The relationship between work-related psychosocial factors and burnout among Iranian nurses: Job Demand-Control-Support model

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Summary
Background: *Nursing work environment consists of a number of work-related psychosocial risk factors such as excessive workloads, lack of social support, emotional demands, job insecurity and confronting with challenging situations all of which may induce burnout. The aim of the current study was to investigate the relationship between work-related psychosocial factors and burnout among Iranian nurses.* **Methods**: *A cross-sectional study was carried out among 522 nurses. The data related to work-related psychosocial factors and burnout was gathered using Job Content Questionnaire (JCQ) and Maslach Burnout Inventory (MBI), respectively. Pearson's correlation coefficients were used to examine the relationship between work-related psychosocial factors and burnout.* **Results**: *Mean scores of the dimensions of burnout for emotional exhaustion, depersonalization, and reduced personal accomplishment were 13.6 (SD=8.6), 18.42 (SD=7.1), and 28.45 (SD= 9.15), respectively. Psychological and physical job demands were positively correlated with different dimensions of burnout while social support and job control showed negative correlation with them.* **Conclusion**: *Appropriate interventions on reducing job demands both psychologically and physically and increasing social support and job control are suggested in prevention of burnout among the studied nurses.*

Riassunto
«Relazione tra fattori di rischio psicosociale e burnout tra gli infermieri iranani: modello Job Demand-Control-Support». **Introduzione:** *L'ambiente di lavoro infermieristico comporta una serie di rischi psicosociali lavoro-correlati, per esempio eccessivi carichi di lavoro, mancanza di sostegno sociale, carichi emotivi, insicurezza sul lavoro e necessità di affrontare situazioni difficili, che possono provocare burnout. Obiettivo di questo studio è di indagare la relazione tra fattori di rischio psicosociali e burnout in una popolazione di infermieri iraniani.* **Metodi**: *È stato effettuato uno studio trasversale tra 522 infermieri. I dati relativi a rischi psicosociali e burnout sono stati raccolti utilizzando, rispettivamente, il Job Content Questionnaire (JCQ) e il Masclach Burnout Inventory (MBI). Il coefficiente di correlazione di Pearson è stato usato per analizzare la relazione tra fattori psicosociali lavoro-correlati e burnout.* **Risultati**: *I valori medi per le dimensioni di burnout per esaurimento emotivo, depersonalizzazione e ridotta realizzazione personale sono risultati, rispettivamente, 13.6 (SD=8.6), 18.42 (SD=7.1) e 28.45 (SD= 9.15).*

Le variabili di richiesta lavorativa (job demand) psicosociali e fisiche correlavano positivamente con diverse dimensioni di burnout, mentre il job control mostra una correlazione negativa. **Conclusioni**: *Per prevenire il burnout tra gli infermieri dello studio si consigliano interventi appropriati volti a ridurre il job demand psisociali e fisico e/o a aumentare il sostegno sociale e il job control da parte dei lavoratori.*

BACKGROUND

Burnout refers to a prolonged psychological response to excessive organizational, emotional and interpersonal psychological risk factors at work with no opportunity to recover physically or emotionally (38). Maslach and Jackson defined burnout as a three-dimensional syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment (34). Many studies have found a direct relationship between burnout and psychosocial work-related predictors such as job turnover (17), absenteeism at work (39), job dissatisfaction (44), productivity loss (18), and poor job performance (1). Skirrow and Hatton (2007) found six studies in their review on burnout studying the relationship between staff burnout, personal well-being and behavior. Despite some restrictions, nearly all of the studies indicated an association between staff burnout and consequences such as job dissatisfaction, intention to resign, job stress, anxiety, and depression (28).

Recently, increasing consideration has been paid to both emotional and physical well-being of nurses. Burnout has been widely studied among health care professions as the permanent interaction with patients with complex and different needs requires a high level of dedication and empathy from staff (20). Furthermore, in another study in 2017 on 684 Iranian nurses working in four teaching hospitals located in the west of Iran, using MBI, burnout syndrome was reported to be strongly associated with psychological demand and workplace support (5). So far, several studies have examined the relationship between burnout and some organizational and work-related factors in health care systems. In a recent study, some of the significant predictors of burnout were identified among Polish nurses including socio-organizational and environmental requirements, sensory and mental task requirements, job demands and job control features (24). Burnout was also associated with poor wages, conflicts with colleagues, inadequate nursing personnel, and too frequent night duties among nurses in a general Nigerian hospital (30).

Various studies have attempted to find and classify the main stressors affecting different employees, particularly nursing staff, in general and their possible relationship with burnout (7, 21, 31). In a study performed by Gray-Toft and Anderson different basic stressors were identified to exist among nursing staff including the death and suffering of patients, conflict with doctors, insufficient training, lack of social support, conflicts with colleagues, excessive workload, and uncertainty about a treatment given (16). Therefore, as several studies have suggested, burnout has been further recognized as one of the important outcomes of prolonged exposure to psychosocial risk factors, especially among health care staff (11, 12).

The subjects involving nurses' mental and physical well-being and social relations at work are vital for the provision of high quality care. Thus, it is essential to increase the understanding of the causes, effects and consequences of burnout among health care staff especially nurses. Unfortunately, little is known about the psychosocial factors in the workplace and the consequences of burnout in this field among Iranian healthcare workers particularly those working as a nurse (50). Moreover, in another study carried out by Jalilian et al., Iranian nurses showed high levels of depersonalization, general fatigue, physical fatigue, and mental fatigue, which had adverse effects on their burnout (23). A comparative study was performed in 2008 among Iranian nurses to investigate the differences between the level of burnout experienced by nurses working in different units of hospitals including internal, surgery, psychiatry and burns wards, however, the effects of workplace stressors were not specifically evaluated (45). Moreover, an extensive analysis of occupational psychosocial determinants on personal burnout and its outcomes has not been carried out yet among Iranian nurses (19).

Given these facts, to set effective preventive programs, the aims of the current study were to evaluate the relationship between perceived work-related psychosocial risk factors and burnout among Iranian nurses working in hospitals affiliated to the Shiraz University of Medical Sciences (SUMS).

METHODS

Sample and procedure

This study employed a cross-sectional design. The nurses working in educational hospitals (i.e., Namazi, Faghihi, Hafez, Mother and Child, and Ali-Asghar hospitals) affiliated to the SUMS, located in Shiraz city, Iran, were recruited in this study. Participants were considered eligible for the study if they had either worked in a full-time or part-time position as a nurse within the past five years. The questionnaires were distributed to 570 nurses, out of which 522 returned the questionnaires (response rate was 91%). The questionnaires delivery and collection process were performed in all hospital units during certain meeting sessions by the research team over a 4-week period. Simple random sampling was applied to select the hospitals, wards, and nurses from different wards (i.e., CCU, ICU, emergency, surgery, internal, neonatal, childbirth, and dialysis wards).

Data gathering tools

The required data were collected via three anonymous self-administered questionnaires including:

Demographic data gathering form

This form contained different questions about age, gender, marital status, education level, job tenure (year), average monthly income and average daily/weekly working hours.

Maslach Burnout Inventory (MBI)

Nurses' level of burnout was measured by the Maslach Burnout Inventory (MBI) (35). The MBI consists of 22 items grouped into the three subscales: (1) emotional exhaustion (9 items, i.e., the measuring feelings of being exhausted by one's work); (2) depersonalization (5 items, i.e., assessing negative, cynical attitudes toward recipients of one's service; and (3) personal accomplishment (8 items, i.e., evaluating feelings of competence and successful achievement in one's work) (15, 49). All items were scored on a seven-point frequency rating scale ranging from 0 "never" to 6 "every day" (15, 32). High scores of emotional exhaustion and depersonalization subscales and a low score of personal accomplishment subscale are indicative of burnout (32, 49). Maslach and Jackson (1986) reported internal consistencies (Cronbach's α coefficients) of the subscales ranging from 0.71 to 0.90. In addition, the validity of the three-dimensional structure of the MBI was confirmed (13, 15, 31, 36). In Iran, the reliability and validity of MBI have been evaluated and confirmed in several studies (4, 27, 33, 42).

The Persian version of the Job Content Questionnaire (P-JCQ)

The Persian version of the Job Content Questionnaire (P-JCQ) was also completed for the determination of occupational health context. This questionnaire consists of 4 different scales. These scales are decision latitude (9 items) including skill discretion (6 items) and decision authority (3 items); psychological demands (5 items); Social support (8 items) including coworker support (4 items) and supervisor support (4 items) and Physical job demands (5 items) including Physical isometric loads (2 items) and Physical exertion (3 items) (9). The participants responded to these items using a 4-point response Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree) (9, 25). The four-factor structure was confirmed in a study conducted by Choobineh et al (2011). In this study, Cronbach alpha coefficients were 0.54 and 0.58 for decision latitude and psychological job demands scales, respectively, and ranged from 0.64 to 0.85 for other scales (9). Individual scores calculations were conducted according to the Karasek's recommendations (41).

Data analysis

Data were analyzed using the SPSS software, version 20.0. The percentages of responses for each

Likert point were calculated for each item. Descriptive analyses were performed to summarize the demographic characteristics of participants and to examine the prevalence of burnout amongst Iranian nurses. Pearson's correlation coefficients between the three aspects of burnout (emotional exhaustion, depersonalization and personal accomplishment) and the four items of job content questionnaire (decision latitude, psychological demands, social support and physical job demands) was computed.

Ethical approval

Formal authorization to recruit workers was provided from the SUMS where the study was carried out. Written information about the intent and procedure of the study was given to the nurses to ensure ethical clarity. The consent forms were fulfilled by all participants taking part in the study.

Results

Table 1 shows the important demographic characteristics (i.e., gender, marital status, educational level and age) of hospital nurses, who participated in the study.

Moreover, the mean (SD) scores of the job content questionnaire subscales (27 items) are represented in table 2. In addition, the minimum and maximum attainable scores of the subscales are illustrated to make better comparison of the results. According to the represented results, among job content dimensions, nurses obtained the highest

Table 1 - Demographic characteristics of the study group (n=522)

Characteristic	Value (%)
Gender	
Female	78.4
Male	21.6
Marital status	
Single	42.7
Married	53.8
Divorced	1.3
Widow	2.2
Education level	
BSc degree	92.7
MSc or Ph.D degree	7.3
Age(years)	
Mean(SD)	29.5(7.03)
Min-max	19-62

mean scores in physical exertion compared to the other subscales of P-JCQ.

Table 3 represents the mean (SD) scores of occupational burnout subscales reported by nurses. In order to obtain a better comparison of the results, the minimum and maximum attainable scores are also shown. Based on the results, depersonalization showed higher mean score in comparison with emotional exhaustion and diminished personal accomplishment.

The correlations between job burnout (MBI subscales) and occupational health context (JCQ dimensions) are illustrated in table 4. As the table

Table 2 - The Mean scores of the Persian version of the job content questionnaire scales (27 items)

Scale	Mean (SD) Scores	Min-Max scores	Min-max attainable scores
Psychological job demands (n=5)	37.4 (5.8)	20-48	12-48
Physical job demands (n=5)	15.2 (2.7)	6-20	5-20
Physical isometric loads	6.2 (1.4)	2-8	2-8
Physical exertion	9.1 (1.6)	4-12	3-12
Social support (n=8)	23 (4.8)	8-46	8-48
Supervisor support	11.4 (4.1)	4-32	4-32
Coworker support	11.5 (1.8)	4-16	4-16
Decision latitude (n=9)	65.3 (7.6)	42-90	24-96
Skill discretion	34.3 (4.4)	18-46	12-48
Decision authority	30.9 (4.8)	16-44	12-48

Table 3 - The mean scores of occupational burnout subscales reported by nurses (22 items)

Scale	Mean (SD)	Min-Max scores	Min-max attainable scores
Emotional exhaustion (9 items)	13.1 (8.6)	0-42	0-54
Diminished personal accomplishment (8 items)	18.42 (7.1)	0-47	0-48
Depersonalization (5 items)	28.45 (9.15)	0-30	0-30

Table 4 - Pearson Correlation between scales of JCQ & MBI

Scale	Emotional exhaustion	Depersonalization	Diminished personal accomplishment
Psychological job demands	0.058	0.236*	0.187*
Physical job demands	0.163*	0.152	0.259*
Social support	-0.171*	-0.009	-0.168*
Decision latitude	-0.119*	-0.223*	-0.029

*Significant Correlation (P-value< 0.001)

shows, the results of Pearson's correlation test represented a significant positive relationship between psychological job demands and the two dimensions of depersonalization and diminished personal accomplishment. Also, the two dimensions of emotional exhaustion and diminished personal accomplishment were positively correlated with physical job demands among the nurses. Furthermore, there was negative correlation between the two dimensions of emotional exhaustion and diminished personal accomplishment with social support. The dimensions of emotional exhaustion and depersonalization were negatively correlated with decision latitude (table 4).

Discussion

The aims of the current study were to determine the relationship between burnout and work-related psychosocial risk factors among a group of Iranian nurses. The findings showed that burnout was significantly correlated with work-related psychosocial factors.

Totally, the dimension of depersonalization was higher than the two other burnout dimensions among the participants in this study. However, compared to other studies with similar aims and methodology, the mean scores for dimensions of emotional exhaustion (13.1 points) and diminished personal accomplishment (18.42 points) were lower.

For instance, in a study done on Cypriot nurses, the mean scores of 22.15 and 37.67 were reported for the above mentioned dimensions, respectively (41). Nevertheless, the studied nurses in this research reported higher mean scores (28.45 points) for dimension of depersonalization than that perceived by Cypriot nurses (8.23 points). Similarly, the results of a study performed among nurses in Brazil (51) showed higher mean scores for the dimensions of emotional exhaustion (24.5 points) and diminished personal accomplishment (30.3 points) and lower mean scores for dimension of depersonalization (9.0 points) in comparison with the current research. In another study carried out in 2015, although Polish hospital nurses reported higher mean scores for the dimensions of emotional exhaustion (20.92) and personal accomplishment (17.67 points), the mean scores for the dimension of depersonalization (6.16 points) was also much lower than the values obtained for the same dimensions in this study (24). Based on these explanations, it can be inferred that the nurses participated in this study seemed to be in a more satisfactory situation on the two dimensions of burnout including emotional exhaustion and diminished personal accomplishment but in a critical situation on the dimension of depersonalization. Based on many previous studies, This finding could be due to the inverse association between depersonalization with interest in the job and facilities of workplace among nurses in Iran rather

than demographic characteristics (3). In another study conducted on 397 critical care nurses working in eight educational hospitals in a north-western province of Iran, high risk levels of burnout and secondary traumatic stress was reported among 42% and 96% of participants, respectively. These higher burnout scores could be due to critical situation existing among nurses specifically working in critical care unit wards compared to the participants of the current study who were selected from various wards of the different hospitals (47). However, the higher scores of burnout among Iranian nurses might have been affected by some other risk factors. As an instance, Ajoodani et al. pointed out that bullying and moral distress could also be two significant predictors of burnout among hospital Iranian nurses (2).

Also, our findings revealed that all of the studied psychosocial factors were significantly correlated with at least two dimensions of burnout. On the other hand, according to our study results, psychological job demands showed a positive correlation with the dimensions of depersonalization and diminished personal accomplishment. Physical job demands also had a positive correlation with the dimensions of emotional exhaustion and diminished personal accomplishment. These findings confirm that burnout is likely to be influenced by both psychological and physical job demands which are in parallel with some of the previous studies on the evaluation of the relationship between psychological job demands and burnout (8, 11, 52).

However, based on literature, in order to make a realistic interpretation of the findings, many other aspects of the population under study should be considered. Conway et al., in 2014 assigned that lack of knowledge on socio-demographic, occupational and organizational differences may act as a barrier against implementing well-targeted interventions with the purpose of reducing psycho-social risk factors in the workplace (10). As an instance, a study performed in 2018 to compare the quality of life, psychological well-being, and emotional self-regulation between nurse and non-nurse women working in a hospital located in the center of Iran. The findings indicated that nurse women were lower than the non-nurse group in the studied variables (14). Also, an experimental study was performed with the purpose of

cognitive-behavioral intervention in 2016 in 2 educational hospitals in the southeast of Iran and the findings showed that psychological pressure has a negative effect on the mental health and competency (48). In a study on 400 nurses working in public health hospitals in Tehran (the capital of Iran) in 2017, also job burnout had a direct relationship with job stress (43). Bazazan et al. investigated the quality of life, mental health status and fatigue among 990 nurses working in 6 hospitals of Tehran in 2017 and found that fatigue and its multiple dimensions could mediate the relationship between quality of life and mental health problems (6).

Noteworthy, unlike the findings of the current study; some of the previous researches did not find any evidence of physical workload effects on burnout. For example, in a recent study conducted among nurses and physicians in Spain, none of the dimensions of burnout had significant relationship with physical workloads either statically or dynamically (24). As an instance, in a study performed on Dutch home care professionals, physical demands (e.g., working in a bending position) showed the weakest relationship with emotional exhaustion in comparison with other job demands (37).

In this study, there was a significant negative correlation between social support and the dimensions of emotional exhaustion and diminished personal accomplishment. However, the dimension of depersonalization did not show any significant correlation with social support, which was in agreement with the findings of several recent studies (11). Moreover, previous researches have concluded that increasing social support can be a helpful way to deal with burnout (1, 22, 26, 46). Based on literature, the lack of social support can lead to feeling loneliness among human service workers which may ultimately induce to occupational burnout in the workplace (22, 29). furthermore, another study on 1617 Iranian nurses working in different hospitals in Iran in 2016-2017, indicated that organizational factors like leadership style also could be considered as a significant predictor of psychological pressures i.e. job burnout and improving leadership style could contribute to decreasing nurses' job stress and intention to leave (40).

In the current study, lack of decision latitude (known also as job control) had a negative influence

on the both dimensions of emotional exhaustion and depersonalization. Lack of decision latitude (52) was also identified as one of the predictor factors of emotional exhaustion (11) and depersonalization in several previous studies (24). Lack of decision latitude has been considered as a deteriorating factor for mental health. The results of a recent study showed that low job control can be related to the intention of job leaving and depressive symptoms among healthcare workers especially nurses (46). Furthermore, there are hypotheses in literature about the potential buffering effects of job control and social support and its effectiveness in mitigating the impact of job demands on burnout (37, 46).

This research was uniquely focused on studying psychosocial factors among Iranian nurses, who had rarely been under consideration of researchers. The importance of this study would be amplified when regarding the fact that Iran is considered a developing country, where most of the healthcare workers are under a huge amount of psychological pressures, especially psychosocial risk factors. The findings of the current study, however, should be interpreted with caution as the self-reporting methodology used in this study might suffer from problems with denial, recall or deception. This problem exists for both MBI and psychosocial work-related factors questionnaires since the employees may hesitate to report truthful statements. As this study used cross-sectional design, causation cannot be inferred and its generalizability is also limited. Further research, particularly longitudinal one is required to confidentially illustrate the relationship between burnout and psychosocial work-related factors among nurses. The present study, however, seems to be unique in that it examined the number of reported burnout and its relationship with employees' psychosocial work-related parameters through using standardized measures among the Iranian nurses.

Conclusions

The two dimensions of burnout including emotional exhaustion and diminished personal accomplishment were in a satisfactory level among the nurses taking part in this study. However, a critical level of depersonalization was observed among them compared to the other nurses working in other countries. Our study findings showed that nurses' burnout experience was influenced by work-related psychosocial factors. Based on the results, while psychological and physical job demands were positively correlated with different dimensions of burnout, social support and job control showed a negative correlation with them. All in all, there are some recommendations to improve healthcare workplaces, particularly hospitals, to reduce psychological pressures like burnout among nursing staff. Implementing practical interventional programs (i.e., regular training) on reducing job demands either psychologically or physically as well as increasing social support and job control may be helpful in reducing burnout among the studied nurses. Also, awareness of work-related laws, balance between nurses' physical requirements and abilities as well as increasing job satisfaction can improve depersonalization.

References

1. Abedini R, Choobineh A, and Hasanzadeh J: Patient manual handling risk assessment among hospital nurses. Work 2015; 50: 669-675
2. Ajoudani F, Baghaei R, Lotfi M: Moral distress and burnout in Iranian nurses: The mediating effect of workplace bullying. Nurs ethics 2018; 0969733018779210
3. Amiri M, Khosravi A, Eghtesadi AR, et al: Burnout and its influencing factors among primary health care providers in the North East of Iran. PloS one 2016; 11(12): e0167648
4. Badri Gargari R: Psychological syndromes in teacher burnout and coping mechanisms. Unpublished master's thesis) Tarbiat Modares University, Tehran, Iran. 1995
5. Bagheri Hosseinabadi M, Ebrahimi MH, Khanjani N, et al: The effects of amplitude and stability of circadian rhythm and occupational stress on burnout syndrome and job dissatisfaction among irregular shift working nurses. J clin nurs 2019; May 28: 1868-1878. doi: 10.1111/jocn.14778. Epub 2019 Feb 13.
6. Bazazan A, Dianat I, Mombeini Z, et al: Fatigue as a mediator of the relationship between quality of life and mental health problems in hospital nurses. Acc Anal Prev 2019; 126: 31-36
7. Chang Y, Chan HJ: Optimism and proactive coping in

relation to burnout among nurses. J Nurs Manag 2015; 23: 401-408

8. Choobineh A, Daneshmandi H, Aghabeigi M, et al: Prevalence of musculoskeletal symptoms among employees of Iranian petrochemical industries: October 2009 to December 2012. Int J Occup Environ Med (The IJOEM) 2013; 4: 253-195-204

9. Choobineh A, Ghaem H, Ahmedinejad P: Validity and reliability of the Persian [Farsi] version of the Job Content Questionnaire: a study among hospital nurses. East Mediterr Health J 2011; 17: 335-341

10. Conway PM, Camerino D: Psychosocial working conditions in today's workplaces: towards an increased specificity in risk assessment and management. Med Lav 2014; 105: 83-84.

11. Escribà-Agüir V, Martín-Baena D, Pérez-Hoyos S: Psychosocial work environment and burnout among emergency medical and nursing staff. Int Arch Occup Environ Health 2006; 80: 127-133

12. Escribà-Agüir V, Pérez-Hoyos S: Psychological well-being and psychosocial work environment characteristics among emergency medical and nursing staff. Stress Health 2007; 23: 153-160

13. Filian E: Evaluation of burnout and its correlation with coping mechanisms in nurses of educational hospitals of Tehran [dissertation]. Tehran University of Medical Sciences 1993; 45

14. Ghadampour E, Padervan H, Hasanvand B, Hossein-Zadeh S: Comparison of the quality of life, psychological well-being, and emotional self-regulation among nurse with non-nurse women in Imam Khomeini hospital, Koohdasht City, Iran. Chronic Diseases Journal 2019: 122-127

15. Glass D, McKnight J: Perceived control, depressive symptomatology, and professional burnout: A review of the evidence. Psychology and Health 1996; 11: 23-48

16. Gray-Toft P, Anderson JG: The nursing stress scale: development of an instrument. J Behav Assess 1981; 3: 11-23

17. Gülcan C: The Relationship between Burnout and Turnover Intention among Nurses: The Effect of Psychological Demands, Decision Authority, and Social Support on Burnout and Turnover Intention: Eastern Mediterranean University (EMU)-Doğu Akdeniz Üniversitesi (DAÜ); 2015

18. Hall E: Nurse burnout in a high stress health care environment: Prognosis better than expected? MSc. Univ Otago. 2005;5:36, http://hdl.handle.net/10523/1581

19. Hamaideh SH: Burnout, social support, and job satisfaction among Jordanian mental health nurses. Issues Ment Health Nurs 2011; 32: 234-242

20. Harkin M, Melby V: Comparing burnout in emergency

nurses and medical nurses. Clinical Nursing Studies 2014; 2: 152-163

21. Hoboubi N, Choobineh A, Ghanavati FK, et al: The impact of job stress and job satisfaction on workforce productivity in an Iranian petrochemical industry. Saf Health Work 2017; 8: 67-71

22. Iliffe G, Steed LG: Exploring the counselor's experience of working with perpetrators and survivors of domestic violence. J interpers violence 2000; 15: 393-412

23. Jalilian H, Shouroki FK, Azmoon H, et al: Relationship between job stress and fatigue based on job demand-control-support model in hospital nurses. Int j prev med 2019; 10: 56. doi: 10.4103/ijpvm.IJPVM_178_17

24. Jaworek M, Dyląg A: Work-related factors and age as determinants of three burnout dimensions among Polish hospital nurses. Jagiellonian Journal of Management 2015; 1: 3349

25. Karasek RA: Job content instrument: Questionnaire and user's guide (Rev. 1.1). Los Angeles: University of Southern California. 1985

26. Keinan G, Malach-Pines A: Stress and burnout among prison personnel: Sources, outcomes, and intervention strategies. Crim Justice Behav 2007; 34: 380-398

27. Khodabakhsh MR, Mansuri P: Analysis and comparison between frequency and depth of job-burnout aspects among male and female nurses. Zahedan journal of research in medical sciences 2011; 13: 40-42

28. Kozak A, Kersten M, Schillmöller Z, Nienhaus A: Psychosocial work-related predictors and consequences of personal burnout among staff working with people with intellectual disabilities. Res Dev Disabil 2013; 34: 102-115

29. Lambert EG, Altheimer I, Hogan NL: Exploring the relationship between social support and job burnout among correctional staff. Crim Justice Behav 2010; 37: 1217-1236

30. Lasebikan VO, Oyetunde MO: Burnout among nurses in a Nigerian general hospital: Prevalence and associated factors. ISRN nursing. 2012; 2012: 402157. doi: 10.5402/2012/402157

31. Lee H-F, Yen M, Fetzer S, Chien TW: Predictors of burnout among nurses in Taiwan. Community ment health j 2015; 51: 733-737

32. Lee RT, Ashforth BE: A longitudinal study of burnout among supervisors and managers: Comparisons between the Leiter and Maslach (1988) and Golembiewski et al.(1986) models. Organ Behav Hum Decis Process 1993; 54: 369-398

33. Li J, Yang W, Liu P, et al: Psychometric evaluation of the Chinese (mainland) version of Job Content Questionnaire: a study in university hospitals. Ind health 2004; 42: 260-267

34. Maslach C, Jackson SE. The measurement of experienced burnout. Journal of organizational behavior 1981; 2(2): 99-113

35. Maslach C, Jackson SE, Leiter MP, et al: Maslach burnout inventory. Consulting Psychologists Press. Palo Alto, CA; 1986

36. McKnight JD, Glass DC:. Perceptions of control, burnout, and depressive symptomatology: A replication and extension. J Consult Clin Psychol 1995; 63: 490

37. Nie Z, Jin Y, He L, et al. Correlation of burnout with social support in hospital nurses. Int J Clin Exp Med 2015; 8: 19144

38. Okwaraji F, En A: Burnout and psychological distress among nurses in a Nigerian tertiary health institution. Afr Health Sci 2014; 14: 237-245

39. Parker PA, Kulik JA: Burnout, self-and supervisor-rated job performance, and absenteeism among nurses. J Behav Med 1995; 18: 581-599

40. Pishgooie AH, Atashzadeh-Shoorideh F, Falcó-Pegueroles A, Lotfi Z: Correlation between nursing managers' leadership styles and nurses' job stress and anticipated turnover. J Nurs Manag 2019; 27: 527-534

41. Raftopoulos V, Charalambous A, Talias M: The factors associated with the burnout syndrome and fatigue in Cypriot nurses: a census report. BMC Public Health. 2012; 12: 457

42. Rahiminia F, Amani M: Evaluation of the effect of lifestyle on job exhaustion among the nurses in governmental hospitals in Northern Khorasan with emphasis on intermediate role of psychological capital. 2014; 21(112): 1-9

43. Rashidazar S, Alimohammadzadeh K, Akhyani N: Investigation of the relationship between structural empowerment and reduction of nurses' occupational stress and job burnout (case study: nurses of public hospitals in Tehran). Rev Latinoam Hiperte 2018; 13: 547-553

44. Rosales RA, Labrague LJ, Rosales GL: Nurses' Job satisfaction and Burnout: Is there a connection? Int J Nurs Stud 2013; 2: 1

45. Sahraian A, Fazelzadeh A, Mehdizadeh A, Toobaee S: Burnout in hospital nurses: a comparison of internal, surgery, psychiatry and burns wards. Int nurs rev 2008; 55: 62-67

46. Saijo Y, Yoshioka E, Kawanishi Y, et al: Relationships of job demand, job control, and social support on intention to leave and depressive symptoms in Japanese nurses. Ind health 2016; 54: 32-41

47. Salimi S, Pakpour V, Rahmani A, et al: Compassion Satisfaction, Burnout, and Secondary Traumatic Stress Among Critical Care Nurses in Iran. J Transcult Nurs 2019; 1043659619838876. doi: 10.1177/1043659619838876

48. Sargazi O, Foroughameri G, Miri S, Farokhzadian J: Improving the professional competency of psychiatric nurses: Results of a stress inoculation training program. Psychiatry res 2018; 270: 682-687

49. Schaufeli WB, Bakker AB, Hoogduin K, et al: On the clinical validity of the Maslach Burnout Inventory and the Burnout Measure. Psychol health 2001; 16: 565-582

50. Shoorideh FA, Ashktorab T, Yaghmaei F, Alavi Majd H: Relationship between ICU nurses' moral distress with burnout and anticipated turnover. Nurs ethics 2015; 22: 64-76

51. Silva JLLd, Soares RdS, Costa FdS, et al: Psychosocial factors and prevalence of burnout syndrome among nursing workers in intensive care units. Rev Bras Ter Intensiva 2015; 27: 125-133

52. Xanthopoulou D, Bakker AB, Dollard MF, et al. When do job demands particularly predict burnout? The moderating role of job resources. J manag psychola 2007; 22: 766-786