

Review Article

A 'New Pandemic' at Hand: Burnout of Nursing Staff

Dimitrios Theofanidis RN, MSc, PhD

Associate Professor, Department of Nursing, International Hellenic University, Thessaloniki, Greece

Athanasios Boukas, RN, MSc

Staff nurse, PAPAGEORGIOU General Hospital, Thessaloniki, Greece

Antigoni Fountouki, RN, MSc, PhD(c)

Lecturer, Department of Nursing, International Hellenic University, Thessaloniki, Greece

Correspondence: Dimitrios Theofanidis, Ierosolimon 21, Kalamaria, 55134, Thessaloniki, Greece

Email: dimitrisnoni@yahoo.gr

Abstract

Background: The main risk factors for the occurrence of burnout in nurses include difficult working conditions prevailing in a hospital premise and complex relationships that may develop with other staff or patients. Caring for patients is a truly burdensome task that puts substantial physical and psychological pressure on nurses.

Objective: the aim of this critical review is to elaborate on the escalating phenomenon of nursing burnout and the factors associated with it across a variety of health care systems and to identify a common sequence that explains the phenomena in routine clinical terms and within contemporary practice.

Methods: For this review's needs, a critical search was undertaken in MEDLINE, CINAHL, and PsycINFO. Both quantitative primary empirical studies and qualitative which examined associations between burnout and work-related factors in the nursing workforce. Articles included were published either in English or in Greek, predominately within the last decade.

Results: There are four main elements that are highly associated with nursing burnout. These factors include Effects of burnout on nursing staff, Symptoms of burnout, Quality of patient care and Prevention of burnout. These can be found in table 1 together with their sub-categories. These will be further elaborated upon and critically appraised in the next section, i.e. discussion.

Discussion: Nursing burnout has a direct effect on the care provided for patients and studies report that high emotional exhaustion, high depersonalization and low personal goals result in poor quality of care provided to patients. Achieving personal goals is related to better quality of care and emotional exhaustion results in a low quality of care provided by the nursing staff.

Conclusions: As the nursing workforce represents the largest section within health care workers and given their valuable input as recently proven during the COVID-19 pandemic, and since the nurse workforce is predominantly female and married, their domestic responsibilities on top of a highly demanding shift work can only increase their overall burden and risk of burnout.

Key words: burnout, nursing force, risk factors

Introduction

Workplace risk factors, both internal and external increase an individual's chance of developing an adverse condition or a severe psychopathological state. Factors that contribute to workplace problems and burnout have been the subject of extensive studies around the world (Maslach & Leiter, 2016).

Burnout is usually found in professional environments of all professional groups, such as civil servants, nurses, educators and many others who may experience a range of burnout symptoms from moderate to severe. Although burnout occurs in all professional groups, it is most noticeable among professionals whose work includes ongoing demands but also intense interaction with people who have

physical and emotional needs such as found within the nursing profession (Valente et al., 2011).

The main risk factors for the occurrence of burnout in nurses include difficult working conditions prevailing in a hospital premise and complex relationships that may develop with other staff or patients. Caring for patients is a truly burdensome task that puts substantial physical and psychological pressure on nurses (Serin and Balkan, 2014). Patients usually have high demands and expectations of nurses, while nurses may not have the ability or the means, due to working conditions, to fulfill all patients' expectations. The combination of these factors often put nurses at high risk for physical and mental conditions, including burnout (Wu et al., 2021).

Although most scholars suggest that that burnout develops gradually over time, and can be considered as an escalating process, it is also relevant to consider gender differences in the development of burnout as the onset of this syndrome might be different for men and women, and hence, the early burnout signals may differ for men and women. Thus, globally, there is a vivid current debate whether in general working women can be expected to be more at risk for burnout than men. As generally perceived, women have a higher risk of this, due to multiple life tasks, i.e. professional, domestic and mothering roles, thus, women report a higher prevalence of work-related fatigue than men (Mudallal et al., 2017).

Unfortunately, there is still a considerable lack of clarity about the causal sequence of the three key-burnout dimensions i.e. emotional

exhaustion, depersonalization and reduced personal accomplishment. A good understanding of the etiology and development of burnout though, could facilitate the early recognition and subsequent treatment of the condition (Shah et al., 2021; Al-Ma'aitah et al., 1999).

Aim: the aim of this critical review is to elaborate on the escalating phenomenon of nursing burnout and the factors associated with it across a variety of health care systems and to identify a common sequence that explains the phenomena in routine clinical terms and within contemporary practice.

Methods

For this review's needs, a critical search was undertaken in MEDLINE, CINAHL, and PsycINFO. Both quantitative primary empirical studies and qualitative which examined associations between burnout and work-related factors in the nursing workforce. Articles included were published either in English or in Greek, predominately within the last decade. Key words used were: burnout, nursing force, risk factors in combinations 'of' and 'or'.

Findings

There are four main elements that are highly associated with nursing burnout. These factors include *Effects of burnout on nursing staff*, *Symptoms of burnout*, *Quality of patient care and Prevention of burnout*. These can be found in table 1 together with their sub-categories. These will be further elaborated upon and critically appraised in the next section, i.e. discussion.

Table 1: factors that predispose nurses to burnout

| <i>Effects of burnout on nursing staff</i> | <i>Symptoms of burnout</i> | <i>Quality of patient care</i> | <i>Prevention of burnout</i> |
|--|----------------------------|--------------------------------|-----------------------------------|
| Staff Performance | Physical symptoms | | <i>Burnout and Financial Cost</i> |
| | Psychological symptoms | | |
| | Behavioral symptoms | | |

Discussion

Effects of burnout on nursing staff

The three components of burnout are emotional exhaustion, depersonalization and reduced professional achievements (Maslach et al., 2001). The emergence of either one or two or all three of these elements in nurses leads to a decrease in their performance and productivity, this has a significant effect on the quality of life of workers and care of patients, with what this ultimately implies for the safety of patients (Keeley, 2018).

Staff Performance

Burnout is usually seen as a negative response of a person exposed to prolonged work stress, which in turn can affect job satisfaction and often productivity and performance (Vanypere et al., 1992). Performance of staff is influenced by poor work satisfaction, recognized as a factor contributing to high levels of burnout among nurses (Halbesleben, 2006). Reduced performance and low satisfaction from work due to burnout, results in increased intention of staff to leave the profession (Aiken et al., 2002).

Poor health status and lack of sleep were found in studies to affect nursing performance and productivity. According to Rudman and Gustavsson (2011), nurses who had already had health problems before entering the profession were more likely to experience intense burnout when they started working in shiftwork. Moreover, Khamisa et al. (2016) found that emotional exhaustion is a predictive factor of general health.

As regards to sleep quality, it was found to be both an important predictor of burnout and a result of burnout per se (Lupo et al., 2021). Laschinger et al. (2015) suggest that health-related burnout can result in mental health problems in nurses. Symptoms of depression are a predictive factor of both depersonalization and emotional exhaustion, which implies that depression is strongly associated with burnout levels (Johnson et al., 2018).

Also, low job satisfaction has been associated in many studies with burnout with some scholars

regarding it as a common early predictive factor (Akman et al., 2016, Liu and Aunguroch, 2018). Thus, the higher the level of satisfaction the lower the levels of burnout. Laschinger et al., (2016) claim that emotional exhaustion significantly affects the intentions of employees, exacerbating further dissatisfaction at work. According to studies by Boamah et al. (2017) and Laschinger (2016), job discontent was associated with emotional exhaustion and cynicism; also, several studies reported a correlation of emotional exhaustion alone with low job satisfaction (Khamisa et al., 2016, Laschinger et al., 2001, Dutra et al., 2019).

In cases where high levels of emotional exhaustion have been recorded in nursing, they were more likely to be absent from work due to reported illness. Generally emotional exhaustion is related to increased absence of nurses from work according to Friganović et al., (2019) and more generally to absence due to psychological problems, according to Chen and Meier (2021).

With regard to abandoning the profession, Estry-Behar et al. (2008) found that the higher the level of burnout, the greater the intention to leave the job, while Laeeque et al. (2019) in their study, reported that burnout is related to intention to retire early. Two studies found a correlation of emotional exhaustion with intention to abandon work (Dutra et al. 2019, Marques-Pinto et al. 2018). Similarly, Leiter (2021) found that cynicism is directly related to the intention of workers to leave their jobs. While in the Boamah and Laschinger survey (2016), emotional exhaustion and cynicism was found to be correlated with the intention of abandoning the profession.

Symptoms of burnout

Burnout is a syndrome created by stressful situations at work, with several implications for the well-being and health of workers. The effects of burnout affect not only the physical condition of the person, but also his behavior at work and his social life (Kim et al., 2021). Symptoms of burnout are grouped in psychological, behavioral and physical.

Common physical symptoms of burnout include: headaches, gastrointestinal and respiratory problems, elevated cholesterol levels, weight and blood pressure changes (Kitaoka-Higashiguchi et al., (2009), type II diabetes (Melamed et al, 2006), coronary artery disease occurrence (Toker et al., 2012), sexual dysfunction and musculoskeletal pain (Armon et al., 2014).

Psychological symptoms include: depression (Schonfeld and Bianchi, 2016), insomnia (Bridgeman et al., 2018), apathy, stress, boredom, feeling of futility, negative mood, irritability, decreased confidence, suspiciousness and irritation (Bridgeman, et al., 2018).

Behavioral symptoms include: reduced work performance, drug consumption, lack of enthusiasm for work, increased family conflict, job mania, increased complaints about work, inability to concentrate (Bridgeman et al., 2018), frequent injuries (Ahola et al., 2013) and increased levels of absence (Borritz et al., 2010).

Quality of patient care

Nursing burnout has a direct effect on the care provided for patients. Nantsupawat et al. (2016) report that high emotional exhaustion, high depersonalization and low personal goals result in poor quality of care provided to patients. Van Bogaert et al., (2014) report that achieving personal goals is related to better quality of care. Laschinger et al., (2009) and Van Bogaert et al. (2009) report that emotional exhaustion resulted in a low quality of care provided by the nursing staff.

Teng et al. (2009) found that emotional exhaustion, cynicism and depersonalization - components of burnout - contribute negatively to patient safety levels and the productivity of nursing staff. The study concludes that emotional stability leads to better and more correct stress management and improved problem solving. Van Bogaert et al. (2014) report that the emotional exhaustion of nurses is

linked to verbal assaults on both patients and members of their families.

Nantsupawat et al. (2016) reported that emotional exhaustion, depersonalization and reduced professional achievements predicted errors in the administration of medicines by nurses. Montgomery et al. (2021) also added that nurses' burnout is an important factor in predicting medication errors.

Van Bogaert et al. (2014), associated emotional exhaustion with rising hospital infections as high levels of emotional exhaustion and depersonalization of nurses are important warnings for developing infections in patients (Nantsupawat et al., 2016). Cimoitti et al. (2012) included 7076 nurses in 161 U.S. hospitals. Their study showed that burnout was associated with an increase in nosocomial infections. The increase in infections was directly related to burnout of the nurses, the latter resulting from the high workload. The same authors state in their study that when burnout was not severe and there was less strain, a significantly lower number of infections were recorded.

In two studies, patient falls were correlated with the nurses' sense of depersonalization (Nantsupawat et al., 2016, Van Bogaert et al., 2014) whereby in both cases, it was found to be an important predictor. Halbesleben et al. (2008), in a study involving ICU nurses and surgeons found that due to the burnout of nurses, the safety of the patients was significantly compromised. The investigation showed that burnout led to a failure to report errors or omissions.

Nursing-patient ratio and patient mortality, nursing burnout and work dissatisfaction was examined in a 2002 study in the United States (Aiken et al, 2002). Where sub-staffing of hospital units was recorded, high rates of emotional exhaustion were also recorded. It also emerged that there was a risk of high mortality among patients, which was a consequence of the poor staff-patient ratios.

Prevention of burnout

According to Gascon et al. (2013), in order to prevent burnout among healthcare workers, prevention plays a very important role. Preventive actions concern both changes in the working environment and tactics that enhance the ability of workers to cope with stressful situations. Preventive tactics are classified as:

- Primary - preventive measures (prevention of burnout),
- Secondary measures (early burnout recognition and intervention) and
- Tertiary measures (response to consequences, rehabilitation and rectification).

First, primary prevention measures are about changes in the working environment, both organizational and administrative. Secondary measures to prevent burnout are aimed at the education and training of workers. Tertiary measures are aimed at significantly reducing burnout in healthcare workers per se (Gascon et al. 2013).

Bakhuys et al. (2020) report that the identification and treatment of a workplace problem significantly contributes to the reduction of burnout and decreased work stress. The improvement of the ability of workers to perceive and cope with stress can be achieved through appropriate training. At the same time, procedures such as better and fairer redistribution of workload, breaks, prioritization of tasks, evaluation of physical risks in workplaces can help to reduce, if not eliminate, work stress and thus reduce burnout.

Gascon et al. (2013) and Burton et al., (2020) in their studies say that frequent meetings with supervisors to solve problems and issues at the workplace and participation in social events, can reduce alienation in the work environment. At the same time, they say that flexible working hours, worker support (child care, transport) can increase the positive interaction between work/home/family.

Sullivan et al. (2022) states that poor emotional support of employees implies increased periods of absence from work due to illness and lower

productivity. Therefore, an opposite situation, i.e. high emotional support, would bring the opposite effect.

Ruotsalainen et al. (2008) state that organizational interventions in health care can reduce occupational stress in workers. Interventions aimed at preventing burnout syndrome through improving the management of interpersonal relationships in mental health workers have shown positive results and a decrease in the level of their depersonalization (Scarnera et al., 2009).

Burnout and Financial Cost

The main causes of high attrition and early retirement are mental health problems and other stress related disorders. At the same time, mental health-related problems are associated with lengthy absence from work, poor health and low occupational production capacity. According to Tennant (2001) high risk groups of workers exhibiting depression and burnout contribute significantly to reduced efficiency and productivity, while transmitting negativity to other members of the group.

The financial cost of burnout can be direct or indirect. The formal includes increased job vacancies, reduced productivity, and the additional costs of hiring new workers, which may require considerable time to be full members of the working team and produce accordingly. Indirect costs relate to the risk of 'infecting' other workers, thus, the disruption caused to the workforce as a whole.

According to WHO (2006) low quality of workers health, as well as a reduction in the workers ability to work, can bring about losses of between 10% and 20% of the GDP of a national economy.

Although there are no exact correlations between economic losses and the phenomenon of burnout, the relationship between burnout and absenteeism has been identified in some surveys. Williams and Normand (2003) in their study state that the Canadian Policy Research Network estimates that absence from work due to stress costs about \$3.5 billion per year. McConnell (2010) in Australia states that 1.5

million workers suffer from some kind of depressive disorder, due to high levels of stress at work, with the cost of up to \$8,000 per person per year. In countries that are between developing and developed states, such as Russia, changes in 'traditional risks' (biological and physical) have caused a shift in costs due to burnout risk (Iushkova et al., 2008).

Conclusions: Professional burnout is a threat not only to the nursing profession but also a major risk to the health of the citizens in many countries. Therefore, estimating nursing burnout and associated factors is vital for addressing the causes of burnout and improvising practical and efficient ways of tackling it. Low staffing ratios, lack of communication between clinicians, poor leadership and lack of organizational infrastructure, i.e. inadequate working environments for nurses, are associated with high levels burnout.

As the nursing workforce represents the largest section within health care workers and given their valuable input as recently proven during the COVID-19 pandemic, and since the nurse workforce is predominantly female and married, their domestic responsibilities on top of a highly demanding shift work can only increase their overall burden and risk of burnout.

Furthermore, given that the nurses experience significant stress, anxiety, and physical effects related to their work, these factors have been amplified during the current pandemic, placing the nurse workforce at a significant risk of increased strain, resulting in increased attrition and ultimately at severe nursing shortages globally.

References

- Ahola K, Salminen S, Toppinen-Tanner S, Koskinen A, Väänänen A. Occupational burnout and severe injuries: an eight-year prospective cohort study among Finnish forest industry workers. *J Occup Health.* 2013;55(6):450-7.
- Aiken L, Clarke S, Sloane D, Sochalski J, Silber J. Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA.* 2002;288(16):1987-1993
- Akman O, Ozturk C, Bektas M, Ayar D, Armstrong MA. Job satisfaction and burnout among paediatric nurses. *J Nurs Manag.* 2016 Oct;24(7):923-933.
- Al-Ma'aitah R, Cameron S, Armstrong-Stassen M, Horsburgh M. Predictors of job satisfaction, turnover, and burnout in female and male Jordanian nurses. *Can J Nurs Res.* 1999;31(3):15-30.
- Armon G, Melamed S, Toker S, Berliner S, Shapira I. Joint effect of chronic medical illness and burnout on depressive symptoms among employed adults. *Health Psychol.* 2014 Mar;33(3):264-72.
- Bakhuys Roozeboom MC, Schelvis RMC, Houtman ILD, Wiezer NM, Bongers PM. Decreasing employees' work stress by a participatory, organizational level work stress prevention approach: a multiple-case study in primary education. *BMC Public Health.* 2020 May 13;20(1):676.
- Boamah SA, Laschinger H. The influence of areas of worklife fit and work-life interference on burnout and turnover intentions among new graduate nurses. *J Nurs Manag.* 2016 Mar;24(2):E164-74.
- Boamah SA, Read EA, Spence Laschinger HK. Factors influencing new graduate nurse burnout development, job satisfaction and patient care quality: a time-lagged study. *J Adv Nurs.* 2017 May;73(5):1182-1195.
- Borritz M, Christensen KB, Bultmann U, Rugulies R, Lund T, Andersen I, Villadsen E, Diderichsen F, Kristensen TS. Impact of burnout and psychosocial work characteristics on future long-term sickness absence. Prospective results of the Danish PUMA Study among human service workers. *J Occup Environ Med.* 2010 Oct;52(10):964-70.
- Bridgeman PJ, Bridgeman MB, Barone J. Burnout syndrome among healthcare professionals. *Am J Health Syst Pharm.* 2018 Feb 1;75(3):147-152.
- Burton M, Caswell H, Porter C, Mott S, DeGrazia M. Moral Distress: Defined and Described by Neonatal and Pediatric Critical Care Nurses in a Quaternary Care Free-Standing Pediatric Hospital. *Dimens Crit Care Nurs.* 2020 Mar/Apr;39(2):101-109.
- Chen C, Meier ST. Burnout and depression in nurses: A systematic review and meta-analysis. *Int J Nurs Stud.* 2021 Dec;124:104099.
- Cimiotti JP, Aiken LH, Sloane DM, Wu ES. Nurse staffing, burnout, and health care-associated infection. *Am J Infect Control.* 2012 Aug;40(6):486-90.
- Dutra HS, Guirardello EB, Li Y, Cimiotti JP. Nurse Burnout Revisited: A Comparison of

- Computational Methods. *J Nurs Meas.* 2019 Apr 1;27(1):E17-E33.
- Estryn-Behar M, van der Heijden B, Camerino D, Fry C, Le Nezet O, Conway PM, Hasselhorn HM; NEXT Study group. Violence risks in nursing--results from the European 'NEXT' Study. *Occup Med (Lond).* 2008 Mar;58(2):107-14.
- Friganović A, Selić P, Ilić B, Sedić B. Stress and burnout syndrome and their associations with coping and job satisfaction in critical care nurses: a literature review. *Psychiatr Danub.* 2019 Mar;31(Suppl 1):21-31.
- Gascon S, Leiter MP, Andrés E, Santed MA, Pereira JP, Cunha MJ, Albesa A, Montero-Marín J, García-Campayo J, Martínez-Jarreta B. The role of aggressions suffered by healthcare workers as predictors of burnout. *J Clin Nurs.* 2013 Nov;22(21-22):3120-9.
- Halbesleben JR, Wakefield BJ, Wakefield DS, Cooper LB. Nurse burnout and patient safety outcomes: nurse safety perception versus reporting behavior. *West J Nurs Res.* 2008 Aug;30(5):560-77
- Halbesleben JR. Sources of social support and burnout: a meta-analytic test of the conservation of resources model. *J Appl Psychol.* 2006 Sep;91(5):1134-45.
- Iushkova OI, Kuz'mina LP, Poroshenko AS, Kapustina AV. [Features of overexertion formation due to high psychoemotional strain and shift work]. *Med Tr Prom Ekol.* 2008;(4):1-8.
- Johnson J, Hall LH, Berzins K, Baker J, Melling K, Thompson C. Mental healthcare staff well-being and burnout: A narrative review of trends, causes, implications, and recommendations for future interventions. *Int J Ment Health Nurs.* 2018 Feb;27(1):20-32
- Keeley JW, Gaebel W, First MB, Peterson DL, Rebello T, Sharan P, Reed GM. Psychotic disorder symptom rating scales: Are dichotomous or multi-point scales more clinically useful?-An ICD-11 field study. *Schizophr Res.* 2018 Dec;202:254-259.
- Khamisa N, Peltzer K, Ilic D, Oldenburg B. Work related stress, burnout, job satisfaction and general health of nurses: A follow-up study. *Int J Nurs Pract.* 2016 Dec;22(6):538-545.
- Kim Y, Lee E, Lee H. Association between workplace bullying and burnout, professional quality of life, and turnover intention among clinical nurses. *PLoS One.* 2019 Dec 20;14(12):e0226506.
- Kitaoka-Higashiguchi K, Morikawa Y, Miura K, Sakurai M, Ishizaki M, Kido T, Naruse Y, Nakagawa H. Burnout and risk factors for arteriosclerotic disease: follow-up study. *J Occup Health.* 2009;51(2):123-31
- Laeceque SH, Bilal A, Hafeez A, Khan Z. Violence breeds violence: burnout as a mediator between patient violence and nurse violence. *Int J Occup Saf Ergon.* 2019 Dec;25(4):604-613.
- Laschinger HK, Borgogni L, Consiglio C, Read E. The effects of authentic leadership, six areas of worklife, and occupational coping self-efficacy on new graduate nurses' burnout and mental health: A cross-sectional study. *Int J Nurs Stud.* 2015 Jun;52(6):1080-9.
- Laschinger HK, Finegan J, Wilk P. New graduate burnout: the impact of professional practice environment, workplace civility, and empowerment. *Nurs Econ.* 2009 Nov-Dec;27(6):377-83.
- Laschinger HK, Read EA. The Effect of Authentic Leadership, Person-Job Fit, and Civility Norms on New Graduate Nurses' Experiences of Coworker Incivility and Burnout. *J Nurs Adm.* 2016 Nov;46(11):574-580.
- Leiter MP. Assessment of Workplace Social Encounters: Social Profiles, Burnout, and Engagement. *Int J Environ Res Public Health.* 2021 Mar 29;18(7):3533.
- Liu Y, Aunguroch Y. Factors influencing nurse-assessed quality nursing care: A cross-sectional study in hospitals. *J Adv Nurs.* 2018 Apr;74(4):935-945.
- Lupo R, Lezzi A, Conte L, Santoro P, Carvello M, Artioli G, Calabrò A, Caldararo C, Botti S, Carriero MC. Work environment and related burnout levels: survey among healthcare workers in two hospitals of Southern Italy. *Acta Biomed.* 2021 Mar 31;92(S2):e2021009.
- Marques-Pinto A, Jesus ÉH, Mendes AMOC, Fronteira I, Roberto MS. Nurses' Intention to Leave the Organization: A Mediation Study of Professional Burnout and Engagement. *Span J Psychol.* 2018 Aug 8;21:E32.
- Maslach C, Leiter MP. Understanding the burnout experience: recent research and its implications for psychiatry. *World Psychiatry.* 2016 Jun;15(2):103-11.
- Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annu Rev Psychol.* 2001;52:397-422.
- McConnell D. (2010). Do you know the true financial cost of staff burnout, high stress and low morale in the workplace? PRLOG Global Press Release Distribution.
- Melamed S., Shirom A., Toker S., Shapira I. Burnout and risk of type 2 diabetes: a prospective study of apparently healthy employed persons. *Psychosom Med.* 2006, 68(6):863-9.

- Montgomery AP, Azuero A, Baernholdt M, Loan LA, Miltner RS, Qu H, Raju D, Patricia PA. Nurse Burnout Predicts Self-Reported Medication Administration Errors in Acute Care Hospitals. *J Healthc Qual.* 2021 Jan-Feb 01;43(1):13-23.
- Mudallal RH, Saleh MY, Al-Modallal HM, Abdel-Rahman RY. Quality of nursing care: the influence of work conditions, nurse characteristics and burnout. *Int J Afr Nurs Sci.* 2017;7:24-30.
- 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.
- Rudman A., Gustavsson P., Hultell D. A prospective study of nurses' intentions to leave the profession during their first five years of practice in Sweden. *Int J Nurs Stud,* 2014, 51(4):612-24.
- Ruotsalainen J., Serra C., Marine A., Verbeek J. Systematic review of interventions for reducing occupational stress in health care workers. *Scandinavian Journal of Work, Environment & Health,* 2008, 34:169–178.
- Scarnera P., Bosco A., Soleti E., Lancioni G.E. Preventing burnout in mental health workers at interpersonal level: An Italian pilot study. *Community Mental Health Journal,* 2009, 45: 222–227.
- Schonfeld I.S., Bianchi R. Burnout and Depression: Two Entities or One? *J Clin Psychol.* 2016, 72(1):22-37.
- Serin A., Balkan M. Burnout: the effects of demographic factors on staff burnout: an application at public sector. *Int Bus Res,* 2014, 7(4):151–9.
- Shah MK, Gandrakota N, Cimiotti JP, Ghose N, Moore M, Ali MK. Prevalence of and Factors Associated With Nurse Burnout in the US. *JAMA Netw Open.* 2021 Feb 1;4(2):e2036469.
- Sullivan V, Hughes V, Wilson DR. Nursing Burnout and Its Impact on Health. *Nurs Clin North Am.* 2022 Mar;57(1):153-169. doi: 10.1016/j.cnur.2021.11.011.
- Teng C.I., Chang S.S., Hsu K.H. Emotional stability of nurses: impact on patient safety. *Journal of Advanced Nursing;* 2009, 65(10):2088–2096.
- Tennant, C. Work-related stress and depressive disorders. *Journal of Psychosomatic Research,* 2001, 51: 697–704.
- Toker S., Biron M. Job burnout and depression: Unraveling their temporal relationship and considering the role of physical activity. *Journal of Applied Psychology,* 2012, 97(3), 699–710.
- Valente, L. E., Truzzi, A., Souza, W. F., Alves, G. S., Alves, C. E., Sudo, F.K. Health self-perception by dementia family caregivers: Sociodemographic and clinical factors. *Arquivos de Neuropsiquiatria,* 2011, 69:739–744.
- Van Bogaert P, Clarke S, Vermeyen K, Meulemans H, Van de Heyning P. Practice environments and their associations with nurse-reported outcomes in Belgian hospitals: development and preliminary validation of a Dutch adaptation of the Revised Nursing Work Index. *Int J Nurs Stud.* 2009 Jan;46(1):54-64.
- Van Bogaert P, van Heusden D, Timmermans O, ranck E. Nurse work engagement impacts job outcome and nurse-assessed quality of care: model testing with nurse practice environment and nurse work characteristics as predictors. *Front Psychol.* 2014 Nov 13;5:1261
- Vanyperen N.W., Buunk B.P., Schaufeli W.B. Communal orientation and the burnout syndrome among nurses. *J. Appl. Soc. Psychol.* 1992, 22: 173–189.
- Vasconcelos EM, Martino MMF. Predictors of burnout syndrome in intensive care nurses. *Rev Gaucha Enferm.* 2018 Jun 7;38(4):e65354.
- Williams C., Normand, J. (2003). “Stress at work,” Canadian social trends . Statistics Canada.
- World Health Organization. Working together for health. http://www.who.int/whr/2006/whr06_en.pdf?ua=1. Published 2006. Accessed October 14, 2022.
- Wu X, Hayter M, Lee AJ, Yuan Y, Li S, Bi Y, Zhang L, Cao C, Gong W, Zhang Y. Positive spiritual climate supports transformational leadership as means to reduce nursing burnout and intent to leave. *J Nurs Manag.* 2020 May;28(4):804-813.