



INTEGRATIVE LITERATURE REVIEW ARTICLE

BURNOUT AND ITS INTERFACE WITH PATIENT SAFETY

BURNOUT E SUA INTERFACE COM A SEGURANÇA DO PACIENTE

BURNOUT Y SU INTERFAZ CON LA SEGURIDAD DEL PACIENTE

Edenise Maria Santos da Silva Batalha¹, Marta Maria Melleiro², Elisabete Maria das Neves Borges³

ABSTRACT




Objective: it was sought to analyze scientific articles of the last ten years that address the relationship of Burnout in nursing workers with patient safety. **Method:** this is a descriptive bibliographical study, an integrative literature review developed in the EBSCOhost and in the Virtual Health Library from November to December, 2018. A critical analysis of the articles was performed and the results were presented in the form of figures. **Results:** ten articles were included in the review. It was noted that higher levels of Burnout were associated with lower levels of patient safety and with adverse events. Burnout was also associated with lapses in adherence to infection control and mediated the association between depressive symptoms and perception of patient safety. Strong Burnout was negatively associated with time-pressure at work and patient safety. **Conclusion:** there was a negative association between Burnout in nursing and patient safety. Emphasis should be placed on organizational and personal measures to prevent and minimize Burnout. **Descriptors:** Professional Burnout; Patient Safety; Nursing; Health; Occupational Health; Quality of Health Care.

RESUMO

Objetivo: buscou-se analisar artigos científicos dos últimos dez anos que contemplassem a relação do *Burnout* em trabalhadores de enfermagem com a segurança do paciente. **Método:** trata-se de estudo bibliográfico, descritivo, do tipo revisão integrativa da literatura, desenvolvido na EBSCOhost e na Biblioteca Virtual em Saúde, no período de novembro a dezembro de 2018. Realizou-se a análise crítica dos artigos e os resultados foram apresentados em forma de figuras. **Resultados:** incluíram-se na revisão dez artigos. Notou-se que níveis mais altos de *Burnout* estiveram associados a níveis mais baixos de segurança do paciente e a eventos adversos. O *Burnout* esteve associado também a lapsos na adesão do controle de infecções e mediou a associação entre os sintomas depressivos e a percepção de segurança do paciente. Associou-se negativamente o alto *Burnout* com a pressão de tempo no trabalho e a segurança do paciente. **Conclusão:** evidenciou-se associação negativa entre *Burnout* na enfermagem e segurança dos pacientes. Devem-se enfatizar medidas no âmbito organizacional e pessoal a fim de prevenir e minimizar o *Burnout*. **Descritores:** Esgotamento Profissional; Segurança do Paciente; Enfermagem; Saúde; Saúde do Trabalhador; Qualidade da Assistência à Saúde.

RESUMEN

Objetivo: se intentó analizar artículos científicos de los últimos diez años que abarcasen la relación del *Burnout* en trabajadores de enfermería con la seguridad del paciente. **Método:** se trata de un estudio bibliográfico, descriptivo, del tipo revisión integradora de la literatura, desarrollado en la EBSCOhost y en la Biblioteca Virtual en Salud, en el período de noviembre a diciembre de 2018. Se realizó el análisis crítico de los artículos y los resultados se presentaron en forma de figuras. **Resultados:** se incluyeron diez artículos en la revisión. Se notó que niveles más altos de *Burnout* estuvieron asociados a niveles más bajos de seguridad del paciente y a efectos adversos. El *Burnout* estuvo asociado también a lapsos en la adhesión del control de infecciones e intermedió la asociación entre los síntomas depresivos y la percepción de seguridad del paciente. Se asoció negativamente el alto *Burnout* con la presión de tiempo en el trabajo y la seguridad del paciente. **Conclusión:** se evidenció una asociación negativa entre *Burnout* en la enfermería y seguridad de los pacientes. Se deben subrayar medidas en el ámbito organizacional y personal con miras a prevenir y mitigar el *Burnout*. **Descriptor:** Agotamiento Profesional; Seguridad del Paciente; Enfermería; Salud; Salud Laboral; Calidad de la Atención de Salud.

¹University of the State of Bahia, Department of Life Sciences/UNEB. Bahia (BA), Brazil. ORCID : <http://orcid.org/0000-0003-0014-9529> Email: edenisemaria@gmail.com ²University of São Paulo, School of Nursing/USP. São Paulo (SP), Brazil. ORCID : <http://orcid.org/0000-0002-8835-406X> Email: melleiro@usp.br ³Higher School of Nursing of Porto/ESEP. Porto, Portugal. ORCID : <http://orcid.org/0000-0002-6478-1008> Email: elisabete@esenf.pt

How to cite this article

Batalha EMSS, Melleiro MM, Borges EMN. J Nurs UFPE on line. Rev enferm UFPE on line. 2019;13:e239641 DOI: <https://doi.org/10.5205/1981-8963.2019.239641>

INTRODUCTION

Patient safety in health services is currently discussed and encouraged because it is one of the main components of quality care. Efforts and management and care strategies for implementation of patient safety are growing. In this context, health workers are the main actors responsible for implementing in their professional practice the policies, procedures, standards, and routines to assist patients with safety and quality.

Nursing workers stand out among this group because they are in great numbers within the institutions and often provide direct and continuous care to patients. It is noted that for these workers to act safely they must be in physical and psychological balance. However, physical and emotional stress related to the work process may lead these workers to experience situations of suffering, which may hamper or even prevent their safe performance in the care provided.¹

Burnout syndrome is among the problems that can emerge in the work context of these professionals. It is characterized as a psychological syndrome that implies a prolonged response to chronic interpersonal stressors in the work composed of three dimensions: emotional exhaustion; depersonalization; and personal accomplishment.²

The dimensions are defined as follows: 1 - Emotional exhaustion represents the component related to the basic individual stress of Burnout, the feeling of overload, and lack of emotional and physical resources. The workers feel weakened and without any source of replacement of energy; 2 - Depersonalization is related to the component of the interpersonal context of Burnout, being a negative response that makes the worker insensitive and excessively apathetic to various aspects of work; 3 - Reduction of personal accomplishment at work represents the self-assessment component of Burnout. It refers to feelings of incompetence and lack of achievement and productivity at work; the worker questions his choice of career and has doubts about the professional he has become, even developing negative ideas about himself and other colleagues.²

Burnout is associated with feelings of hopelessness and difficulty in dealing with work or doing the work effectively. Such negative feelings usually have a gradual onset, and may cause the feeling that the person's efforts make no difference. It is a combination of chronic exhaustion and negative attitudes towards work, with harmful consequences for the worker's health and productivity, being an important moderator of daily performance.³ Furthermore, Burnout is associated with work overload, an non-supportive and low-resource working environment.^{1,4}

The prevalence of Burnout has been estimated in some studies in Brazil, with results ranging from 5.9% in nursing technicians in the hospital area,⁵ 17% in intensive care nursing teams,⁶ 7.1%⁷ and 54.2%⁸ in primary care nursing teams, reaching values of 82.7% among urgency and emergency nurses.⁹ It is demonstrated, therefore, that although Burnout happens in a heterogeneous way, it is a reality in nursing and requires attention in order to preserve the health of the workers and guarantee the quality of care.

The impact of this syndrome on the physical and mental health of workers does not pass unnoticed; Burnout is associated with unhealthy behaviors such as increased consumption of fast food, infrequent exercise, increased alcohol consumption, and more frequent use of analgesics.¹⁰ Furthermore, the prevalence of this syndrome is positively associated with headache and dizziness.¹¹

In view of the physical and emotional changes deriving from Burnout and its consequences for the quality of care, it is imperative to analyze its relationship with patient safety. This research is relevant to the understanding of the phenomenon and to subsidize intervention proposals and improvements in workers' health and quality of care.

OBJECTIVE

- To analyze scientific articles of the last ten years addressing the relationship of Burnout in nursing workers with patient safety.

METHOD

This is a descriptive, bibliographical study of the integrative review type.¹²⁻³ The following six steps were adopted: 1-Delimitation of the theme and formulation of the research question; 2 - Sampling or search in the literature, selection of studies; 3 - Categorization of studies through a previously repared instrument; 4 -Critical analysis of the included studies; 5 - Interpretation of results; and 6 - Presentation of the synthesis of the review, showing the main results.¹³

The following research question was established: What is the relationship between Burnout in nursing workers and patient safety?

Data were collected from November to December 2018 through all the databases of EBSCOhost and the Virtual Health Library (VHL) with access to the Latin American and the Caribbean Literature in Health Sciences (LILACS) and the Scientific Eletronic Library Online (SCIELO) and other databases inserted in the VHL/BIREME that presented articles meeting the inclusion criteria of this review.

The following descriptors were used: "patient safety", "burnout" and "nursing" combined with the Boolean operator AND. In order to expand the

search, the terms referring to the dimensions of Burnout were also used: "emotional exhaustion", "Depersonalization", "personal accomplishment", also combined with "patient safety" and "nursing" through the Boolean operator AND.

The selection criteria for inclusion of articles were: original articles, available in full length, published in English, Portuguese and Spanish from 2008 to 2018, meeting the objective of this review. The exclusion criteria were: review articles, editorials, articles of reflection, and theoretical studies.

The intersection of descriptors using the filters language, study period, and availability for download resulted in 227 articles in EBSCOhost and 134 articles in the VHL, totaling 361 articles. A careful reading of titles, abstracts and keywords was done. Articles repeated in both databases and not meeting the objective of this research were excluded. Thus, a total of 351 articles were excluded. Therefore, 10 articles were included in the integrative review. The flowchart of the stages of the integrative review is shown in Figure 1.

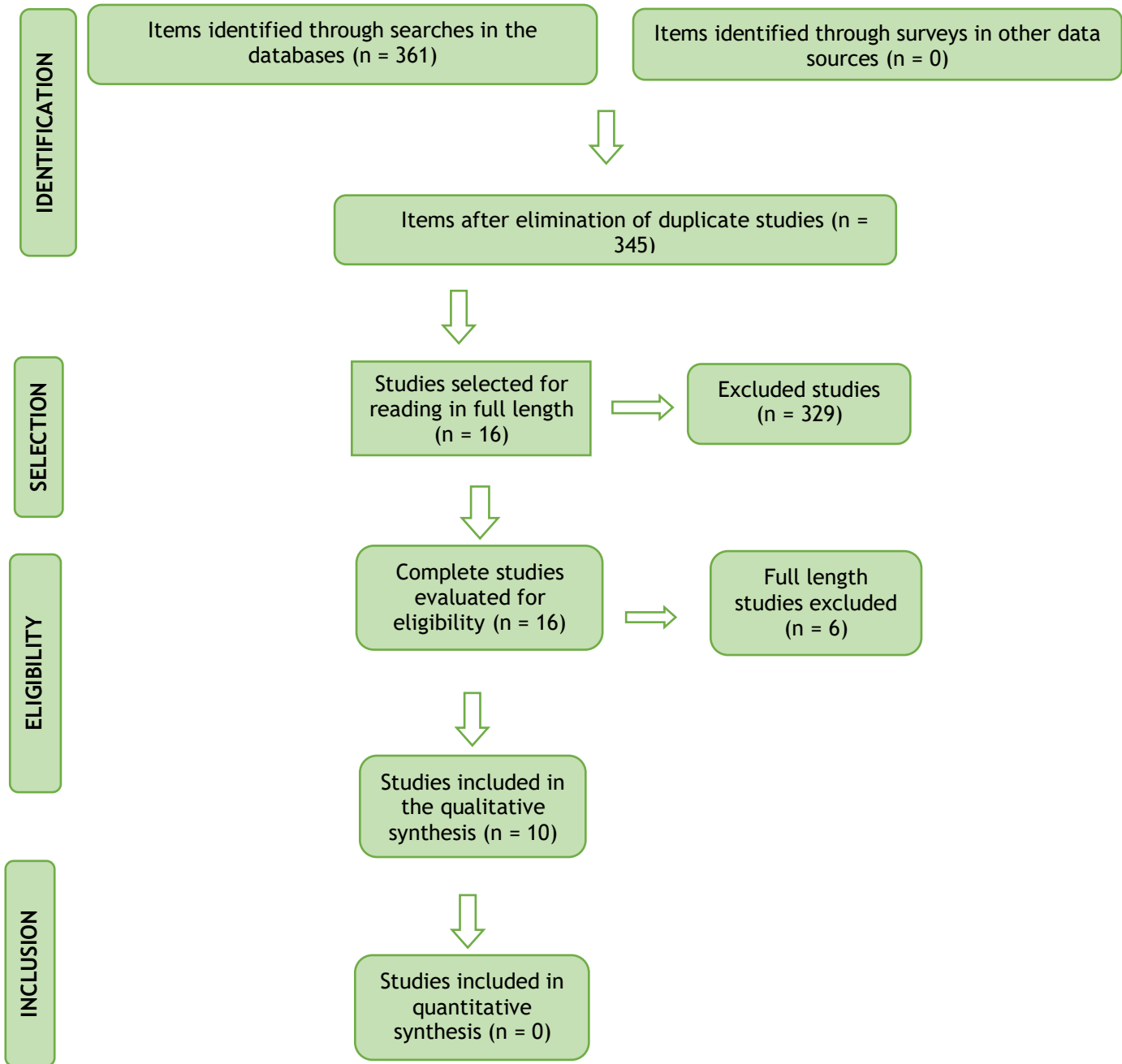


Figure 1. Flowchart of identification, selection, eligibility, and inclusion of studies in the integrative review. Porto, Portugal, 2018.

An instrument was created Microsoft Excel by the authors for collection of information as a method to organize and tabulate the data, and later critical analysis. The instrument had the following items: title; year of publication; journal of publication; place of publication; goals; methodology (the methodological trajectory was evaluated through analysis of rigor of the methods, interventions, and procedures adopted for data collection and analysis, and level of scientific evidence); main results; and conclusions.

The articles were analyzed critically and the results were summarized, highlighting the relationship between Burnout in nursing workers and patient safety in health care. The results were presented by means of figures.

RESULTS

The studies included in this review are presented in the Figure 2 according to the title; year; place; journal; and language of publication.

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It was noted that most of the studies were published in English and in the year 2017.

Title/Year	Local/Newspaper/Language
1 - Nurse burnout and patient safety outcomes nurse safety perception versus reporting behavior/2008. ¹⁴	Canada/ Western Journal of Nursing Research/English
2 - Interactive effects of nurse-experienced time pressure and burnout on patient safety: A cross-sectional survey/2010. ¹⁵	Taiwan/ International Journal of Nursing Studies/English
3 - Work environment and patient safety: comparison of data between the studies SENECA and RN4CAST/2013. ¹⁶	Spain Clinical Nursing/Spanish
4 - Nursing unit teams matter: Impact of unit-level nurse practice environment, nurse work characteristics, and burnout on nurse reported job outcomes, and quality of care, and patient adverse events—A cross-sectional survey/2014. ¹⁷	International Journal of Nursing Studies/English
5 - Safety climate, emotional exhaustion and job satisfaction among Brazilian paediatric professional nurses/2016. ¹⁸	Brazil/International Nursing Review/English
6 - The association between patient safety culture and burnout and sense of coherence: A cross-sectional study in restructured and not restructured intensive care units/2016. ¹⁹	Norway/Intensive and Critical Care Nursing/English
7 - Job burnout reduces hand hygiene compliance among nursing staff/2017. ²⁰	Greece/ Journal Patient Safety/English
8 - Burnout mediates the association between symptoms of depression and patient safety perceptions: A cross-sectional study in hospital nurses /2017. ²¹	United Kingdom/Journal of Advanced Nursing/English
9-Effect of effort-reward imbalance and burnout on infection control among Ecuadorian nurses/2017. ²²	Ecuador/ International Nursing Review/English
10 - Hospital nursing organizational factors, nursing care left undone, and nurse burnout as predictors of patient safety: A structural equation modeling analysis/2018. ²³	China/ International Journal of Nursing Studies/English

Figure 2. Description of articles included in the review according to title; year; place; journal; and language of publication. Porto, Portugal, 2018.

The articles included in this review are described in Figure 3 according to the objectives; type of study; main results; and conclusions.

Main objective/Type of study	Main Results and Conclusions
1 - To explore the relationship between Burnout and perceptions about patient safety, adverse events, and near-miss notification behaviors. Cross-sectional study. ¹⁴	The dimensions of Burnout were negatively associated with the degree of patient safety, suggesting that the highest Burnout level was associated with a low degree of patient safety. Burnout was negatively associated with near-miss notification frequency; however, no Burnout component was associated with the number of events reported in the previous 12 months.
2 - To investigate how time-pressure and its interaction with burnout affect patient safety. Cross-sectional study. ¹⁵	Patient safety was negatively related to time-pressure in the group presenting high burnout. It was evidenced that nurses under strong time-pressure and high level of Burnout are probably affected in relation their performance with respect to patient safety.
3 - To analyze the relationship between the work environment, Burnout of nurses, and the quality of care related to patient safety in hospitals of the Unified Health System of Spain, included in the SENECA and RN4CAST studies. Descriptive study with secondary analysis of data obtained in the SENECA and RN4CAST studies. ¹⁶	The perception of safety of care by professionals was related to Burnout syndrome in the dimensions of emotional exhaustion and depersonalization. It is emphasized that organizations that promote a more supportive work environment will have patients who feel safer and the proper management of resources can reduce the occurrence of adverse events.
4 - To investigate the impact of the work environment, characteristics of the nursing work and Burnout on nursing outcomes, quality of care, and adverse events for patients. Cross-sectional study. ¹⁷	Perceptions about quality of care in the hospital unit in the last shift and in the last year were related to the three dimensions of Burnout. Nosocomial infections were associated with the three dimensions of Burnout, with falls and medication errors being associated with the dimensions of emotional exhaustion and depersonalization.
5 - To evaluate the correlation and predictive effect of emotional exhaustion and job satisfaction on safety climate and quality of care. Cross-sectional study. ¹⁸	It was found that the lower the level of emotional exhaustion, the more positive was the perception of safety climate and the greater was the job satisfaction. The effects that professional exhaustion can have on patient safety were demonstrated, and higher levels of emotional exhaustion of professionals lead to worse patient safety.
6 - To investigate associations between perceptions of safety culture in Intensive Care Units and Burnout and sense of coherence. Cross-sectional study. ¹⁹	Positive safety culture was correlated with low Burnout scores and a strong sense of coherence.

7 - To analyze whether Burnout reduces adherence to handwashing among nursing staff. Daily study conducted with a mixed method approach (questionnaires and observation). ²⁰	Burnout was negatively associated with adherence to hand hygiene; nurses who reported high levels of Burnout were less likely to comply with hand hygiene opportunities.
8 - To investigate the relations between depressive symptoms, Burnout , and perceptions of patient safety. Cross-sectional study. ²¹	The dimensions of emotional exhaustion and depersonalization were associated with perceptions of patient safety. It was also evidenced that Burnout mediated the association between depressive symptoms and perception of patient safety both individually and at the level of work area/unit.
9 - To examine the association between effort-reward imbalance, Burnout , and adherence to infection control measures. Correlational, cross-sectional study. ²²	The study found that Burnout was associated with lapses in adherence to infection control measures, which may result in increased infections, threatening the health of both the workforce and the populations they assist.
10 - To explore the impact of the work environment, workload, non-realized care measures, and Burnout on patient safety. Cross-sectional study. ²³	A better working environment was associated with lower Burnout, which was subsequently related to a higher level of patient safety and fewer adverse events.

Figure 3. Description of the articles according to objectives; type of study; main results; and conclusions. Porto, Portugal, 2018.

A summary of relevant points of the articles included in this review is presented in Figure 4, showing the relationship between Burnout and

aspects of patient safety (PS) in health institutions.

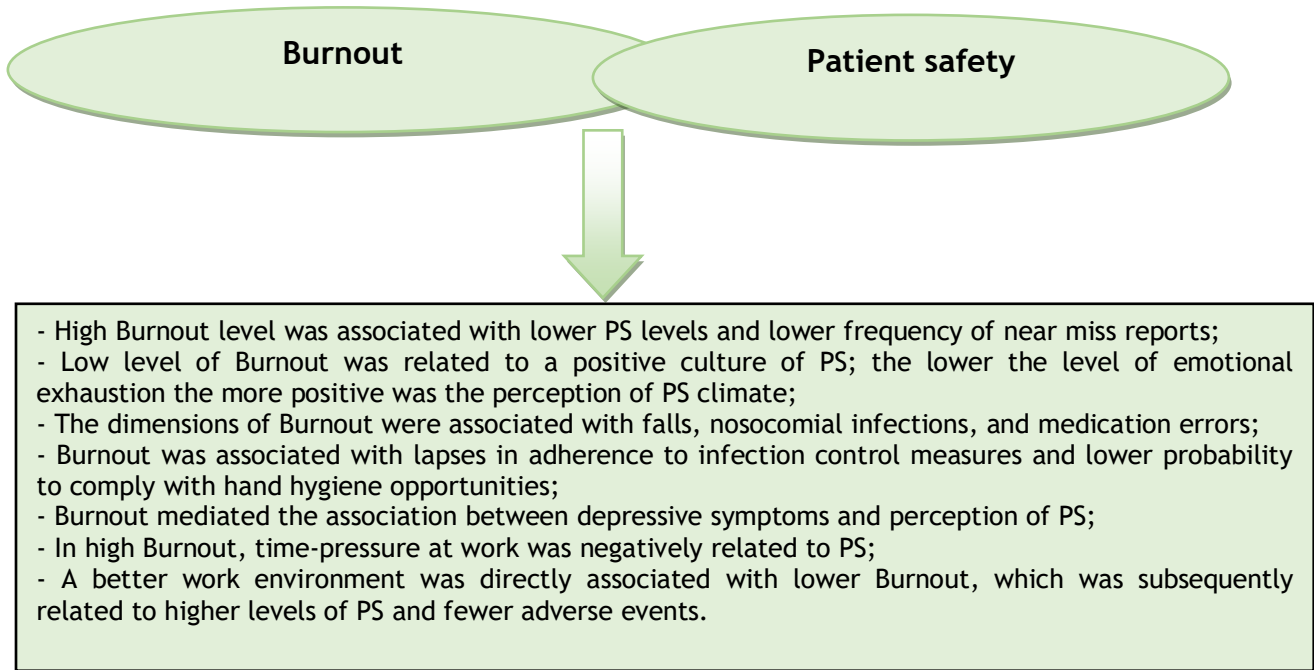


Figure 4. Relational Interface between Burnout in Nursing workers and Patient Safety (PS). Porto, Portugal, 2018.

DISCUSSION

The relationship between Burnout and patient safety was clearly demonstrated in the studies. Highest Burnout levels were associated with a low degree of patient safety¹⁴ and in contrast, a positive patient safety culture was correlated with low scores of patient safety.¹⁹ Yet, the lowest levels of emotional exhaustion were related to the perception of the most positive patient safety climate¹⁸ and perceptions about the quality of care were associated with the three dimensions of Burnout.¹⁷

These findings can be seen in two ways; first, because of aspects of Burnout, nursing workers could be more prone to lower compliance with quality standards, consequently generating more errors and adverse events, and therefore leading to the provision of care with lower patient safety. Secondly, the results may suggest the other way

around, that because nursing workers are in a working environment with low patient safety, they present higher levels of Burnout. In this regard, the relationship can be cyclical and interventions must be implemented in order to guarantee the elimination or lower levels of burnout, and higher levels of safety.

A better working environment was associated with lower Burnout, which was subsequently related to a higher level of patient safety and fewer adverse events. Emphasis should therefore be given to the importance of improving the work environment so as to help to reduce Burnout and promote patient safety.²³

It was demonstrated that Burnout may be the most important variable for patient safety, since it completely mediated the association between depressive symptoms and perception of patient safety. Not only was Burnout associated with depressive symptoms and perceptions of patient

safety, but the best statistical fitness was found when depressive symptoms were considered as a result of Burnout rather than a predictor of this condition.²¹ These results lead to the notion that Burnout can further increase the risk of depressive symptoms in nursing workers and that it is a major mediator of perception of patient safety, both at the level of individual and unit work. Therefore, interventions aimed at Burnout are likely most appropriate for improving patient safety.²¹

The relationship between Burnout and depression has been confirmed in other studies,²⁴⁻⁵ pointing to the need to understand which dimensions of Burnout can influence depression, and in which manner. It is necessary, from this understanding, to evaluate which interventions would be most effective at the level of both individual and organizational factors.

It was seen that time-pressure at work adversely affected patient safety in the case of nurses with a high level of Burnout, but not in nurses with low levels of the syndrome.¹⁵

Time-pressure is recognized as a phenomenon widely experienced in nursing work that has substantially negative implications for quality and safe care. It is imperative to establish a better support for nurses by investing in staff development and resource optimization. This would reduce the circumstances in which nursing workers are challenged to provide good care under time-pressure.²⁶

It turns out that nurses experiencing Burnout showed to have little resources to adhere to their demands in the workplace, creating a gap between the necessary and real efforts in patient care. It was also observed that these nurses had a greater inability to adapt to time-pressure, enhancing the probability of errors that negatively interfere with patient safety.¹⁵

Workers with higher levels of Burnout were associated with fewer near miss reports.¹⁴ This result is worrisome because the prevention of adverse events is linked to the identification of near miss events.

The Near-Miss Nursing Model presents an explanation of how a defective system and human factors can result in harm to patients if not intercepted. Three potential sources of error are included in the model: technical, organizational, and human failure. Any one of these failures, isolated or combined, can result in a sequence of events that, if left uninterrupted, may result in adverse events. It is now well recognized that technical and organizational failures are responsible for a large number of errors. Nevertheless, the importance of appreciating human behaviors stands out because they play a role in generating errors and also in their vigilance, recovery and prevention.²⁷

It was found that workers with Burnout tend to report less near misses,¹⁴ proving that this human

factor may be fragile in relation to the recognition, prevention and mitigation of errors, thus hindering organizational learning and improvement processes.

It was also found that the dimensions exhaustion and depersonalization were associated with falls and medication errors.¹⁷

The third worldwide challenge of patient safety "No-harm Medication" by the World Health Organization (WHO) was launched in 2017 motivated by the extent and magnitude of errors related to use of medicines. The goal of this global challenge was to improve drug safety based on the fact that medication errors cause preventable injuries and damages to health systems, generating an estimated annual cost of \$ 42 billion.²⁸

A survey carried out with the participation of nurses in 2018 revealed that all had witnessed or experienced errors in the administration of medication. Most of these events did not cause harm to the patients, but three nurses reported that death was the final outcome and pointed out lack of attention as the main cause of the error.²⁹ The important relation of Burnout with possible medication errors is noteworthy. Burnout reduces the effectiveness of workers due to physical and emotional symptoms, including memory lapses.

A total of 27,339 falls were reported in Brazil between March 2014 and September 2018.³⁰ Falls are among the most prevalent incidents in health services, and can lead to damages to patients that increase morbidity and mortality.

It was found that lower incidence of falls resulted from the implementation of preventive measures, suggesting that the prevention protocol, the use of a risk assessment scale, the systematic raising of awareness and guidance to patients, family members and the nursing staff may have impacted the occurrence of the event in the institution.³¹

It should be emphasized that all measures to prevent medication errors and falls are relevant. However, what this review adds is that due to the association of these types of incidents with the dimensions of Burnout, it is also necessary to improve the health of the workers, especially in relation to emotional exhaustion and depersonalization.

Burnout was associated with lapses in adherence to infection control protocols²² and with lower likelihood to comply with hand hygiene opportunities.²⁰ It is clear that Burnout interferes with adherence to prevention measures, thus becoming a contributing factor to unsafe acts that lead to risks of infection in both patients and workers. There is a close relationship between patient safety and infection control. Many health care measures to prevent infections focus on adherence to hand hygiene through an interactive process of information, training, observation,

feedback³², as well as on the education and awareness of professionals, monitoring compliance with protocols, and using technologies.³³ However, besides these preventive measures, another need that deserves attention is care for the worker's health. Workers experience situations of suffering and this can prevent them from following standardizations, leading to more healthcare-related infections. This has already been demonstrated; nosocomial infections have been proved to be related to the three dimensions of Burnout.¹⁷

It is essential to promote the prevention and minimization of Burnout. Preventive measures must take into account how this syndrome develops and which points are essential for its mitigation.

It is understood that six areas are fundamental to foment strategies regarding Burnout: 1. Workload: an amount of demands than are beyond the worker's ability to manage, generating or aggravating Burnout; 2. Control: it refers to the worker's participation in decisions that affect his work; 3. Reward: recognition for the contributions of the worker, which influences the vulnerability to Burnout; 4. Community: the quality of relationships with others at the workplace, which plays a central role; 5. Equity: A sense of justice makes workers to get involved with their workplaces, while the experience of injustice exhausts and discourages them, causing them to set a emotional and physical distance from the workplace; and finally, 6. Values: when the worker has a team with which he shares values, making him feel more energized and motivated.²

Personal measures should be combined with organizational measures in the plan to relief and prevent Burnout. Such measures must focus on the workplace and try to change the conditions that are actually causing stress when taking into account work-oriented proposals. This model includes redesigning tasks, increasing the acknowledgement of workers, and developing more fair and equitable policies. The goal is to change work patterns, such as working less, taking more breaks, avoiding extra work, balancing work with the rest of life, and measures related to the personal level. It also includes the development of coping skills for conflict resolution and time management; obtaining social support; using relaxation strategies; promoting good health and gymnastics; and developing self-knowledge.²

It should be noted that improvements in relation to Burnout go through an intense organizational commitment and personal involvement of the worker. The need for knowledge about the syndrome and its prevention is something that must be highlighted. Poor knowledge about this topic has been pointed out by nursing workers.³⁴⁻⁵ Sometimes, Burnout is understood only as occupational stress.³⁵ This

information ratifies the need to discuss this phenomenon in continuing education activities in health services, seeking to engage the workers and give them support to deal with Burnout.

The development of Burnout syndrome is multifactorial and dependent on personal and organizational aspects. The literature describes, however, factors such as excessive working hours and professional dissatisfaction as the main predictors of this syndrome in nurses.³⁶ Therefore, measures are needed to improve these factors and to promote a better quality of life for workers and, consequently, greater patient safety.

CONCLUSION

It was found that Burnout is negatively associated with patient safety, and research has revealed critical points that can be affected by Burnout, including general adverse events, especially falls, medication errors, and healthcare-related infections. It was shown that Burnout can mediate depressive symptoms and interfere with the relationship of time-pressure at work, thereby demeaning patient safety.

The association between burnout and the patient safety culture and climate was evident in the present study. This calls for the need to strengthen this relationship and put Burnout prevention at the center of the intervention proposals. The health of nursing workers should be prioritized when patient safety policies are implemented.

Emphasis is placed on measures at the organizational level to prevent and minimize Burnout, particularly on workload and stressful situations at work. It is also pointed out that workers should pay attention to this syndrome and seek measures to prevent and relief the problem at individual and group level, especially within the scope of work team.

A low number of articles addressing the theme of the present study was observed, this fact leads to believe that although there is a significant number of studies in the area of Burnout and patient safety, the relationship between these two large areas in nursing is still recent and little explored, thus constituting as a possibility for further research. Particularly important is the establishment of causal relations between these two areas and proposing effective interventions to improve care, working conditions, and worker's health.

As limitations of the study, there was the fact that the articles included had a cross-sectional design, which means that given portion of the moment was studied, and implying that the phenomenon was not followed-up over time in the researched scenarios. The studies are therefore limited to expressing the relationship between Burnout and patient safety only in this temporal

interval. In addition, the studies were carried out in specific contexts and samples, and therefore, the generalization of the results should be done with caution.

FINANCIAL SUPPORT

This work was held with the support of the Coordination for the Improvement of Higher Education Personnel - Brazil (CAPES) - Financing Code 88881.190017/2018-01.

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Batalha EMSS, Melleiro MM, Borges EMN.

Submission: 2019/01/30

Accepted: 2019/06/03

Publishing: 2019/06/22

Corresponding Address

Edenise Maria Santos da Silva Batalha

Email: edenisemaria@gmail.com

Burnout and its interface with patient...



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