



## Occupational Burnout Syndrome in the nursing context: an integrative literature review

A síndrome do esgotamento profissional no contexto da enfermagem: uma revisão integrativa da literatura

El síndrome del agotamiento profesional en el marco de la enfermería: una revisión integrativa de la literatura

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### ABSTRACT

**Objective:** To characterize the scientific production on Burnout Syndrome in the Nursing context, systematizing the location where the studies were carried out, the related constructs, the employed methods and their main results. **Method:** An integrative review of the literature with a bibliometric approach of articles published in Portuguese, Spanish and English between 2005 and 2016. **Results:** 106 articles were included. Most involved prevalence, and were descriptive, quantitative studies performed in hospitals. The Southeastern and Southern regions of Brazil had the largest number of publications, and stress was the construct most related to burnout. Most of the studies used the *Maslach Burnout Inventory* to investigate the presence of the syndrome. **Conclusion:** New case-control and cohort studies should be carried out. Qualitative-exploratory studies are necessary to better understand Burnout Syndrome among nursing professionals using focus groups or interviews, as well as comparative causal studies, with the purpose of exploring the syndrome's manifestations.

### DESCRIPTORS

Nursing; Burnout, Professional; Occupational Health; Review.

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## INTRODUCTION

For nearly four decades Occupational Burnout Syndrome (OBS) (or better known as Burnout Syndrome) has been investigated in the academic setting. The syndrome arises from chronic stress related to work<sup>(1)</sup>. Although it is recognized as an occupational psychopathology (Group V of the ICD-10) included in Annex II of the 2<sup>nd</sup> article of Decree 6.957/1999 governed by Social Security, its diagnosis is rarely used<sup>(2)</sup>.

In most cases OBS is understood as a three-dimensional theoretical model based on the psychosocial perspective. According to this model, OBS involves three dimensions: emotional exhaustion (EE), depersonalization (DS) and lack of personal accomplishment (PA). EE is a direct manifestation of individual stress, where feelings of being beyond their limits are externalized, along with a deterioration of the individual's physical resources. DS is related to the interpersonal conjuncture of the syndrome, where negative attitudes and cynicism are directed towards the people/persons for whom the work is intended. Depersonalization is characterized as a loss of compassion towards others. Finally, PA relates to negative evaluations of the individual regarding their performance at work and their future in that profession<sup>(1-15)</sup>.

Although the three-dimensional model is the most accepted and used for measuring the syndrome, there are controversies regarding this three-dimensional structure. In some cases, OBS is evaluated as a one-dimensional disorder; others consider it a two-dimensional phenomenon, considering only DS and EE as disease factors, and considering PA as an interdependent factor resulting from emotional exhaustion (EE)<sup>(16-17)</sup>.

On the other hand, the EE dimension is sometimes seen as the most important and central factor in OBS<sup>(18-19)</sup>. However, this dimension has been described in other phenomena, such as in occupational stress or stress related to work, which are models that precede the OBS definitions. In the theoretical OBS models, its manifestation occurs after the onset of stress<sup>(20)</sup>, which is considered an independent construct of the syndrome<sup>(1)</sup>. Although OBS is in some way related to occupational stress<sup>(21)</sup>, it seems that what qualifies and differentiates it is the DS dimension, being key construct of the syndrome<sup>(22)</sup>.

Empirical studies on OBS show that health professionals seem to constitute one of the most susceptible professional categories to the syndrome<sup>(23-24)</sup>. Among health professionals, nurses are the ones who experience the most stress and OBS<sup>(25-42)</sup>. These workers have the constant care of patients as their responsibility, and in this context they often witness cases of death and mourning, thereby being exposed to emotional tensions of such events, which may lead to the appearance of OBS<sup>(43-44)</sup>.

In view of the above and due to the high number of studies on OBS among nursing professionals<sup>(26)</sup>, it is relevant to analyze studies on OBS in the Nursing context. Thus, this work is an integrative bibliometric review guided by the following question: How is scientific production on OBS characterized in the context of Nursing, between 2005 and 2016?

The present study aims to characterize the scientific production on OBS in the Nursing context, focusing and systematizing the sites where the studies were carried out, their related constructs, implemented methods and the main results found.

## METHOD

This is an integrative review study with a bibliometric approach. This technique allows for synthesizing methods and results of multiple published studies regarding a given topic in a systematic way, and points out knowledge gaps that need to be filled, thereby collaborating to further deepen the phenomenon investigated. We sought to characterize the scientific production on OBS in the Nursing context – nursing professionals (nurses, technicians and nursing assistants) and professors and students of nursing courses. Scientific articles from the period between 2005 and 2016 were investigated. The review consisted of the following steps: searching for the articles in the databases; defining inclusion and exclusion criteria; collecting information to be extracted from selected articles; analysing and interpreting the selected studies.

The databases initially investigated from the start of the research were: the Virtual Health Library (*Biblioteca Virtual em Saúde* – BVS); the Brazilian Nursing Database (*Base de Dados de Enfermagem* – BDEFN); the Spanish Bibliographic Index of the Health Sciences (*IBECIS*); the Psychology Index – Technical-scientific journals (*Index-Psi*); the Latin American and Caribbean Health Sciences Literature (LILACS) and the Medical Literature Analysis and Retrieval System Online (MEDLINE). Next, the Scientific Electronic Library Online (SciELO) and the Electronic Psychological Journals portal (PePSIC) databases were also consulted.

The descriptors used were generated from the list of Descriptors in Health Sciences (DeCS), which were: Burnout, Professional; Nurses; and Nursing. The Boolean search was performed using the connector AND, which allowed access to articles that have intersections between the different descriptors.

Only articles focusing on nursing professionals, Nursing professors or Nursing students were selected for analysis, and studies in which OBS was discussed and/or investigated. The articles could have been published in Portuguese, English or Spanish and their complete texts should be freely available. The articles were collected at two moments. The first was carried out between May 2<sup>nd</sup> and 6<sup>th</sup>, 2015, while the second between February 5<sup>th</sup> and 7<sup>th</sup>, 2017. Articles that did not meet the characteristics described above were excluded.

After the initial search and exclusion process, a chart was prepared for characterizing the remaining articles with the following information: article identification (title, year, study site, journal, authors) and article characteristics. The script of a research project was followed in order to verify the characteristics of the article, classifying them by type of study, type of objective(s), approach(es), delineation, collection procedure and data source, as well as the main results, relationships with other constructs and the recommendations<sup>(45)</sup>.

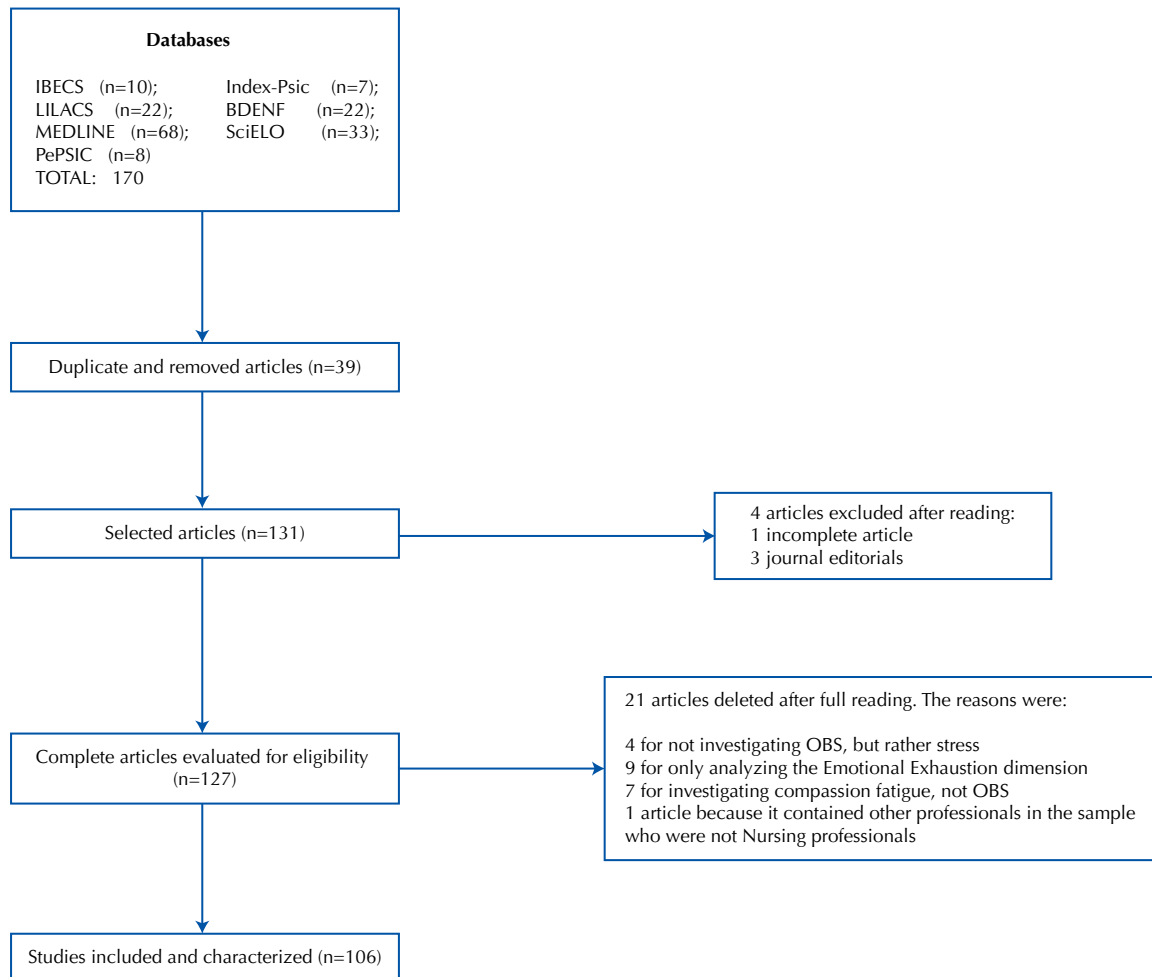
## RESULTS

### PROCESS OF INCLUSION/EXCLUSION OF THE ARTICLES FOUND

Through the search conducted by two independent researchers, 18,683 articles were initially retrieved. Next, titles, abstracts and descriptors were read from these, and each researcher selected articles for analysis. A third reviewer was then invited to check the relevance of the selected studies, commenting on the differences between the two researchers

and determining the group of studies to be analyzed. Finally, 170 records were selected from this initial analysis to go through a more rigorous selection process<sup>(46)</sup> (Figure 1).

According to the process shown in Figure 1, only 106 articles qualified for the analysis<sup>(2-20,22-44,47-110)</sup>. The main publication language of these manuscripts was English (64 articles), followed by articles in Portuguese and Spanish (25 and 17, respectively). The analyzed productions were published in 63 periodicals, and the most frequent was the *Revista Latino-Americana de Enfermagem* with 10 articles.



**Figure 1** – Flowchart for identification, selection and inclusion of the investigated articles – Fortaleza, Ceará, Brazil, 2017.

### CHARACTERIZATION OF THE STUDIES

Of the 106 studies found in the studied period, the greatest number of publications occurred in 2015 (16.98%), followed by 2012 (16.04%) and 2014 (13.21%). Studies on OBS were concentrated in South America (51.89%) and Europe (24.53%). From the empirical investigations carried out in the Brazilian scenario, the highest concentrations of publications was found in the Southeast (48.78%) and South (36.59%) regions, while the Central-West (2.44%) and Northeast (12.20%) did not have significant production.

As shown in Table 1, excluding theoretical studies and reviews (n=95), the hospital environment was the place where the largest number of investigations occurred, comprising 74.73% of the total. This is followed by studies performed in institutions of nursing education (6.32%).

By only analyzing the studies that contained some kind of correlation with other constructs ( $f=97$ ), it can be noticed that the construct most related to OBS is stress (17.53%). However, there are a significant number of studies that relate OBS to job satisfaction and the perception of the work environment in Nursing, with 12.37% and 10.31%, respectively (Table 2).

**Table 1** – Sites where studies on Burnout Syndrome were carried out – Fortaleza, Ceará, Brazil, 2017.

Study Site	F	%
Not specified Hospital	29	30.53%
University Hospital	16	16.84%
Private Hospitals	01	1.05%
Public Hospitals	13	13.68%
Military Hospital	01	1.05%
Philanthropic Hospital	01	1.05%
General Hospital	07	7.37%
Public and Private Hospital	02	2.11%
Community Hospital	01	1.05%
Private University	01	1.05%
Public University	02	2.11%
Unspecified educational institution	03	3.16%
Psychiatric Ward	01	1.05%
Emergency Mobile Care Service	02	2.11%
Basic Health Units	04	4.21%
Primary Care and Public Hospitals	02	2.11%
Several places	02	2.11%
Unspecified location	06	6.32%
Family Health Strategy	01	1.05%
<b>Total</b>	<b>95</b>	<b>100%</b>

**Table 2** – Constructs related to Burnout Syndrome in the Nursing context – Fortaleza, Ceará, Brazil, 2017.

Constructs related to burnout	Related Frequency (f)	%
Occupational Stress	17	17.53%
Job Satisfaction	12	12.37%
Perception of the Work Environment	10	10.31%
Personality	06	6.19%
Quality of life	03	3.09%
Commitment to Work	03	3.09%
Compassion Fatigue	03	3.09%
Self-efficacy	02	2.06%
Post Traumatic Stress Disorders	02	2.06%
Quality in Attending and Care	03	3.09%
Leadership	02	2.06%
Somatic Complaints	02	2.06%
Work-Family Conflict	02	2.06%
Depression	03	3.09%
Organizational Support	02	2.06%
Sleep quality	01	1.03%
Team work	01	1.03%
Work organization	01	1.03%
Emotional intelligence	01	1.03%
Work conditions	02	2.06%
Psychological Capital	01	1.03%
Workaholic	01	1.03%
Autonomy	01	1.03%
Self-assessment	01	1.03%
Team Satisfaction	01	1.03%
Anxiety	02	2.06%
Moral Suffering	02	2.06%
Social capital	01	1.03%
Engagement	01	1.03%
Resilience	02	2.06%
Coping Strategies	02	2.06%
Common Mental Disorders	01	1.03%
Verbal Violence	01	1.03%
Cognitive Evaluation	01	1.03%
Violence caused by patients	01	1.03%
<b>Total</b>	<b>97</b>	<b>100%</b>

Table 3 presents an overview of the type of methodology used in the investigations<sup>(45)</sup>. Most of the articles are prevalence studies (81.13%), followed by literature review

articles (10.38%). Survey studies (5.66%) and intervention studies (1.89%) appear next. Only one study is characterized as a case-control study (0.94%).

**Table 3** – Overview of employed methods in studies on Burnout Syndrome in the Nursing context – Fortaleza, Ceará, Brazil, 2017.

Type of study	F	%
Case Control	01	0.94%
Prevalence	86	81.13%
Review	11	10.38%
Intervention	02	1.89%
Survey	06	5.66%
<b>Total</b>	<b>106</b>	<b>100%</b>
Objectives	F	%
Exploratory	03	2.83%
Descriptive	70	66.04%
Descriptive-Exploratory	31	29.25%
Prospective studies	02	1.89%
<b>Total</b>	<b>106</b>	<b>100%</b>
Approach	F	%
Quantitative	93	87.74%
Mixed	02	1.89%
Bibliographic searches	11	10.38%
<b>Total</b>	<b>106</b>	<b>100%</b>
Delineation	F	%
Experimental	01	0.94%
Non-experimental	11	10.38%
Quasi-Experimental approach	94	88.68%
<b>Total</b>	<b>106</b>	<b>100%</b>
Data collection procedure	F	%
Case study	43	40.57%
Study in two or more places	50	47.17%
Action Research	02	1.89%
Library and database (books, articles, dissertations and theses)	11	10.38%
<b>Total</b>	<b>106</b>	<b>100%</b>
Data source	F	%
Interview and questionnaire	02	1.89%
Questionnaire	89	83.96%
Pre-and post-test	03	2.83%
Bibliographic research	11	10.38%
Observation and questionnaire	01	0.94%
<b>Total</b>	<b>106</b>	<b>100%</b>

As shown in Table 3, articles that for the most part addressed OBS in Nursing are descriptive (66.04%), and there are descriptive-exploratory studies at a lower frequency (29.25%). Exploratory and prospective investigations are not so frequent, with 2.83% and 1.89%, respectively. Regarding the approaches, quantitative studies comprise a total of 87.74% of the analyzed production, and there are those that combine qualitative-quantitative approaches on a significantly smaller scale (1.89%).

Still regarding the data presented in Table 3, it is verified that the investigations were for the most part quasi-experimental (88.68%), while only one was experimental and performed in the laboratory (0.94%). Regarding data collection procedures, studies performed in two or more places were the most frequent, corresponding to 47.17% of the total. Action research was not carried out frequently, equivalent to 1.89% of the analyzed studies. The application

of questionnaires was the technique most used for data collection (83.96%); Pre-tests and post-tests were performed in 2.83% of the studies; 1.89% used interviews and questionnaires; while observations and questionnaires were used in 0.94% of the studies analyzed.

## DISCUSSION

The first publications on OBS occurred between 2005 and 2007 among nursing students<sup>(26,47)</sup>. The scientific production distributed by geographic region of Brazil revealed that no articles were found on the subject in the North region and few studies were carried out in the Central-West region<sup>(13,32,54)</sup>. In contrast, the state of São Paulo had the most studies on OBS in Nursing<sup>(2,10,19,22,41,44,47,64-65,78,87,92)</sup>. With regard to production in other parts of the world, Africa has the lowest number of publications<sup>(35,52-53)</sup>, as the studies are mostly concentrated in Latin America and Europe.



The articles were mostly published in nursing journals<sup>(2, 4-7,11,13-16,18-20,22,24-25,29,31-32,37-38,40-41,48-53,56-59,61-72,76-78,80,82-84,87,91-92,95-98,100-101,103-105,107,110)</sup>, the health area<sup>(3,8-9,12,17,30,33,35,39,42,44,47,60,79,81,85-86,88-89,93,99,102,106)</sup> and psychology<sup>(10,23,26-28,34,36,43,54-55,73-75,90,94,108-109)</sup>. After reading and critical analysis of the 106 analyzed articles, the content was organized into five thematic categories to facilitate understanding, as presented below.

## OBS AMONG NURSING PROFESSIONALS IN HEALTH FACILITIES

The large number of studies performed in hospitals is justifiable, since this work context is prone to OBS manifestation<sup>(72)</sup>. These establishments have a diversity of sectors in which nursing professionals can work<sup>(30,111)</sup>. Thus, hospitals are the ideal place to approach nursing staff and obtain a relatively large number of interviews, considering that the majority of studies are quantitative in nature, requiring relatively large samples for statistical analysis<sup>(12,15,33-34,36-37,42-44,52,55,57,59-60,62-63,75,79,83-87,91-92,95-96,98-99,103-106)</sup>.

This seems to be a characteristic of studies on OBS, to the detriment of qualitative research that could provide a deeper understanding of the mechanisms underlying the syndrome<sup>(54)</sup>.

Overall, studies propose generalizations without giving due attention to the specificities of hospital sectors, assuming that the different work contexts present similar risks for the onset of OBS<sup>(71,94)</sup>, which is not always proven. Furthermore, emergency rooms and palliative care units are the least investigated sites probably due to difficulties in research operationalization<sup>(14,41,57,102)</sup>, although a small concentration of studies on OBS in intensive care nurses can be found<sup>(19,22,39-40,92-93)</sup>. Still, the need for further investigations on OBS in professionals from acute care<sup>(59,62)</sup> and psychiatric ward units<sup>(57,86)</sup> is clear, given that these are places which in theory present greater risks in relation to the syndrome due to the type of work performed and the attended patients.

Studies carried out in Primary Care show signs of the syndrome among nurses<sup>(20,24,48-49,101)</sup>, although not at a very high level. Both investigations carried out with the nursing professionals of the Emergency Mobile Care Service found different results. One of them found low-moderate levels for the three dimensions of OBS<sup>(50)</sup>; while DS and EE presented high levels and PA was low in the other investigation<sup>(51)</sup>.

The studies are largely descriptive and/or exploratory, and only use the *Maslach Burnout Inventory – Human Services Survey* (MBI-HSS) to assess OBS<sup>(2-3,6-7,9,11,13-15,17-20,22-23,27-28,30,32-34,36,38-40,42-44,48-53,57,59-60,62-63,73-79,81-84,86-95,101-106,108)</sup>.

A version of the *Maslach Burnout Inventory – General Survey* (MBI-GS) was also used in two investigations<sup>(12,85,109)</sup>. Two studies investigated OBS using the Burnout Characterization Scale<sup>(54-55)</sup> and one used the *Compassion Satisfaction and Fatigue Test* (CSF)<sup>(37)</sup>. Another study used the *Copenhagen Burnout Inventory*<sup>(96)</sup>.

The use of different instruments makes it difficult to compare the studies. Studies rely on samples ranging from 11 to 11,000 participants, and because there is no standard for measuring the syndrome, it is not possible to conduct a more

categorical assessment of the results. However, by analyzing the mean scores of some studies, in most cases it can be noticed that nursing professionals manifest low-moderate EE, low DS and moderate PA<sup>(2-3,17,19,23,27-28,30,34,36,49-54,57,59-60,62-64,73-79,81-86,91,93-94,101,105)</sup>. Nursing technicians and assistants have higher levels of the syndrome compared to nurses, although this difference is small<sup>(10,13,50,91)</sup>.

## BURNOUT SYNDROME AMONG TEACHERS AND NURSING STUDENTS

Investigations on OBS among students are more frequent than among professors<sup>(4-5,8,26,47,65,80,107)</sup>, again, perhaps due to operational problems. These studies arise from the expansion of the OBS study field and the broadening of the Burnout concept, since the depersonalization factor has come to be denominated disbelief<sup>(112)</sup>. Studies on OBS in students have used the *Maslach Burnout Inventory – Student Survey* (MBI-SS) as the main data collection instrument<sup>(4-5,26,80,107)</sup>, and only one study made use of the MBI-HSS<sup>(47)</sup> in nursing students. With samples varying from 42 to 255 participants and similar results, students have shown low-moderate EE, low DS (disbelief) and high-moderate PA. When asked about the syndrome, most of the graduates reported not knowing about it<sup>(47)</sup>. It is possible that high-moderate PA, increased in relation to professionals, is due to the fact that students still have high expectations when it comes to the profession.

Studies carried out with professors have samples between 13 and 95 subjects, and are studies employing a quantitative-qualitative approach. Prevalence of OBS in nursing professors in one of the analyzed studies was 94.7%, characterizing them as a vulnerable group to the manifestation of health problems associated with the syndrome<sup>(8)</sup>. In the qualitative analysis, professors classified the relations between students and co-workers as sources of stress. However, in a second study, the professors did not associate the manifestations of tension with the syndrome<sup>(65)</sup>.

Studies that focused on nursing students and professors show that both groups have little knowledge regarding OBS<sup>(47,65)</sup>. This result shows that although OBS is recognized as an occupational pathology by the Social Security Agency, it is unknown to those involved in the prevention and diagnosis of patients. People who have the syndrome are often diagnosed with depression or another mental disorder, without proper connection to the occupation<sup>(113)</sup>.

## REVIEWS ON OBS IN NURSING

Still incipient, reviews on OBS in Nursing continue without in depth analysis of the theme and its origin or triggering mechanism<sup>(100)</sup>. They are studies that investigated the “state of the art”, analyzing between 4 and 70 manuscripts. For the most part, these studies only describe the syndrome and its impacts on the life of the nursing professional<sup>(29,68,71-72)</sup>. These investigations explore stress and OBS, and mainly their relationships and peculiarities<sup>(29,35,67,70,97)</sup>. However, little is said about the methods or intervention cases on preventing and reducing the syndrome in the nursing context<sup>(29)</sup>.

The review articles analyzed here are only focused on national scientific production<sup>(67-68,70-72,97,100)</sup>. However, a bibliographic investigation selected 70 articles, of which 26 were European, 25 American, 12 Asian, 4 Australian and 3 African, but no South American studies were included<sup>(35)</sup>. Of the bibliographic studies, four are narrative reviews<sup>(25,29,67-68)</sup>, followed by integrative reviews<sup>(69-71,97,100)</sup>, and one systematic review<sup>(35)</sup>. One analytical bibliographic review was found based on secondary studies between 1996 and 2011<sup>(72)</sup>.

### OBS AND ITS RELATIONSHIP WITH OTHER CONSTRUCTS

In the three-dimensional OBS model, Burnout appears as a reaction to chronic stress<sup>(1)</sup>. Thus, the large number of studies aimed at exploring this relationship is sustainable<sup>(2,5,22,29-30,35,37,41,53,63,67,89,91-93,96,108)</sup>. Other studies investigate the mediating role of OBS and its relation with other mental changes<sup>(15,33,35,37-38,41,52,54,82,84,93,108)</sup>.

Some studies have investigated the relationship between personality traits and OBS. Two studies in which multivariate analyzes were performed showed that personality traits can significantly explain OBS in nurses<sup>(34,36,95)</sup>. However, a third study showed that the variable "personality" had a weak potential predictor for the syndrome<sup>(30)</sup>.

Some studies have explored the relation between work environment perception and OBS. The first studies of this type were carried out by researchers involved in the *Registered Nurse Forecasting* Project. These researchers conducted several survey studies in North American, European and Asian countries. The studies applied the MBI and the Practice Environment Scale of the Nursing Work Index (PES-NWI). The latter measures the presence of variables related to the nurses' work environment<sup>(56-63)</sup>. The PES-NWI and the MBI have already been revalidated into the Portuguese language and applied in Brazilian investigations<sup>(19,49,87)</sup>.

Studies in recent years have explored the occurrence of OBS, measured their levels and correlated them with sociodemographic and occupational variables, psychosocial risks and other constructs in order to understand its genesis<sup>(29)</sup>. However, further studies seem necessary to analyze the relationship between the occurrence of OBS and occupational conditions and work organization<sup>(23,52,57,68,101)</sup>, and to investigate the mediation that teamwork and organizational support may play in the onset of the syndrome<sup>(37,49,83,86)</sup>.

### INTERVENTION AND PREVENTION OF OBS IN NURSING

Interventional studies are scarce in the case of OBS in nursing and developing an action plan for its prevention seems to be a challenge. Studies of this type propose to carry out individual interventions focusing on the nursing professional, aiming at behavioral changes and not modifications in the work, which is the origin of the syndrome. Cognitive-behavioral approaches accompanied by relaxation techniques are one of the most applied in these cases. However, the major disadvantage of these interventions is in enabling participants to cope with stress, rather than fighting it<sup>(29,89)</sup>.

Another way of describing interventions is through longitudinal, pre/post-test studies<sup>(41)</sup>. It is possible to analyze the levels and manifestation of the syndrome within the studied period through these methods<sup>(64)</sup>. This is the case of a controlled study carried out in the laboratory. In this research, a Reiki session was performed in nurses diagnosed with OBS, and later reverberation of the session on salivary immunoglobulin A (IgAs),  $\alpha$ -amylase activity and blood pressure was verified. A significant relationship was found between intervention and diastolic blood pressure and IgAs concentration. The authors point out that Reiki sessions can improve the response of IgAs and blood pressure in nursing professionals affected by OBS<sup>(32)</sup>. Another prospective case study was carried out with 16 nursing residents measuring the levels of the syndrome in different periods of time. It was verified that only one participant presented the syndrome out of the 16 residents<sup>(64)</sup>.

No interventions aimed at raising the awareness of professionals, students or nursing professors regarding OBS were found. A study with nursing professors sought to ascertain social representations of the professionals about OBS and to later intervene by using texts as an educational proposal to raise awareness about OBS<sup>(65)</sup>.

Despite the small number of intervention studies, a large part of the analyzed publications affirm the need to carry out in-depth studies that will allow for formulating and implementing policies to support prevention and intervention in the case of this syndrome in the nursing area<sup>(5,8,14,20,22-23,26,28,30,33,36,47,50,52-53,56-57,63,65,71,73-75,79,81,84-85,93)</sup>.

### CONCLUSION

We found that the majority of studies on OBS in the Nursing context were published in 2015, where most of the research took place in the South America, and mainly in Brazil. However, this data should be noted with caution, since the choice for the consulted databases may have contributed to this result.

The largest number of publications are concentrated in Southeast and Southern regions of Brazil, and the majority of investigations were conducted in hospitals. As for the employed methods, the majority of the studies are prevalent, descriptive, quantitative, and using a quasi-experimental design, with multiple case studies in which MBI was applied. In addition, stress is the most closely related construct to OBS.

Thus, new case-control and cohort studies are suggested. Qualitative-exploratory and longitudinal studies are necessary to better understand OBS among nursing professionals, as well as comparative causal research and focus groups with the purpose of exploring OBS manifestations.

New instruments that measure OBS must be tested and revalidated, and different theoretical models than three-dimensional ones must be studied and verified. If OBS is indeed a lingering stress, interventions focused on conditions, organization and social relations at work are necessary.

**RESUMO**

**Objetivo:** Caracterizar a produção científica sobre a Síndrome do Esgotamento Profissional no contexto da enfermagem, sistematizando os locais onde as pesquisas foram realizadas, os construtos relacionados, os métodos empregados e seus principais resultados. **Método:** Revisão integrativa da literatura, com abordagem bibliométrica, em artigos na língua portuguesa, espanhola e inglesa publicados entre 2005 e 2016. **Resultados:** Foram selecionados 106 artigos. A maioria estudos de prevalência, descritivos, quantitativos e realizados em hospitais. Nas regiões Sudeste e Sul do Brasil encontram-se o maior número de publicações, sendo o estresse o construto mais relacionado com o esgotamento profissional. A maior parte dos estudos utilizou o *Maslach Burnout Inventory* como meio de averiguação da presença da síndrome. **Conclusão:** Novos estudos de caso controle e coorte devem ser realizados. Pesquisas de cunho qualitativo-exploratório são necessárias para poder compreender melhor a Síndrome do Esgotamento Profissional entre os profissionais de enfermagem com grupos focais ou entrevistas, como também pesquisas causais comparativas, com o intuito de explorar as manifestações da síndrome.

**DESCRITORES**

Enfermagem; Esgotamento Profissional; Saúde do Trabalhador; Revisão.

**RESUMEN**

**Objetivo:** Caracterizar la producción científica acerca del Síndrome del Agotamiento Profesional en el marco de la enfermería, sistematizando los sitios en donde las investigaciones fueron realizadas, los constructos relacionados, los métodos empleados y sus principales resultados. **Método:** Revisión integrativa de la literatura, con abordaje bibliométrico, en artículos en lengua portuguesa, española e inglesa publicados entre 2005 y 2016. **Resultados:** Fueron seleccionados 106 artículos. La mayoría se compuso de estudios de prevalencia, descriptivos, cuantitativos y realizados en hospitales. En las regiones Sureste y Sur de Brasil se halla el mayor número de publicaciones, siendo el estrés el constructo más relacionado con el agotamiento profesional. La mayor parte de los estudios utilizó el *Maslach Burnout Inventory* como medio de la averiguación de la presencia del síndrome. **Conclusión:** Nuevos estudios de caso control y cohorte deben llevarse a cabo. Investigaciones de cunho cualitativo-exploratorio son necesarias para poder comprender mejor el Síndrome del Agotamiento Profesional entre los profesionales de enfermería con grupos focales o entrevistas, como también investigaciones causales comparativas, a fin de explorar las manifestaciones del síndrome.

**DESCRIPTORES**

Enfermería; Agotamiento Profesional; Salud Laboral; Revisión.

**REFERENCES**

- Maslach C, Leiter MP, Jackson SE. Making a significant difference with burnout interventions: researcher and practitioner collaboration. *J Organ Behav.* 2012;33(2):296-300.
- Lorenz VR, Benatti MCC, Sabino MO. Burnout and stress among nurses in a university tertiary hospital. *Rev Latino Am Enfermagem.* 2010;18(6):1084-91.
- Díaz Echenique MS, Stimolo MI, Caro NP. Satisfacción laboral y síndrome de desgaste laboral en enfermeros de hospitales públicos Córdoba-Argentina. *Med Segur Trab.* 2010;56(218):22-38.
- Tomaschewski-Barlem JG, Lunardi VL, Lunardi GL, Barlem ELD, Silveira RS, Vidal DAS. Burnout syndrome among undergraduate nursing students at a public university. *Rev Latino Am Enfermagem.* 2014;22(6):934-41.
- Vilela SC, Pacheco AE, Carlos ALS. Síndrome de burnout e estresse em graduandos de enfermagem. *Rev Enferm Cent-Oeste Min.* 2013;3(3):780-7.
- Álvarez Verdugo LP, Prieto Bocanegra BM. Prevalence of burnout syndrome in nursing staff of a third level hospital Boyacá, Colombia. *Enferm Glob.* 2013;12(29):73-88.
- Vilela N, Vidal S. The nursing staff of a hospital and burnout syndrome: a dangerous relationship. *Rev Pesq Cuid Fundam Online [Internet].* 2010 [cited 2017 Jan 23];2(4):1275-85. Available from: <http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/650>
- Bareño Silva J, Berbesi Fernández DY, Montoya Zapata CP. Factores asociados al síndrome de burnout en docentes de enfermería, Medellín-Colombia 2008. *Investig Andina.* 2010;12(21):36-48.
- Gómez Cantorna C, Puga Martínez A, Mayán Santos JM, Gandoy Crego M. Niveles de estrés en el personal de enfermería de unidades de cuidados paliativos. *Gerokomos.* 2012;23(2):59-62.
- Silva DCM, Loureiro MF, Peres RS. Burnout em profissionais de enfermagem no contexto hospitalar. *Psicol Hosp (São Paulo).* 2008;6(1):39-51.
- Sanjuan Estallo L, Arrazola Alberdi O, García Moyano LM. Prevalencia del síndrome del burnout en el personal de enfermería del servicio de cardiología, neumología y neurología del Hospital San Jorge de Huesca. *Enferm Glob.* 2014;13(36):253-64.
- Zhou Y, Lu J, Liu X, Zhang P, Chen W. Effects of core self-evaluations on the job burnout of nurses: the mediator of organizational commitment. *PLoS One.* 2014;9(4):e95975.
- França FM, Ferrari R. Burnout syndrome and the socio-demographic aspects of nursing professional. *Acta Paul Enferm.* 2012;25(5):743-8.
- Jodas DA, Haddad MCL. Burnout syndrome among nursing staff from an emergency department of a university hospital. *Acta Paul Enferm.* 2009;22(2):192-7.
- Dalmolin GL, Lunardi VL, Lunardi GL, Barlem ELD, Silveira RS. Moral distress and burnout syndrome: are there relationships between these phenomena in nursing workers? *Rev Latino Am Enfermagem.* 2014;22(1):35-42.
- Poghosyan L, Aiken LH, Sloane DM. Factor structure of the Maslach Burnout Inventory: an analysis of data from large scale cross-sectional surveys of nurses from eight countries. *Int J Nurs Stud.* 2009;46(7):894-902.



17. Moreira DS, Magnago RF, Sakae TM, Magajewski FRL. Prevalência da síndrome de burnout em trabalhadores de enfermagem de um hospital de grande porte da Região Sul do Brasil. *Cad Saúde Pública*. 2009;25(7):1559-68.
18. Galindo RH, Feliciano KVO, Lima RAS, Souza AI. Burnout syndrome among general hospital nurses in Recife. *Rev Esc Enferm USP*. 2012;46(2):420-7.
19. Panunto MR, Guirardello EB. Professional nursing practice: environment and emotional exhaustion among intensive care nurses. *Rev Latino Am Enfermagem*. 2013;21(3):765-72.
20. Holmes E, Santos S, Farias J, Costa M. Burnout syndrome in nurses acting in primary care: an impact on quality of life. *Rev Pesq Cuid Fundam Online [Internet]*. 2014 [cited 2017 Jan 23];6(4):1384-95. Available from: <http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/3311>
21. Doria MCS, Lipp MEN, Silva DF. O uso da acupuntura na sintomatologia do stress. *Psicol Ciênc Prof*. 2012;32(1):34-51.
22. Afecto MCP, Teixeira MB. Evaluation of occupational stress and burnout syndrome in nurses of an intensive care unit: a qualitative study. *Online Braz J Nurs [Internet]*. 2009 [cited 2017 Jan 23];8(1). Available from: <http://www.objnursing.uff.br/index.php/nursing/article/view/2107>
23. Gil-Monte PR, García-Juesas JA, Caro Hernández M. Influencia de la sobrecarga laboral y la autoeficacia sobre el síndrome de quemarse por el trabajo (burnout) en profesionales de enfermería. *Interam J Psychol*. 2008;42(1):113-8.
24. Santos PG, Passos JP. The burnout syndrome and your unchainer factors in nurses of basic units of health. *Rev Pesq Cuid Fundam Online [Internet]*. 2009 [cited 2017 Jan 23];1(2):235-41. Available from: <http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/381340>
25. Barrios AS, Arechabala MMC, Valenzuela PV. Relación entre carga laboral y burnout en enfermeras de unidades de diálisis. *Enferm Nefrol*. 2012;15(1):46-55.
26. Carlotto MS, Goncalves Camara S, Brazil Borges AM. Predictores del síndrome de burnout en estudiantes de un curso técnico de enfermería. *Diversita*. 2005;1(2):195-204.
27. Contreras TF, Juárez AF, Murrain KE. Influencia del burnout, la calidad de vida y los factores socioeconómicos en las estrategias de afrontamiento utilizadas por los profesionales y auxiliares de enfermería. *Pensam Psicol*. 2008;4(11):29-44.
28. Ruviano MFS, Bardagi MP. Síndrome de burnout e satisfação no trabalho em profissionais da área de enfermagem do interior do RS. *Barbarói*. 2010;(33):194-216.
29. Grazziano ES, Bianchi ERF. Impacto del estrés ocupacional y burnout en enfermeros. *Enferm Glob [Internet]*. 2010 [citado 2016 jan. 23];18(1):1-20. Disponible en: <http://scielo.isciii.es/pdf/eg/n18/revision1.pdf>
30. Hudek-Knežević J, Kalebic Maglica B, Krapic N. Personality, organizational stress, and attitudes toward work as prospective predictors of professional burnout in hospital nurses. *Croat Med J*. 2011;52(4):538-49.
31. Díaz-Rodríguez L, Arroyo-Morales M, Cantarero-Villanueva I, Fernández-Lao C, Polley M, Fernández-de-las-Peñas C. The application of reiki in nurses diagnosed with burnout syndrome has beneficial effects on concentration of salivary IgA and blood pressure. *Rev Latino Am Enfermagem*. 2011;19(5):1132-8.
32. França FM, Ferrari R, Ferrari DC, Alves ED. Burnout and labour aspects in the nursing teams at two medium-sized hospitals. *Rev Latino Am Enfermagem*. 2012;20(5):961-70.
33. Raftopoulos V, Charalambous A, Talias M. The factors associated with the burnout syndrome and fatigue in Cypriot nurses: a census report. *BMC Public Health*. 2012;12:457.
34. Queiros C, Carlotto MS, Kaiseler M, Dias S, Pereira AM. Predictors of burnout among nurses: an interactionist approach. *Psicothema*. 2013;25(3):330-5.
35. Khamisa N, Peltzer K, Oldenburg B. Burnout in relation to specific contributing factors and health outcomes among nurses: a systematic review. *Int J Environ Res Public Health*. 2013;10(6):2214-40.
36. Carlotto MS, Queirós C, Dias S, Kaiseler M. Hardiness and Burnout Syndrome: a cross-cultural study among Portuguese and Brazilian nurses. *Temas Psicol*. 2014;22(1):121-32.
37. Li A, Early SF, Mahrer NE, Klaristenfeld JL, Gold JJ. Group cohesion and organizational commitment: protective factors for nurse residents' job satisfaction, compassion fatigue, compassion satisfaction, and burnout. *J Prof Nurs*. 2014;30(1):89-99.
38. Sung K, Seo Y, Kim JH. Relationships between compassion fatigue, burnout, and turnover intention in Korean hospital nurses. *J Korean Acad Nurs*. 2012;42(7):1087-94.
39. Álvarez Escobar MC, Lima Gutiérrez H, Alfonso de León JA, Torres Álvarez A, Torres Álvarez AY. Síndrome de burnout y personal de enfermería de cuidados intensivos. *Rev Med Electrón [Internet]*. 2009 [citado 2017 jan. 7]; 31(3). Disponible en: <http://scielo.sld.cu/pdf/rme/v31n3/spu09309.pdf>
40. Sánchez Alonso P, Sierra Ortega VM. Síndrome de burnout en el personal de enfermería en UVI. *Enferm Global*. 2014;13(33):252-66.
41. Freitas AR, Carneseca EC, Paiva CE, Paiva BSR. Impact of a physical activity program on the anxiety, depression, occupational stress and burnout syndrome of nursing professionals. *Rev Latino Am Enfermagem*. 2014;22(2):332-6.
42. Farahbod F, Goudarzvand-Chegini M, Kouchakinejad-Eramsadati L, Mohtasham-Amiri Z. The Association between social capital and burnout in nurses of a trauma referral teaching hospital. *Acta Med Iran*. 2015;53(4):214-9.
43. Carlotto MS. O impacto de variáveis sociodemográficas e laborais na síndrome de burnout em técnicos de enfermagem. *Rev SBPH*. 2011;14(1):165-85.
44. Ferreira NN, Lucca SR. Burnout syndrome in nursing assistants of a public hospital in the state of São Paulo. *Rev Bras Epidemiol*. 2015;18(1):68-79.

45. Nietzsche EA, Leopardi MT. Roteiro de projeto de pesquisa. In: Leopardi MT, organizadora. Metodologia da pesquisa na saúde. 2ªed. Florianópolis: UFSC/PEN; 2002. p. 151-61.
46. Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. PLoS Med [Internet]. 2009 [cited 2017 Feb 2];6(7). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2707599/>
47. Barboza JJ, Berezini R. Burnout syndrome in nursing undergraduate students. Einstein (São Paulo). 2007;5(3):225-30.
48. Rossi SS, Santos PG, Passo JP. Burnout syndrome in nursing: a comparative study between primary care and hospital closed sectors. Rev Pesq Cuid Fundam Online [Internet]. 2010 [cited 2017 Feb 2];2(4):381-4. Available from: <http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/950>
49. Lorenz VR, Guirardello EB. The environment of professional practice and burnout in nurses in primary healthcare. Rev Latino Am Enfermagem. 2014;22(6):926-33.
50. Fernandes M, Sousa F, Santos J, Rodrigues J, Marziale M. Burnout syndrome in nursing professionals of emergency medical care service. Rev Pesq Cuid Fundam Online [Internet]. 2012 [cited 2017 Feb 2];4(4):3125-35. Available from: <http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/1900>
51. França SPS, Martino MMF, Aniceto EVS, Silva LL. Predictors of burnout syndrome in nurses in the prehospital emergency services. Acta Paul Enferm. 2012;25(1):68-73.
52. van der Doef M, Mbazzi FB, Verhoeven C. Job conditions, job satisfaction, somatic complaints and burnout among East African nurses. J Clin Nurs. 2012;21(11-12):1763-75.
53. Görgens-Ekermans G, Brand T. Emotional intelligence as a moderator in the stress–burnout relationship: a questionnaire study on nurses. J Clin Nurs. 2012;21(15-16):2275-85.
54. Tamayo MR. Burnout: implicações das fontes organizacionais de desajuste indivíduo-trabalho em profissionais da enfermagem. Psicol Reflex Crit. 2009;22(3):474-82.
55. Neves VF, Oliveira FA, Alves PC. Síndrome de burnout: impacto da satisfação no trabalho e da percepção de suporte organizacional. Psico. 2014;45(1):45-54.
56. Poghosyan L, Clarke SP, Finlayson M, Aiken LH. Nurse Burnout and Quality of Care: Cross-National Investigation in Six Countries. Res Nurs Health. 2010;33(4):288-98.
57. Hanrahan NP, Aiken LH, McClaine L, Hanlon AL. Relationship between psychiatric nurse work environments and nurse burnout in acute care general hospitals. Issues Ment Health Nurs. 2010;31(3):198-207.
58. Li B, Bruyneel L, Sermeus W, Van den Heede K, Matawie K, Aiken LH, et al. Group-level impact of work environment dimensions on burnout experiences among nurses: a multivariate multilevel probit model. Int J Nurs Stud. 2013;50(2):281-91.
59. Van Bogaert P, Kowalski C, Weeks SM, Van Heusden D, Clarke SP. The relationship between nurse practice environment, nurse work characteristics, burnout and job outcome and quality of nursing care: a cross-sectional survey. Int J Nurs Stud. 2013;50(12):1667-77.
60. Abad-Corpa E, Molina-Durán F, Vivo-Molina M, Moya-Ruiz B, Martínez-Hernández A, Romero-Pelegrín J, et al. Estudio RN4CAST en Murcia: características organizacionales de los hospitales y perfiles enfermeros. Rev Calid Asist. 2013;28(6):345-54.
61. Zhang LF, You LM, Liu K, Zheng J, Fang JB, Lu MM, et al. The association of Chinese hospital work environment with nurse burnout, job satisfaction, and intention to leave. Nurs Outlook. 2014;62(2):128-37.
62. Lindqvist R, Smeds Alenius L, Griffiths P, Runesdotter S, Tishelman C. Structural characteristics of hospitals and nurse - reported care quality, work environment, burnout and leaving intentions. J Nurs Manag. 2015;23(2):263-74.
63. Wang S, Liu Y, Wang L. Nurse burnout: personal and environmental factors as predictors. Int J Nurs Pract. 2015;21(1):78-86.
64. Franco GP, Barros ALBL, Nogueira-Martins LA, Zeitoun SS. Burnout in nursing residents. Rev Esc Enferm USP. 2011;45(1):12-8.
65. Corral-Mulato S, Bueno SMV. Docentes em enfermagem e a síndrome de burnout: educando para a saúde. CuidArte Enferm. 2009;3(2):99-104.
66. Pisanti R, Lombardo C, Lucidi F, Violani C, Lazzari D. Psychometric properties of the Maslach Burnout Inventory for Human Services among Italian nurses: a test of alternative models. J Adv Nurs. 2013;69(3):697-707.
67. Murofuse NT, Abranches SS, Napoleão AA. Reflexões sobre estresse e burnout e a relação com a enfermagem. Rev Latino Am Enfermagem. 2005;13(2):255-61.
68. Cunha A, Souza E, Mello R. Os fatores intrínsecos ao ambiente de trabalho como contribuintes da síndrome de burnout em profissionais de enfermagem. Rev Pesq Cuid Fundam Online [Internet]. 2012 [cited 2017 Feb 2];Supl:29-32. Available from: <http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/1716>
69. Machado D, Louro T, Figueiredo N, Vianna L. The exhaustion of nursing: a integrative review of the burnout syndrome in ICU. Rev Pesq Cuid Fundam Online [Internet]. 2012 [cited 2017 Feb 2];4(4):2765-75. Available from: <http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/1605>
70. Oliveira RKM, Costa TD, Santos VEP. Burnout syndrome in nursing: an integrative review. Rev Pesq Cuid Fundam Online [Internet]. 2013 [cited 2017 Feb 2];5(1):3168-75. Available from: <http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/1409>
71. Basílio ABS, Bosco Filho J, Costa RRO. O trabalho do enfermeiro e a síndrome de burnout: revisão integrativa da literatura. CuidArte Enferm. 2012;6(1):45-9.
72. Lima da Silva JL, Campos Dias A, Reis Teixeira L. Discussão sobre as causas da síndrome de burnout e suas implicações à saúde do profissional de enfermagem. Aquichán. 2012;12(2):144-59.
73. Sá AMS, Martins-Silva PO, Funchal B. Burnout: o impacto da satisfação no trabalho em profissionais de enfermagem. Psicol Soc. 2014;26(3):664-74.
74. Silva D, Carlotto MS. Síndrome de burnout em trabalhadores da enfermagem de um hospital geral. Rev SBPH. 2008;11(1):113-30.

75. Carlotto MS. Fatores de risco da síndrome de burnout em técnicos de enfermagem. *Rev SBPH*. 2011;14(2):7-26.
76. Meneghini F, Paz AA, Lautert L. Fatores ocupacionais associados aos componentes da síndrome de burnout em trabalhadores de enfermagem. *Texto Contexto Enferm*. 2011;20(2):225-33.
77. Schmidt DRC, Paladini M, Biato C, Pais JD, Oliveira AR. Qualidade de vida no trabalho e burnout em trabalhadores de enfermagem de Unidade de Terapia Intensiva. *Rev Bras Enferm*. 2013;66(1):13-17.
78. Rissardo MP, Gasparino RC. Exaustão emocional em enfermeiros de um hospital público. *Esc Anna Nery*. 2013;17(1):128-32.
79. Demir Zencirci A, Arslan S. Morning-evening type and burnout level as factors influencing sleep quality of shift nurses: a questionnaire study. *Croat Med J*. 2011;52(4):527-37.
80. Oliveira R, Caregnato RCA, Câmara SG. Burnout syndrome in senior undergraduate nursing. *Acta Paul Enferm*. 2012;25(2):54-60.
81. Ayala E, Carnero AM. Determinants of burnout in acute and critical care military nursing personnel: a cross-sectional study from Peru. *PLoS One*. 2013;8(1):e54408.
82. Madathil R, Heck NC, Schuldberg D. Burnout in psychiatric nursing: examining the interplay of autonomy, leadership style, and depressive symptoms. *Arch Psychiatr Nurs*. 2014;(3):160-6.
83. Lewis EJ, Baernholdt MB, Yan G, Guterbock TG. Relationship of adverse events and support to RN Burnout. *J Nurs Care Qual*. 2015;30(2):144-52.
84. Mealer M, Burnham EL, Goode CJ, Rothbaum B, Moss M. The prevalence and impact of post traumatic stress disorder and burnout syndrome in nurses. *Depress Anxiety*. 2009;26(12):1118-26.
85. Wang Y, Chang Y, Fu J, Wang L. Work-family conflict and burnout among Chinese female nurses: the mediating effect of psychological capital. *BMC Public Health*. 2012;12:915.
86. Bowers L, Nijman H, Simpson A, Jones J. The relationship between leadership, teamworking, structure, burnout and attitude to patients on acute psychiatric wards. *Soc Psychiatry Psychiatr Epidemiol*. 2011;46(2):143-8.
87. Gasparino RC, Guirardello EB. Ambiente da prática profissional e burnout em enfermeiros. *Rev Rene*. 2015;16(1):90-6.
88. Adriaenssens J, Gucht V, Maes S. Association of goal orientation with work engagement and burnout in emergency nurses. *J Occup Health*. 2015;57(2):151-60.
89. Rushton CH, Batcheller J, Schroeder K, Donohue P. Burnout and resilience among nurses practicing in high-intensity settings. *Am J Crit Care*. 2015;24(5):412-20.
90. Silva RP, Barbosa SC, Silva SS, Patrício DF. Burnout e estratégias de enfrentamento em profissionais de enfermagem. *Arq Bras Psicol*. 2015;67(1):130-45.
91. Portero de la Cruz S, Vaquero Abellán M. Professional burnout, stress and job satisfaction of nursing staff at a university hospital. *Rev Latino Am Enfermagem*. 2015;23(3):543-52.
92. Andolhe R, Barbosa RL, Oliveira EM, Costa ALS, Padilha KG. Stress, coping and burnout among intensive care unit nursing staff: associated factors. *Rev Esc Enferm USP*. 2015;49(n.spe):58-64.
93. Silva JLL, Soares RS, Costa FS, Ramos DS, Lima FB, Teixeira LR. Psychosocial factors and prevalence of burnout syndrome among nursing workers in intensive care units. *Rev Bras Ter Intensiva*. 2015;27(2):125-33.
94. Campos ICM, Angélico AP, Oliveira MS, Oliveira DCR. Fatores sociodemográficos e ocupacionais associados à síndrome de burnout em profissionais de enfermagem. *Psicol Reflex Crit*. 2015;28(4):764-71.
95. Cañadas-De la Fuente GA, Vargas C, San Luis C, García I, Cañadas GR, De la Fuente EI. Risk factors and prevalence of burnout syndrome in the nursing profession. *Int J Nurs Stud*. 2015;52(1):240-9.
96. Chin W, Guo YL, Hung YJ, Yang CY, Shiao JS. Short sleep duration is dose-dependently related to job strain and burnout in nurses: a cross sectional survey. *Int J Nurs Stud*. 2015;52(1):297-306.
97. Portela NLC, Oliveira Pedrosa A, Cunha JDS, Monte LRS, Gomes RNS, Lago EC. Burnout syndrome in nursing professionals from urgency and emergency services. *Rev Pesq Cuid Fundam Online [Internet]*. 2015 [cited 2017 Feb 2];7(3):2749-60. Available from: <http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/3822>
98. Viotti S, Gil-Monte PR, Converso D. Toward validating the italian version of the "Spanish Burnout Inventory": a preliminary study. *Rev Esc Enferm USP*. 2015;49(5):819-25.
99. Viotti S, Gilardi S, Guglielmetti C, Converso D. Verbal aggression from care recipients as a risk factor among nursing staff: a study on burnout in the JD-R model perspective. *Bio Med Res Int*. 2015;2015:215267.
100. Sanchez FFS, Oliveira R. Aspectos mediadores e desencadeadores da síndrome de burnout nos enfermeiros. *CuidArte Enferm*. 2016;10(1):61-7.
101. Lacerda RB, Ferreira MGB, Bracarense CF, Sene LVD, Simões ALDA. Contexto de trabalho e síndrome de burnout na equipe de enfermagem da Estratégia Saúde da Família. *Cul Cuid*. 2016;20(44):91-100.
102. Gómez-Cantorna C, Clemente M, Bugallo-Carrera C, Gandoy-Crego M. Cuidados paliativos gerontológicos: influencia de las condiciones laborales y burnout en el personal de enfermería. *Gerokomos*. 2016;27(3):91-6.
103. Nantsupawat A, Nantsupawat R, Kunaviktikul W, Turale S, Poghosyan L. Nurse burnout, nurse-reported quality of care, and patient outcomes in Thai hospitals. *J Nurs Scholarsh*. 2016;48(1):83-90.
104. Miranda-Lara VR, Monzalvo-Herrera G, Hernández-Caballero B, Ocampo-Torres M. Prevalencia del síndrome de burnout en personal de enfermería de dos instituciones de salud. *Rev Enferm Inst Mex Seguro Soc*. 2016;24(2):115-22.

105. Silva SM, Borges E, Abreu M, Queirós C, Baptista PCP, Felli VEA. Relação entre resiliência e burnout: promoção da saúde mental e ocupacional dos enfermeiros. *Rev Port Enferm Saúde Mental*. 2016;(16):41-8.
106. Cañadas-De la Fuente GA, Albendín-García L, de la Fuente EI, San Luis C, Gómez-Urquiza JL, Cañadas GR. Síndrome de burnout en profesionales de enfermería que realizan jornada física complementaria en servicios de cuidados críticos y urgencias. *Rev Esp Salud Publica*. 2016;90:e40015.
107. Galdino MJQ, Martins JT, Haddad MCFL, Robazzi MLCC, Birolim MM. Burnout syndrome among master's and doctoral students in nursing. *Acta Paul Enferm*. 2016;29(1):100-6.
108. Pereira MMA, Gomes ARS. Stress, burnout e avaliação cognitiva: estudo na classe de enfermagem. *Arq Bras Psicol*. 2016;68(1):72-83.
109. Galián-Muñoz I, Ruiz-Hernández JA, Llor-Esteban B, López-García C. User violence and nursing staff Burnout: the modulating role of job satisfaction. *J Interpers Violence*. 2016;31(2):302-15.
110. Jiménez Maldonado Á, García Millán S. Valoración de ansiedad y burnout en los profesionales de enfermería de un servicio de Nefrología. *Enferm Nefrol*. 2016;19(2):118-24.
111. Silva DCM, Loureiro MF, Peres RS. Burnout em profissionais de enfermagem no contexto hospitalar. *Psicol Hosp*. 2008;6(1):39-51.
112. Schaufeli WB, Martinez IM, Pinto AM, Salanova M; Bakker AB. Burnout and engagement in university students: a cross national study. *J Cross Cult Psychol*. 2002;33(5):464-81.
113. Benevides-Pereira AMT. Burnout: quando o trabalho ameaça o bem-estar do trabalhador. São Paulo: Casa do Psicólogo; 2002. Burnout: o processo de adoecer pelo trabalho; p. 21-91.

