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Original Article

Exploring the Relationship Between Burnout, Mental Health, and Psychosocial Factors Among Nurses

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Abstract

Background and aims: Nursing is a demanding profession associated with high levels of stress and burnout. In this study, a theoretical model was applied to investigate structural associations among burnout, mental health, and workplace psychosocial factors for nurses working in Isfahan province, Iran.

Methods: This cross-sectional study was conducted among 416 nurses in Iran selected using a stratified sampling method. The required data were collected using the General Health Questionnaires, Copenhagen Burnout Inventory, and Copenhagen Psychosocial Questionnaire and then analyzed by SPSS-24 and Amos-24 software, correlation tests, and structural equation modeling.

Results: Burnout was significantly correlated with poorer mental health, with the highest correlation coefficient related to the component of personal burnout ($r=0.30$, $P<0.001$). The results of the model revealed that burnout negatively impacted mental health ($\beta=0.33$, $P=0.001$) and psychosocial factors ($\beta=-0.90$, $P=0.001$). However, burnout did not have a significant indirect effect on psychosocial factors through mental health ($P=0.08$).

Conclusion: Higher burnout levels were associated with poorer mental health and adverse workplace psychosocial conditions. Accordingly, organizational interventions should focus on reducing burnout to promote mental health and psychosocial factors.

Keywords: Burnout, Mental health, Psychosocial factors, Nurses, Health personnel, Healthcare workers

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Introduction

The healthcare sector, one of the sectors directly associated with individuals' health, is in charge of improving communities' health. The study by Lu et al showed that the total number of Chinese nurses increased from 1.3 million in 2003 to 4.1 million in 2018.[1] In Iran, nurses include a significant number of healthcare system workers. Their health status can directly affect the system's performance at various levels.[2] Nurses encounter various types of stress in their workplace, including personal (e.g., patient suffering and pain and family problems), communication (e.g., conflicts with colleagues and insufficient support), and organizational (e.g., management style and role ambiguity) stress, which would have adverse effects on their health.[3] Havaei et al have shown that nurses' mental health is related to the quality of services, so the symptoms of mental health can be considered a performance criterion in the hospital.[4] Given the large population in the healthcare community, the direct influence of nursing care services on the healthcare system, and their role in patients' safety, maintaining and preserving nurses' occupational health is necessary.

Improvements in industries and technology have posed various challenges to contemporary organizations. One important challenge is burnout (occupational burnout).[5] In a meta-analysis study, Rezaei et al estimated the overall prevalence of burnout among Iranian nurses to be 36% (95% confidence interval [CI], 20–53%) in Iran.[6] In a meta-analysis study, Woo et al reported that the prevalence of burnout among nurses worldwide was 11.23%.[7] Further, nurses' burnout can negatively affect their quality of life, patient safety, quality of care, nurses' organizational commitment, nurse productivity, and patient satisfaction.[8,9] In the healthcare system, burnout is caused by various factors, such as mental and social problems, lack of support in the workplace, and unfavorable or long working shifts.[10] Numerous studies have demonstrated the negative impacts of burnout on individuals' general health and their susceptibility to depression.[11] According to research, burnout can be a

predicting factor for side effects such as sleeping disorders, long-term exhaustion, and depression.[12] Dissatisfaction with one's job and absence from work reduced patient care, intrapersonal conflicts with colleagues, physical and mental problems, unwillingness to care for patients, and, ultimately, job quitting due to illness are some occupational consequences of this syndrome among nurses.[13]

Conversely, adverse psychosocial factors are growing in workplaces. The increase in psychosocial risks is accompanied by an increased number of days missed at work due to illness and healthcare expenses over the past years.[14] Negative interactions between the employees and working conditions result in reduced quality of life, burnout, and work performance.[15] Positive interactions occur when occupational structures and conditions are balanced with human resources. Such a balance would promote employees' sense of competence and self-confidence, resulting in higher job satisfaction and motivation. This would ultimately improve health and work performance.[16] Given the diversity of these factors, some examples are cognitive and emotional demands, quality of leadership, job satisfaction, the meaning of work, work-family conflicts, and the degree of freedom at work.[17]

Few studies have examined the association between burnout and psychosocial factors in healthcare. However, a survey's statistical analysis indicated a significant association between mental health (depression and anxiety) and burnout.[18] Moreover, another study showed a significant correlation between mental disorders and burnout.[19] Further, the results of a study on nurses pointed out that psychosocial risk factors, such as emotional demands, physical demands, work speed, and role conflicts, had a significant and positive association with nurses' mental problems and burnout.[20]

Considering the importance of maintaining and improving nurses' mental health and the role of burnout in nursing care quality, the present study aims to discover associations among burnout, mental health, and workplace psychosocial factors for nurses working in Isfahan province, Iran.

Materials and Methods

Design and Population

This cross-sectional study was performed in a selected hospital in Isfahan province during the winter of 2020. The inclusion criteria included being a male or female nurse with at least two years of working experience at the hospital and being a full-time nurse. It should be noted that incomplete questionnaires were removed from the analysis. For sampling purposes, all hospital wards and the number of nurses were defined with the coordination of hospital managers. Then, according to the statistical method, the nurses were included in the study. Four hundred sixteen nurses were eventually selected to enter the study using the stratified sampling method in proportion to the volume of employees in each ward from all hospital wards (91% of the response rate of the participants). After obtaining permission from the Ethics Committee of Yazd Shahid Sadoughi University of Medical Sciences and the hospital officials, referring to the relevant departments, and considering the inclusion criteria in the study, the researchers explained the research objectives. They obtained the participants' written consent stating a willingness to participate in the study. The participants were assured of the confidentiality of the information. The questionnaire was delivered to the nurses on paper. It was explained to the nurses that there was no need to register their names. As mentioned previously, in this study, a model was utilized to evaluate structural associations among burnout, mental health, and workplace psychosocial factors for nurses. The initial conceptual model of the study is shown in Figure 1. It should be noted that the dimensions of occupational burnout and psychosocial factors are presented in the final model (Figure 2).

Research Instruments

General Health Questionnaires

A 12-Item General Health Questionnaire (GHQ-12) was used to examine participants' mental health conditions.[21] Each item was scored on a 4-point Likert-type scale, with higher scores indicating lower mental health. The convergent validity of the Persian version of this questionnaire has been confirmed, and Cronbach's alpha coefficient of the questionnaire was equal to 0.87.[22]

Copenhagen Psychosocial Questionnaire

The short version of the Copenhagen Psychosocial Questionnaire (COPSOQ) encompasses 16 dimensions and 32 items. It is scored using a five-point Likert-type scale, and its internal consistency has been calculated to be 0.75–0.89 using Cronbach's alpha.[23] Content validity index and content validity ratio were between 0.75 and 1. The results of exploratory factor analysis yielded four factors as follows:

- *Factor 1:* Predictability (items 15 and 16), rewards (items 17 and 18), quality of leadership (items 21 and 22), social support from supervisors (items 23 and 24), trust (items 28 and 29), and justice and respect (items 30 and 31)
- *Factors 2:* Emotional demands (item 5), work-family conflicts (items 26 and 27), stress (items 35 and 36), self-rated health (item 32), and burnout (items 33 and 34)

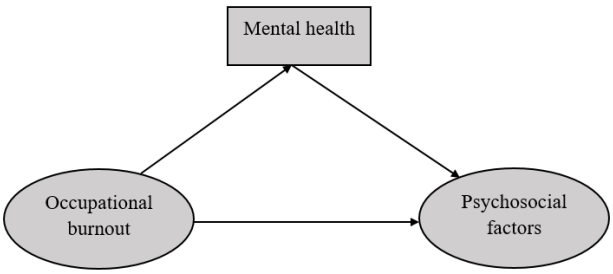

Figure 1. Conceptual Model of the Study

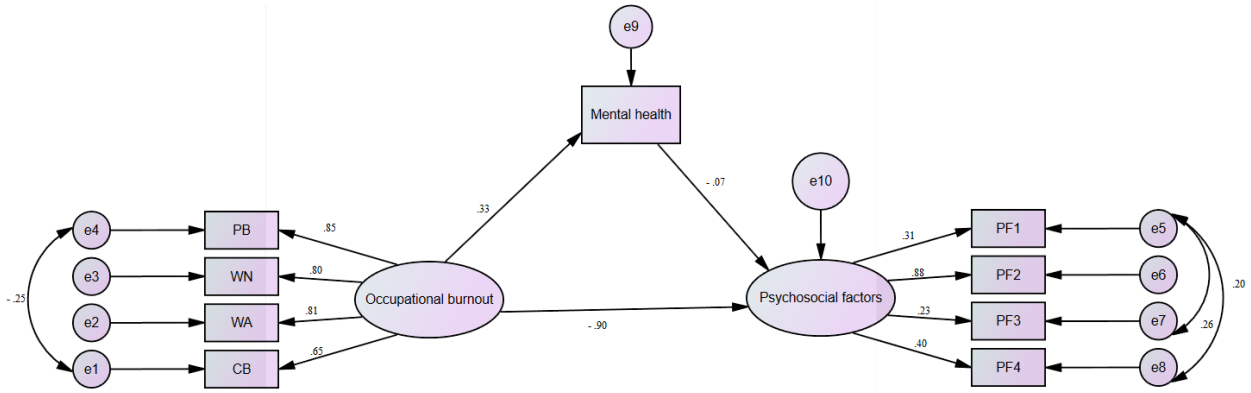

Figure 2. Hypothetical Model for Associations Among the Main Variables of the Study. *Note*. PB: Personal burnout; WN: Natural work-related burnout; WA: Work aversion-related burnout; CB: Client-related burnout; PF1: Psychosocial factors 1; PF2: Psychosocial factors 2; PF3: Psychosocial factors 3; PF4: Psychosocial factors 4

- *Factor 3:* Influence at work (items 7 and 8), meaning of work (items 11 and 12), commitment to the workplace (item 13), and role clarity (items 19 and 20)
- *Factor 4:* Offensive behavior (items 39–43)

The guiding formula of this scale was used to calculate the scores in each dimension. Each item had five options, representing Always, Often, Sometimes, Seldom, and Never (0, 1, 2, 3, and 4). Usually, scoring is converted from 0 to 100 to compare study results.

Copenhagen Burnout Inventory

Copenhagen Burnout Inventory (CBI) is one of the most recent and popular tools for measuring occupational burnout. This questionnaire includes four dimensions, namely, personal burnout, client-related burnout, natural work-related burnout, and work aversion-related burnout. CBI has been utilized in various studies to assess nurses' burnout.[24,25] The Persian version's face and construct validity, content, and structure were confirmed, and Cronbach's alpha was obtained after factor analysis of 0.84–0.89.[26]

Statistical Analysis

Demographic data, including age, gender, education, work experience, and shift status, were described using frequencies and indicators of means and standard deviations. The structural equation model was employed to examine the hypotheses. In addition, the bootstrap method was used to investigate the role of mediating variables in the inferential section of the analyses. In a good model, the chi-square/degree of freedom (DF) ratio, mean square error of approximation (RMSEA), and goodness-of-fit index/comparative fit index must be < 5, < 0.08, and > 0.9, respectively.[27] The collected data were analyzed using AMOS-24 and SPSS-24 software.

Results

This study included 416 nurses. The nurses' mean age and work experience were 36.37 ± 7.87 and 12.05 ± 7.23. Moreover, 88.7% (n = 369) had a bachelor's degree. The demographic and job information of the nurses is presented in Table 1. Further, the descriptive indicators of psychosocial factors, burnout, and mental health are provided in Table 2.

Table 1. Participating Nurses' Demographic and Job Characteristics

Characteristics	Group	Frequency	Percent
Age (year)	20-30	123	29.6
	31-40	165	39.7
	41-50	110	26.4
	>51	18	4.3
Gender	Female	359	86.3
	Male	57	13.7
Education	Associate's degree	13	3.1
	Bachelor's degree	369	88.7
	Master's degree and above	34	8.2
Work experience (year)	<5	102	24.5
	6-15	180	43.3
	16-25	114	27.4
	>26	20	4.8
Shift status	Rotating	319	76.7
	Permanent	97	23.3

Correlation of the Main Variables

The results related to the correlation between the main variables of the study are summarized in Table 3. A significant correlation was found between mental health and burnout components ($0.13 < r < 0.30$, $P < 0.05$). Thus, higher burnout was associated with worse mental health.

Structural Equation Modeling

Figure 2 shows the intensity of the associations between the variables in the final model after modification. The results indicated that the fit indices of the final model imply a satisfactory fit of the model (goodness-of-fit index = 0.979, comparative fit index = 0.987, TLI = 0.979, RMSEA = 0.043, CMIN/DF = 1.76, $P = 0.013$). In addition, bootstrap test results revealed that burnout did not significantly impact psychosocial factors, and mental health could not mediate the association between burnout and psychosocial factors ($P = 0.08$, Table 4).

Discussion

The stressful nature of nursing may affect nurses' mental health and performance. In this study, a theoretical model was used to investigate the structural associations among burnout, mental health, and workplace psychosocial factors for nurses. The findings revealed an inverse correlation between burnout and psychosocial factors and a positive correlation between burnout and mental health.

According to the results of the present study, 44.7% of nurses received a score above the cutoff point in the GHQ-12 questionnaire, which is a considerable value compared to the general Iranian public since mental health in the general Iranian public.[28] Bolado et al reported that nurses are exposed to various organizational (e.g., workload and obligations) and individual (e.g., knowledge and skills, as well as the death and suffering of patients) stressors that threaten their mental health.[29]

The prevalence of mental problems in healthcare workers varies widely across different populations. In a study, Li et al evaluated burnout, depression, and anxiety among 138,279 Chinese nurses from June 23, 2021, to July 10, 2021. Based on their results, a significant part of nurses reported symptoms of burnout (34%), depression (55.5%), and anxiety (41.8%).[30] In a systematic review and meta-analysis study, the pooled prevalence of depression, anxiety, and insomnia in health workers was 28.5% (95% CI: 26.3–30.7), 28.7% (95% CI: 26.5–31.0), and 24.4% (95% CI: 19.4–29.9), respectively. The meta-analysis included 401 studies, representing 458,754 participants across 58 countries. It should be noted that the situation of the spread of COVID-19, the work unit in the hospital, and gender had an effect on the results.[31]

Some demographic and occupational variables may be effective in assessing mental health status and burnout in nurses. The results of a meta-analysis study showed that the prevalence of burnout among Iranian female nurses and Iranian male nurses was 66% and 44%, respectively, with the highest prevalence among women.[32] In this study,

Table 2. Descriptive Statistics of the Main Variables in Nurses

Variable	Dimension	Mean	SD
Psychosocial factors	Psychosocial factor 1	50.27	15.72
	Psychosocial factor 2	42.09	15.79
	Psychosocial factor 3	73.92	14.47
	Psychosocial factor 4	85.08	15.49
Burnout	Personal burnout	54.77	18.59
	Natural work-related burnout	53.71	25.13
	Work aversion-related burnout	52.73	22.38
	Client-related burnout	36.73	18.16
Mental health		16.41	3.67

Note. SD: Standard deviation.

Table 3. Correlation Coefficients of the Main Variables

Variables	1	2	3	4	5	6	7	8	9
Mental health	1								
Personal burnout	0.30*	1							
Natural work-related burnout	0.26*	0.64*	1						
Work aversion-related burnout	0.19*	0.68*	0.62*	1					
Client-related burnout	0.13*	0.43*	0.51*	0.50*	1				
Psychosocial factor 1	- 0.10*	- 0.24*	- 0.26*	- 0.27*	- 0.27*	1			
Psychosocial factor 2	- 0.25*	- 0.67*	- 0.64*	- 0.61*	- 0.47*	0.23*	1		
Psychosocial factor 3	- 0.16*	- 0.14*	- 0.17*	- 0.19*	- 0.22*	0.30*	0.18*	1	
Psychosocial factor 4	- 0.15*	- 0.28*	- 0.30*	- 0.23*	- 0.26*	0.33*	0.35*	0.17*	1

Note. *$P<0.001$.

Table 4. Standardized Direct and Indirect Effects of the Hypothetical Model

Direct Effect			Estimation (Standard) (β)	Critical Ratio	*P* Value
Burnout	→	Mental health	0.33	6.44	0.001
Burnout	→	Psychological factors	- 0.90	- 5.50	0.001
Burnout	→	Client-related burnout	0.65	-	0.001
	→	Work aversion-related burnout	0.81	13.28	0.001
	→	Natural work-related burnout	0.80	13.21	0.001
	→	Personal burnout	0.85	12.76	0.001
Psychological factors	→	Psychological factors 1	0.31	-	0.001
	→	Psychological factors 2	0.88	5.84	0.001
	→	Psychological factors 3	0.23	4.07	0.001
	→	Psychological factors 4	0.40	5.43	0.001
Indirect Path			**Estimation (Standard) (B)**	**Critical Ratio**	***P* Value**
Burnout	Mental health	Psychological factors	- 0.02	-	0.08

the highest score was attributed to personal burnout among the burnout dimensions. In the study of Ilić et al, the mean personal burnout for nurses and physicians was 56 ± 17.55 and 62.08 ± 18.08, respectively.[33] The high personal burnout in this study may be due to accepting too many responsibilities, conflicts between work and family life, lack of adequate time for recreation, and a lack of autonomy and rewards.

The findings demonstrated a significant correlation between mental health and burnout scores, which is consistent with those of Hasani et al, examining the association between mental health and burnout.[34] Our results are also in line with the findings reported by Maddock, showing a significant correlation between burnout and mental health.[35] Considering that burnout is associated with psychological and physical consequences, it can have effects on their mental health. Persistent and severe burnout can influence mental health and arouse anxiety and depression. Such psychological disorders affect employees' commitment, motivation, performance, and job satisfaction.[36,37]

The findings indicated a significant correlation between psychosocial factors in the workplace and burnout, and workplace psychosocial tensions increased with increased burnout. These findings conform to those obtained by Ilić et al, representing an inverse association between psychosocial factors and burnout.[33] As mentioned before, burnout can result in mental and physical problems, persistent tiredness, and job dissatisfaction. These factors influence the psychosocial tensions between individuals and their workplace, resulting in harmful interactions between employees and working conditions. Other healthcare workers and nurses need to study this further.

In the present study, mental health was investigated as a mediator in the association between burnout and psychosocial factors in nurses, but this mediation was insignificant. To the best of our knowledge, this is the first study exploring the mediating role of mental health in the association between burnout and psychosocial factors for nurses in Iran. The sample was as large as possible, and nurses were selected from different wards of the hospital.

Limitations of the Study

The study's cross-sectional nature and the use of self-report scales are the limitations of this study. Although the present study included a large sample of nurses, the data's validity might be undermined by many questions included in the questionnaire and nurses' tiredness. It should be noted that the imbalance between some demographic variables, such as gender and employment status, may have affected the results. Thus, it is recommended that further studies examine the impact of mental health on psychosocial factors in the workplace. However, future researchers are advised to investigate the effect of sociodemographic characteristics, such as age, gender, work experience, level of education, and chronic diseases, on the primary research variables and be more cautious in analyzing the findings.

Conclusion

The findings revealed an inverse correlation between psychosocial factors in the workplace and burnout and a positive correlation between mental health and burnout scores. Hence, reducing nurses' burnout would improve their mental health and psychosocial factors in the workplace. Occupational support, encouragement of group work, and employees' involvement in decision-making could be among the effective organizational interventions. Moreover, holding courses for nurses to control stress and increase adaptability in the workplace effectively reduces burnout.

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Authors' Contribution

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Competing Interests

The authors declare that there is no conflict of interests.

Ethical Approval

Ethical considerations in this study included obtaining permission from the Ethics Committee of Yazd Shahid Sadoughi University of Medical Sciences (ethical code IR.SSU.SPH.REC.1398.045) and obtaining written consent from the participants who went to participate in the saints.

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