Burnout in Primary Health Care Professionals During the COVID-19 Pandemic and Associated Factors*

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✉ ***Marcelo Nunes da Silva Fernandes***

https://orcid.org/0000-0003-0566-0174
Universidade Federal do Rio Grande do Sul, Brazil
marcelonsf@gmail.com

Polla Victória Paim Rodrigues Finckler

https://orcid.org/0000-0003-2540-5699
Universidade Federal do Rio Grande do Sul, Brazil
pollavictoriapaim@gmail.com

Teresinha Heck Weiller

https://orcid.org/0000-0003-2531-0155
Universidade Federal de Santa Maria, Brazil
teresinha.weiller@ufsm.br

Letícia de Lima Trindade

https://orcid.org/0000-0002-7119-0230
Universidade do Estado de Santa Catarina, Brazil
letrindade@hotmail.com

Juliana Petri Tavares

https://orcid.org/0000-0003-4121-645X
Universidade Federal do Rio Grande do Sul, Brazil
jupetritavares@gmail.com

Daiane Dal Pai

https://orcid.org/0000-0002-6761-0415
Universidade Federal do Rio Grande do Sul, Brazil
daiane.dalpai@gmail.com

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Theme: Well-being and quality of life

Contributions to the field: This study makes a significant contribution to the field of healthcare, especially nursing, which represents the largest healthcare workforce in Brazil and worldwide. The research addresses the dimensions that constitute burnout in Primary Health Care (PHC) professionals who have worked during the COVID-19 pandemic, allowing for reflection on current public health policies to subsidize care and management measures in the PHC setting. In addition, it also highlights the need to strengthen initiatives aimed at self-care and reducing levels of occupational stress among these professionals, especially community health workers, who comprise the main healthcare professional contingent in PHC in Brazil.

Abstract

Introduction: Burnout is considered a public health problem, meaning that it is important to address it in a pandemic health care scenario. **Objective:** To analyze burnout in association with sociodemographic and work characteristics of Primary Health Care professionals during the COVID-19 pandemic. **Materials and methods:** This is a quantitative study conducted from September 2021 to February 2022 in a municipality in southern Brazil, with 295 professionals, 224 of whom had been working for at least six months. Participants answered an electronic form with sociodemographic and work-related variables and the Burnout Assessment Tool scale. The data was analyzed using Poisson regression, with a p-value < 0.10. **Results:** Emotional exhaustion was more prevalent among community health workers (r = 0.37; p = 0.01) and nurses (r = 0.52; p = 0.04). Participants with a good diet had lower emotional exhaustion (r = 0.64; p < = 0.001) and a decline in emotional control (r = -0.97; p < 0.001); older age was associated with lower exhaustion (r = - 0.20; p < 0.001). The use of continuous medication was associated with better mental detachment (r = 0.39; p = 0.01). Community health workers had less cognitive decline (r = 0.61; p = 0.09). **Conclusion:** This study emphasizes the need to build a healthy work environment, promote self-care, and reduce occupational stress to mitigate burnout among professionals working during the COVID-19 pandemic.

Keywords (Source: DeCS)
Occupational Health; Coronavirus; Professional Burnout ; Primary Health Care.

Burnout en profesionales de la Atención Primaria de Salud en la pandemia de covid-19 y factores asociados

* Este artigo es derivado da tese de doutorado "Contexto de trabalho das equipes da atenção primária à saúde: riscos de adoecimento e Burnout na pandemia da Covid-19", presentado a Universidade Federal do Rio Grande do Sul. Disponível em: https://lume.ufrgs.br/handle/10183/279336

Resumen

Introducción: el agotamiento se considera un problema de salud pública, por lo que es importante abordarlo en el contexto del cuidado de la salud durante la pandemia. **Objetivo**: analizar el agotamiento en relación con las características sociodemográficas y laborales de los profesionales de la Atención Primaria de Salud en la pandemia de covid-19. **Materiales y métodos**: estudio cuantitativo, realizado entre septiembre de 2021 y febrero de 2022, en un municipio del sur de Brasil, con 295 profesionales, de los cuales 224 llevaban trabajando al menos seis meses. Los participantes respondieron a un formulario electrónico con variables sociodemográficas y laborales y a la escala Burnout Assessment Tool. Los datos se sometieron a análisis estadístico con regresión de Poisson, valor $p < 0,10$. **Resultados**: el agotamiento emocional fue más prevalente entre los agentes comunitarios de salud ($r = 0,37$; $p = 0,01$) y los enfermeros ($r = 0,52$; $p = 0,04$). Los participantes con una buena alimentación presentaron un menor agotamiento emocional ($r = 0,64$; $p < 0,001$) y un menor control emocional ($r = -0,97$; $p < 0,001$); la mayor edad se asoció con un menor agotamiento ($r = -0,20$; $p < 0,001$). El uso continuo de medicamentos se asoció con un mejor distanciamiento mental ($r = 0,39$; $p = 0,01$). Los agentes comunitarios de salud tuvieron un menor deterioro cognitivo ($r = 0,61$; $p = 0,09$). **Conclusión**: se destaca la necesidad de crear un entorno de trabajo saludable, de autocuidado y de reducción del estrés laboral para mitigar el agotamiento de los profesionales que trabajaron durante la pandemia de covid-19.

Palabras clave (Fuente: DeCS)
Salud ocupacional; coronavírus; agotamiento profesional; Atención Primaria de Salud.

Burnout em profissionais da Atenção Primária à Saúde na pandemia da covid-19 e fatores associados*

* Este artigo é derivado da tese de doutorado "Contexto de trabalho das equipes da Atenção Primária à Saúde: riscos de adoecimento e *burnout* na pandemia da covid-19", pela Universidade Federal do Rio Grande do Sul. Disponível em: https://lume.ufrgs.br/handle/10183/279336

Resumo

Introdução: O *burnout* é considerado um problema de saúde pública, tornando-se importante sua abordagem no cenário pandêmico de assistência à saúde. **Objetivo:** analisar o *burnout* em associação com características sociodemográficas e laborais de profissionais da Atenção Primária à Saúde na pandemia da covid-19. **Materiais e métodos:** estudo quantitativo, realizado de setembro de 2021 a fevereiro de 2022, em um município do Sul brasileiro, com 295 profissionais, dos quais 224 trabalhavam há pelo menos seis meses. Os participantes responderam a um formulário eletrônico com variáveis sociodemográficas e laborais e à escala Burnout Assessment Tool. Os dados foram submetidos à estatística analítica com regressão de Poisson, p-valor < 0,10. **Resultados:** a exaustão emocional foi mais prevalente entre agentes comunitários de saúde (r = 0,37; p = 0,01) e enfermeiros (r = 0,52; p = 0,04). Participantes com boa alimentação apresentaram menor exaustão emocional (r = 0,64; p < = 0,001) e declínio no controle emocional (r = -0,97; p < 0,001); maior idade associou-se com menor exaustão (r = - 0,20; p < 0,001). O uso de medicamento contínuo associou-se com melhor distanciamento mental (r = 0,39; p = 0,01). Agentes comunitários de saúde tiveram menor declínio cognitivo (r = 0,61; p = 0,09). **Conclusão:** Enfatiza-se a necessidade da construção de um ambiente de trabalho saudável, do autocuidado e da redução do estresse ocupacional para mitigar o *burnout* nos profissionais que atuaram na pandemia da covid-19.

Palavras-chave (Fonte DeCS)
Saúde ocupacional; coronavírus; esgotamento profissional; Atenção Primária à Saúde.

Introduction

The impact of the Coronavirus disease 2019 (COVID-19) pandemic on the population has been reflected in healthcare services (1). From this perspective, Primary Health Care (PHC) is the user's main gateway to health services, coordinating care and organizing the measures and services available in the health care network (2). This level of care, which already shows deficiencies in its structure and processes, suffered from the overload of the health system during the pandemic (3), which reflected on the work routine, leading to exposure to risk and illness among healthcare professionals (4).

Studies point to an increase in emotional burden as a result of work and the pandemic setting (5-7). In this sense, the COVID-19 pandemic has caused psychological distress due to the fear of contamination and transmission of the virus to family members, work overload, stress, uncertainty regarding the future, fear of the disease, reduced social relationships caused by isolation, long working hours, physical and emotional exhaustion, economic impacts, and death among family and friends (8-10).

All these circumstances stemming from the COVID-19 pandemic may have made professional relationships exhausting and stressful for PHC professionals, directly impacting their mental health (11, 12). Among the possible psychological problems, burnout syndrome stands out, characterized as a state of profound exhaustion associated with the work environment due to the presence of extreme tiredness; the occurrence of mental detachment; and the inability to regulate cognitive and emotional processes (13). In this syndrome, the inability to use the necessary effort to perform work activities is captured through exhaustion and emotional and cognitive incapacity, and the lack of desire to perform them is analyzed through mental detachment (14).

Emotional exhaustion is characterized by chronic fatigue and a severe loss of physical and mental energy. Mental detachment represents the occurrence of a high level of aversion or reluctance towards work, combined with a cynical and indifferent attitude towards it. The cognitive disability dimension is defined by the occurrence of a decrease in the ability to regulate cognitive processes, resulting in deficits in memory, concentration, and attention (13, 14). In turn, the main dimension corresponds to emotional disability, which encompasses a reduction in the ability to adequately regulate emotional processes. With this disability, individuals express their emotions intensely and experience feelings of overload regarding their own emotions.

Burnout syndrome has been found in studies with PHC health professionals (8, 15, 16). From this perspective, it is important to understand its dimensions in the workplace in the pandemic health care scenario, especially regarding the work of PHC professionals who have worked on the front line of the COVID-19 pandemic, since this syndrome has been considered a public health problem, given

the increase in its incidence in recent years in several countries, especially in Brazil (17).

In light of the above, this study aims to assess burnout in association with the sociodemographic and work characteristics of PHC professionals during the 2019 COVID pandemic.

Materials and Methods

Study Design

This is a cross-sectional study, guided by the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guideline, used to report observational studies (18).

Data Collection Site

The setting for the study was a reference municipality for the training of healthcare professionals in the state of Rio Grande do Sul, Brazil, with an urban area of approximately 121 km² and a population of 233,181 inhabitants (19) covered by 52 PHC teams, of which 29 were Primary Care Teams and 23 were Family Health Strategies.

Period

Data collection for the study was conducted from September 2021 to February 2022 using an electronic form (Google Forms). The invitation to participate in the study was sent by institutional email. After acceptance, data was collected in person by two previously trained nursing students.

Population

The population consisted of 295 healthcare professionals working in PHC services—medical doctors, nursing staff (nursing assistants, nurses, nursing technicians), dental staff (dental assistants and dentists), and community health workers (CHWs).

Selection Criteria

The inclusion criteria were being a healthcare professional in one of the aforementioned categories and having worked in PHC for at least six months. Healthcare professionals who were on vacation or leave of any kind during the data collection period were excluded from the study.

Sample Definition

The random sample consisted of 224 (75.9 %) PHC professionals who answered the electronic form.

Study Variables

Sociodemographic data were collected using dichotomous categorical variables, such as sex (female or male), skin color (white, black, brown, and others), and marital status (with or without a partner, married or single), as well as numerical variables (age, number of children, average hours of sleep within 24 hours, level of education, length of experience in the healthcare field and the healthcare unit). Work data included polytomous categorical variables, such as professional category, and dichotomous variables, such as supervisory or coordinating position (yes or no) and working in another job (yes or no).

Data on lifestyle and health habits related to the pandemic (use of continuous medication and illnesses) were obtained using dichotomous categorical variables (yes or no), as well as numerical variables (use of alcohol, diet, and physical activity). A seven-point Likert scale was used for the variables "alcohol use" and "physical activity" ("1" means never and "7" means always), and a five-point Likert scale for diet ('1' means very bad and "5" means very good).

Data Collection Instruments

To collect quantitative data, an online form prepared by the authors of the manuscript was used, based on the object of study. It is an instrument that has neither been validated nor refined, applied without a pilot test, with the aim of characterizing the participants through sociodemographic, work-related, pandemic-related, and health-related questions. It also included the Burnout Assessment Tool (BAT) scale —a work-related version— which assesses burnout syndrome, aiming to identify aspects that trigger it in association with work relationships and conditions.

The questionnaire included the following items: sex; age; skin color; level of education; marital status; number of children; average hours of sleep within 24 hours; use of alcoholic beverages; use of continuous medication; illnesses; diet; physical activity; professional category; coordination/supervision position; work in another job; length of experience in the healthcare field and the healthcare unit; and total weekly workload. The BAT was developed and validated in 2019 (13) and was culturally adapted and validated for the Brazilian context in 2022 (14). It is a Likert-type scale, with 23 questions related to primary symptoms, of which eight assess exhaustion; five, mental detachment; five, cognitive impairment; and five, emotional capacity (13). It is also a five-point scale, where 1 — never, 2 — rarely, 3 — sometimes, 4 — often, 5 — always (13). It should be noted that the BAT version for work, used in this study, lacks defined cut-off points and a classification of burnout.

Data Collection

Data collection was conducted following institutional authorization, in person, by two research assistants, using a tablet provided

by the main researcher to access the instruments used to collect data via the electronic form. A mean time of 15 to 20 minutes was allotted for filling in the form. The survey was also publicized among PHC healthcare professionals by institutional e-mail, via the municipality's Continuing Education Center.

Data Treatment and Analysis

The data were coded and transferred to Microsoft Windows Excel software and analyzed using the Statistical Package for the Social Sciences (SPSS), version 20.0. The continuous variables were described using measures of central tendency and dispersion, namely: mean, standard deviation, and Cronbach's alpha.

The Shapiro-Wilk normality test was conducted to verify the distribution of the variables; the Chi-squared or Fisher's exact test, depending on the frequency of the cell, for the association between categorical variables; and Mann-Whitney for asymmetrical continuous variables. Pearson's bivariate correlations were conducted for symmetrical variables and Spearman's correlations for asymmetrical variables. The independent variables (exposure) were sociodemographic, work-related issues, lifestyle, and health habits. BAT was the dependent variable (outcome — burnout).

In the multivariate analysis, Poisson regression was used to verify the strengths of association, with robust variance expressed in the prevalence ratio and its respective confidence intervals (95 % CI). The criterion for including the variables in the final multiple regression model was a p-value < 0.10. The significance level adopted was a p-value < 0.05.

Ethical Aspects

The study respected the ethical considerations recommended by Resolution 466/2012 of the National Health Council, concerning research with human beings, and the standards applicable to research in the Humanities and Social Sciences, presented in Resolution 510/2016. It was approved by the Research Ethics Committee of the Universidade Federal do Rio Grande do Sul via Plataforma Brasil, under registration CAAE (Certificate of Presentation for Ethical Appreciation) 47666121.0.0000.5347 and Opinion 4.848.979, dated July 15, 2021. The informed consent form was sent along with the online form, ensuring confidentiality and anonymity in the use of the data.

Results

A total of 224 healthcare professionals participated in the study, of whom 34 (15.2 %) were medical doctors; 45 (20.1 %) were nurses; 16 (7.1 %) were dentists; 44 (19.7 %) were nursing technicians/assistants and care assistants; 79 (35.3 %) were CHWs; and six (2.7 %) were dental assistants/attendants.

There was a prevalence of females (81.2 %), with a mean age of 43.84 years (± 10.41), self-declared white race/color (83.5 %), and 158 (70.5 %) were married or had partners. Regarding the health of the participants, 125 (55.8 %) used medication continuously, and 101 (44.1 %) lived with illnesses. In terms of employment data, 178 (79.5 %) had no other employment relationship, and 39 (17.4 %) had a coordinating/supervisory position.

Table 1 shows the factors of the BAT scale according to the domains of exhaustion, mental detachment, decline in cognitive control, and decline in emotional control. Table 2 shows the differences in means and correlations found between the factors of the BAT scale and the sociodemographic and work-related variables of PHC professionals. Table 3 shows the best Poisson regression model for the variables associated with burnout.

Table 1. Descriptive Statistics and Cronbach's Alpha of the BAT Scale Factors. Porto Alegre, Rio Grande do Sul, Brazil, 2024

Factor	Item	Mean	Standard deviation	Cronbach's alpha
Exhaustion (μ = 2.80; SD = 0.63)	At work, I feel mentally exhausted.	3.39	1.10	0.91
	Everything I do at work requires a lot of effort.	2.90	1.10	
	I find it difficult to recover my energy after a day of work.		1.16	
		2.76		
	At work, I feel physically exhausted.	2.87	1.23	
	When I wake up in the morning, I lack energy to start a new day at work.	2.64	1.29	
Mental detachment (μ = 1.92; DP = 0.65)	I want to be active at work, but somehow, I cannot manage it.	2.30	1.25	0.88
	When I work hard, I become tired more quickly than usual.	2.30	1.23	
	At the end of my working day, I feel mentally exhausted and drained.	3.31	1.25	
	I struggle to find any enthusiasm for my work.	2.35	1.37	
	I do not think about what I am doing in my job; I work on autopilot.	2.26	1.25	
	I feel a strong aversion to my job.	1.59	1.04	
	I feel indifferent about my job.	1.63	1.06	
	I am pessimistic about what my work means to others.	1.80	1.16	

Factor	Item	Mean	Standard deviation	Cronbach's alpha
Decline in cognitive control (μ = 1.87; DP = 0.63)	At work, I have difficulty staying focused.	1.77	1.06	0.89
	At work, I make an effort to think clearly.	2.29	1.36	
	I am forgetful and distracted at work.	1.86	1.13	
	I have difficulty concentrating when I am working.	1.81	1.05	
	I make mistakes at work because my mind is focused on other things.	1.65	0.96	
Decline in emotional control (μ = 1.79; DP = 0.60)	At work, I feel unable to control my emotions.	1.75	1.00	0,90
	I do not recognize how I react emotionally at work.	1.63	1.02	
	During work, I become irritable when things do not go the way I want.	2.10	1.11	
	I become dissatisfied and sad at work without knowing why.	1.80	1.13	
	At work, I can have unintentionally exaggerated reactions.	1.71	1.05	

Note: Considering the asymmetrical distribution of the continuous variables, the Mann-Whitney test was used. However, it was decided to present the means and standard deviation to facilitate the interpretation of the findings.

Source: Prepared by the authors.

Table 1 shows the descriptive statistics for the BAT factors: Emotional exhaustion (μ = 2.80; SD = 0.63), mental detachment (μ = 1.92; SD = 0.65), decline in cognitive control (μ = 1.87; SD = 0.63), decline in emotional control (μ = 1.79; SD = 0.60), and their respective Cronbach's alpha coefficients.

Table 2. Mean Differences and Spearman Correlations between the Factors of the BAT Scale and the Sociodemographic and Work-Related Variables of PHC Healthcare Professionals during the COVID-19 Pandemic. Porto Alegre, Rio Grande do Sul, Brazil, 2024

BAT Factors	Burnout		Mental Detachment		Decline in cognitive control		Decline in emotional control	
Variables	**Mean ± SD**	**p**	**Mean ± SD**	**p**	**Mean ± SD**	**p**	**Mean ± SD**	**p**
Sex								
Female Male	2,84±0,95 2,63±0,94	0,18	1,91±0,95 1,98±1,09	0,66	1,90±0,90 1,77±1,12	0,43	1,85±0,88 1,55±0,95	0,05
Idade*	-0,14	0.03	0,001	0,95	-0,02	0,69	0,001	0,84
Cor da pele								
White Black, brown, other	2,76±0,94 3,03±0,96	0,11	1,89±0,96 2,06±1,09	0,35	1,85±0,94 2,00±0,98	0,36	1,77±0,87 1,94±1,04	0,30
Hours of sleep*	-0,08	0,22	0,001	0,81	-0,06	0,34	-0,05	0,47

BAT Factors	Burnout		Mental Detachment		Decline in cognitive control		Decline in emotional control	
Variables	**Mean ± SD**	**p**	**Mean ± SD**	**p**	**Mean ± SD**	**p**	**Mean ± SD**	**p**
Marital status								
Without a partner With a partner	2,89±0,88 2,77±0,97	0,37	2,03±1,01 1,88±0,97	0,30	1,86±0,95 1,88±0,95	0,90	1,83±0,92 1,78±0,90	0,65
Number of children*	0,04	0,53	0,08	0,20	0,08	0,21	0,07	0,23
Continuous medication								
No Yes	2,56±0,87 3,00±0,96	0,001	1,72±0,88 2,08±1,02	0,001	1,67±0,86 2,03±0,98	0,001	1,60±0,79 1,95±0,95	0,001
Living with a disease								
No Yes	2,57±0,87 3,08±0,97	0,001	1,79±0,94 2,08±1,01	0,03	1,74±0,93 2,03±0,94	0,02	1,64±0,84 1,98±0,95	0,001
Level of education	0,03	0,57	-0,03	0,64	0,001	0,99	-0,01	0,79
Professional category								
Medical doctor	2,60±0,95		1,70±0,85		1,66±0,84		1,48±0,68	
Nurse	2,93±0,91		1,87±0,96		1,93±0,97		1,87±0,88	
Dentist	2,29±0,66		1,68±0,74		1,46±0,60		1,50±0,61	
Nursing technician/ assistant	2,71±1,08		1,67±0,91		1,75±0,97		1,67±0,85	
Health workers/Care assistants		0,01		0,001		0,001		0,001
CHWs	3,02±0,90		2,29±1,05		2,14±0,97		2,06±1,03	
Time of experience working in the field of healthcare*	2,10±0,28		1,30±0,20		1,13±0,24		1,26±0,16	
Tempo de experiência na área da saúde*	-0,17	0,001	-0,07	0,25	-0,08	0,21	-0,08	0,25
Tempo experiência na unidade de saúde*	0,10	0,13	0,19	0,001	0,08	0,21	0,13	0,06
Weekly workload*	0,09	0,15	0,001	0,84	0,06	0,35	0,001	0,84
Coordination/supervision position								
No Yes	2,80±0,96 2,81±0,90	0,96	1,95±1,01 1,80±0,82	0,39	1,89±0,98 1,77±0,79	0,48	1,80±0,94 1,75±0,68	0,76
Working in another job								
No Yes	2,79±0,95 2,87±0,96	0,59	1,93±0,96 1,88±1,06	0,73	1,89±0,95 1,80±0,92	0,59 1,79±	1,80±0,88 1,01	0,94
Alcohol use*	-0,06	0,37	-0,06	0,36	0,02	0,66	-0,06	0,38
Diet evaluation*	-0,18	1	-0,22	1	-0,10	0,00	-0,18	0,001
Days of physical activity*	-0,01	0,84	0,04	0,48	0,05	0,49	0,001	0,99

Note: Given the asymmetrical distribution of the continuous variables, the Mann-Whitney test was used. However, for presentation purposes, it was decided to include the means and standard deviation in the table to facilitate the interpretation of the findings.

*Spearman correlations

Source: Prepared by the authors.

Table 2 shows the differences in means and correlations between the BAT factors and the sociodemographic and work-related variables of PHC professionals during the COVID-19 pandemic. It is therefore related to Table 1, as it shows the association between the factors and the BAT scale, according to its four domains.

Table 3. Poisson Regression Model for Variables Associated with Burnout. Porto Alegre, Rio Grande do Sul, Brazil, 2024

BAT factors	Emotional exhaustion		Mental detachment		Decline in cognitive control		Decline in emotional control	
Variables	RP (95 % CI)	P	RP (95 % CI)	P	RP (95 % CI)	P	RP (95 % CI)	P
Age	-0.20 (-0.31/- 0.00)	0.001	-		-		-	
Continuous medication	0.25 (-0.51/0.55)	0.10	0.39 (0.07/0.80)	0.01	0.30 (-0.12/0.62)	0.60	0.26 (-0.48/0.56)	0.10
Professional category								
Nurse	0.52 (0.24/1.00)	0.04	-0.18 (- 0.33/0.70)	0.48	-0.37 (- 1.21/0.48)	0.40	-0.40 (- 1.20/0.42)	0.34
CHWs	0.37 (-0.13/0.87)	0.01	0.43 (-0.08/0.920)	0.11	0.61 (0.12/1.10)	0.09	0.53 (-0.44/0.55)	0.83
Diet evaluation	0.64 (0.18/1.10)	0.001	-0.24 (-0.37/-0.11)	0.001	-0.10 (- 0.24/0.26)	0.12	-0.17 (-0.30/-0.05)	0.001

Note: The age variable does not present regression for the domains of mental detachment, decline in cognitive control, and decline in emotional control.

Source: Prepared by the authors.

In Table 3, 'emotional exhaustion' presented higher levels in CHWs (r = 0.37; p = 0.01) and nurses (r = 0.52; p = 0.04). Professionals who had a good diet presented lower emotional exhaustion (r = 0.64; p < 0.001) and a decline in emotional control (r = -0.97; p < 0.001); those who were older also presented lower exhaustion (r = - 0.20; p < 0.001). The use of continuous medication was associated with better mental detachment (r = 0.39; p = 0.01). As for 'decline in cognitive control,' CHWs presented lower cognitive decline (r = 0.61; p = 0.09).

Discussion

This study assessed burnout in association with the sociodemographic and work characteristics of PHC professionals during the COVID-19 pandemic. Findings show that professionals who had a better diet during this period had less emotional exhaustion.

This result is corroborated by the findings of another study, in which participants who had a healthy diet reported not feeling mentally exhausted (20). Furthermore, this study reinforces the importance of the finding, since physical exercise, rest, and ade-

quate nutrition are described in the scientific literature as practices that prevent mental health problems and improve immunity, especially in a pandemic setting (20, 21).

There is a need to recognize the value of adopting these practices by professionals, since reducing emotional exhaustion contributes significantly to better performance by professionals who, if faced with severe levels of loss of physical and mental energy, are unable to perform their work activities to the best of their ability, which can strain the coexistence of team members (22, 23).

The mean age of the participants studied was 43.84 years (± SD), similar to that of another Brazilian study on the theme (24). The study identified an association between older professionals and lower emotional exhaustion. In other words, it is hypothesized that experience contributed to better coping with the pandemic. Similarly, an international study identified a high number of young professionals with high emotional exhaustion scores (25). In this sense, it is believed that emotional ability is closely related to better coping with the problems and emotional stress generated by the pandemic.

In addition, both national and international studies show that younger professionals are the ones who report less professional fulfillment, especially in times of instability, such as during the COVID-19 pandemic, as they have no previous experience of this nature (5, 25). However, a study conducted in Germany revealed an opposite result to that of this study, since professionals over the age of 55 reported higher levels of stress, exhaustion, and depressive mood, as well as lower levels of professional fulfillment compared to their peers (26).

When analyzing the factor use of continuous medication, there was an association with participants showing better mental detachment. Thus, it is worth noting that, although the use of continuous medication is associated with better coping in these cases, this practice also raises concerns, such as the potential to generate dependency. In contrast to the findings of this manuscript, a European study showed that higher rates of emotional exhaustion were associated with professionals who used continuous medication (27).

Another study proposed a reflection on the harmful use of medication in relation to the current paradigm that all conflict and suffering must be eliminated, even if this leads to an increase in the use of psychotropic medication, a technique considered valid in a society that imposes the search for constant productivity, health, and success, and in which suffering, as an obstacle to these ideals, is a target condition for interventions (28).

A study conducted in China with professionals from the nation of Taiwan found that those who did not use medication during the pandemic maintained lower levels of stress and occupational burnout. However, those who used complementary practices, such as meditation, were also better able to cope with the adversities imposed by the COVID-19 pandemic (29).

An American study suggests that occupational burnout is not only prevalent among professionals who use medication, but also among those who misuse psychotropic medication based on their occupational level. However, these medications need to be used correctly and with the guidance of a specialized professional (30).

Regarding mental detachment, there was a significant association between participants who had a healthy diet and those who reported better mental detachment. This was also shown by another study, in which workers who reported consuming foods such as low-fat dairy products, fruit, vegetables, and white meat were associated with a lower level of burnout symptoms (31).

Thus, there is a need for professionals to seek the inclusion of functional foods in their diet that adequately regulate the response to burnout, as well as focus on the prevention and treatment of associated psychological disorders, particularly burnout symptoms (32).

The study also contradicts these findings and states that professionals suffering from burnout tend to eat emotionally and uncontrollably, that is, they eat in response to negative emotions (33). Stress factors also promote a tendency to overeat, leading professionals to opt for comfort foods which, when consumed, generate a temporary reduction in stress and provide a superficial feeling of well-being (34).

Based on the results obtained, it is important for professionals to maintain their habits based on healthy eating, since healthcare professionals have a complex routine that often leads them to eat at any time during a 24-hour period, increasing weight gain and causing obesity (35).

In addition, there is a need to implement strategies in their routine with the aim of promoting an adequate diet, by planning healthy meals and making choices based on balanced nutritional tables, ensuring these professionals' intake of beneficial nutrients (36).

This study found that CHWs were associated with a greater decline in cognitive control and emotional exhaustion. A scoping review study reiterated that the COVID-19 pandemic has had unfavorable repercussions on the mental health of CHWs working in PHC, especially in terms of feelings of hopelessness, fear, and anguish, which are directly associated with these professionals (37).

Corroborating the above, a Brazilian study also found a significant increase in emotional tension and chronic stress in these professionals, in addition to physical, emotional, and psychological working conditions. These factors contributed to the lower performance of these professionals (38).

It is therefore of the utmost importance that work institutions adopt strategies and measures aimed at minimizing mental health

problems for these professionals, as well as promoting training and preventive measures to eliminate and/or reduce these symptoms in their staff. Furthermore, responsibility for the health of staff is vital to the quality of the care they provide (39).

Furthermore, this study found that nursing professionals also sustained high levels of emotional exhaustion during the study period. A study conducted in Spain showed that nursing professionals were the ones with the most symptoms and medical diagnoses of burnout syndrome, directly associated with job dissatisfaction and psychosomatic health problems (40).

In this sense, it is necessary to highlight the factors that influence these emotions, since these professionals deal daily with the negative feelings of patients, peers, and family members, which can trigger similar emotions and feelings in nurses, influencing the perceived stress among them and leaving them more vulnerable to emotional exhaustion (41). In addition, greater professional demands, workload, work complexity, professional pressure, and working hours during the COVID-19 pandemic are all factors that increase work-related stress among nurses, leading to emotional exhaustion (42).

Moreover, this is a concerning issue, as it is well known that these professionals have been struggling for years in search of strategies to minimize the symptoms generated by burnout and other psychological problems that affect this class more often than other healthcare professionals. In this context, the scientific literature already indicates that nursing professionals are currently dealing not only with their own feelings, but also with the negative feelings of their patients, consequences that affect family members, colleagues, and healthcare organizations (43).

It is estimated that burnout has caused an economic loss of more than a billion dollars to the public budget, due to expenses related to training and hiring new professionals, as some become unable to cope with the mental and physical challenges caused by this syndrome and decide to quit their jobs (44, 45).

After analyzing all the aforementioned aspects, the manuscript reflects upon the importance of burnout, since work-related psychological problems, including emotional exhaustion, also represent an economic burden for health systems, for society and, in particular, for the people who are affected by this condition.

Conclusion

In the domain of emotional exhaustion, the study identified higher levels in professional nurses and CHWs, and lower levels in those who had a healthier diet. In the mental detachment domain, it was found that participants who used continuous medication were the best performers. However, those who followed a healthier diet had less mental detachment.

As for the decline in cognitive control, it was noted that CHWs showed the greatest association with high rates, but professionals who maintained a healthy diet in this domain had the least decline in cognitive control. This emphasizes the need for interventions to expand strategies to minimize the dimensions that comprise burnout in healthcare professionals, making it essential to devise public health policies to subsidize care and management measures.

The main limitation of the present study is the low geographical representativeness of the sample, which hinders the generalization of the findings, as well as the scarcity of comparative studies in the field. This highlights the need for longitudinal and multicenter studies to expand and deepen the results obtained.

The study highlights the need to strengthen measures aimed at healthcare professionals' self-care, building a healthy work environment and reducing occupational stress levels among PHC professionals who have worked during the COVID-19 pandemic to enable safe and comprehensive care for users, as recommended by public health policies.

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