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REVIEW ARTICLE

Nursing Staff Members Mental's Health and Factors Associated with the Work Process: An Integrative Review

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Abstract:

Background:

The mental health of nursing staff members influences the work process outcomes.

Objective:

Identify the work related factors that harms the nursing team's mental health.

Methods:

Databases PubMed, Scopus, CINAHL and MEDLINE, by mating between the indexed descriptors in MeSH terms "mental health" and "occupational health nursing". 783 articles were rescued to give a final sample of 18 articles. Integrative review in order to identify factors associated with the work process of the nursing staff that negatively affects mental health.

Results:

The main associated factors were work demands, psychological demands, violence, aggression, poor relationships with administrators, accidents involving the risk of exposure to HIV, stress and errors in the execution of labor activities. The main findings regarding the nursing staff's mental health were post-traumatic stress disorder, depression, stress, major depressive episode and generalized anxiety disorder.

Conclusion:

Occupational nurses need to understand the complexities of mental health problems and substance use among nursing staff members to recognize, identify and care for workers at risk and offer adequate mental health care. Although the researches interests in this theme have increased, proving that all these factors contribute to the risk to mental health of nursing professionals, the protective measures and care are being neglected by managers in both private and public network . The health of nursing workers in question here is one more challenge for a profession that takes care of others in need, therefore, requires some caring with their own health.

Keywords: Mental health, Occupational nursing, Occupational risk.

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INTRODUCTION

Problems with occupational health have been related to biotechnologies, information and automation technologies, chemical substances and physical energy, along with the peculiarities inherent to the aging of the working population, making groups vulnerable to occupational diseases of various origins [1]. The relationship between the work process and life style has been considered a cause of stress and health problems, leading to organic and psychological imbalances and compromising the development of one's labor activities [2].

Workers in the health field are particularly exposed to continuous stress, which causes physical, psychological and cognitive symptoms, demanding prolonged adaptive responses to tolerate, overcome or adapt to stressors [3]. However, healthcare professionals have been more concerned with improving their activities and the care offered to patients than caring for their own health, especially regarding to occupational risks and mental health [4].

Nursing is associated with high levels of stress, a low degree of quality of life and burnout syndrome [5], due mainly to the long hours and professional dissatisfaction [6]. Moreover, symptoms of anxiety, depression, psychological suffering, sleep disorders, fatigue and other somatic complaints are reported to be associated with the work process of the nursing staff and exert a negative impact on the mental health of these healthcare workers [7].

The workplace and work process should be monitored continually, since there is an association between occupational diseases and the execution of specific nursing procedures, which causes a high level of tension in the work process and reduction in nurses' productivity and life quality [8]. Therefore, an environment that promotes the work process' organization as well as adequate relationships and communication among staff members, can contribute to the mental health of these workers [9].

The present review's goal was to identify factors associated with the work process of the nursing staff that exerts a negative impact on these healthcare professionals' mental health. Thus, the following research question was designed: What factors associated with the work process of the nursing staff exert a negative impact on the mental health of these healthcare professionals?

MATERIALS AND METHODOLOGY

An integrative review of scientific production was performed. Searches for articles were performed in the Scopus, MEDLINE (Medical Literature Analysis and Retrieval System Online), CINAHL (Cumulative Index to Nursing and Allied Health Literature) and PubMed databases using the MeSh Terms "mental health" and "occupational health nursing". A total of 783 papers were retrieved, 18 of which were selected for the final sample.

The searches, selection and analysis of the articles were performed by two independent researchers, who compared their findings. In cases of disagreement, a third researcher was consulted and a consensus was reached. The calibration was performed based on the simple means of the correct selection of studies, obtaining 89% agreement during the first calibration exercise and 100% during the second.

For the article's selection, the titles and abstracts were first read and the following inclusion criteria were considered: studies involving primary data; studies with nursing staff members as the subjects, independently of age, sex, duration of the profession, service or work sector; articles addressing the mental health/illness process and/or substance use by nursing staff; papers published in Portuguese, English or Spanish; articles indexed in at least one of the databases searched. The exclusion criteria were case studies, theses, dissertations, work presented at conferences and review articles. The Fig. (**1**) shows the flowchart of the study selection process.

Data were extracted from the articles using a validated instrument [11]. The results were presented in tables and text to facilitate the analysis and summarize the scientific evidence, thereby meeting the present review's objective.

RESULTS

The final sample comprised of 18 studies: five retrieved from SCOPUS, eight retrieved from PubMed and five retrieved from CINAHL. The four articles retrieved from MEDLINE were not included, as these studies were duplicates of those retrieved from the SCOPUS database. Among the articles selected, seven were published in periodicals specific to occupational health. Regarding the design, two were randomized controlled clinical trials, one was a quasi-experimental study, 13 were exploratory descriptive cross-sectional studies with a quantitative approach and two had a qualitative approach. All studies used an instrument to measure the variables of interest. Tables **1-3**

display the main findings of the studies.

The articles addressed mental health related to the work process of the nursing staff or nurses alone as the primary or secondary outcome. When mental health was the object of the study, it was considered the primary outcome; when the aspects analyzed led to associations with mental health, it was considered the secondary outcome.
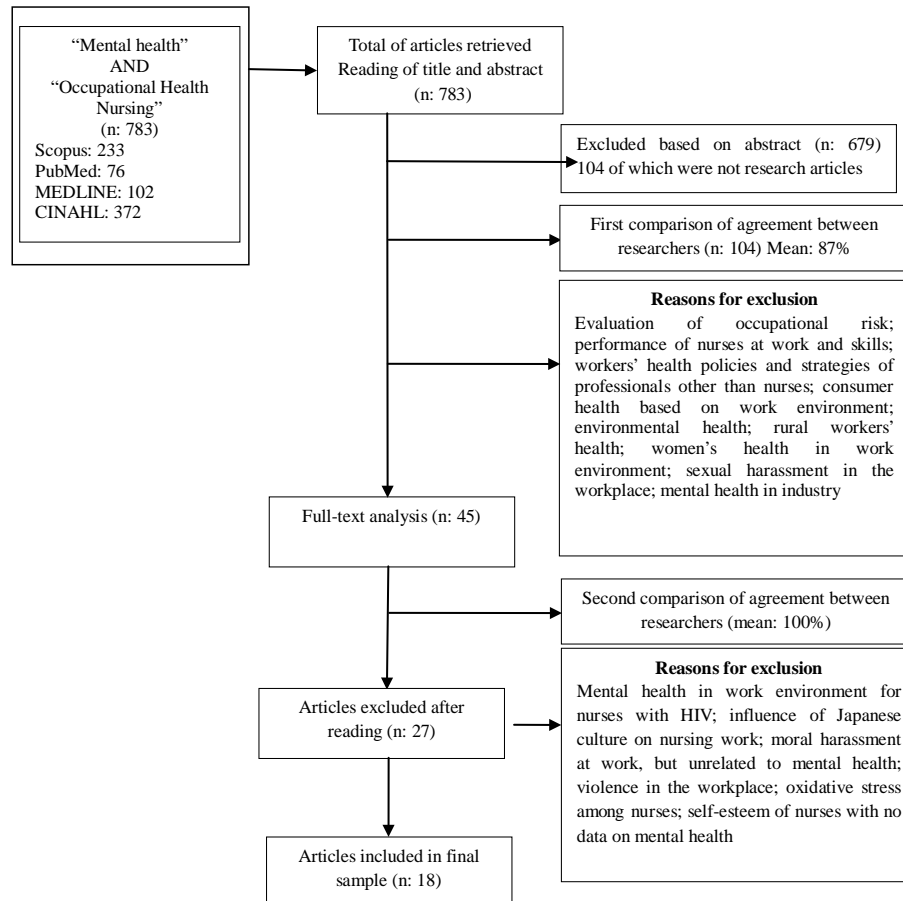

Fig. (1). Database searches' results of article's selection by independent researchers and comparison of selections for final sample's determination based on PRISMA Search Strategy Diagram [10].

The main factors associated with the work process of the nursing staff that exert a negative impact on the mental health of these healthcare professionals were work demands [12 - 14], aggression [15], violence [16, 17], work accidents involving the risk of exposure to HIV [18], stress [14, 19] and errors in the execution of labor activities [20]. The main mental health findings as the primary outcome of the investigation were post-traumatic stress disorder [15], depression and/or stress [19 - 23], major depressive episode and/or generalized anxiety disorder [24] and minor psychological disorder [25]. All articles also addressed psychosomatic symptoms of the nursing staff due to occupational risks and factors associated with the work process.

The strategies employed for mental health care of the nursing staff were all group-oriented, such as workshops for training emotional intelligence [26], meetings with an active methodology, followed by individual counseling [27] and a psycho-education group for training communication skills [28]. Despite not addressing mental health as the primary focus, these strategies were able to improve the mental health of the nursing staff and the work process. One article demonstrated that healthy nutrition improved mental health, the work process, job and life satisfaction, as it represented an important aspect of self-care [29].

Based on the findings, the work process of the nursing staff was identified as a source of stress and psychological suffering with physical, mental, individual and collective repercussions. Thus, the work process exposes nurses to occupational risks involving psychological, personal safety, biology and social aspects, all of which are related to mental health.

Table 1. Characterization of the CINAHL's articles included in the sample, 2015.

Author Year/Country	Study Design/objective	Sample (♀/♂)	Intervention/ Statistical analyses	Main Results Mental health associated with the work process
Cho *et al.* 2014 South Korea	Descriptive exploratory study. To examine the relationship between average hospital length of stay (LOS) of nursing units and work demands perceived by nurses, and between work demands and nurses' health and job outcomes.	**1027** (728/399)	Without intervention	Job requirements were: quantitative demands, work pace and emotional demands. The nurses reported high scores of job demands and low scores for health and employment outcomes. Self-rated health was related to the emotional demands of work, being reported trouble sleeping, work-family conflict, personal stress and at work, lower job satisfaction. A faster pace of work was related to greater work-family conflict
Gillespie *et al.* 2013 United States	Descriptive study, exploratory, quantitative approach. Compare the symptoms of post-traumatic stress after verbal and physical aggression.	**208**[a]	Without intervention	Aggression at workplace has the potential to affect the mental health of nursing staff through the occurrence of post-traumatic stress disorder (PTSD). PTSD changed the ability to provide quiet and safe assistance and reduced its labor productivity.
Laowoko *et al.* 2004 England and Sweden	Cross-sectional study, descriptive and exploratory. Compare the nature of the violence suffered by nurses and psychiatrists in Sweden and England	**1437** Nurses **456** Psychiatrists Total sample (1314/592)	Without intervention	Violent events at work cause as loss of motivation to work, feeling of relating to disability. Women are especially vulnerable to violence and to develop more serious mental health problems than men. Swedish professionals tend to work more as a team, while the English work more in isolation.
Nemcek 2007 United States	Cross-sectional study, descriptive and exploratory. Correlate self-nutrition and career satisfaction with life and the maintenance of a healthy nursing workforce.	**136** (120/16)	Without intervention	Healthy nutrition, satisfaction with career and life were positively correlated with mental health nursing team, arguably been a virtuous cycle and retro-fed by each of them, where the improvement in one aspect courses with the improvement of too much. Happiness in life is a powerful motivator in life and at work.
Roets *et al.* 2008 Bloemfontein	Descriptive, phenomenological, qualitative. Describe the experience of nurses exposed to possible HIV infection due to occupational accident.	**12**[a]	Without Intervention	Two categories: mourning and side effects of prophylactic antiretroviral therapy. Nurses were mourning the loss of a sense of being healthy and invincible, showing the stages of denial, anger, anxiety and fear, with recurrent thoughts of adverse events, generating great psychological distress. The side effects were nausea, vomiting, insomnia, fatigue, exhaustion, palpitations, dizziness, muscle tremors, diarrhea, headache, malaise. In addition, they felt stressed and traumatized.

[a]Did not report the sex of nursing professionals who participated in the study.

Table 2. Characterization of the articles included in the sample and rescued by PubMed, 2015.

Author Year/Country	Study Design/objective	Sample (♀/♂)	Intervention/ Statistical analyses	Main Results Mental health associated with the work process
Sharif *et al.*, 2013 Iran	Randomized controlled clinical trial. Determine the effect of emotional intelligence education in general health of nurses in a intensive care unit.	**52**[a]	Workshop for two consecutive days. T-test, chi-square, ANOVA	The Nurses who had emotional intelligence training showed significant improvement in their overall health and faced numerous occupational stressors with more skill and flexibility. Emotional intelligence plays a mediating role between mental health and stress. Thus, people with higher emotional intelligence can better deal with environmental conflicts.
Uchiyama *et al.* 2013 Japan	Randomized controlled clinical trial. To investigate the effect on the mental health of a participatory intervention six months to improve the psychosocial work environment.	**434** (430/4)	Group of work. t-test, chi-square, Fisher´s test, ANCOVA .	The intervention group showed an increase in participatory management, job control and support co-worker, while the control group showed a decrease in the goals. Improved involvement in labor activities in both groups. Nearly all the psychosocial factors in the post-intervention were more favorable in the intervention group than in the control group. There was no statistical difference in skills development.

(Table 2) contd.....

Author Year/Country	Study Design/objective	Sample (♀/♂)	Intervention/ Statistical analyses	Main Results Mental health associated with the work process
Arimura *et al.* 2010 Japan	Cross-sectional descriptive study with a quantitative approach. Examine the relationship between shift work, mental status and errors committed by nurses.	**454** (420/34)	Sample was divided into two groups, one involving self-report in error and another that never err. Univariate and multiple logistic analyses, chi-square, t-test,	The errors were associated with sleep problems and deteriorating mental health in Japanese nurses. In addition, reduced hours of sleep and low GHQ scores were related to errors in work activities.
Taghinejad *et al.* 2014 Iran	Cross-sectional study, descriptive-exploratory. Investigate and assess the mental health of nurses under the focus of anxiety, social function and depression.	**86** (50/36)	Without Intervention. Chi-square, t-test, Cronbach's alpha, test-retest	43.2% of the participants showed signs of mental disorders; 12.3% physical symptoms, anxiety symptoms by 16%, 42% and 6.2% social dysfunction symptoms of depression. Changes in mental health status were more related to social dysfunction than depression. Showed high prevalence of depression, anxiety and symptoms of stress among nurses.
Urbanetto *et al.* 2013 Brasil	Cross-sectional study, descriptive and exploratory, with a quantitative approach To evaluate the association between stress at work and the occurrence of Psychic Disorder Minor (DPM) in nursing workers.	**335**[a] practical nurse (245) nursing assistant (35) nurse (55)	Without Intervention. Chi-square, Stepwise logistic regression, with odds ratio	Prevalence of 20.6% for DPM, being related to stress at work. The reports were nervous, worried, tense, depressed-anxious mood, frequent headaches, problems with sleep. Stress affects the workers' mental health, being related to high psychological demands and high control the work process of the nursing team.
El Kiss *et al.* 2014 Tunisia	Cross-sectional study, descriptive and exploratory. To determine the prevalence of major depressive episodes (MDE), dysthymia and generalized anxiety disorder (GAD) and its associated factors.	**228** (126/102)	Without Intervention. Chi-square test, t-test, Fisher's test	Prevalence of depressive disorders was 7.5% for EDM and 5.7% for dysthymia, where the associated factors were female and the distance from the workplace. The prevalence of GAD (4.4%) was associated with distance from the workplace, personal history of mental illness and satisfaction with own financial income.
Kikuchi *et al.* 2010 Japan	Descriptive study. To verify the relationship between effort-reward imbalance (ERI), depression and anxiety.	**406**[a]	Without Intervention. Chi-square test, t-test, Stepwise logistic regression, with odds ratio	Imbalance effort-reward group of nurses with depression and anxiety were significantly higher. Depression and anxiety were associated with high rate of benefit-effort, high score for excessive involvement.
Ghazavi *et al.* 2010 Iran	Almost experimental study. Determine the effect of communication skills training for psychoeducation method on the level of stress in psychiatric wards of nurses in 2010.	**45** (35/10)	Training of communication skills. T-test and ANOVA	Improved communication with patients and reflected on their attitudes, reducing occupational stress and improving your mental health. Recommends that in service training with the emphasis on training nurses communication skills should be offered every 12 months.

[a]Did not report the sex of nursing professionals who participated in the study.

Table 3. Characterization of the articles included in the sample and rescued by SCOPUS, 2015.

Author Year/Country	Study Design/objective	Sample (♀/♂)	Intervention/ Statistical analyses	Main Results Mental health associated with the work process
Yoon *et al.* 2013 South Korea	Cross-sectional study, descriptive and exploratory To analyze the relationship between work-related stress, emotional labor and depressive symptoms among nurses in South Korea.	**441**[a]	Without Intervention. Chi-square test, Stepwise logistic regression, with odds ratio	Nurses not married or unmarried are more vulnerable to experience depressive symptoms. Factors associated with depressive symptoms were: surface acting, lack of reward and job insecurity.
Hossis *et al.* 2013 Saudi Arabia	Descriptive study. Explore the effects of job stress on physical and mental health of nurses working in Saudi Arabia.	**152** (108/44)	Without Intervention. Chi-square	Almost half of nurses had physical and mental diseases. 49.3% of nurses had severe exhaustion, 27.6% and 27% severe insomnia fatigue and weakness. 38.8% of nurses had severe nervousness, 13.2% severe indifference, depression 13.1% and 11.8% reduced job performance.

(Table 3) contd.....

Author Year/Country	Study Design/objective	Sample (♀/♂)	Intervention/ Statistical analyses	Main Results Mental health associated with the work process
Gouva *et al.* 2009 Greece	Descriptive study. Understanding of being a nurse in the National Health Service of Greece.	**9** (7/2)	Individual interviews with 40-50 minutes long, being held thematic analysis VanManen. Without statistical tests	Three essential themes: dissonance between the idealization and the reality of nursing, emotional distress and psychosomatic situation. The dissonance between the idealization and the reality of nursing, along with the emotional crisis of daily practice, were the two key factors for the development of psychosomatic complications. The professional stress is related to the practice emotionally charged and the lack of appropriate mechanisms to discharge such emotions.
Estryn-Behar *et al.* 2008 10 European countries	Multicenter, descriptive and exploratory study. Identify the prevalence of violence in nursing	**39.898** (32 159/ 3739)	Without Intervention. Stepwise logistic regression, with odds ratio	22% of nurses reported exposure to violent events of patients or relatives, where the highest prevalence was in the sectors: psychiatric, geriatric units and emergency. Nurses who reported exposure to violence had higher levels of job stress and greater intentions to leave the nursing profession or change of employer. Nurses who worked at night were more exposed to violence and professional stress.
Laschinger *et al.* 2012 Canada	This is a descriptive, cross-sectional study. Understanding occupational stress of newly graduated nurses	**420ᵃ**	The theoretical model of worklife from demands of labor resources. Chi-square test, t-test.	The work demands were related to fatigue and mental health problems Labor resources were predictors of greater engagement at work. The personal resource were predictive of professional stress and engagement at work. These factors combine to influence professional stress experiences, engagement at work, mental health and results in the work of newly graduated nurses

ᵃDid not report the sex of nursing professionals who participated in the study

DISCUSSION

Nursing staff members are involved in different aspects of health care in which the traditional care model predominates, giving priority to work demands in detriment of the subjective nurses and patients' needs [30]. The nursing care process is often centered in the individual's body and health protection, with no ties to the social, historical, cultural, economic and singular aspects of the subject receiving the care. Care also occurs in the form of the knowledge transmission and information aimed at changing the patients' behavior. This understanding of the nursing work process distanced nursing staff members from concerns regarding their own health and their role as subjects that also require care [31].

The relationship a healthcare professional establishes with oneself and the process of knowing oneself influences the way by which one perceives oneself as a subject that also needs care, thereby affecting the development of actions directed at self-care [32]. Nurses in open sectors generally deal directly with the public and therefore experience higher levels of stress in comparison to those who work in closed units [33]. Factors associated with stress include the patients' impatience, irritated accompaniers, intolerant physicians, child and emergency care in two sectors at the same time [34]. Moreover, the excessive hourly work load hinders having a social life and enjoying recreational activities, thereby contributing to the physical and mental burden of nursing staff members and exerting a negative impact on both life quality and work performance [33].

Psychological suffering among nursing staff members has been related to the characteristics of the labor organization, work process and patient's specificity. Factors associated with psychological suffering include little autonomy in the decision-making process, little recognition of the importance of their work, inadequate continued training program as well as a lack of material and human resources [2]. Moreover, exposure to physical and verbal aggression, a lack of job security and low pay contribute to problems such as stress, cardiovascular alterations and sleep disorders [35]. Thus, nurses experience different violence forms of a physical and psychological nature that negatively affect their work performance and health [36].

The demands of the work process of the nursing staff require specialization, technical-scientific knowledge, leadership skills, discernment, responsibility and clinical practice, which places considerable pressure on these healthcare professionals [37]. Moreover, bureaucratic activities, the constant contact with death and human suffering, difficult family relations, the lack of recognition on the part of supervisors and administrators, the lack of encouragement for continued education and the lack of institutional strategies to minimize the physiological and psychological consequences to nurses, patients and family are risk factors for mental illness among of the nursing staff

members [37].

Mental illness stemming from stress in the workplace depends on individual aspects and one's relationship with this environment [38, 39]. The physical symptoms involved in mental illness and a reduction in productivity include musculoskeletal disorders, which are generally associated with chronic pain and disability [40], tachycardia, insomnia, insecurity, anxiety, weariness [41], headache, sensation of fatigue and pain in the lower limbs [34]. Exposure to continuous stress leads the organism to exhaustion and contributes to the emergence of opportunistic diseases; thus, physical stress leads to psychological stress and *vice versa* [34]. Factors associated with the nursing staff's work include physical and emotional aspects, and pain, with repercussions regarding work performance and life quality [3]. Thus, knowledge on work-related factors that affect the mental health of nursing staff members is indispensable, as the quality of health care depends on healthy, motivated staff members.

Moreover, care quality and staff members productivity of staff members under stress or with occupational diseases are compromised, leading to high rates of absenteeism and being on leave from work due to health reasons [42].

The working conditions and health of the nursing staff underscore the need for changes in the organization and work process, as well as the responsibility of occupational nurses to develop strategies aimed at factors associated with the work process of this team that affects their mental health [43]. Thus, there is an important relationship between occupational risks and the complexity level of symptoms and diseases stemming from the work process of the nursing staff as the kind of the work environment and the way these healthcare professionals react to the interaction of all these factors [44]. Furthermore, consumption of psychoactive substances causes ill adaptation to the stressor with dysfunction in social and work activities [45].

The theories' choice to guide nursing practices provides scientific support to the care focus and the evaluation of interventions [46]. Interpersonal approaches include psychoeducation about the patient's role, formulation of the problems from an interpersonal perspective, exploration of options for changing dysfunctional behavior pattern [45]. Considering the findings of the present study, we suppose that high level of perceived job satisfaction could be related to the "community centered model" in mental health care services. Similar studies should be conducted by including different types of mental health organizations, such as psychiatric hospitals, to explore the differences [47].

The planning of interventions directed at health problems stemming from the work process of the nursing staff requires a diagnostic assessment. According to the organic law of Health n. 8080/90 of 19 September 1990 [48], an action that aimed the mental's health prevention and the promotion of occupational health should be part of any healthcare program directed at the nursing staff.

Thus, strategies for protecting the nursing staff's health should address three health care levels: basic (prevention of occupational risks and mental health promotion), moderate complexity (direct care of the problem) and high complexity (follow up and assistance to return to the workforce).

CONCLUSION

The scientific evidences on the mental health and work process of the nursing staff were identified: mental health risk factors, the relationship between mental illness and both physical symptoms and productivity related to work activities as well as feeling and perceptions of the nursing staff members regarding the work process and their mental health. The risk factors identified were work-related accidents, violence in the workplace, the physical and mental demands of the job, excessive work activities, work pressure, poor relationships with the nursing team and administrators and individual psychological characteristics.

The findings demonstrate that mental illness causes physical symptoms and lowers productivity, with repercussions to the nurses' lives of nurses and their family/social relations. Thus, mental health, occupational health and the work process are interrelated and can influence one another in a positive or negative fashion. The strategies identified to preserve the nursing's staff mental health include the training of communication skills, emotional intelligence and participative management.

This study provides a better understanding of the nursing staff's mental health complexity, demonstrating that the work process of these healthcare professionals involves peculiarities that expose nurses to the risk of physical and mental disorders. This study also highlights the importance of occupational nurses and their work regarding the health care of their work teams.

The nurse's work need to understand the problems' complexities of mental health and substance use among nursing

workers to recognize, identify and take care of workers at risk, providing adequate mental health care. Although this theme has gained increasing interest from researchers, proving that all these factors contribute to the risk to mental health of nursing professionals, the protective measures and care are being neglected by managers in both the private network, the public network. The health of nursing workers is another challenge for this profession that needs to be taken care of and should be careful.

AUTHORS' CONTRIBUTIONS

SLS, EBS, MDCL, participated in the manuscript revision, assessing the overall structure of the study since first time. SCV, ECOR, JJCN participated in the bibliographic research, articles selection, and manuscript editing, figures and tables creation, manuscript editing. LBSV e MBF participated in the assessment of the overall structure of the final form of study. All research time participated in the discussions about the manuscript revisions, and all approved the manuscript final version to submit to journal.

CONFLICT OF INTEREST

The authors confirm that this article content has no conflict of interest.

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