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Original Article

Burnout syndrome and perceptions about safety climate among intensive care professionals

Síndrome de Burnout e percepções acerca do clima de segurança entre profissionais intensivistas

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ABSTRACT

Objective: to analyze the relationship between Burnout Syndrome and perceptions about safety climate among intensive care professionals. **Methods:** a cross-sectional study with 51 health professionals from a public hospital in northeastern Brazil. The following instruments were applied: the Maslach Burnout Inventory, the Safety Attitudes Questionnaire, and a Sociodemographic questionnaire. Descriptive, analytical (Spearman's test) and inferential statistics were adopted. **Results:** there was a high level of emotional exhaustion (64.7%) and low levels of depersonalization (74.5%) and personal accomplishment (56.8%) in the Burnout assessment. The safety climate was considered satisfactory, with the Safe Behaviors domain having the highest average. There was a moderate correlation between the Stress recognition and Depersonalization subscales. **Conclusion:** there was a correlation between safety climate and Burnout in the Stress recognition and Depersonalization dimensions, with the latter being considered a consequence of stressful factors which distance professionals from patients. **Descriptors:** Nursing; Depersonalization; Patient Safety; Burnout, Psychological; Intensive Care Units.

RESUMO

Objetivo: analisar a relação entre a Síndrome de *Burnout* e as percepções acerca do clima de segurança entre profissionais intensivistas. **Métodos**: estudo transversal, com 51 profissionais de saúde de hospital público do nordeste brasileiro. Aplicaram-se os instrumentos: Inventário de *Burnout* de Maslach, Questionário de Atitudes de Segurança e Questionário sociodemográfico. Adotaram-se estatísticas descritiva, analítica (teste de Spearman) e inferencial. **Resultados**: na avaliação do *Burnout*, constatou-se nível alto de exaustão emocional (64,7%) e níveis baixos de despersonalização (74,5%) e realização profissional (56,8%). O clima de segurança foi considerado satisfatório, sendo o domínio Comportamentos seguros o que obteve maior média. Evidenciou-se correlação moderada entre as subescalas Percepção do estresse e Despersonalização. **Conclusão**: constatou-se correlação entre clima de segurança e *Burnout,* nas dimensões Percepção do estresse e Despersonalização, sendo que esta segunda pode ser considerada consequência de fatores estressantes que distanciam o profissional do paciente.

Descritores: Enfermagem; Despersonalização; Segurança do Paciente; Esgotamento Psicológico; Unidades de Terapia Intensiva.

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Introduction

Burnout syndrome is a response to prolonged exposure to occupational stress, and is characterized by emotional exhaustion, depersonalization and reduced personal accomplishment, which are considered analytical dimensions[1-2].

Emotional exhaustion is the central attribute of Burnout. It arises from the emotional demands of work, leading professionals to distance themselves from patients. Depersonalization involves a professional attempting to distance them self from the patient. Thus, exhaustion or depersonalization interfere with effectiveness, as it is difficult to obtain a sense of professional fulfillment when feeling exhausted or helping people in the midst of indifference[2].

Burnout incidence is frequent among professionals from different areas. The occurrence is related to the work environment characteristics and the stress level, generating states of weariness and dissatisfaction resulting from the individual and work contexts[1]. Burnout syndrome is more common among health professionals, especially those who work with critically ill patients. Intensive care nurses are more affected when compared to other health professionals[3].

Environmental and structural factors in the Intensive Care Unit are added to chronic and unresolved systemic problems in health organizations[4-5], with an emphasis on undersized staff and authoritarian leadership. Daily contact with death, work overload, ethical dilemmas which require difficult decisions, and the pace of exhausting work are common and painful. This scenario marked by Burnout in professionals can therefore influence their perceptions about safety climate in their workplace.

The safety climate includes perceptions shared between management members and healthcare workers regarding safety policies, procedures, and practices in the institution in which they operate. It reflects the perception of the safety values in an organization as a factor which contributes to reducing harm to patients[6]. It can be analyzed from domains such as the teamwork climate, job satisfaction, perception of unit and hospital management, working conditions, and stress recognition[7].

The reality faced by professionals requires investigations to determine the relationship between safety climate and Burnout, especially in healthcare organizations. A recent study showed a strong relationship between the lack of personal accomplishment and job satisfaction, interest, and stress. The safety climate showed a strong correlation with the frequency and severity of the Burnout dimensions[8].

Thus, the following question arose: what is the relationship between the Burnout syndrome dimensions and the perceptions about safety climate among intensive care professionals? Therefore, the objective of this study was to analyze the relationship between Burnout Syndrome and perceptions about safety climate among intensive care professionals.

Methods

This was a cross-sectional study carried out in four intensive care units (two pediatric and two for adults) in a public hospital in northeastern Brazil.

A non-probabilistic convenience sample was recruited, which was obtained based on the formula for finite population. Thus, a sample of 240 participants was estimated from the total of 300 health professionals who worked in the four intensive care units, including doctors, nurses, and nursing technicians. The inclusion criteria were: performing a care function and working for more than 20 hours per week. Those who were on leave for any reason (vacation or other reasons), or those who held a managerial position concurrently with providing care were excluded.

A sample of 51 professionals was obtained at the end of data collection (corresponding to 21.3% of the estimated). This number was attributed to factors such as returning incorrectly or incompletely filled instruments and fear of possible repercussions, as the research evaluates individual and organizational is-

sues which cause discomfort.

Data collection was carried out from January to June 2018 with three instruments provided for each participant: a questionnaire with sociodemographic information, the Maslach Burnout Inventory and the Safety Attitudes Questionnaire.

The Maslach Burnout Inventory has 18 items distributed in three subscales: Emotional exhaustion (7 items), Personal accomplishment (6 items) and Depersonalization (5 items). The Emotional exhaustion subscale classifies a value ≤ 19 as low, moderate in the range > 19 and ≤ 21, and high for values > 21. The Personal accomplishment subscale has an inverse score, corresponding to a high level for a value ≥ 25; moderate level for values ≥ 18 and <25; and low level for values <18. The Depersonalization subscale considers a low level for values ≤ 11; moderate level for values between> 11 and <15; and a high level for values > 15[9].

Another instrument used was the Safety Attitudes Questionnaire which classifies the professionals' perception of attitudes towards safe care. It consists of 41 items subdivided into seven domains: Teamwork climate (items 1 to 6), Safety climate (items 7 to 13), Job satisfaction (items 15 to 19), Stress recognition (items 20 to 23), Perception of management (items 24 to 29), Working conditions (items 30 to 32), and Safe behaviors (items 33 to 35). The last domain was created when validating the instrument in Portuguese[7]. This instrument uses a five-point Likert scale as follows: strongly disagree (A), slightly disagree (B), neutral (C), slightly agree (D), strongly agree (E), or does not apply (X). The final score can range from 0 to 100; zero indicates the worst perception of the safety climate, and 100 the best perception. Item A corresponds to zero points, and item E to 100 points.

The questionnaires were delivered to nursing workers and doctors who consented to participate in the study after signing the informed consent form. The questionnaires were answered through self-completion according to the authors' guidance and outside working hours. The data were tabulated in an Excel 2016 spreadsheet after data collection. Next, a quantitative analysis was conducted using the Statistical Package for the Social Science version 23.0 software program.

Absolute and relative frequencies were obtained for the variables of interest, as well as measures of central tendency (minimum, maximum, and standard deviation) and correlation tests. The Spearman correlation test was used to analyze the relationship between Burnout and the Safety Attitudes Questionnaire items, indicating a weak correlation when the value obtained is less than 0.3; moderate correlation when the value is between 0.3 and 0.7; and strong correlation when the value is equal to or greater than 0.7. A significance value of $p<0.05$ was adopted[10].

The study was carried out after approval by the Institution's Ethics Committee according to opinion no. 2,429,981/2017 and Presentation Certificate for Ethical Appreciation no. 80722417.0.0000.5039, contemplating the requirements of the Resolution 466/2012 of the Brazilian Ministry of Health on research involving human beings.

Results

Of the 51 health professionals, 37 were nursing technicians (38.1%), 12 were nurses (12.4%), and two were doctors (2.1%). Most 24 (47.1%) were female, with an average of years of experience in intensive care of 4.48 (± 1.14) years. The predominant type of employment relationship was cooperative 20 (39.2%). A total of 28 (28.9%) of the professionals also worked in another hospital, the majority of whom were hired workers, totaling 20 professionals (20.6%).

The frequency values of the instruments are presented in tables to compare the behavior of the dimensions of the two instruments used. Burnout syndrome was found in three (5.9%) participants. Table 1 shows that the Emotional exhaustion dimension was predominantly classified at a high level, while Depersonalization and Personal accomplishment at a low level.

Table 1 – Frequency distribution according to the degree of Emotional exhaustion, Depersonalization and Personal accomplishment, and respective confidence intervals in intensive care professionals (n=51). Fortaleza, CE, Brazil, 2018

Dimensions	High	Mean	Low
	n (%) 95%*CI	n (%) 95% CI	n (%) 95% CI
Emotional exhaustion	33 (64.7)	10 (19.6)	8 (15.7)
	50.00 - 77.20	10.28 - 33.54	7.48 - 29.13
Depersonalization	-	13 (25.5)	38 (74.5)
	-	14.77 - 39.91	60.08 - 85.22
Personal accomplishment	-	16 (31.4)	35 (68.6)
	-	19.51 - 46.03	53.96 - 80.48

*CI: Confidence Interval

Table 2 – Means and standard deviations of the Domains of the Safety Attitudes Questionnaire, in intensive care professionals (n=51). Fortaleza, CE, Brazil, 2018

Domains	Mean	Standard deviation
Teamwork climate	66.3	31.8
Safety climate	60.5	34.6
Job satisfaction	78.9	32.3
Stress recognition	62.3	38.6
Perception of unit management	57.8	33.6
Working conditions	76.9	28.8
Safe behaviors	80.6	26.7
Overall average	69.0	32.3

The general score average in evaluating the safety climate was 69. The lowest values referred to the Perception of unit management. However, the Safe behaviors domain had the highest value. In addition to these data, central tendency and dispersion measures of the Safety Attitudes Questionnaire dimensions are presented in Table 2.

Table 3 shows a statistically significant correlation between Burnout and Safety Climate in the Stress recognition dimensions from the SAQ and Depersonalization from the Maslach Burnout Inventory (p=0.003). The coefficient of 0.405 indicates a positive and moderate correlation.

Table 3 – Correlation between the Maslach Burnout Inventory dimensions and the Safety Attitudes Questionnaire subscales in intensive care professionals (n=51). Fortaleza, CE, Brazil, 2018

Safety Attitudes Questionnaire	Maslach Burnout inventory					
	Emotional exhaustion	p-value	Depersonalization	p-value	*Personal accomplishment	p-value
Teamwork atmosphere	-0.025	0.862	-0.003	0.983	-0.001	0.996
Safety climate	-0.56	0.701	-0.025	0.861	0.020	0.892
Job satisfaction	-0.135	0.356	-0.123	0.401	-0.005	0.972
Stress recognition	0.048	0.739	0.405	0.003	-0.016	0.909
Perception of unit management	0.030	0.834	-0.029	0.842	0.013	0.931
Work conditions	0.009	0.950	0.223	0.124	0.209	0.150
Safe behaviors	0.058	0.696	0.150	0.310	0.107	0.469

*The Personal accomplishment subscale score has a reverse score, meaning that the higher the score in this dimension, the better the individual's perception of personal accomplishment

Discussion

This study has some limitations such as the sample size, which was smaller than expected due to the difficulty in approaching professionals in their workplace. Many reported that they had no time available due to patient demands, and chose to respond at another time. However, there were few returns on the scheduled date. There was also no sizing to confirm the sample significance compared to the study population size. From a methodological point of view, some professionals considered that the questionnaire was long and they had difficulty understanding the questionnaire items. Thus, the study data should be viewed with caution due to the possibility of observation bias. Lastly, the cross-sectional design does not enable establishing cause and effect associations.

Despite the limitations, this study may increase knowledge about how the Burnout syndrome can affect the care provided in intensive care units. In understanding that health professionals need to be well to perform the functions that they are responsible for, managers can redirect strategies to minimize Burnout effects on patient safety, which in turn minimizes damage to patients in intensive care units. Factors related to the safety climate and the Burnout syndrome can directly influence the quality of care. Therefore, strategies can be developed from identifying these factors so that professionals are not affected, and patients are provided care with greater quality and safety.

More than half of the professionals in the Burnout evaluation presented high values of Emotional exhaustion. In another study, 43 (47.0%) professionals had high Emotional exhaustion[11]. Emotional exhaustion was more prominent due to work overload, staff shortages, and low pay, which can be related to the results of this study considering that 28.9% of professionals worked in another institution, thus increasing their workload[12].

There is evidence of the need to adapt health professional sizing regarding non-compliance with current legal recommendations, which directly influences the quality of care and patient safety, as well as the work conditions[8,13]. At the same time that personal accomplishment obtained values classified as low for Burnout by the majority of participants in this study, another study[11] revealed that this dimension had high levels in intensive care professionals due to the fact of having only one job.

However, this is not the reality of Brazilian nurses. Workers live with the precariousness of working conditions interfering with their performance, and negatively impacting personal accomplishment[14].

It is further known that the feeling of professional dissatisfaction increases the chances of deficient safety attitudes[15]. This dimension had a low level in most responses in the present study, thereby indicating that professionals did not feel recognized for their work, which can cause demotivation and sadness related to professional practice.

The Perception of management domain was reflected in the assessment of the other dimensions. This reveals that management needs to make practices more flexible, seeking to minimize the main factors that generate Burnout by improving physical structure, the availability of material resources, encouraging healthy interpersonal relationships, and structuring work sectors openly and near to the provided care. The excess of responsibility required from leaders, work overload, and bureaucratization contribute to the syndrome's occurrence, leading professionals to not receive adequate diagnosis and treatment due to little knowledge about this condition[16].

The Safe behaviors domain of the Safety Attitudes Questionnaire had the highest average score, showing a strong relationship with the Safety climate domain average. This factor can contribute to reducing adverse events[7], which tends to directly influence the quality of care.

It was additionally observed that Stress recognition and Depersonalization were moderately related to each other when verifying the correlation between the Safety Attitudes Questionnaire domains

and the Maslach Burnout Scale. It is known that the intensive care environment provides stressful components to the worker. Institutional support is a factor in the occurrence of Burnout syndrome, especially in nurses who are most affected, due to the burden of responsibility that the profession requires. It is essential that the institution identifies and reduces environment stressors to reduce suffering and also to support the team, offering effective strategies[17]. The Safety Attitudes Questionnaire can be used to expose professionals' feelings about their work routine and fill in gaps which have been previously mentioned in the literature.

This study revealed that the Emotional exhaustion component of the Maslach Burnout Inventory was rated as high among the professionals. At the same time, the Safety climate domain average of the Safety Attitudes Questionnaire was satisfactory, with the highest average being found in the Safe behaviors domain, which can provide a reduction in adverse events. Thus, it is necessary to adopt leadership development strategies.

It is emphasized that the occurrence of adverse events increases when care demands of nurses and nursing assistants are high[18]. In addition, the occurrence of Burnout and professional depression puts patient safety at risk. Thus, the Burnout syndrome may cause more vulnerability for unsafe care[19].

Conclusion

There was a correlation between safety climate and Burnout in the Stress recognition and Depersonalization dimensions, with the latter being considered a consequence of stressful factors which distance professionals from patients.

Collaborations

Sousa AKA, Ribeiro SB, and Silva ME contributed to the conception, design, data analysis and interpretation. Vasconcelos PF, Oliveira RM, Freire VECS, and Sousa VTS collaborated in writing the article and performing a relevant critical review of the intellectual content. All authors collaborated on approving the final version of the manuscript.

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