Cogitare Enfermagem

ORIGINAL ARTICLE

Prevalence of burnout symptoms among nursing professionals*

HIGHLIGHTS

1. Emotional problems were identified in 69% of the workers.
2. High exhaustion levels were detected in 33% of the participants.
3. Predominance of burnout symptoms at moderate levels.
4. Relevance of mitigating psychosocial risks to enable health promotion.

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ABSTRACT

Objective: To estimate the prevalence of burnout symptoms in a sample comprised by nursing workers. **Method:** An observational and cross-sectional study with a non-probability sample. The study participants were 3,594 Brazilian nurses, nursing technicians and nursing assistants. The data were collected in an online environment between April and July 2022, using the burnout Assessment Tool - General version. In the data analysis phase, mean values were calculated and the burnout scores were classified into four levels. **Results:** Predominance of exhaustion (42.29%), mental distance (38.59%), cognitive impairment (54.73%), emotional impairment (52.56%), and psychological distress and psychosomatic complaints (49.55%) at moderate levels was observed. **Conclusion:** The predominance of burnout symptoms at moderate levels reinforces the need to implement effective strategies to prevent mental illness in nursing professionals, which includes reducing psychosocial risks in the labor context, aiming to promote healthy work environments.

DESCRIPTORS: Health Promotion; Occupational Health; Mental Health; Burnout, Psychological; Burnout, Professional.

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INTRODUCTION

Nursing is an essential profession in health services. However, nurses, nursing technicians and nursing assistants are constantly immersed in work contexts that expose them to high physical and emotional loads, especially for directly dealing with human suffering and facing not only scarcity of material resources and inadequate infrastructures in their work places but also the everyday pressure of working in highly complex situations, oftentimes without the necessary support[1-2].

This precarious scenario (characterized by inadequate working conditions, unstable employment contracts and professional devaluing) contributes to a degradation process that affects workers' physical and mental health and impairs care quality[3].

As for physical illness risks, nursing professionals are subjected to a set of working conditions that demand physical effort and adopting postures that affect their musculoskeletal system[4]. In relation to mental illness, added to non-recognition and devaluing of the profession, the emotional burden inherent to care (especially in critically-ill patients) becomes a constant distress source, evidencing the relationship between precarious work in nursing and these professionals' ailments[2].

Although physical illness continues to be an important concern for nursing professionals, the significant increase in terms of mental disorders has proved to be an even more severe risk factor and gained deeper attention in recent years, especially after the COVID-19 pandemic[5], a period during which the number of cases of psychological disorders among health professionals rose exponentially, including anxiety, depression[6] and, particularly, burnout[7]. Some studies point out that the prevalence of burnout increased drastically among health professionals during the pandemic[5].

According to World Health Organization (WHO) data[8], it is estimated that 15% of all adults in reproductive age suffer from mental disorders, with anxiety and depression standing out and imposing around US$ 1 trillion in costs each year on the global economy, predominantly driven by productivity loss. These figures evidence the urgent need to devise healthier working conditions with the objectives of mitigating worsening of symptoms related to mental health and improving workers' well-being.

The WHO recently acknowledged burnout as an occupational disease, incorporated to the International Classification of Diseases (ICD-11)[9] and directly related to prolonged exposure to stressful factors in work environments. The most current concept understands burnout as a syndrome characterized by extreme tiredness, reduced capacity to regulate cognitive and emotional processes, and mental distance, symptoms that can also be accompanied by depressed mood, psychological distress and psychosomatic complaints[10].

Based on this new definition, the development of the Burnout Assessment Tool (BAT)[10] stands out, an instrument originally created in two versions: BAT - Work-related (33 items) and BAT - General version (32 items)[10], recently validated with Brazilian nursing workers[7]. The instrument's framework considers burnout as a syndrome comprised by four factors that represent its primary symptoms (Exhaustion, Mental distance, Cognitive impairment and Emotional impairment) and by another two factors that include its secondary symptoms (Psychological distress and Psychosomatic complaints)[10].

Given this context, the objective of this study was to estimate the prevalence on burnout symptoms in a sample comprised by nursing workers.

METHOD

This is an observational and cross-sectional study with a non-probability sample, developed according to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) recommendations[11].

The research was conducted between April and June 2022 and its population was comprised by nursing professionals registered in the Federal Nursing Council (*Conselho Federal de Enfermagem*, COFEN). The data were collected in an online environment, with COFEN sending electronic messages to all its registered nursing professionals, totaling 779,337 invitations. The messages included the links to access the Free and Informed Consent Form (FICF) and the data collection instrument, which was created on the Research Electronic Data Capture (REDCap) platform.

The final sample included 3,594 nursing professionals who agreed to take part in the research. The following inclusion criteria were defined: being nurses, nursing technicians or nursing assistants; having been in the profession for at least one year; and working in the nursing area during the data collection period. The professionals excluded were those that failed to answer all the items in the psychometric instrument used for data collection.

The data collection instrument had two parts. The first one consisted in questions related to the participants' individual and occupational data (age, gender, professional performance *locus*, professional category and time active in nursing) and three questions related to each person's self-perceived health, namely: a) Have you worked with any physical health problem in the last 30 days?; b) Have you worked with any emotional/psychological problem in the last 30 days), both with a dichotomous answer scale (Yes or No); and c) How do you assess your health status in general?, according to a five-point Likert scale (Very good, Good, Average, Poor, Very poor).

The second part consisted in applying the Burnout Assessment Tool (BAT) - General version[10], a psychometric instrument used to assess burnout symptoms among participants that was culturally adapted to the Brazilian context by its authors themselves[12].

BAT - General version has 32 items divided into four primary factors: Exhaustion (items 1-8), Mental distance (items 9-12), Cognitive impairment (items 13-17) and Emotional impairment (items 18-22), which represent the central core of burnout[10]. In addition, secondary symptoms can be noticed, represented by the following factors: Psychological distress (items 23-27) and Psychosomatic complaints (items 28-32). The BAT items are answered in a five-point Likert scale that varies between 1 (Never), 2 (Rarely), 3 (Sometimes), 4 (Frequently) and 5 (Always)[10]. It is noted that BAT intends to screen and assess burnout symptoms, with no diagnostic purpose whatsoever. It is also highlighted that the adaptation of BAT - General version to the Brazilian context has already been validated, presenting excellent psychometric properties[7].

The statistical analyses were performed in IBM SPSS Statistics 22 (IBM Corp., Armonk, N.Y., USA). The data related to characterization of the sample were analyzed by means of descriptive statistics; the missing answers were kept, as excluding them would not modify interpretation of the results.

In order to estimate the prevalence of burnout symptoms among the participating nursing professionals, the guidelines set forth by the original authors of the instrument were followed, which recommend classifying the scores into four burnout levels based on the mean value of the participants' answers to each item: Low (percentile<25);

Moderate (percentile 25-75); High (percentile 75-95) and Very high (percentile>95)[10], adopting a 95% confidence interval. The authors of BAT also recommend that the global score of the instrument should be calculated considering the four primary burnout symptoms (exhaustion, mental distance, cognitive impairment and emotional impairment) separately and combining the secondary ones (psychological distress and psychosomatic complaints)[10].

This study was approved by the Research Ethics Committee belonging to the Ribeirão Preto Nursing School/USP, under Opinion No. 4,912,327. All the guidelines set forth in National Research Ethics Committee Circular Letter No. 1/2021 dated March 3rd, 2021 (referring to guidelines for research procedures in online environments) were followed, as well as those established in National Health Council Resolution No. 738/2024 dated February 4th, 2024 (which deals with using databases for the purpose of scientific research involving human beings).

RESULTS

The participants were aged between 19 and 69 years old, with a mean of 35.75 (SD=10.09). The answers were mostly concentrated in the Southeast and South regions, especially in the states of São Paulo (n=1,429; 39.8%), Minas Gerais (n=770; 21.4%), Rio de Janeiro (n=482; 13.4%), Santa Catarina (n=181; 5%) and Paraná (n=217; 6%). Amazonas (n=52; 1.4%), Ceará (n=80; 2.2%) and Mato Grosso do Sul (n=49; 1.4%) stood out in the other regions. It is noted that professionals from all the Brazilian states took part in the research. The participants' individual and occupational characteristics are presented in Table 1.

Table 1. Individual and occupational characterization of the participants. Ribeirão Preto, SP, Brazil, 2022

(continue)

Variables	n (%)
Gender	
Male	484 (13.47)
Female	3,090 (85.98)
Did not answer	20 (0.55)
Age (years old)	
19-24	368 (10.24)
25-34	1,421 (39.54)
35-44	1,217 (33.86)
45-54	461 (12.83)
>55	105 (2.92)
Did not answer	22 (0.61)
Area of residence and of professional performance	
North region	79 (2.20)
Northeast region	292 (8.12)
Midwest region	99 (2.75)
Southeast region	2,695 (74.99)
South region	418 (11.63)
Did not answer	11 (0.31)

Table 1. Individual and occupational characterization of the participants. Ribeirão Preto, SP, Brazil, 2022

(conclusion)

Variables	n (%)
Professional category	
Nurse	1,722 (47.91)
Nursing Assistant/Technician	1,862 (51.81)
Did not answer	10 (0.28)
Time in the profession (years)	
01-05	1,568 (43.63)
06-10	900 (25.04)
11-15	550 (15.30)
16-20	283 (7.87)
21-25	148 (4.12)
26-30	70 (1.95)
>31	33 (0.92)
Did not answer	42 (1.17)
Workplace*	
Primary Health Care Unit	847 (23.57)
Emergency Unit	322 (8.96)
Hospital Institution	1,823 (50.72)
Mobile Urgency Care Service	89 (2.48)
Home-Based Care	297 (8.26)
Teacher (Higher Education)	74 (2.06)
Teacher (Technical Education)	56 (1.56)
Did not answer	86 (2.39)

Legend: *More than one answer option.

Source: The authors (2022).

As for the participants' individual assessment of their perceived health status, 327 (9.10%) considered it as very good, 1,395 (38.81%) as good, 1,444 (40.18%) as average, 351 (9.77%) as poor and 71 (1.98%) as very poor, with six subjects (0.16%) not answering this question. Regarding presence or absence of physical health problems in the last 30 days, 2,112 (58.76%) reported some disorder, 1,452 (40.40%) denied any physical problem and 30 (0.84%) did not answer this question. In relation to emotional/psychological problems, 2,500 (69.56%) participants reported having worked with problems of this nature in the last 30 days and 1,071 (29.80%) denied any disorder; in turn, 23 (0.64%) provided no answers.

The prevalence of burnout symptoms in the sample is presented in Table 2. The results showed predominance of exhaustion (n=1,520; 42.29%), cognitive impairment (n=1,967; 54.73%), emotional impairment (n=1,889; 52.56%), psychological distress and psychosomatic complaints (n=1,781; 49.55%) at moderate levels and of mental distance (n=1,491; 41.49%) at a low level. However, the high levels of exhaustion (n=1,191; 33.14%) and of secondary symptoms (n=1,038; 28.88%) found in the sample stand out.

Table 2. Prevalence of burnout symptoms among the participants. Ribeirão Preto, SP, Brazil, 2022

Symptoms	Low % [95%CI]	Moderate % [95%CI]	High % [95%CI]	Very high % [95%CI]
Exhaustion	11.24 [10.21-12.27]	42.29 [40.68-43.91]	33.14 [31.60-34.68]	13.33 [12.22-14.44]
Mental distance	41.49 [39.87-43.10]	38.59 [37.00-40.18]	16.03 [14.83-17.23]	3.90 [3.26-4.53]
Cognitive impairment	30.27 [28.77-31.77]	54.73 [53.10-56.36]	12.77 [11.68-13.86]	2.23 [1.74-2.71]
Emotional impairment	29.80 [28.30-31.30]	52.56 [50.93-54.19]	14.25 [13.10-15.39]	3.39 [2.80-3.99]
Psychological distress and psychosomatic complaints	14.44 [13.29-15.59]	49.55 [47.92-51.19]	28.88 [27.40-30.36]	7.12 [6.28-7.96]

Legend: 95%CI = 95% Confidence Interval.
Source: The authors (2022).

DISCUSSION

In its set of findings, the current study identified predominance of exhaustion, cognitive impairment and emotional impairment symptoms at moderate levels in a mostly female and young population. However, nearly one-third of the participants presented high levels of exhaustion, psychological distress and psychosomatic complaints.

These results are coherent with the reality of nursing work, predominantly developed by women[7,13] in a context marked by overload, inadequate working conditions and high emotional demands[2,13]. Such factors expose this professional category to significant risks of developing burnout-associated symptoms[14].

The need to adapt to sudden changes in the routine[13], the overload generated by double workdays (household chores and professional duties)[15] and lack of sound preparedness to deal with the pandemic[16] were factors that contributed to increased stress, physical exhaustion and emotional wear out among the professionals working in the care front line.

In addition to that, nursing workers play various roles in their professional routine, constantly dealing with organizational and personal requirements[13]. These demands involve direct and continuous contact with patients and family members, which requires interpersonal skills, empathy and compassion[17].

In this context, the predominance of burnout symptoms at moderate and high levels among the participants corroborates the findings of a research study conducted in Germany with 595 nurses working in hospital units during the COVID-19 pandemic, where (using BAT - Work-related) it was identified that 47.6% of these professionals presented moderate or high burnout levels[18].

International research studies reinforce the extent of the impacts exerted by burnout on nursing professionals. A study conducted with health professionals (including 1,157 nurses) in Poland, during the COVID-19 pandemic and using BAT-12 (Short

version), identified that 18.4% were at significant risk of developing burnout. As for the symptoms, Exhaustion presented the highest scores, followed by Mental distance. In addition to that, it was verified the moral harassment in the work environment increased by 3.5 times the burnout risk, whereas stress increased this risk by 4.8 times[19].

Similarly, diverse evidence produced in Asia also shows that nursing professionals are highly vulnerable to illness. In Korea, 165 nurses from a national university hospital devoted to treating COVID-19 cases took part in a study that sought to identify risk factors for burnout, revealing expressive prevalence values for exhaustion (74.5%), emotional impairment (37%) and secondary symptoms (35.2%)[20].

Considering these international findings, it becomes relevant to understand the specific components associated with burnout, especially because the current study found 54.73% and 52.56% prevalence of cognitive and emotional impairment, respectively. In this sense, cognitive impairment is defined as memory problems, attention deficits, difficulty concentrating and low cognitive performance. In turn, emotional impairment is characterized by exacerbated emotional reactions, affective overload sensations, frustration and irritation in the work environment, feelings of sadness or discomfort without any apparent cause and difficulties in emotional self-regulation[10].

A longitudinal study conducted in Sweden reinforces this perspective when showing that, even after three years of professional follow-up, patients with burnout still had their cognitive functions related to speed, attention and memory below the expected levels[21]. This evidences that cognitive impairment is a persistent symptom even after reducing the intensity of other burnout symptoms.

As for the secondary symptoms, psychological distress manifests itself in the form of sleep problems, tension, concern and anxiety; in turn, psychosomatic complaints are represented by physical symptoms worsened by psychological factors such as tachycardia, chest pain, gastrointestinal disorders and cephalalgia[10]. In addition to that, among the psychosomatic symptoms, diverse evidence has shown an important association between burnout and development or worsening of cardiovascular diseases and Type 2 diabetes[22], musculoskeletal disorders[23], headaches and gastrointestinal problems[24], and mood disorders, depressive symptoms and insomnia[25].

It is worth noting that, although the study was conducted after the most critical COVID-19 period, its findings reflect nursing professionals' mental illness triggered or worsened during the pandemic and related to the work context experienced, such as higher work demands (high-complexity tasks that can trigger mental distance as a self-protection mechanism)[26], unfavorable changes in the workday (night shifts, excessive extra hours and turnover, which are factors associated with burnout)[27], interpersonal conflicts (as lack of social support in the work environment either from peers or from supervisors contributes to exhaustion)[13] and lack of job autonomy (as not enjoying freedom to make decision or perform tasks is associated with higher burnout levels)[26].

These aspects reinforce the current understanding of burnout as a syndrome resulting from a process characterized by permanent and prolonged exposure to stressors, which cause physical and mental exhaustion over time[10]. Consequently, it becomes increasingly indispensable to adopt prevention and psychosocial risk management strategies in order to minimize impacts and promote better working conditions in nursing.

As for self-perceived health status, most of the participants classified it as "good" to "very good". However, when asked about physical and emotional/psychological health problems in the last 30 days, it was observed that more than half of them reported presenting physical disorders and performing their work duties even when undergoing

emotional difficulties. These results evidence illness in a significant percentage of workers that continued performing their functions, characterizing a presenteeism situation that is frequently noticed in the current labor world context. Associated with burnout symptoms, such condition can exert negative impacts both on productivity and on people's overall well-being, reinforcing the need for interventions targeted at promoting physical and mental health in work environments[1].

Given the above, it is acknowledged that BAT represented an important tool to assess burnout symptoms among Brazilian nurses, nursing technicians and nursing assistants. A number of studies for the cultural adaptation and validation of BAT in different contexts (especially among health and nursing workers)[7,28-29] reinforce the importance of this new instrument to screen symptoms related to work-associated mental illness and to implement strategies targeted at promoting workers' health.

It is noted that the decision to use the general version of BAT in this research is justified by the need to perform an encompassing analysis of burnout symptoms among nursing professionals, considering the social context worsened by the global health crisis during the pandemic and the possible impacts on their mental health and well-being, without limiting it to the demands related to health work.

The relevance of BAT in assessing burnout has also been associated with the theoretical overcoming of the underlying model proposed by the Maslach Burnout Inventory (MBI)[30], the instrument most widely used to measure burnout in the world during the last decades. It is acknowledged that MBI played a fundamental role because it contributed to understanding burnout as a psychological state that deserves attention and in-depth study. However, the scientific literature has pointed out some criticisms to using this instrument, namely: the possibility of distortion in the answer patterns, which can impair its validity[10]; the inclusion of positive items to assess a negative state[29]; the absence of clinically-validated cutoff points[10]; and the fact that it generates three different scores for each subscale instead of a single value representing burnout[10].

In relation to the new concept of burnout proposed by the BAT theoretical model, the current definitions of "exhaustion" and "mental distance" stand out. "Exhaustion" refers to physical and mental energy losses[10], similarly to the MBI assumptions; however, MBI limits itself to assessing affective aspects, without considering the physical and cognitive components of work-related exhaustion[30]. "Mental distance" is postulated as reduced interest, increased resistance, non-involvement and/or aversion to work[10], overcoming the definition of cynicism or depersonalization proposed in MBI referring to feelings of indifference or negative attitudes in relation to work and other people[30].

In addition to that, BAT includes two dimensions related to reduced capacity to regulate emotional processes and to declines in cognitive control, involving symptoms that are widely related to burnout but not contemplated in MBI, namely: frustration, irritability, exaggerated reactions, attention and memory deficits, difficulty concentrating and low cognitive performance[10].

The current study offers important contributions because it provides updated evidence about the incidence of burnout symptoms among nursing professionals. For identifying moderate exhaustion, cognitive impairment and emotional impairment levels among these workers, the research deepens what is known about the multiple domains affected by burnout and offers aids to develop interventions, in addition to guiding future research studies on mental health and working conditions in nursing.

The impossibility to generalize the results and the lack of national representativeness in the data are considered as study limitations since, although the sample was comprised

by nursing workers from all Brazilian regions, most of the respondents were from the Southeast one. This aspect reinforces the need for new surveys on burnout symptoms in nursing professionals using instruments with consolidated theoretical frameworks, especially in the other Brazilian regions. In addition to that, the limitation inherent to its cross-sectional designed is acknowledged, which precludes establishing causality relationships between the variables and evidences the importance of conducting longitudinal studies targeted at understanding the impact exerted by individual and occupational variables on burnout symptoms.

CONCLUSION

The results of this study evidenced prevalence of exhaustion, mental distance, cognitive/emotional impairment, psychological distress and psychosomatic complaints at moderate levels among nursing professionals. These results reinforce the need to develop effective strategies to prevent mental illness among these professionals, who face daily challenges inherent to health work processes. In this context, implementing measures that prioritize mental health (such as adequate psychological support and educational actions targeted at valuing emotional well-being) can significantly contribute to reducing the burnout risk and to promoting safer and better qualified care, benefiting professionals and patients alike.

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