demonstrating a certain lack of preparation of the health system to deal with public emergency situations.

From this perspective, as a positive result of these trainings offered in health units, it can be identified that more than half of the professionals surveyed did not contract COVID-19 in their work environment, confirmed with a negative laboratory test, revealing the emphasis on permanent and the encouragement of coping strategies with the adoption of protocols. 11,12

Thus, the percentage of physicians surveyed who contracted COVID-19 mildly and/or severely may reflect the non-use or inappropriate use of the implemented bio-

safety protocols, as well as the portion of graduate students who reported the partial availability of PPE. A study 13 associated the contamination index of health workers with long working hours and low adherence to hand hygiene, while another 14 pointed out that the scarcity of PPE such as: goggles, surgical masks, N95 masks, caps, gloves, aprons, among other equipment for professional use, were related to the general population's general fear of being contaminated with the new coronavirus.

The works that deal with stress are different, however, in the literature, it is stated that health professionals, in general, due to their specific work characteristics, and those related to institutions, and others, suffer from different psychological and emotional consequences. and work-related psychiatric. Prevalence Studies 15,16 with preliminary results, they have been carried out in different contexts and audiences to identify, assess and manage the well-being of active and training workers in health services in view of the dynamics and speed of the COVID-19 pandemic in health institutions.

Stress in physicians in the country is assessed in a similar way, using the same verification instrument as this research, however, they differ in occupational aspects, which can change the perception of stress in aspects that may or may not involve this aspect of the subject's life. An example that corroborates this discussion is the data from a study with 420 medical students from a private university in the Alto Tietê region, in the State of São Paulo, with a sample of the first and second year, the occurrence of stress was 65% and of these 9,04% were in the exhaustion phase. 15

In each phase of stress, symptoms appear differently by phase of stress, but the analysis of the type of symptoms among the professionals in this study indicated a wide distribution between aspects of both physical and psychological symptoms, with psychological prevalence and most professionals surveyed being in the resistance phase at the time of data collection. The resistance phase begins when the body tries to adapt to stress, in this phase the reactions are

opposite to the fight or flight reaction of the first phase and many of the initial physical and psychological symptoms disappear, giving rise to a feeling of weariness and fatigue. 5 Similarly, a survey 16 used the LIPP Inventory among 50 medical interns from two technical schools in Tocantins, Brazil, finding 52% of stress, with psychological symptoms predominating and most in the resistance phase.

CONCLUSION

This study enabled the assessment of

the presence of stress and characterized the personal and work aspects of medical professionals who were members of the PMM and PEPUSUS during the COVID-19 pandemic, which was unprecedented in this evaluated public and with this instrument of stress symptomatology.

Although PHC remains the initial reference, priority for care for mild and moderate cases of COVID-19, at first, the suspension of activities in municipalities and states and the eventual return with the prioritization of new forms of care or flows to avoid crowding of people, the illness of

users and workers themselves made the work process in health units favor stress in its resistance phase, with emphasis on psychological symptoms.

As limitations of this study, the generalization of the results achieved is highlighted, as it was restricted to medical professionals linked to the PMM and PEPUSUS/UFRN. In addition, the scarcity of Brazilian studies on the studied topic and the relationship with the COVID-19 pandemic made comparisons with other studies difficult.

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