ORIGINAL ARTICLE

Professional burnout of nursing team working to fight the new coronavirus pandemic

Esgotamento profissional da equipe de enfermagem atuante no enfrentamento à pandemia do novo coronavírus

Agotamiento profesional del equipo de enfermería que trabaja para combatir la nueva pandemia de coronavirus

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ABSTRACT

Objective: to identify burnout and associated factors among nursing workers working in coping with COVID-19. **Methods**: a cross-sectional study, developed in four hospitals in a capital in southern Brazil. Sample (n=499) composed of nurses and nursing technicians/assistants, who answered an online form containing socio-occupational characterization and the Maslach Burnout Inventory. Descriptive and inferential statistical analysis was performed, including multiple comparison tests. **Results**: burnout was identified in 60 (12%) workers, with no significant difference between hospitals, but with a difference in dimensions between them. In the emotional exhaustion dimension, a higher proportion (52.9%) was found at a moderate level. Prevalence of high level of professional achievement of 95.4% was identified. **Conclusion**: the presence of burnout was significantly prevalent among nurses and females. It reinforces the need to develop strategies to promote the health of nursing workers, providing improvement in health services and reduction of care and labor risks.
Descriptors: Burnout, Professional; Coronavirus Infections; Nursing, Team; Occupational Health; Nursing.

RESUMO

Objetivo: identificar o esgotamento profissional e fatores associados entre trabalhadores de enfermagem atuantes no enfrentamento à COVID-19. **Métodos**: estudo transversal, desenvolvido em quatro hospitais de uma capital da Região Sul do Brasil. Amostra (n=499) composta por enfermeiros e técnicos/auxiliares de enfermagem, que responderam formulário *online* contendo caracterização sociolaboral e o Inventário de *Burnout* de Maslach. Realizou-se análise estatística descritiva e inferencial, incluindo testes de comparação múltipla. **Resultados**: identificado *burnout* em 60 (12%) trabalhadores, sem diferença significativa entre os hospitais, mas com diferença nas dimensões entre os mesmos. Na dimensão exaustão emocional, foi constatada maior proporção (52,9%) em nível moderado. Prevalência de alto nível de realização profissional de 95,4%. **Conclusão**: a presença de *burnout* foi significativamente prevalente entre os enfermeiros e no sexo feminino. Reforça-se necessidade de elaboração de estratégias de promoção da saúde do trabalhador de enfermagem, proporcionando melhoria dos serviços de saúde e redução dos riscos assistenciais e laborais.
Descritores: Esgotamento Profissional; Infecções por Coronavírus; Equipe de Enfermagem; Saúde do Trabalhador; Enfermagem.

RESUMEN

Objetivo: identificar el agotamiento profesional y factores asociados entre los trabajadores de enfermería que trabajan en el afrontamiento del COVID-19. **Métodos:** estudio transversal, desarrollado en cuatro hospitales de una capital de la región sur de Brasil. Muestra (n=499) compuesta por enfermeros y técnicos/auxiliares de enfermería, que respondieron un formulario en línea que contiene la caracterización sociolaboral y el Inventario de Burnout de Maslach. Se realizó análisis estadístico descriptivo e inferencial, incluyendo múltiples pruebas de comparación. **Resultados:** se identificó burnout en 60 (12%) trabajadores, sin diferencia significativa entre hospitales, pero con diferencia de dimensiones entre ellos. En la dimensión de agotamiento emocional se encontró una mayor proporción (52,9%) en un nivel moderado. Prevalencia de alto nivel de logro profesional del 95,4%. **Conclusión:** la presencia de burnout fue significativamente prevalente entre enfermeras y mujeres. Refuerza la necesidad de desarrollar estrategias para promover la salud de los trabajadores de enfermería, brindando mejora en los servicios de salud y reducción de riesgos asistenciales y laborales.
Descriptores: Agotamiento Profesional; Infecciones por Coronavirus; Grupo de Enfermería; Salud Laboral; Enfermería.

INTRODUCTION

In January 2020, the World Health Organization (WHO) declared the disease caused by the new coronavirus (COVID-19) as a public health emergency of international importance[1]. After a year since then, more than 200 million cases have been registered on all continents[2-3]. The unpredictability of the course of the outbreak of a little-known infectious disease, with a rapid transmission pattern and the ability to cause evident repercussions on public health, contributed to triggering psychological problems such as fear and anxiety. Thus, the pandemic resulted not only in a high rate of contamination and deaths, but also in mental complications for society and for health professionals[1].

Nursing plays a key role in the response to the pandemic, working in health services close to or in current collapse due to the increased demand for care. In this context, there is an increase in physical, cognitive and emotional burdens, causing an increase in stress and suffering for the nursing staff, who in addition to dealing with the suffering of pain and death, also face ethical dilemmas[4]. Other factors such as the risk of contamination faced, lack of knowledge about the pathogen, direct contact with patients, insufficiency of personal protective equipment, lack of material resources and work overload are also pointed out as stress generators among nursing and health workers who face the COVID-19 pandemic[5-6].

This is alarming because high levels of stress can lead to the development of complications related to workers' physical and mental health, leading to cardiovascular disease, musculoskeletal disorders, anxiety, depression and burnout[7].

According to the International Labour Organization, burnout can be described as a prolonged response to chronic exposure to emotional and interpersonal stress in the workplace, characterized by the triad of components: high emotional exhaustion, high depersonalization and low professional achievement[7]. Emotional exhaustion refers to the feeling of being emotionally overwhelmed and exhausted, depersonalization indicates the adoption of negative, dehumanized and insensitive attitudes towards the people to whom the care or service is intended, and reduced job satisfaction corresponds to the feeling of low competence and achievement with work[7].

Burnout is particularly worrisome for occupations in which the direct relationship between service providers and recipients is essential for carrying out the work and in those in which there is a highly emotional experience[7], elements inherent to nursing work. In the context of the pandemic, a study carried out in China showed that nurses working in COVID-19 care may be affected by low professional achievement[5]. In Spain, it was pointed out that aspects such as high workload and difficulties in performing their role, as well as fear of contracting the virus and contamination of family members and social stigmatization are factors that predispose nurses to the development of burnout. On the other hand, aspects such as human and material resources in adequate quantity and quality and social support at work were mitigating factors for burnout[4].

Dealing with pandemics can generate significant impacts on the nursing team's mental health, especially due to the level of perceived threat[4], which can turn into chronic problems when not identified and properly treated. Investigating burnout in nursing during the pandemic is socially and scientifically important, as it can unfold into medium to long-term strategies aimed at workers' health in times of intense crisis.

OBJECTIVE

To identify burnout and associated factors among nursing workers working in coping with COVID-19.

METHODS

Ethical aspects

The research project that houses the study was approved by the Institutional Review Boards (IRB) of the four researched institutions, submitted through *Plataforma Brasil*, in compliance with Resolution 466/2012 of the Brazilian National Health Council (*Conselho Nacional de Saúde*).

Study design, period, and place

This is a cross-sectional study, guided by the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)[8], carried out in four large hospitals in the city of Porto Alegre, RS, Brazil, randomly coded as: Hospital A: private, not a reference to care for patients with COVID-19; Hospital B: private, reference for COVID-19 participating in PROADI-SUS in support of the Ministry of Health; Hospital C: educational philanthropist, part of a hospital complex that serves patients with COVID-19; Hospital D: reference university public for assistance to COVID-19. The study took place between August and September 2020.

Population and sample; inclusion and exclusion criteria

The study population comprised 2,306 nurses and nursing technicians/assistants, who developed care activities in Adult Inpatient Units, Adult Intensive Care Center (ICU), Surgical and Emergency Center sectors. As inclusion criteria, the following were established: minimum time of work of two months in the institution, working in an independent nursing care area if a specific area for care for patients affected by COVID-19. This criterion was based on the assumption that suspected cases go beyond the COVID-19 service areas. Workers on leave for any reason such as medical certificates, vacations or leaves were excluded. Based on these eligibility criteria, a non-probabilistic convenience sample was composed.

The return rate was 21.6%, which is considered adequate considering the return of responses in online surveys[9] and the pandemic scenario. Therefore, 499 nursing professionals were part of the sample.

Study protocol

Data collection took place online. It is noteworthy that during the period of data collection, six months had elapsed of exposure of health/nursing professionals to situations of coping with the COVID-19 pandemic. In Rio Grande do Sul State, between July

and August 2020, it was considered the first peak of care in health services[10], with high rates of admissions and occupation of hospital beds.

Data were collected from the following instruments through Google Form® platform: sociodemographic and professional characterization questionnaire, prepared by the researchers, containing variables, namely: profession; birth date; sex; marital status; training level; length of professional experience in nursing; length of professional experience at the institution; working time at the unit; other employment relationship; work unit; and Maslach Burnout Inventory (MBI). MBI is an instrument composed of 22 items, adapted and validated for the Brazilian culture[11], which aims to measure the physical and emotional strain of workers in evaluating their feelings about their work. It is a Likert-type scale with five response options, ranging from one (never) to five (always), consisting of three dimensions: emotional exhaustion (EE), depersonalization (DP) and professional achievement (PA). Burnout is characterized by the triad corresponding to high EE, high DP and low PA.[7] The reference values calculated in this study for the levels of MBI dimensions were EE (low: less than or equal to 20; moderate: from 21 to 25; high: equal to or greater than 26), DP (low: equal to or less than seven; moderate: from eight to nine; high: equal to or greater than 10) and PA (high: equal to or greater than 35; moderate: between 32 and 34; low: equal to or less than 31).

An invitation was sent by institutional email and/or by instant messaging application with sharing of the link that directed to the form. The data collection link was sent to nurses at the units who shared with their groups. From two to six submissions of the link and invitation were carried out in each hospital.

Analysis of results, and statistics

The data extracted directly from the online form answered by the professionals were automatically transposed into an Excel® file and later exported to the Statistical Package for Social Sciences® (SPSS), version 21.0, for descriptive and inferential statistical analysis. The performance of the variables was verified using the Shapiro-Wilk normality test. Categorical variables were presented by relative and absolute frequencies and continuous variables by measures of central tendency (mean or median) and dispersion (standard deviation or interquartile ranges). In the inferential analysis, comparisons of means were tested using one-way ANOVA and differences in distribution between groups were assessed by Pearson's chi-square test, Mann-Whitney test, Kruskal-Wallis test, t test, Z test with Bonferroni adjustment and adjusted residual analysis, considering $p \leq 0.05$ as significant.

RESULTS

A total of 499 nursing professionals participated in the research. Of these, 388 (67.7%) were nursing technicians/assistants, 417 (83.6%) were female, 348 (69.7%) were married or with a partner, and 409 (82%) had no other employment relationship. There was a significant difference in all socio-occupational characterization variables between the hospitals (Table 1).

Regarding the mean age, there was a significant difference (p=0.000) between hospitals. Hospital D had the highest mean age 40.7 (±8.8) years and Hospital C had the lowest mean age of 32.7 (±8.7) years.

Table 1 - Socio-labor characterization of nursing workers per hospital (n=499), Porto Alegre, Rio Grande do Sul, Brazil

Variables	Hospital A (n=144)	Hospital B (n=119)	Hospital C (n=78)	Hospital D (n=158)	p value
Age (n=463)	36.8 (±8.2)[a]	34.3 (±7.3)[a,b]	32.7 (±8.7)[b]	40.7 (±8.8)[c]	0.000*
Sex (n=499)					0.010†
Female	110 (76.4)[a]	108 (90.8)[b]	69 (88.5)[a,b]	130 (82.3)[a,b]	
Male	34 (23.6)[a]	11 (9.2)[b]	9 (11.5)[a,b]	28 (17.7)[a,b]	
Professional category					0.000†
Nurse	35 (24.3)[a]	27 (22.7)[a]	24 (30.8)[a,b]	75 (47.5)[b]	
Technician/assist.	109 (75.7)[a]	92 (77.3)[a]	59 (69.2)[a,b]	83 (52.5)[b]	
Marital status					0.003‡
Single/no companion	59 (41)[a]	34 (28.6)[a,b]	24 (30.8)[a,b]	34 (21.5)[b]	
Married/with partner	85 (59)[a]	85 (71.4)[a,b]	54 (69.2)[a,b]	124 (78.5)[b]	
Training level					0.000‡
High school	100 (69.4)[a]	83 (69.7)[a]	48 (61.5)[a]	68 (43)[b]	
Undergraduate education	18 (12.5)[a,b]	17 (14.3)[a,b]	20 (25.7)[b]	17 (10.8)[a]	
Lato sensu	24 (16.7)[a,b]	15 (12.6)[b]	10 (12.8)[a,b]	43 (27.2)[a]	
Stricto sensu	2 (1.4)[a]	4 (3.4)[a]	- [a]	30 (19)[b]	
Other employment link					0.024§
Yes	33 (22.9)	16 (13.4)	20 (25.6)§	21 (13.3)	
No	111 (77.1)	103 (86.6)	58 (74.4)	137 (86.7)	
Unit work (n=492)‖					0.000‡
Up to one year	45 (31.3)[a]	34 (28.6)[a]	54 (69.3)[b]	53 (35.1)[a]	
1 ⊣ 5	47 (46.5)[a]	49 (41.2)[a]	10 (12.8)[b]	28 (18.5)[b]	
5 ⊣ 10	22 (15.3)[a]	29 (24.3)[a]	10 (12.8)[a]	28 (18.5)[a]	
More than 10	10 (6.9)[a]	7 (5.9)[a]	4 (5.1)[a]	42 (27.9)[b]	
Work at institution¶ (n=496)	48 (18;84)[a,b]	72 (24;96)[b,c]	24 (7;80)[a]	102 (22;180)[c]	0.000**
Operating time†† (n=497)	114 (57;192)[a,c]	96 (48;144)[b,c]	36 (12;132)[b]	180 (127;264)[d]	

*One-way ANOVA test; †Pearson's chi-square test; ‡Z test with Bonferroni Correction; §Adjusted residue analysis; ‖Working time at the unit (years); ¶Working time at the institution (months); **Kruskal–Wallis test; ††Operating time (months).

It is evident that Hospital D had a higher proportion (47.5%) of nurses, compared with the other ones (p=0.001). There was a significant difference (p=0.003) in workers' marital status between Hospital A and Hospital D.

Regarding the level of education, there was a significant difference (p=0,000) between hospitals, and in Hospital D there was the highest level of training among the workers who responded, with emphasis on *stricto sensu* 30 (19%) graduate studies. This hospital also had a higher proportion of workers, 42 (27.8%), with more than 10 years of experience in the institution.

Burnout was identified in 60 (12%) workers, with no significant difference between hospitals (Table 2); however, differences were observed in their dimensions.

Regarding Table 2, a significant difference (p=0.003) was identified in the high level of EE between Hospital D and Hospitals B and C. In the PA dimension, a statistically significant difference was identified

in Hospital D (p=0.019), through residual analysis adjusted, in relation to other hospitals. Regarding the high level of DP, there was a significant difference (p=0.010) between Hospital D and Hospital B.

Profession and sex were associated with the presence of burnout (Table 3) demonstrating higher prevalence among female nurses. Regarding the other variables, there was no association with burnout in the sample studied.

DISCUSSION

Females were prevalent in all institutions, with no statistical difference between them. Likewise, married/partner marital status was also predominant; however, there was a statistical difference between Hospitals A and D, and the former stood out with a higher percentage of singles and this institution had on average four years younger workers.

Table 2 - Distribution of burnout dimension levels as well as burnout among nursing workers (n=499), Porto Alegre, Rio Grande do Sul, Brazil

	Hospital A	Hospital B	Hospital C	Hospital D	*p* value
Burnout dimensions levels					
Emotional exhaustion					0.003*
Low	33 (22.9)ᵃ	35 (29.4)ᵃ	19 (24.3)ᵃ	30 (19)ᵃ	
Moderate	76 (52.8)ᵃ	68 (57.1)ᵃ	46 (59)ᵃ	74 (46.8)ᵃ	
High	35 (24.3)ᵃ·ᵇ	16 (13.5)ᵇ	13 (16.7)ᵇ	54 (34.2)ᵃ	
Professional achievement					0.019†
Low	-	-	-	-	
Moderate	4 (2.8)ᵃ	4 (3.4)ᵃ	1 (1.3)ᵃ	14 (8.9)ˉ	
High	140 (97.2)ᵃ	115 (96.6)ᵃ	77 (98.7)ᵃ	144 (91.1)§	
Depersonalization					0.010*
Low	100 (69.4)ᵃ·ᵇ	91 (76.5)ᵇ	55 (70.5)ᵃ·ᵇ	96 (60.8)ᵃ	
Moderate	37 (25.7)ᵃ	28 (23.5)ᵃ	23 (29.5)ᵃ	52(32.9)ᵃ	
High	7 (4.9)ᵃ·ᵇ	₋ ᵇ	₋ ᵃ·ᵇ	10 (6.3)ᵃ	
Burnout					0.106‡
Yes	17 (11.8)ᵃ	8 (6.7)ᵃ	9 (11.5)ᵃ	26 (16.5)ᵃ	
No	127 (88.2)ᵃ	111 (93.3)ᵃ	69 (88.5)ᵃ	132 (83.5)ᵃ	

*Z test with Bonferroni Correction; †Adjusted residue analysis; ‡Chi-square test.

Table 3 - Association between burnout and the socio-labor characteristics of nursing workers in four hospitals (n=499), Porto Alegre, Rio Grande do Sul, Brazil

Variable	Burnout		*p* value
	Yes	No	
Age (n=463)	36.48 (±7.78)	36.89 (±8.93)	0.747*
Profession			0.011†
Nurses	28 (17.4)ᵃ	133 (82.6)ᵃ	
Technicians	32 (9.5)ᵇ	306 (90.5)ᵇ	
Sex			0.030†
Female	56 (13.4)ᵃ	361 (86.6)ᵃ	
Male	4 (4.9)ᵇ	78 (95.1)ᵇ	
Marital status			0.344‡
Single or no partner	15 (9.9)ᵃ	136 (90.1)ᵃ	
Married or with partner	45 (12.9)ᵃ	303 (87.1)ᵃ	
Other employment link			0.673†
Yes	12 (13.3)ᵃ	78 (86.7)ᵃ	
No	48 (11.7)ᵃ	361 (88.3)ᵃ	
Working time at the unit			0.584‡
Up to one year	20 (10.8)ᵃ	166 (89.2)ᵃ	
From one to five years	23 (14.9)ᵃ	131 (85.1)ᵃ	
From five to 10 years	10 (11.2)ᵃ	79 (88.8)ᵃ	
Over 10 years	6 (9.5)ᵃ	57 (90.5)ᵃ	
Time working at the institution (months) n=496	51 (19;100)	60 (16;118)	0.852§
Professional performance time (months) n=497	132 (85;180)	120 (54;192)	0.151§

*T test; † Pearson's chi-square test; ‡ Z test with Bonferroni Correction; § Mann-Whitney test.

The mean age in the studied sample that ranged from 32.7 (±8.7) to 40.7 (±8.8) years is similar to other Brazilian studies, which describe nursing professionals, predominantly, in the age group between 30-40 years[12-15]. The identification of higher mean age and working time at Hospital D, with significant differences in relation to the others, corroborates the results of previous investigations[12,16], which describe this trend in university hospitals. It can be considered that the greater retention and permanence of nursing workers in these institutions is related both to the public nature of the employment relationship, as well as the working conditions offered to professionals, such as a career plan and encouragement to professional improvement.

The data mentioned above are confirmed by another finding of the present study, in which it was found that the level of education of workers with *stricto sensu* graduate courses (n=30;19%) was significantly higher (p=0.000) in the public university hospital. However, this data differs from the result found in another Brazilian study carried out in a hospital in Santa Catarina with similar characteristics, in which the percentage of nurses with *stricto sensu* graduate degrees was lower, calculated at 5.7%[12].

There was a higher percentage (25.6%) of workers with another employment relationship in Hospital C, adjusted residue analysis was significant and indicates that in this hospital there were more professionals with another job than expected, being also the institution with younger workers, with an average age of 32.7 (±8.7) years, an average of 36 months of professional experience and 24 months of work at the institution, indicating professionals at the beginning of their career. The employment relationship data contrasts with another study that found a percentage of 64% of workers with another employment relationship[15].

Both the working time at the unit and the experience had significant differences. It is noteworthy the fact that Institution D has a longer service time and Hospital C concentrates professionals with less experience, up to one year of work. Despite the differences between the institutions, there was no association between these variables and the presence of burnout in the studied sample.

The finding of the prevalence of burnout in 60 (12%) nursing workers during the COVID-19 pandemic showed no significant difference (p=0.106) between the institutions studied, regardless of whether or not they are a reference for the care of patients affected by the disease. Burnout prevalence data ranged from 6.7% to 16.5% in the four hospitals, when considering the triad that characterizes the Burnout Syndrome. These findings are inferior to the results found in studies conducted exclusively in intensive care settings carried out in Brazil - (53.6%)[15] and (34.3%)[13] - as well as in Iran (25.54%)[17], as well as a study carried out in Brazil (18.3%)[18] with primary health care workers and in Chile (18%)[19] with nursing, assistance, management, teaching and research professionals. However, our data corroborate the findings of two surveys carried out in Brazil, one in a university hospital in the south of the country, with 393 nursing professionals from critical and non-critical units, which found a prevalence of 10.4% of workers with burnout[20] and another in perioperative care units with a prevalence of 10.3%[21], thus showing that the percentages found in this study did not differ from the burnout prevalence values in the pre-pandemic scenario.

A study carried out in the Netherlands with health professionals working in ICUs analyzed the prevalence and incidence of pre-pandemic and post-peak burnout of COVID-19, verifying that in the previous collection there was a burnout rate of 23%, and in the post- peak, this index increased to 36%. For physicians, there was an increase in incidence from 13.2% to 28.6%, while for nurses, burnout was greater at both times, going from 25.5% to 38.0%. Among the significant events found in the study to increase burnout, the scarcity of materials and work with professionals with low qualifications or insecure stands out (because they were transferred from other areas to ICU)[22]. Although data were not collected in the post-peak period in this study, an increase in the incidence of burnout in nursing workers is assumed, due to the extension of the pandemic and moments of greater collapse in health services in relation to the period studied.

Analyzing the MBI scale dimensions, it is noted that the high EE of nursing workers in Spain (20.4%)[23] in the most critical period of the pandemic is lower than that found in our study (23.6%). However, in a study carried out in Italy, a prevalence of 41%[24] was found, which perhaps reaffirms that this country was an important epicenter of the pandemic.

There was a significant difference (p=0.03) in the EE dimension between the hospitals studied, with the high level 54 (34.2%) being more prevalent in the university hospital (D). Studies suggest that professionals with scores ≥27 are considered highly exhausted[24] and that EE is the main component of burnout[25], being the most significant factor for burnout. The exhausted professional does not meet the quality standard required in care, does not achieve the desired results in professional performance, makes more mistakes and has less interest in conflict resolution[27].

As for the high DP of workers, it is noteworthy that the finding of 3.4% is lower than those found in the Italian (27%)[24] and Spanish (38.9%) studies[23]. On the other hand, regarding PA, the high level of 95.4% among the workers in the present study stands out, compared to the results obtained in Italy (57%)[24] and Spain (19.7%)[23].

It is worth highlighting the prevalence of high level of PA in the sample 476 (95.4%), with a variation from 91.1% to 98.7%, which demonstrates the high commitment and achievement with work, even during the difficult period of coping with the pandemic. Low personal fulfillment is directly linked to excessive workload, conflict situations and overload[28]. In the present investigation, there was no low-level score in this dimension. This data converges with findings of a comparative research between Brazilian and Spanish nursing workers, in which better scores were found in the PA dimension among Brazilians[29].

This finding may mean that there are factors that contribute to professional satisfaction in nursing, even in a situation of seriousness and even precariousness at work[6,30], clearly exposed by the pandemic, a fact that can be interpreted, in part, as the profession's adherence to its purpose of saving lives. This high achievement may be related to the moment of evident visibility of the profession.

There was no statistically significant difference in age between workers with burnout 36.48 (±7.78) years and without burnout 36.89 (±8.93) years. However, a significant difference was found regarding the presence of burnout in females. Corroborating this

result, studies reveal a predominance of burnout in female health professionals[17,31-32]. Although this finding is relevant and refers to the burdens linked to gender issues, undeniably present and persistent in society, it is prudent to admit that a more robust statistical model would be recommended to verify a possible confounding power of the variable.

Although no association was found between burnout and marital status, another study found a significant difference among single workers, suggesting that the lack of emotional support may be a risk factor for the presence of burnout[33]. There was no significant difference between working time at the institution in those workers who had burnout and those who did not; however, the occurrence in professionals with less time of training and professional performance can be justified by insecurity and lack of knowledge, as pointed out in a study that demonstrates that less experienced professionals have higher levels of burnout[28].

Knowledge of the dimensions of burnout can provide relevant data for proper management of nursing teams[33], especially in crisis situations, positively impacting the outcome for patients[25] and allowing action on the context and organization of work, as favorable work environments reduce the impacts of burnout[25].

The identification of burnout among nursing workers in a pandemic scenario can help to adopt strategies to mitigate and prevent illness at work. The social and health services crisis with the emergence of COVID-19 demanded incalculable efforts from front-line professionals to deal with the disease. Recognition of the socio-occupational aspects that contribute to burnout provides support for managers to invest in better work environments and support for health teams.

Study limitations

As a limitation of this study, the non-participation of workers on leave is highlighted, and the prevalence of burnout may therefore have been underestimated. Aspects related to the use of a convenience sample may have influenced the results because the participants are more engaged professionals and with a higher rate of PA. Another limitation may be related to the need for longitudinal comparative models that make it possible to assume cause-effect regarding the pandemic.

It is still worth considering the continuity of the pandemic and its prolonged effects and even greater impacts on workers, late in the period of data collection, as evidenced by the intense increase in the indicators of hospital occupancy rate, overcrowding of services and also the mortality of patients. Thus, it is estimated that burnout results will worsen, which depending on the feasibility of research (including, in order to avoid excessive labor demands) can be understood as a recommendation for future studies. This, perhaps, would bring clearer and more necessary answers regarding resilience and also the emotional, labor and social support provided.

Contributions to nursing, health, and public policies

Considering practical implications and the potential for advancing scientific knowledge, this study can contribute to facing future health crisis situations by identifying factors associated with burnout and professionals at risk, favoring the development of health promotion strategies in nursing work, which should be permanently (re)planned before crisis scenarios.

CONCLUSIONS

The presence of burnout found among hospital nursing workers working during the COVID-19 pandemic was significantly more prevalent among nurses and among females, and these were the only factors associated with its development. It is considered that the high PA evidenced in the findings may have contributed to the results of burnout prevalence. Even in a pandemic scenario with numerous limitations of materials and human resources, there was a high commitment of the nursing teams portrayed by the high PA.

A parallel finding with this finding is that the prevalence of burnout was similar/equal, in relation to the pre-pandemic Brazilian scenario, in studies from the southern region; however, it was lower when compared to Brazilian studies in other regions of the country. The reality verified does not reduce the alert potential regarding exposure to burnout that these workers face.

SUPPLEMENTARY MATERIAL

The manuscript has research data available at the URL: https://doi.org/10.48331/scielodata.1Q6WRT

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