

RESEARCH ARTICLE (ORIGINAL) 

Burnout syndrome, presenteeism and loss of productivity in nursing workers

Síndrome de Burnout, presenteísmo e perda de produtividade em trabalhadores de enfermagem

Síndrome de burnout, presentismo y pérdida de productividad en trabajadores de enfermería

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Abstract

Background: Burnout syndrome and presenteeism can have detrimental effects, particularly in the nursing field.

Objective: To explore the association between burnout syndrome, occupational and health aspects, presenteeism, and loss of productivity in nursing workers.

Methodology: Cross-sectional study with 291 nursing workers. Four instruments were applied - Socio-demographic, occupational and health questionnaire; Maslach Burnout Inventory; Stanford Presenteeism Scale; Work Limitations Questionnaire. Data were analyzed using descriptive and inferential statistics, association tests, and logistic regression, respecting the significance level of 5%.

Results: Burnout syndrome was associated with dual employment, diagnosis of anxiety associated with depression, and smoking. Burnout syndrome was also associated with loss of productivity, both overall and in all specific domains.

Conclusion: Burnout syndrome is linked to occupational and health aspects and presenteeism, resulting in loss of productivity. Understanding the impact of these phenomena contributes to designing effective prevention strategies.

Keywords: Burnout; nursing; presenteeism; efficiency

Resumo

Enquadramento: A síndrome de Burnout e o presenteísmo podem desencadear problemas deletérios, especialmente na área de enfermagem.

Objetivo: Investigar a associação entre a síndrome de Burnout, os aspetos ocupacionais e de saúde, a ocorrência do presenteísmo e a perda de produtividade em trabalhadores de enfermagem.

Metodologia: Estudo transversal, analítico, com 291 trabalhadores avaliados por meio de quatro instrumentos - Questionário sociodemográfico, ocupacional e de saúde; *Maslach Burnout Inventory*; *Stanford Presenteeism Scale*; *Work Limitations Questionnaire*. As análises foram interpretadas por estatística descritiva e inferencial, com testes de associação e regressão logística respeitando o nível de significância de 5%.

Resultados: Trabalhadores com dois empregos, diagnóstico de ansiedade associada à depressão e tabagistas foram associados à síndrome de Burnout. A síndrome também apresentou perda de produtividade geral e em todos os domínios específicos.

Conclusão: Houve associação entre a síndrome de Burnout, os aspetos ocupacionais e de saúde e o presenteísmo ocasionando perda de produtividade. Compreender a amplitude desses fenômenos contribui para subsidiar estratégias eficazes que previnam este desfecho.

Palavras-chave: Burnout; enfermagem; presenteísmo; eficiência

Resumen

Marco contextual: El síndrome de *burnout* (desgaste profesional) y el presentismo pueden desencadenar problemas nocivos, especialmente en el ámbito de la enfermería.

Objetivo: Investigar la asociación entre el síndrome de *burnout*, los aspectos laborales y de salud, la frecuencia del presentismo y la pérdida de productividad en trabajadores de enfermería.

Metodología: Estudio transversal y analítico con 291 trabajadores evaluados mediante cuatro instrumentos - Cuestionario Sociodemográfico, Ocupacional y de Salud; *Maslach Burnout Inventory*; *Stanford Presenteeism Scale*; *Work Limitations Questionnaire*. Los análisis se interpretaron mediante estadística descriptiva e inferencial, con pruebas de asociación y regresión logística respetando el nivel de significación del 5%.

Resultados: Los trabajadores con dos empleos, diagnóstico de ansiedad asociado a depresión y fumadores estuvieron asociados al síndrome de *burnout*. El síndrome también mostró pérdida de productividad global y en todos los ámbitos específicos.

Conclusión: Se observó una asociación entre el síndrome de *burnout*, los aspectos laborales y sanitarios, y el presentismo que causa pérdida de productividad. Comprender el alcance de estos fenómenos ayuda a subsidiar estrategias eficaces para prevenir este resultado.

Palabras clave: agotamiento; enfermería; presentismo; eficiencia

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Introduction

The relationship between individuals and their jobs is essential for their mental health. However, precarious work conditions can have serious consequences that affect health and cause illness (Rocha et al., 2021). In recent years, absenteeism rates have been increasing due to psychosocial problems linked to burnout syndrome and presenteeism (Cruz et al., 2019).

The main causes and consequences of these problems have been researched as they can lead to physical and emotional exhaustion, ultimately resulting in the inability to work (Pereira et al., 2021). They are often linked to occupational and health aspects and regarded as emerging challenges for occupational health (Li et al., 2019; Nwosu et al., 2021). The nursing profession is highly vulnerable to these phenomena. Nursing workers, who form the largest workforce in the health sector, are recognized for their altruistic profile and their performance of complex tasks, which are sometimes carried out in poor conditions, and may ultimately lead to the collapse of healthcare institutions (Kinman, 2019; Mohammadi et al., 2021). Thus, it is essential to take care of the mental health of nursing workers to ensure high-quality care and successful treatments (Sousa et al., 2023).

Recognizing and understanding these issues is crucial for making the necessary changes in work settings and implementing measures to prevent and reduce them. This is especially important in the nursing team because of its critical role in public health. Thus, this study aims to explore the association between burnout syndrome and occupational and health aspects, presenteeism, and loss of productivity in nursing professionals.

Background

Burnout syndrome is an occupational phenomenon that arises from the challenges of managing chronic emotional stress, a growing issue in the healthcare industry, particularly nursing. This syndrome is characterized by the combination of three dimensions: emotional exhaustion, depersonalization, and low professional accomplishment (Antão et al., 2022; Leiter & Maslach, 2016).

Presenteeism can also negatively impact nursing workers' productivity. Presenteeism refers to situations where an individual persists on working despite health conditions that directly affect their ability to work. These health conditions may arise from health problems, high levels of stress, physical or mental fatigue (Nwosu et al., 2021). Presenteeism has two lines of research: the first investigates the costs associated with lost productivity; the second aims to identify the underlying motivations that drive an employee to persist at work even under unfavorable conditions (Li et al., 2019; Nwosu et al., 2021).

Presenteeism is strongly correlated with exhaustion, and such association amplifies the risk of burnout syndrome. Not only are the effects of illness and decreased work capacity severe, but they also result in greater financial losses than absenteeism (Dyrbye et al., 2019).

Research question

Is burnout syndrome associated with occupational and health aspects, presenteeism, and loss of productivity among nursing workers?

Methodology

This cross-sectional analytical study was carried out with nursing workers from a municipal hospital and emergency department in the Midwest region of Brazil.

The project received approval from the Ethics Committee on Research Involving Human Subjects of the Federal University of Mato Grosso, University Campus of Rondonópolis, with Opinion 3.217 and Certificate of Presentation of Ethical Appreciation 08945519.6.0000.8088. All ethical and legal requirements were met in compliance with the guidelines and regulatory standards for research involving human subjects (Resolution 466/2012 of the National Health Council).

The target population included all nursing staff who were employed and active for more than 6 months ($n = 458$), of which 127 were nurses, 225 were nursing technicians, and 106 were nursing assistants working in care and management positions. Sampling techniques were not used to determine the target population. Workers who were absent for any reason during data collection, those who refused to participate (33.18%; $n = 152$), and envelopes with incomplete instruments (3.28%; $n = 15$) were excluded. The final sample consisted of 291 employees. Data were collected between October 2019 and January 2020. The invitation and material delivery were organized according to nursing work schedules that were previously provided by the administration. A maximum of three approaches was set. Individual workers were invited during business days. They received information on the significance of the study, data confidentiality, and had their questions answered.

Participants who met the pre-established criteria and agreed to participate in the study signed the informed consent form and received a sealed envelope containing the instruments and another copy of the informed consent form. Return was negotiated according to the worker's preference and without interfering with their work routine.

Four self-administered instruments were used: Socio-demographic Questionnaire on Working Conditions and Health (QSCTS); Maslach Burnout Inventory - Human Services Survey (MBI-HSS); Stanford Presenteeism Scale (SPS-6); and Work Limitations Questionnaire (WLQ). The authors of these instruments approved their use in this study (Santos et al., 2022; Lautert, 1995; Paschoalin et al., 2013; Soárez et al., 2007). The MBI-HSS owns the copyright, and the license for use in this study was acquired and duly granted by the Mind Garden publisher. The QSCTS was designed to outline the profile of the participants in terms of socio-demographic characteristics, professional training, habits, and occupational and health aspects. This semi-structured questionnaire has 38 items

divided into five categories with nominal and numerical variables. Its content and structure were validated by six judges with extensive experience in occupational health, mental health, and nursing administration, along with a nurse and a nursing technician who had been working in the care sector for about two years. The agreement index achieved was 0.90 (Santos et al., 2022).

The MBI-HSS is a three-dimensional instrument specifically designed for measuring burnout syndrome in the health sector. Its objective is to assess burnout syndrome by measuring the frequency of occurrence of specific situations. It includes 22 items with five response options, spread across three dimensions: nine items measure emotional exhaustion, five measure depersonalization, and eight measure professional accomplishment, with a reverse score evaluation. We used the version of the instrument translated and validated for Brazil. Internal consistency was assessed by calculating Cronbach's alpha (α), resulting in scores of $\alpha = 0.83$, $\alpha = 0.63$, and $\alpha = 0.82$ for each of the dimensions, respectively. These scores show good reliability, comparable to those obtained in the original validation study (Lautert, 1995).

Due to the lack of consensus on the interpretation of the MBI-HSS, the values were calculated based on quartiles and then grouped into risk levels. The participants who scored highly on emotional exhaustion and depersonalization, and low on professional accomplishment were at a higher risk for burnout syndrome. However, any alterations in at least two of these dimensions were considered to pose a moderate risk for burnout, indicating a tendency for its development (Leiter & Maslach, 2016). In the same way, there is no consensus on the interpretation of presenteeism, which has two main lines of research - one to identify the cause and the other to quantify the costs of this practice. Although the literature strongly recommends assessing presenteeism using both methods, research using this methodology is still scarce. As a result, in this study, two different instruments were used to assess presenteeism (Li et al., 2019).

We used the SPS-6 instrument to study the occurrence of presenteeism. This instrument measures the ability to focus and complete tasks even when experiencing health problems in the last 30 days. This is based on two factors: the ability to concentrate and complete work. It is composed of two dimensions, each with three items. Response options range from 1 (*strongly disagree*) to 5 (*strongly agree*). The total score is the sum of the scores obtained, which range from 6 to 30. Low scores (6-18 points) indicate a decrease in performance. Conversely, high scores (19-30 points) indicate that work performance was maintained during the period in which the employee was affected.

We used the version validated for Brazil in this study. The version demonstrated good psychometric properties. We assessed its stability using the intraclass correlation coefficient, and the results showed almost perfect reliability, with r (number of classes) = 0.91. In Factor 1 (physical), the internal consistency using Cronbach's alpha was higher than 0.72, and in Factor 2 (psychological), it was higher than 0.71. We measured the temporal stability

of its items using weighted kappa. The results ranged from moderate ($k = 0.61$) to almost perfect ($k = 0.94$), confirming the adequacy and reliability of the version (Paschoalin et al., 2013).

The WLQ was used to assess economic outcomes by measuring the cost of presenteeism. It assesses whether the employee had encountered a health problem in the last 14 days and how much this condition had affected productivity. It comprises 25 items grouped into four domains: five items for time management, six for physical demands, nine for mental-interpersonal demands, and five for output demands. The score for each domain is calculated on a scale from 0 (limited none of the time) to 100 (limited all of the time), which represents the percentage of time of reduced performance. The scores for each domain and the overall index are calculated using specific formulas developed by the authors of the original version. This study used the version validated in Brazil, which was considered satisfactory, with good applicability and reliability as shown by the Cronbach's alpha coefficients ranging from 0.81 and 0.90 in the four domains (Soárez et al., 2007).

Data were organized in spreadsheets and then imported into the R software (R Core Team, 2021) for statistical analyses. Nonparametric tests were used after verifying the non-normal distribution with the Shapiro-Wilk test. Cronbach's alpha coefficient was used to assess the instruments' internal consistency, both total and by dimension. The variables of the QSCTS were assessed by frequencies, means, standard deviations (*SD*), minimum and maximum values. Descriptive statistics were used for the total score and domains in the MBI-HSS, which were classified into risk levels (*high*, *moderate*, and *low*).

The Kruskal-Wallis test was used to assess the association between occupational and health aspects and the triad of altered dimensions and burnout syndrome.

The association between presenteeism and the triad of dimensions and burnout syndrome was assessed by calculating the odds ratio (*OR*) obtained by simple logistic regression models, with a 95% confidence interval (*CI*) and respecting the 5% significance level ($p \leq .05$) for the Wald test and multinomial regression models.

Results

Out of 291 participants, the majority were assistants/technicians ($n = 210$; 72.16%), mainly women ($n = 247$, 84.88%), with a mean age of 39.3 years ($SD = 9.5$), ranging from 17 to 65 years. Among them, 130 (44.70%) were single and 202 (69.4%) had children, with an average of 1.85 children ($SD = 0.81$) ranging from 1 to 5.

In terms of employment relationship, 174 (59.79%) reported being employed under precarious working conditions - such as temporary contracts without formal employment and social protection; 106 (36.43%) had permanent employment, and 11 (3.78%) were in positions filled by appointment. Regardless of the employment relationship, 251 (86.25%) worked for 40 hours a week, and 43 (13.75%) worked for 30 hours

a week. Seventy-three (25.09%) workers reported dual employment in the area.

Regarding lifestyle habits, 34 (11.68%) individuals reported being smokers and, on average, smoked 9.58 ($SD = 5.19$) cigarettes per day, ranging from 2 to 20 cigarettes. Eighty-three (28.52%) participants reporting drinking alcohol, with an average frequency of once a week ($SD = 0.83$), ranging from 1 to 7.

Regarding health conditions, 17 participants (5.84%) reported being diagnosed with anxiety disorder, 18 (6.19%) with depression, 20 (6.87%) with migraine, 21 (7.22%) with gastritis, 37 (12.71%) with anxiety associated with depression. A total of 61 (20.96%) participants reported continuous use of psychotropic medications. In the last year, 43 (14.78%) professionals were absent because of sick leave, with an average period of absence of 39 days ($SD = 50.8$), ranging from 1 to 210 days. A total of 176 participants (60.48%) had a leisure routine, with a weekly frequency of 1 to 2 days per week.

Presenteeism was identified in 111 (38.14%) workers. Among them, 62 (55.86%) workers maintained productivity, while 49 (44.14%) had reduced performance and concentration during this period.

The overall productivity loss index was 8.9%, and the overall WLQ index score was 0.08. The most affected dimension was physical demand (40.27%), followed by time management (30.78%), output demand (30.38%), and mental-interpersonal demand (29.55%).

According to the classification used in this study, 229 (78.69%) individuals had a low risk for burnout syndrome, while 53 (18.21%) had a moderate risk, meaning that they had a tendency to develop it. Burnout syndrome was found in nine (3.09%) workers.

The classification levels for emotional exhaustion were high for 76 (26.21%) participants, moderate for 137 (47.24%), and low for 78 (26.80%). As for depersonalization, it was high for 78 (26.80%) individuals, moderate for 137 (47.08%), and low for 76 (26.12%). Lastly, professional accomplishment was scored inversely and observed as follows: Low for 77 (26.46%) participants, moderate for 132 (45.36%), and high for 82 (28.18%). Table 1 shows the associations between occupational and health aspects and the dimensions that lead to burnout syndrome, based on positive responses compared to negative ones. Pre-existing conditions were predominant in both professional and personal contexts, as well as in life habits.

Table 1

Association between Emotional Exhaustion, Depersonalization, Professional Accomplishment and Burnout Syndrome and Sociodemographic, Occupational and Health Aspects (Yes x No)

Variable	Category	<i>p</i>	<i>OR</i>	95 CI%
Anxiety associated with depression				
Emotional exhaustion	Low x Moderate	0.17	2.07	[0.73; 5.84]
	Low x High	0.02	3.59	[1.23; 10.44]
	Moderate x High	0.15	1.74	[0.81; 3.71]
Depersonalization	Low x Moderate	0.24	1.88	[0.66; 5.34]
	Low x High	0.02	3.66	[1.27; 10.58]
	Moderate x High	0.08	1.95	[0.91; 4.16]
Leisure routine				
Professional accomplishment	Low x Moderate	0.35	0.76	[0.42; 1.36]
	Low x High	0.12	1.65	[0.88; 3.09]
	Moderate x High	0.01	2.17	[1.23; 3.83]
Sick leave in the past year				
Emotional exhaustion	Low x Moderate	0.65	1.25	[0.49; 3.20]
	Low x High	< 0.01	3.87	[1.54; 9.77]
	Moderate x High	< 0.01	3.11	[1.49; 6.48]
Burnout syndrome	Low x Moderate	0.42	2.32	[0.30; 18.18]
	Low x High	0.05	11.2	[1.00; 125.64]
	Moderate x High	0.02	4.82	[1.24; 18.76]
Gastritis diagnosis				
Emotional exhaustion	Low x Moderate	0.25	3.53	[0.42; 29.84]
	Low x High	0.01	17.4	[2.23; 135.86]
	Moderate x High	< 0.01	4.93	[1.81; 13.44]
Depersonalization	Low x Moderate	0.15	4.65	[0.57; 37.90]
	Low x High	0.01	13.6	[1.73; 107.65]
	Moderate x High	0.03	2.93	[1.14; 7.52]
Smoking				
Burnout syndrome	Low x Moderate	0.01	0.21	[0.07; 0.65]
	Low x High	0.59	1.60	[0.29; 8.74]
	Moderate x High	< 0.01	7.74	[1.95; 30.71]
Dual employment				
Emotional exhaustion	Low x Moderate	0.04	2.06	[1.02; 4.15]
	Low x High	0.15	1.79	[0.81; 3.91]
	Moderate x High	0.65	0.87	[0.46; 1.63]

Note. *OR* = Odds ratio; *CI* = Confidence interval.

The medians of these variables were also compared (Table 2). The results confirmed the association between psychiatric diagnoses, sick leave, and maintained lifestyle habits.

Table 2

Comparative Analysis of Emotional Exhaustion, Depersonalization and Professional Accomplishment based on Occupational and Health Aspects

Occupational aspects and health	Presence		Absence		<i>p</i>
	Median	<i>SD</i>	Median	<i>SD</i>	
Emotional exhaustion					
Gastritis	30.00	7.14	22.00	7.61	< 0.01
Anxiety associated with depression	27.00	8.26	22.00	7.54	0.01
Sick leave in the past year	27.00	8.65	22.00	7.34	< 0.01
Depersonalization					
Gastritis	14.00	4.76	9.00	4.01	0.03
Anxiety associated with depression	11.00	4.51	9.00	4.03	< 0.01
Self-reported alcohol consumption	11.00	4.60	9.00	3.90	0.03
Anxiety	13.00	5.11	9.00	4.03	0.02
Depression	11.00	4.35	9.00	4.11	0.04
Migraine	12.00	5.04	9.00	4.04	0.05
Professional accomplishment					
Temporary contract by CLT	27.00	7.99	30.00	7.21	0.02
Leisure routine	30.00	8.25	27.00	7.33	0.03

Note. *SD* = Standard deviation; CLT = Consolidation of Labor Laws.

Logistic regression analysis found no association between burnout syndrome and presenteeism. In contrast, presenteeism caused by loss of productivity was

associated with the triad of altered dimensions and burnout syndrome, resulting in a significant decrease in productivity (Table 3).

Table 3

Comparison between Productivity associated with Emotional Exhaustion, Depersonalization, and Professional Accomplishment and Burnout Syndrome

MBI-HSS Burnout Syndrome	Overall index		Time management		Physical demand		Mental-Interpersonal		Output demand	
	Mdn (SD)	<i>p</i>	Mdn (SD)	<i>p</i>	Mdn (SD)	<i>p</i>	Mdn (SD)	<i>p</i>	Mdn (SD)	<i>p</i>
Emotional exhaustion		< 0.01		< 0.01		0.05		< 0.01		< 0.01
Low	3.82 (7.30)		5.00 (31.72)		30.00 (30.16)		5.56 (28.81)		5.00 (33.43)	
Moderate	6.99 (6.24)		25.00 (27.43)		37.50 (29.59)		19.44 (25.87)		25.00 (28.96)	
High	10.01 (6.17)		35.00 (27.34)		41.67 (28.03)		30.56 (26.73)		40.00 (29.26)	
Depersonalization		< 0.01		< 0.01		0.13		< 0.01		< 0.01
Low	4.55 (7.43)		15.00 (30.76)		33.33 (30.29)		8.33 (28.84)		10.00 (32.85)	
Moderate	5.99 (6.07)		20.00 (28.09)		35.00 (31.05)		19.44 (24.97)		15.00 (27.97)	
High	11.43 (6.22)		35.00 (27.71)		41.67 (25.51)		39.76 (27.21)		40.00 (30.81)	
Professional accomplishment		< 0.01		< 0.01		0.46		< 0.01		< 0.01
Low	12.82 (7.16)		35.00 (32.63)		41.67 (31.99)		30.56 (28.93)		50.00 (33.41)	
Moderate	8.47 (6.17)		25.00 (28.41)		37.50 (26.40)		30.56 (26.40)		25.00 (27.82)	
High	3.96 (5.78)		15.00 (22.51)		35.42 (31.73)		8.33 (23.43)		5.00 (26.40)	
Burnout syndrome		< 0.01		< 0.01		0.01		< 0.01		< 0.01
Low	5.78 (6.52)		16.88 (28.79)		33.33 (29.28)		16.67 (26.91)		15.00 (29.65)	
Moderate	11.86 (6.10)		40.00 (28.35)		45.83 (30.17)		30.56 (25.57)		40.00 (31.65)	
High	16.20 (7.09)		50.00 (23.64)		50.00 (13.34)		66.67 (31.64)		50.00 (28.39)	

Note. Mdn = Median; SD = Standard deviation.

Discussion

This study found an association between burnout syndrome and occupational and health aspects and presenteeism caused by loss of productivity.

Regarding these aspects, problems such as gastritis and anxiety associated with depression were linked to high levels of emotional exhaustion and depersonalization. Par-

ticipants who reported migraine problems, depression, and alcohol consumption also experienced depersonalization. Participants who had temporary jobs and no established leisure routine had low professional accomplishment. Burnout syndrome was associated with smoking and a history of sick leave in the last year. These aspects were also linked to high emotional exhaustion, supported by recent studies (Nwosu et al., 2021; Steege & Rainbow, 2017).

The relationship between depression and burnout syndrome is often discussed in the literature because of the similarities in symptoms (Leiter & Maslach, 2016; Pereira et al., 2021). Nevertheless, burnout syndrome is limited to professional experiences, while depression is clinical and reflects personal thoughts and feelings (Leiter & Maslach, 2016; Pereira et al., 2021).

Burnout syndrome is closely associated with mental disorders, particularly depression. These issues are frequently caused by feelings of discouragement, frustration, devaluation, and low recognition experienced during work routines. These symptoms are even more concerning when associated with other contexts because they can result in a cognitive decline that reduces the quality of care and performance, increases the number of episodes of lack of attention, and affects interpersonal relationships (Leiter & Maslach, 2016; Sousa et al., 2023). Moreover, anxiety and depression annually cost the global economy approximately \$1 trillion in lost productivity. Thus, a negative work environment may lead to physical and mental health issues, substance abuse, alcohol consumption, absenteeism, and decreased work performance, all of which were identified as important outcomes in the present study (World Health Organization, 2020).

Certain lifestyles, such as alcohol consumption and smoking, can worsen psychophysical conditions that are already partially compromised. These behaviors are sometimes chosen as coping mechanisms to alleviate symptoms of anxiety, depression, and burnout-related exhaustion, due to their relaxing effects, as has been shown in recent studies (Cruz et al., 2019; Moss et al., 2016; Soares et al., 2021).

The findings related to the diagnosis of gastritis demonstrated the impact of the problem and the urgent need to understand it. This condition should not be investigated only from a physical perspective, as it typically happens. This is because the severity of its psychosomatic stress symptoms usually correlates with exhaustion, reduced cognitive abilities, and impaired relationships, as observed in this study. These disorders associated with a cold and unsympathetic profile could lead to burnout syndrome, which affects the quality of care and threatens patient safety (Soares et al., 2021).

A worker experiencing chronic stress with clear signs of exhaustion and illness symptoms could lead to absenteeism, a consequence of presenteeism and burnout syndrome (Leiter & Maslach, 2016; Steege & Rainbow, 2017) while continuing work without intervention for remission. The stressful work environment creates a cycle where an ill worker stops working and the remaining team becomes overwhelmed and burnt out. This leads to presenteeism, exhaustion, and illness among healthy professionals (Soares et al., 2021).

Evidence shows that maintaining a leisure routine prevents the occurrence or worsening of the conditions related to burnout syndrome and presenteeism, as their absence can lead to new or worsened conditions (Moss et al., 2016; Rocha et al., 2021).

This study showed that the triad of altered dimensions and burnout syndrome can have a negative impact on

overall productivity and all the assessed demands.

It is worth noting that workers at moderate and high risk of burnout syndrome achieved comparable results, demonstrating consistency with the criteria used in this study and enabling identification of those developing the syndrome. This perspective is highly relevant for intervention and change to improve outcomes.

Furthermore, this outcome is of even greater concern because these nursing workers exhibit a self-critical profile and a sense of moral obligation that can make it difficult for them to comprehend and acknowledge illness, particularly mental illness. As a result, there is a tendency to normalize stress symptoms, which are frequently mistaken for tiredness and fatigue caused by exhausting work routines (Kinman, 2019; Steege & Rainbow, 2017). A recent study observed health professionals experiencing presenteeism while working with symptoms such as fatigue, exhaustion, migraines, fever, and gastrointestinal symptoms. They mentioned reduced productivity during this period. However, the health professionals did not leave as they did not consider their symptoms as an illness. They were also concerned that taking a medical leave would overload the team and were motivated to not be an unfair and unempathetic burden. Despite reduced productivity, they still saw themselves as a viable option compared to being completely absent (Steege & Rainbow, 2017).

Presenteeism and emotional exhaustion are expected to occur simultaneously due to their similarity and the common stress-causing work environment. This creates a cycle that worsens exhaustion symptoms and can lead to presenteeism, thus further worsening exhaustion. In response to a high level of occupational demands, workers are likely to spend even more time and energy (Li et al., 2019).

According to a recent study conducted by Arnsten and Shanafelt (2021), fatigue and uncontrollable chronic stress can reduce the activity of the prefrontal cortex, which is responsible for self-regulation. This reduction can result in demotivation, apathy, and behavioral and communication problems. Activities with high cognitive demands are known to be severely impacted by cognitive impairment caused by such diseases. This, in turn, leads to a reduction in work performance (Leiter & Maslach, 2016; Pereira et al., 2021; World Health Organization, 2020).

It is important to note that this study had some limitations. For instance, the cross-sectional design of the study may not allow for assessing the relationship between cause and effect. Moreover, self-administered instruments may introduce an inattention bias, especially considering its great professional importance.

Despite these limitations, this study offers valuable insights into burnout in nursing and its correlation with loss of productivity. Such insights are crucial in designing and promoting strategies to minimize these impacts and foster healthy work environments.

While it is a known fact that burnout syndrome may lead to loss of productivity and presenteeism, this study provides new contributions through a comprehensive analysis of the context associated with these factors. In addition,

the study emphasizes the significance of mental health and working conditions in preventing these phenomena and enhancing the productivity of these workers. Initiatives are critical to ensuring that nursing professionals work in a safe and healthy environment free from excessive stress, thus guaranteeing quality care for patients. This study underscores the importance of investing in burnout prevention and management programs with a wide scope on presenteeism and context to improve the quality of life of the entire healthcare team.

Conclusion

Burnout syndrome was associated with diagnosis of gastritis, anxiety associated with depression, history of sick leave, self-reported smoking, temporary contracts, and dual employment.

Burnout syndrome was also shown to affect overall productivity and all domains investigated, which may impact the quality of care, workers' health, and financial costs for the entire context. On the other hand, maintaining a leisure routine proved to be a protective factor for these phenomena.

The results indicate that the working conditions of nursing professionals need to be revised at a global level due to their importance for the health of those who care for others and often put their lives, health, and well-being in the background. It is essential to pay attention to psychosocial issues in the work context. Burnout syndrome and presenteeism should be given special attention, as these are independent and interconnected problems that can impact outcomes directly.

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