

# Occupational burnout in nurses: a concept analysis<sup>†</sup>



## Review

Jun-Fang Zeng<sup>a</sup>, Ai-Xiang Xiao<sup>b</sup>, Jun-Rong Ye<sup>b,\*</sup>, Hong-Tao Cai<sup>a</sup>, Wei-Ming Li<sup>a</sup>, Zhi-Chun Xia<sup>c</sup>,  
Si-Jue Li<sup>b</sup>, Jian-Kui Lin<sup>b</sup>

<sup>a</sup>Department of Affective Disorder, Guangzhou Brain Hospital Ringgold Standard Institution, Guangzhou, Guangdong 510370, China

<sup>b</sup>Department of Nursing Administration, Guangzhou Brain Hospital Ringgold Standard Institution, Guangzhou, Guangdong 510370, China

<sup>c</sup>Department of General Psychiatry, Guangzhou Brain Hospital Ringgold Standard Institution, Guangzhou, Guangdong 510370, China

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**Abstract:** **Objective:** This paper aims to clarify the concept of occupational burnout (OB) as well as develop appropriate methods to relieve or prevent OB in the nursing profession.

**Methods:** Walker and Avant's eight-step approach of concept analysis was applied.

**Results:** OB was defined as a chronic form of work-related stress. Accurately, it was characterized by emotional exhaustion, depersonalization/cynicism, and reduced personal accomplishment/inefficacy. Antecedents of burnout included (a) demographic characteristics; (b) chronic exposure to work-related stressors; (c) quantitative and qualitative job demands; (d) lack of job resources; and (e) personality traits. Consequences involved (a) individual's unfavorable quality of life; (b) negative impact on the organization; and (c) poor services quality. Although the Maslach Burnout Inventory (MBI) is perceived as an ideal tool to measure burnout and hence, it is used worldwide, whether this instrument fits to measure this concept for nurses has still not yet been verified and thus further research is needed.

**Conclusions:** By proposing a comprehensive definition of the concept, this analysis contributes to recognition of the process of OB of nurses. All nurses are vulnerable to OB. Hence, burnout in nursing needs to be recognized as a critical factor in the delivery of safe patient care. It proposes that the prevention of OB would be achieved through team communication training, mindfulness group, education, etc.

**Keywords:** occupational burnout • nurses • concept analysis • Walker and Avant's eight-step approach • burnout prevention

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## 1. Introduction

In recent years, the impact of occupational burnout (OB) has drawn great attention of researchers and professionals, and it has been widely studied across various

disciplines including psychology, business, education, and medical professions. High levels of OB are related to not only the employee absenteeism and turnover but also employee mental and physical health.<sup>1–3</sup> Employees who suffer from a high degree of burnout have been shown to be less productive, less creative and ultimately lead to poor quality of services.<sup>4</sup> In addition to the factors

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\* Corresponding author.

E-mail: yejunrong1580@qq.com (J. -R. Ye).

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outlined previously, OB in nursing has been revealed to have a negative impact on patients' satisfaction and medical safety.<sup>5</sup> Despite the significant impact of OB on both nurses and patients, limited attention has been caught to natural attributes of this complex concept in nursing.

"Burnout" is defined by the Collins English Dictionary as "a state of emotional exhaustion caused by the stresses of one's work or responsibilities." The Oxford English Dictionary defines burnout "as a physical or mental collapse caused by overwork or stress." However, people often confuse this term with the other words that have similar meanings such as emotional strain and compassion fatigue (CF). These terminologies are sometimes used interchangeably. Thus, further clarification of nurses' burnout is essential concerning developing appropriate coping strategies. Therefore, this concept analysis aimed to clarify the current use of OB as well as establish an operational definition of it. Additionally, it will also provide a framework for nurses so they can recognize the early symptoms that may lead to OB and develop appropriate interventions to relieve it.

## 2. Methods

English articles from 2008 to 2018 were searched through six databases, including CINAHL, MEDLINE, Business Source Complete, Health Source, Teacher Reference Center, and PsycARTICLES. Keywords were "burnout" OR "occupational burnout" OR "professional burnout" OR "burnout, occupational" OR "burnout, professional" AND "nurs\*." The references list of the identified articles was also included, and disciplines such as nursing, education, business, psychology, medicine, and other related fields were examined. Articles were selected according to whether the concept of burnout was defined or described and whether dimensions of burnout were discussed. For this concept analysis, a total of 49 articles were included.

Walker and Avant's eight-step approach of concept analysis was employed in this study.<sup>6</sup> It requires researchers to "select a concept, determine the purpose or aims of the analysis, identify all uses of the concept, determine the defining attributes, construct a model case, construct additional cases, identify antecedents and consequences, define empirical referents."

## 3. Results

### 3.1. The origin and the use of the concept

Burnout, which was employed to describe public service workers' emotional exhaustion, was originally coined

by Freudenberg in 1977.<sup>7</sup> He described burnout as a "state of mental and physical exhaustion caused by one's professional life" and defined it as something that related to front-line human service workers." Subsequently, Maslach and Jackson<sup>8</sup> defined burnout as a psychological syndrome that occurs in professionals who work with other people in challenging situations, more specifically, it is caused by individuals who cannot effectively cope with various continuous pressures at work. It was also named as burnout syndrome. To note, after analyzing a wide range of literature, burnout is defined and used within the context of several disciplines, including business,<sup>9</sup> psychology,<sup>10</sup> education,<sup>11,12</sup> and medical professions<sup>13</sup>, professional athletes,<sup>14</sup> and police.<sup>15</sup> However, burnout syndrome is more prevalent among nursing professionals.<sup>16,17</sup> Risk factors influencing nurses' burnout symptoms include workload, shifts, nursing shortage, etc. Furthermore, due to their diverse daily tasks, nurses working in oncology,<sup>18</sup> emergency department,<sup>17</sup> intensive care unit,<sup>19</sup> and mental health setting<sup>20,21</sup> are more vulnerable to burnout symptoms and likely to experience different levels of burnout. Additionally, it is reported that psychiatric nurses suffer from a higher level of burnout than non-psychiatric nursing professions.<sup>4</sup>

### 3.2. Related concepts

Related concepts are terms that have similar meanings to burnout but with subtle differences under detailed examination.<sup>6</sup> Based on the literature, related concepts for burnout which are commonly mentioned include emotional strain and CF.

#### 3.2.1. Emotional strain

Emotional strain is defined as emotional exhaustion coupling with apparent unsuccessful handling and adverse emotive responses. Emotional processing is the first response system to interact with the external environment because it coordinates and activates different physiological, cognitive, and behavioral responses to help adapt to the changes that are taking place. The literature demonstrates that emotional strain may be the most basic form of strain, preceding and developing other procedures of stress such as physiological strain.<sup>22</sup>

#### 3.2.2. Compassion fatigue

Compassion fatigue was first proposed by the nursing educator Joinson in 1992,<sup>23</sup> which is used to describe the professional incompetence of emergency department nurses caused by emotional exhaustion in their nursing work. In 1995, Figley et al.<sup>24</sup> gave the definition

of CF, which refers to the symptom that caregivers frequently and indirectly expose to traumatic events and empathize with others. As time goes by, nurses' empathy gradually decreases and then empathy fatigue occurs, which severely affects their physical and mental health, and reduces their interest and ability to empathize with others, weakening their ability to help others. Therefore, it is also known as the "cost of caring" and "secondary traumatic stress reaction (STST)." Nursing staff, as a highly stressed professional group, often suffer from secondary trauma or involved experience due to empathy involvement, such as witnessing the suffering of patients, facing the death of patients, and providing care for "trouble" patients and families while improving patient satisfaction.<sup>25,26</sup>

### 3.3. Defining attributes

Defining attributes are characteristics of a concept that appear frequently and help differentiate it from other similar or related concepts.<sup>6</sup> After examining and synthesizing the literature comprehensively, emotional exhaustion, depersonalization (cynicism), and low personal accomplishment (inefficacy) were determined to be the defining attributes of burnout. Each is discussed below.

The first attribute is *emotional exhaustion* which is a common thread present in the multidisciplinary perspectives and is the essential component and the most apparent manifestation of burnout. It is a condition which is common and problematic among service workers. Emotional exhaustion is a chronic form of fatigue after sustained depletion of emotional resources and is exhibited by a low tolerance to stress or stressful situations, lack of motivation. That results from excessive demands, prolonged exposure to stressors. It is true that exhaustion is an essential principle for burnout, but, it does not mean that it is enough when people talk about burnout.<sup>3</sup> It is important to note that exhaustion is seen as a way of dealing with overwork, showing that people are emotionally and cognitively distancing themselves from work rather than something that merely being experienced.<sup>8,27</sup>

The second attribute is defined as *depersonalization (cynicism)* which means someone attempt to distance himself (herself) from service receivers. It often ignores the qualities that make people different and brings them together.<sup>3</sup> The cynic shows a negative, callous attitude, or excessively detached responses toward people, which initially help one to cope with excessive job demands. Cynicism represents the interpersonal context dimension of burnout.<sup>8,27</sup>

The third attribute is the *low personal accomplishment (inefficacy)*, which means one's sense of

incompetence and of a lack of achievement and productivity in working with people. A work circumstance with enduring, overwhelming demands that contribute to exhaustion or cynicism is likely to erode one's sense of effectiveness. To note, owing to the lack of relevant resources, the lack of efficiency seems to be more noticeable, while overwork and the existence of social conflicts lead to exhaustion and cynicism more often.<sup>8,27</sup>

### 3.4. Operational definition

OB is defined as a chronic form of work-related stress characterized by feelings of emotional exhaustion,<sup>27</sup> depersonalization/cynicism,<sup>27</sup> and reduced personal accomplishment/inefficacy.<sup>27,28</sup>

### 3.5. Construct a model case and analysis of nurses' OB

In this concept analysis paper, the author presented a model case to demonstrate all defining attributes of the concept.<sup>6</sup>

#### 3.5.1. Model case

Robert, RN, has been a nurse in an acute mental health unit for about 10 years in a local hospital. Every day, he has to deal with many problems which are stressful ones such as aggression management, physical restraint, and help patients involuntary administration. However, Robert loves his job because he can handle these situations. In recent few months, however, Robert finds that he is physically exhausted, though he has not made any changes in his schedule. Recently, Robert is emotionally insensitive to patients care (*emotional exhaustion*), and always distanced himself from the patients and shows the indifferent and neglectful attitude toward the patients or even shouts to them (*depersonalization*). He loses his confidence and cannot finish the tasks which his head nurse asks him to do (*low personal accomplishment*).

In this case, Robert displayed symptoms of emotional exhaustion, and gradually depersonalization and finally lead to his low personal accomplishment. Therefore, all the defining attributes of burnout were portrayed in this case.

### 3.6. Construct an additional case and analysis of nurses' OB

When researchers define attributes of related concept overlap with the analyzed concepts, it is difficult to identify the most representative defining attributes. Thus, identifying a case that is contrary to a model case can help researchers enhance the identification and

clarification of the concept. According to Walker and Avant (2005), the contrary case demonstrates a clear example of not the concept.<sup>6</sup>

### 3.6.1. Contrary case

Lucia is a registered nurse working in an adult mental health unit. Despite having an emotionally challenging job, she enjoys her present position and looks forward to going to work each day. Lucia feels that she can provide adequate care that shows respect and compassion for patients even though some of them are aggressive (*failed emotional exhaustion*). She does not discriminate against patients but adopts an enthusiastic and positive attitude toward the patients and the environment (*failed depersonalization*). Moreover, she is also able to complete the tasks assigned by the nurse manager correctly and thinks that working in a mental health setting is meaningful (*failed low personal accomplishment*).

This case clearly reflects an absence of the attributes of burnout. Lucia was completely calm and did not experience symptoms of emotional exhaustion or display depersonalization as well as low personal accomplishment.

## 3.7. Identify antecedents and consequences of nurses' OB

Antecedents are those events or incidents that must exist before the occurrence of the concept, and help to clarify the attributes as well as the contextual meaning of the concept.<sup>6</sup> After a comprehensive investigation of the literature, the author of this paper identified numerous antecedents of burnout. Also, the antecedents were summarized into five principal categories:

### 3.7.1. Demographic characteristics

OB was largely influenced by demographic characteristics of nurses. These includes gender,<sup>29</sup> age,<sup>30</sup> marital status,<sup>31</sup> educational level,<sup>32</sup> years of experience,<sup>33</sup> professional title,<sup>33,34</sup> and language.<sup>34</sup>

### 3.7.2. Chronic exposure to job-related stressors

It has been found that emotional demands such as exposure to patients' suffering or death would aggravate the symptoms of nurses' burnout in nursing practice.<sup>18</sup> Additionally, verbal and physical aggression by patients is contributed to OB in clinical professions.<sup>35</sup> Furthermore, higher level burnout was prevalent among employees who work in traumatic settings, for example, psychiatric caregivers are frequently exposed to workplace

violence, patients' involuntary detentions, suicide, and the traumatic life events of psychiatric patients.<sup>28,36</sup> For work-related variables, years of experience, salary, and personal involvement are also found to be related to burnout.<sup>37,38</sup>

### 3.7.3. Quantitative and qualitative job demands

Quantitative job demands that are associated with an increased hazard of burnout include long working hours, night shifts, increased workload, and time pressures. On the contrary, qualitative job demands such as role ambiguity and role conflict increase the risk of suffering from burnout. Moreover, the study found that interpersonal conflict is positively associated with emotional exhaustion and depersonalization, and negatively correlated with personal accomplishment. Role conflict occurs when there is a need to meet conflicting needs at work, while role ambiguity occurs when there is insufficient material to do the job well.<sup>27</sup>

### 3.7.4. Insufficient external job resources

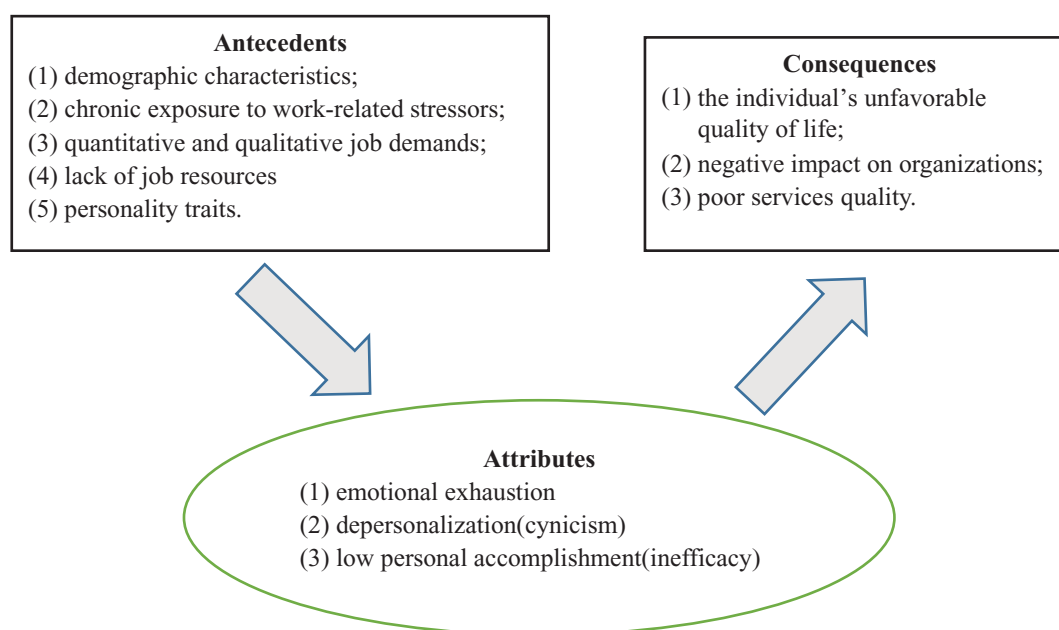
Job resources include organizational resources<sup>27</sup> (such as job control, participative management, inadequate opportunity for promotion, minimal opportunities for participating in decision-making, inadequate autonomy, and insufficient advice on job performance), social resources<sup>27</sup> (including support from nurse managers, colleagues, peers, and family), and physical resources (such as equipment, medicine, reward, and low incomes).<sup>39</sup> The most frequently researched job resources are social support and supervision.<sup>27</sup> Additionally, Rezaei et al.<sup>40</sup> announced that the employment status of nurses affects emotional exhaustion and personal achievement.

### 3.7.5. Personality traits

The big five traits include neuroticism, extraversion, conscientiousness and agreeableness, and openness. Some studies illustrated that four of the big-five personality characteristics are related to burnout (i.e., not Openness). For instance, burnout was positively associated with neuroticism, and extraversion, conscientiousness, and agreeableness were negatively related to burnout.<sup>37,28,41</sup>

### 3.7.6. Consequences

Additionally, *consequences* are actions that follow as a result of the occurrence of the concept.<sup>6</sup> There are three major consequences of burnout.



**Figure 1.** Burnout concept diagram.

*The first consequence* is the individual's unfavorable quality of life, including physical health problems (weakness and insomnia, cardiovascular disorders, musculoskeletal disorders, and impairment of the immunological system), increased mental health problems (depression, nervousness, substance abuse, or even suicide), behavioral problems (aggressiveness, irritability, and isolation), and attitude problems (hostility, indifference, and cynicism).<sup>37,42–45</sup>

*The second consequence* is the negative impact on organizations. It has been found that burnout may lead to nurses' reduced work appointment, absenteeism, turnover, lower levels of job satisfaction, and decreased employee self-confidence, placing a considerable burden on organizational functioning.<sup>1,46,47</sup>

*The final consequence* is clients, which means that burnout can lead to poor quality of services. In the nursing profession, a high level of burnout can result in the poor quality of nursing care, medical errors,<sup>48</sup> and diminishing patient safety.<sup>5</sup>

The following diagram illustrates the relationship between attributes, antecedents, and consequences for the concept of burnout (Figure 1).

### 3.8. Empirical referents

Defining empirical referents is the last step of concept analysis. Empirical referents are categories of actual phenomena that by their existence or presence reveal the occurrence of the concept itself.<sup>6</sup> Many valid and reliable instruments have been invented to measure

burnout such as the Maslach Burnout Inventory (MBI)<sup>8</sup> and the Copenhagen Burnout Inventory (CBI).<sup>49</sup> The MBI contains three dimensions, including emotional exhaustion (nine items), depersonalization (five items), and personal accomplishment (eight items). The MBI consists of seven Likert responses including the ranges 0 (never) to 6 (once a day). MBI has high Cronbach alpha reliability (the alpha of emotional exhaustion is 0.90, alpha of depersonalization is 0.79, and the alpha of personal accomplishment is 0.71). However, there is no instrument specifically to measure burnout in the context of nurses. Considering the cases presented and moving forward, it is essential to accurately assess burnout in nurses and provide the necessary support systems.

## 4. The implication for nursing and health system policy

This concept analysis adds to provide a deeper understanding of the meaning about nurses' OB. Also, the antecedents of nurses' OB, which provided overall evidence of the internal (demographic characteristics and personality traits) and external (work-related stressors, quantitative and qualitative job demands, and lack of job resources) factors that significantly impact nurses' OB as illustrated in Fig. 1. Therefore, it encourages health policymakers to carefully consider modifiable factors, especially external factors to witness the alleviation of nurses' OB.



Concerning the consequences of nurses' OB, this analysis confirms previous findings that when nurses are in a high level of burnout, their performance, individual quality of life, and the condition of their mental or physical health are decreased. Additionally, this analysis revealed that nurses' OB impacts the quality of nursing care and patient safety. Therefore, if health policymakers implement programs to relieve nurses' burnout, it would not only be beneficial to clinical nurses' health but also to patients' safety who receive nursing care.

However, efforts to alleviate OB should not ride solely on the shoulders of nurses. Interventions can include education, work scheduling change, stress management workshops, mindfulness group, team communication training, etc. Also, health institutions should encourage nurses to improve self-care ability to cope with stress such as learning relaxation skills, doing aerobic exercises, and other self-adjustment activities, which are good ways to relieve work pressure as well as reduce the level of burnout. Nurses should be regularly organized to study and make self-assessment and self-evaluation through establishing the psychological adjustment programs, continuing training programs, implementing of Beinar Group activities, and other measures, which help to guide nurses to pay attention to the maintenance of their mental health and sharp good personality.

## 5. Conclusions

In conclusion, this concept analysis provides a clear framework including the identified attributes, modal case, additional case, antecedents, consequences, and empirical references of nurses' OB using Walker and Avant's eight-step approach of concept analysis. Through a comprehensive literature review, the author has differentiated between OB, emotional strain, CF, and recognized OB as a distinct concept, which helps nurses to recognize the symptoms of OB and enables the individual to develop appropriate skills to alleviate it. All nurses are vulnerable to OB. Hence, burnout in nursing needs to be recognized as a critical factor in the delivery of safe patient care. It proposes that the prevention of OB would be achieved through team communication training, mindfulness group, education, and so forth.

## Ethics approval

This study was approved by the ethics committee of medical research fund of Guangdong Province (IRB approval number: A2018840).

## Conflicts of interest

All contributing authors declare no conflicts of interest.

## References

1. Nahrgang JD, Morgeson FP, Hofmann DA. Safety at work: a meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *J Appl Psychol*. 2011;96:71-94.
2. Vaamonde JD, Omar A, Salessi S. From organizational justice perceptions to turnover intentions: the mediating effects of burnout and job satisfaction. *Eur J Psychol*. 2018;14:554-570.
3. Konstantinou AK, Bonotis K, Sokratous M, Siokas V, Dardiotis E. Burnout evaluation and potential predictors in a Greek Cohort of mental health nurses. *Arch Psychiatr Nurs*. 2018;32:449-456.
4. Sahraian A, Fazelzadeh A, Mehdizadeh AR, Toobaee SH. Burnout in hospital nurses: a comparison of internal, surgery, psychiatry and burns wards. *Int Nurs Rev*. 2008;55:62-67.
5. Teng CI, Shyu YI, Chiou WK, Fan HC, Lam SM. Interactive effects of nurse-experienced time pressure and burnout on patient safety: a cross-sectional survey. *Int J Nurs Stud*. 2010;47:1442-1450.
6. Walker, LO, Avant, KC. *Strategies for Theory Construction in Nursing*. 4th ed. New Jersey: Pearson Prentice Hall; 2005.
7. Freudenberger HJ. Burn-out: occupational hazard of the child care worker. *Child Youth Care Forum*. 1977;6:90-99.
8. Maslach C, Jackson SE. The measurement of experienced burnout. *J Organizational Behav*. 1981;2:99-113.
9. Machado T, Sathyanarayanan V, Bhola P, Kamath K. Psychological vulnerability, burnout, and coping among employees of a business process outsourcing organization. *Ind Psychiatry J*. 2013;22:26-31.
10. Schwartzhoffer RV. *Psychology of Burnout: Predictors and Coping Mechanisms*. New York: Nova Science Publishers; 2009.
11. Wickramasinghe ND, Dissanayake DS, Abeywardena GS. Prevalence and correlates of burnout among collegiate cycle students in Sri Lanka: a school-based cross-sectional study. *Child Adolesc Psychiatry Ment Health*. 2018;12:26.

12. Al-Asadi J, Khalaf S, Al-Waaly A, Abed A, Shami S. Burnout among primary school teachers in Iraq: prevalence and risk factors. *East Mediterr Health J*. 2018;24:262-268.
13. Lo D, Wu F, Chan M, Chu R, Li D. A systematic review of burnout among doctors in China: a cultural perspective. *Asia Pac Fam Med*. 2018;17:3.
14. Bicalho CCF, Costa VT. Burnout in elite athletes: a systematic review. *Cuadernos de Psicología del Deporte*. 2018;18:89-102.
15. Trombka M, Demarzo M, Bacas DC, et al. Study protocol of a multicenter randomized controlled trial of mindfulness training to reduce burnout and promote quality of life in police officers: the POLICE study. *BMC Psychiatry*. 2018;18:151.
16. Monsalve-Reyes CS, San Luis-Costas C, Gómez-Urquiza JL, Albendín-García L, Aguayo R, Cañadas-De la Fuente GA. Burnout syndrome and its prevalence in primary care nursing: a systematic review and meta-analysis. *BMC Fam Pract*. 2018;19:59.
17. Gómez-Urquiza JL, De la Fuente-Solana EI, Albendín-García L, Vargas-Pecino C, Ortega-Campos EM, Cañadas-De la Fuente GA. Prevalence of burnout syndrome in emergency nurses: a meta-analysis. *Crit Care Nurse*. 2017;37:e1-e9.
18. Cañadas-De la Fuente GA, Gómez-Urquiza JL, Ortega-Campos EM, Cañadas GR, Albendín-García L, De la Fuente-Solana EI. Prevalence of burnout syndrome in oncology nursing: a meta-analytic study. *Psychooncology*. 2018;7:1426-1433.
19. Fernandes LS, Trevizani Nitsche MJ, de Godoy I. Burnout syndrome in nursing professionals from an intensive care unit. *Revista de Pesquisa: Cuidado é Fundamental Online*. 2017;9:551-557.
20. 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;27:20-32.
21. Yang S, Meredith P, Khan A. Stress and burnout among healthcare professionals working in a mental health setting in Singapore. *Asian J Psychiatry*. 2015;15:15-20.
22. Stubin CA. Emotional strain: a concept analysis for nursing. *Int J Hum Caring*. 2017;21:59-66.
23. Joinson C. Coping with compassion fatigue. *Nursing*. 1992;4:116-121.
24. Adams RE, Boscarino JA, Figley CR. Compassion fatigue and psychological distress among social workers: a validation study. *Am J Orthopsychiatry*. 2006;76:103-108.
25. Beck CT. Secondary traumatic stress in nurses: a systematic review. *Arch Psychiatr Nurs*. 2011;25:1-10.
26. Cetrano G, Tedeschi F, Rabbi L, et al. How are compassion fatigue, burnout, and compassion satisfaction affected by quality of working life? Findings from a survey of mental health staff in Italy. *BMC Health Serv Res*. 2017;17:755.
27. Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annu Rev Psychol*. 2001;52:397-422.
28. Dreison KC, Luther L, Bonfils KA, Sliter MT, McGrew JH, Salyers MP. Job burnout in mental health providers: a meta-analysis of 35 years of intervention research. *J Occup Health Psychol*. 2018;12:18-30.
29. Schadenhofer P, Kundi M, Abrahamian H, Stummer H, Kautzky-Willer A. Influence of gender, working field and psychosocial factors on the vulnerability for burnout in mental hospital staff: results of an Austrian cross-sectional study. *Scand J Caring Sci*. 2018;32:335-345.
30. Chaudhury S, Chakraborty R, Chatterjee A. Internal predictors of burnout in psychiatric nurses: an Indian study. *Ind Psychiatry J*. 2012;21:119-124.
31. Lin F, St John W, McVeigh C. Burnout among hospital nurses in China. *J Nurs Manag*. 2009;17:294-301.
32. 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;31:198-207.
33. Jordan K, Fenwick J, Slavin V, Sidebotham M, Gamble J. Level of burnout in a small population of Australian midwives. *Women Birth*. 2013;26:125-132.
34. van der Colff JJ, Rothmann S. Burnout of registered nurses in South Africa. *J Nurs Manag*. 2014;22:630-642.
35. Kind N, Eckert A, Steinlin C, Fegert JM, Schmid M. Verbal and physical client aggression – a longitudinal analysis of professional caregivers' psychophysiological stress response and burnout. *Psychoneuroendocrinology*. 2018;94:11-16.
36. Sjølie H, Binder PE, Dundas I. Emotion work in a mental health service setting. *Qual Soc Work*. 2017;16:317-332.
37. 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;52:240-249.
38. Blau G, Tatum DS, Ward Goldberg C. Exploring correlates of burnout dimensions in a sample of psychiatric rehabilitation practitioners: a cross-sectional study. *Psychiatr Rehabil J*. 2013;36:166-172.

39. Demerouti E, Nachreiner F, Bakker AB, Schaufeli WB. The job demands-resources model of burnout. *J Appl Psychol.* 2001;86:499-512.
40. Rezaei O, Habibi K, Arab Ghahestany D, et al. Factors related to job burnout among nurses in the Razi Psychiatric Hospital, Iran. *Int J Adolesc Med Health.* 2018;14:2-7.
41. de Looft P, Nijman H, Didden R, Embregts P. Burnout symptoms in forensic psychiatric nurses and their associations with personality, emotional intelligence, and client aggression: a cross-sectional study. *J Psychiatr Ment Health Nurs.* 2018;4:506-516.
42. Aghilinejad M, Sadeghi Z, Abdullah A, Sarebanha S, Bahrami-Ahmadi A. Role of occupational stress and burnout in prevalence of musculoskeletal disorders among embassy personnel of foreign countries in Iran. *Iran Red Crescent Med J.* 2014;16:e9066.
43. Jansson-Fröjmark M, Lindblom K. Is there a bidirectional link between insomnia and burnout? A prospective study in the Swedish workforce. *Int J Behav Med.* 2010;17:306-313.
44. Mohren DC, Swaen GM, Kant IJ, vanAmelsvoort LG, Borm PJ, Galama JM. Common infections and the role of burnout in a Dutch working population. *J Psychosom Res.* 2003;55:201-208.
45. Kaunomäki J, Jokela M, Kontio R, Laiho T, Sailas E, Lindberg N. Interventions following a high violence risk assessment score: a naturalistic study on a Finnish psychiatric admission ward. *BMC Health Serv Res.* 2017;17:26.
46. Green AE, Albanese BJ, Shapiro NM, Aarons GA. The roles of individual and organizational factors in burnout among community-based mental health service providers. *Psychol Serv.* 2014;11: 41-49.
47. Green AE, Miller EA, Aarons GA. Transformational leadership moderates the relationship between emotional exhaustion and turnover intention among community mental health providers. *Community Ment Health J.* 2013;49:373-379.
48. Shanafelt TD, Balch CM, Bechamps G, et al. Burnout and medical errors among American surgeons. *Ann Surg.* 2010;251:995-1000.
49. Kristensen TS, Borritz M, Villadsen E, Christensen KB. The Copenhagen Burnout Inventory: a new tool for the assessment of burnout. *Work Stress.* 2005;19:192-207.