J Nurs Midwifery Sci. 2024 June; 11(2): e144750. https://doi.org/10.5812/jnms-144750.

Published online: 2024 June 23. **Systematic Review**

Prevalence of Burnout Among Health Workers in Iran: A Systematic Review and Meta-Analysis

Masoudeh Babakhanian [1], Maryam Qasemi kouhikheili [2], Fereshteh Araghian Mojarad [3], Fatemeh Talebian [4], Tahereh Yaghoubi [3,*]

[1] Social Determinants Of Health Research Center, Semnan University Of Medical Sciences, Semnan, Iran
[2] Student Research Committee, Mazandaran University of Medical Sciences, Sari, Iran
[3] Traditional and Complementary Medicine Research Center, Mazandaran University of Medical Sciences, Sari, Iran
[4] Student Research Committe, Faculty of Nursing and Midwifery, Golestan University of Medical Sciences, Gorgan, Iran

[*] *Corresponding author:* Traditional and Complementary Medicine Research Center, Mazandaran University of Medical Sciences, Sari, Iran. Email: tyaghubi@gmail.com

Received 2024 January 16; **Revised** 2024 May 1; **Accepted** 2024 May 20.

Abstract

Introduction: Burnout significantly impacts human service professions, reducing the sense of competence and successful performance of duties. This study aimed to investigate the prevalence of job burnout among healthcare workers in Iran.

Methods: A systematic search was conducted according to the PRISMA checklist in databases such as PubMed, Scopus, Web of Science, PsycINFO, Magiran, Scientific Information Database (SID), and IranDoc from the inception of each database until December 30, 2023. Studies that used the Maslach burnout inventory to investigate the prevalence of burnout in health workers and had an observational design (including cross-sectional studies) were included. The selection of relevant studies was performed independently by two researchers at all stages of study selection, including screening, full-text review, and qualitative evaluation using the modified version of the HOY tool. Data implementation was done in Excel, and data analysis was conducted using STATA version 12.

Results: A total of 63 articles were included. About 62.2% of the studies had a low risk of bias. A meta-analysis was performed using the random-effects method to calculate the prevalence of job burnout, and the average score of burnout was calculated as ES: [95% Conf interval = 0.38 (0.30 - 0.46)]. The degree of heterogeneity was reported as I2 = 99.66%, which is significant (P = 0.000), indicating high heterogeneity among the studies. Subgroup analysis was conducted to reduce heterogeneity. The results showed that the average burnout score increases with the sample size increase in the study, which is statistically significant (P < 0.001).

Conclusions: To minimize burnout, it is suggested that supportive approaches, including access to psychosocial support, web-based services, psychological first aid, psychological support hotlines, and self-care techniques, be considered for healthcare workers during their service years.

Keywords: Burnout, Psychosocial Support Systems, Prevalence, Cross-Sectional Studies, Iran

1. Introduction

Human resources are considered one of the most valuable organizational assets, the most critical competitive advantage, and the scarcest resource in the knowledge-based economy. They are considered the greatest asset of any organization in terms of possessing the power of thought, creativity, and innovation, as any improvement and progress in technical and organizational structures are carried out by human resources (1). Healthcare workers have close and intimate contact with other people and have a critical responsibility for the health and life of humans (2). Dealing with sick people, incurable diseases, and death puts this profession in, leading to their high-stress jobs, fatigue, and burnout. Job burnout is one of the issues first introduced in the 1970s (3). Job burnout is a psychological syndrome of three dimensions: Emotional or affective exhaustion, depersonalization, and reduced personal accomplishment (4).

The central feature of burnout is emotional exhaustion, which is a general stress response and

involves the depletion of emotional and affective resources in the individual. Depersonalization is a negative and callous response to the recipients of services and care and reflects a negative attitude of the individual towards the clients. This dimension of burnout is particularly in the human service professions. Reduced personal accomplishment is a decrease in the sense of competence and successful performance of duties and is a negative evaluation of oneself concerning work (5). Recently, the World Health Organization (WHO) recognized job burnout as an "occupational phenomenon" in the 11th revision of the International Classification of Diseases (ICD-11) and considered it a serious health issue (1). Job burnout has many consequences for families, social, personal, and organizational life, including absenteeism, repeated delays, various psychological complaints, conflicts, job changes, decreased quality of patient care, and interpersonal conflicts with colleagues (6-9).

According to reports, nurses and hospital staff are facing increasing psychological and physical pressures, including prolonged work hours, direct exposure to death, suffering, and injuries, physical activity, limited time for social interactions with friends and family, lack of social support networks, and increasing public expectations, which leads to more significant psychological and physical pressures (10). Given the importance of job burnout in healthcare workers and the complexity of its aspects, this study aims to investigate the extent of job burnout among healthcare workers in Iran.

2. Methods

2.1. Design

The review was conducted according to the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines.

2.2. Search Strategy

We conducted a systematic search using electronic databases, including PubMed, Scopus, Web of Science, PsycINFO, Magiran, SID, and IranDoc from inception until December 30, 2023, to identify studies investigating the prevalence of occupational burnout among healthcare workers in Iran. Additionally, a manual search of the reference lists of relevant review papers was performed to ensure all related publications were included. The search strategy was created using a combination of MeSH (medical subject headings) terms from the PubMed database as follows: {[Community Health Workers (Title/Abstract)] OR [Health Workers (Title/Abstract)] OR [Health Personnel (Title/Abstract)] AND [burnout (Title/Abstract)] AND [Iran (Title/Abstract)]}. This search yielded 45 potentially relevant papers from the mentioned electronic databases. After removing duplicates and excluding studies based on title and abstract review, several studies remained for full-text screening. Eighty-five studies were excluded due to unrelated topics, unsuitable design, and lack of access to the full text. The flowchart of the screening and study selection process is presented in Figure 1. For each electronic database, a search strategy was adopted using the POLIS model (Population, Outcome, Location, Index, and Study Design) for study selection (Table 1). This model is widely used for formulating empirical studies concerning evidence synthesis and ensures that the relevant aspects of the question are well-defined.

Table 1. The POLIS (Patients, Outcome, Location, Indicator and Study Design)

POLIS Criteria	Patients	Outcome	Location	Indicator	Study Design
Description	Healthcare workers	Burn out	Iran	Prevalence of burnout	Observational study with Cross-sectional design

2.3. Inclusion and Exclusion Criteria

The inclusion criteria were studies that investigated the prevalence of burnout in healthcare workers in Iran (doctors, nurses, treatment assistants, health aides, faculty members of medical science universities, and students in related fields, dentists) and used the "Maslach Job Burnout Questionnaire" evaluation tool. No restrictions were applied regarding language, participant age, gender, or time period searched. Cross-sectional empirical studies were included in this review. Case studies (series of case reports or individual case reports) were excluded. Additionally, studies without full text and those conducted on other target groups were excluded.

2.4. Quality Appraisal

To conduct this section, two observers (M.A. and M.Q.) independently used the modified version of the quality assessment checklist for prevalence studies (adapted from Hoy et al.) for cross-sectional prevalence studies. This tool consists of 10 questions designed to assess the risk of bias. For this study, and considering the specific study conditions, the questions of this tool were modified, and the quality assessment of the papers was performed based on it. Disagreements at any review stage were resolved through discussion with a third

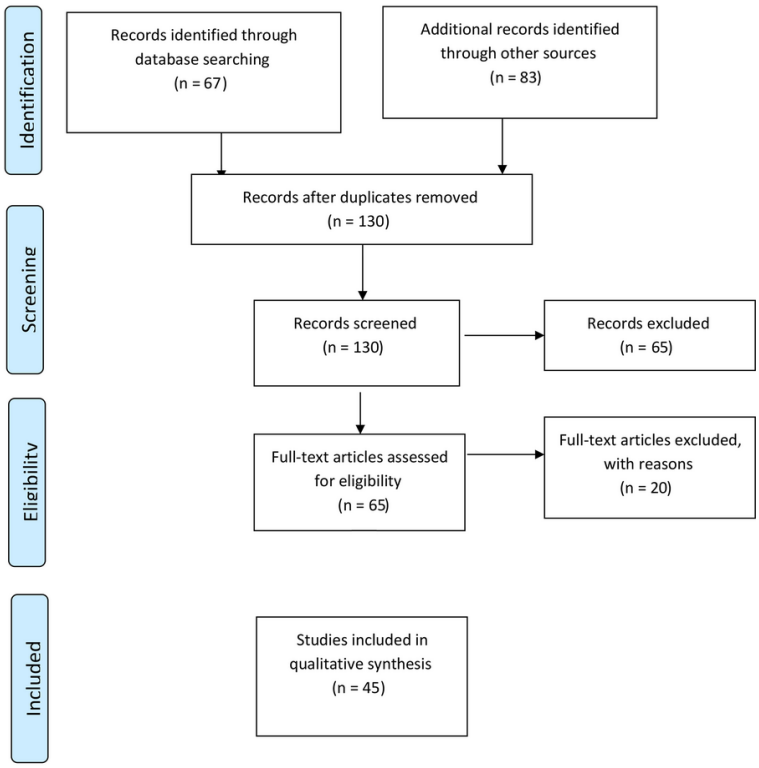

Figure 1. Identification of studies through databases and registries based on PRISMA fLOW diagram (2020)

independent reviewer (F.A. or T.Y.). A data extraction and quality assessment form, which was previously designed in an Excel program, was provided to the two observers.

2.5. Study Selection and Data Extraction

Strictly following the inclusion and exclusion criteria, two reviewers retrieved and independently reviewed full-text papers after screening the titles and abstracts of all papers. The two reviewers independently evaluated every article for inclusion in this systematic review and meta-analysis. Any disagreements regarding article inclusion were resolved through discussion with a third reviewer to reach a consensus. Two independent reviewers performed data extraction. For data extraction, variables included the first author's name, publication year, research location, study design, sample size, mean age, target population, work experience, type of instrument used, the average score of occupational burnout, outcomes, and quality assessment score.

2.6. Occupational Burnout Assessment Tool

The MBI (Maslach burnout inventory) was developed in 1996 for use in healthcare workers. This tool assesses three dimensions of occupational burnout: emotional exhaustion, depersonalization, and personal accomplishment. The scale consists of 22 items with Likert Scale responses, and the total scores can classify the respondent into different levels of occupational burnout (no burnout, mild burnout, moderate burnout, and severe burnout).

2.7. Synthesis

Using meta-analysis techniques with the "metaprop" command in STATA version 12, the data from studies that addressed the prevalence of occupational burnout in healthcare personnel in Iran were synthesized, and the results were reported with a 95% confidence interval. The I-squared test was used to identify heterogeneity among studies: $I^2 < 25\%$ indicates no heterogeneity, $I^2 =$

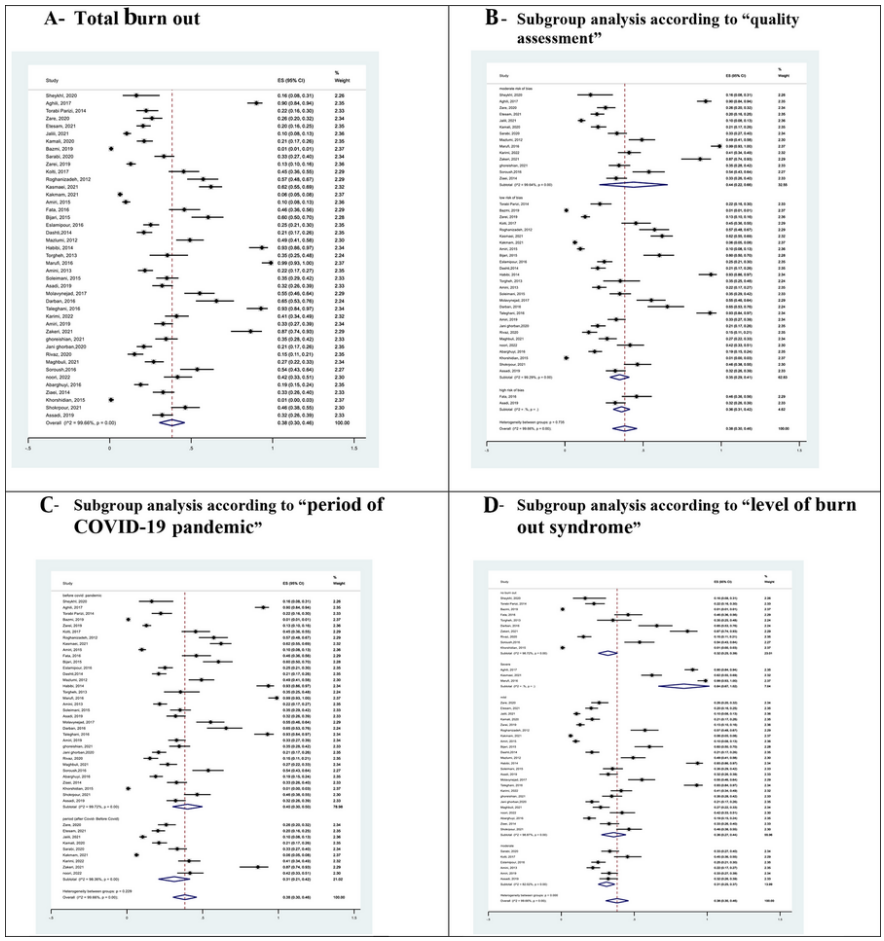

Figure 2. Burnout in employees and subgroups

25 - 50% indicates moderate heterogeneity, and $I^2 > 50\%$ indicates significant heterogeneity. The Begg test was used to assess publication bias. A P-value less than 0.05 was considered statistically significant.

3. Results

3.1. Characteristics of the Included Studies

The characteristics of the 63 articles systematically reviewed are reported in Table 2. Due to the large volume, Table 2 is not included in the article file but is attached separately.

3.2. Quality Assessment

Approximately 62.2% of the studies had a low risk of bias, and 33.3% had a moderate risk. Two articles were found to have a high risk of bias. A common weakness in most studies was the lack of explicit mention of the participants' exposure level and the sampling method (online or in-person) during the study (Table 3).

3.3. Mean Occupational Burnout

The primary outcome of interest, the prevalence of occupational burnout, was analyzed in 61 studies. Using a random-effects model, the mean score for occupational burnout was calculated as ES: [95% Confidence Interval = 0.36 (0.29 - 0.42)]. The heterogeneity was significant, reported as $I^2 = 99.66\%$ (P = 0.000), indicating high heterogeneity among these studies (Figure 2). To address this, subgroup analysis was

Table 4. Prevalence of Burnout in Employees and Subgroups

Variables		Number of Studies	Heterogeneity Chi-Squared	P-Value	Overall I-Squared, %	z	P-Value	ES (95% CI)
Total result	Burn out	61	17675.93	0.000	99.66	10.87	0.000	0.36 (0.29 - 0.42)
Subgroup analysis according to the "period of COVID-19"	Before pandemic	30	5615.88	0.000	99.48	7.00	0.000	0.39 (0.29 -0.49)
	After pandemic	31	11254.99	0.000	98.74	7.49	0.000	0.33 (0.24 - 0.42)
Pandemic Subgroup analysis according to "quality assessment"	Low risk of bias	31	3844.42	0.000	99.66	12.15	0.000	0.32 (0.27 - 0.37)
	Moderate risk of bias	23	9029.73	0.000	99.66	4.92	0.000	0.40 (0.24 - 0.56)
	High risk of bias	4	104.48	0.000	99.66	4.33	0.000	0.35 (0.19 - 0.50)
Subgroup analysis according to "level of burnout syndrome"	No burn out	15	1150.24	0.000	98.70	10.84	0.000	0.29 (0.24 - 0.34)
	Mild	33	2438.28	0.000	98.65	10.85	0.000	0.33 (0.27 - 0.39)
	Moderate	4	26.62	0.000	84.98	8.93	0.000	0.31 (0.24 - 0.38)
	Severe	5	2329.05	0.000	99.66	4.19	0.000	0.66 (0.35 - 0.97)

performed based on study quality, levels of occupational burnout, and the duration of employees' activity before and after the COVID-19 pandemic. Despite this, severe heterogeneity persisted (Table 4).

3.4. Publication Bias

The Begg method was used to assess publication bias for this outcome. In Begg's chart, which examines the effect of small studies, P-value = 0.000 was reported. Since this value is significant, it indicates the presence of publication bias (adj. Kendall's Score (P-Q) = 885, SD = 160.70, z = 5.51, Pr > |z| = 0.000).

4. Discussion

Our study results indicate that the average job burnout score among healthcare workers in Iran is approximately 0.38 (95% CI 0.30 - 0.46), suggesting a mild to moderate level of burnout in this population. Job burnout has emerged as a significant public health issue and challenge. Identifying risk situations and implementing preventive measures early on is crucial to prevent future damage (7). The combination of work environment stressors and personal fears related to the COVID-19 pandemic has placed a substantial psychological burden on healthcare teams. Providing care in high-risk units, interacting with infected patients, and being in stressful situations can contribute to psychological strain for healthcare workers, potentially leading to mental health issues such as depression, alcohol and substance addiction, and burnout syndrome (7, 14). These conditions can adversely affect patient care quality and system efficiency (16). Consistent with our findings, a similar study reported that nearly half of healthcare workers in Iran experienced job burnout during the COVID-19 pandemic (17).

Another study in Iran found no significant difference in job burnout prevalence between COVID-19 and non-COVID healthcare workers (7). One of the key findings of this study was that the prevalence of job burnout increased with larger sample sizes. Larger studies tend to be more reliable than smaller ones (18) due to reduced sampling errors, making it easier to identify more cases of job burnout.

Compared to other studies, one of the strengths of our research is the use of the standardized "Maslach Burnout Inventory" to assess the severity of job burnout among Iranian healthcare workers. Many similar studies globally use various tools with different measurement criteria, leading to inconsistencies in cut-off points. Another strength is that all included studies were observational and predominantly cross-sectional. However, a notable weakness is the inclusion of a wide range of healthcare and educational staff, which might introduce variability. Additionally, since all studies included in this research were observational, they are susceptible to biases, such as selection bias, and their results can be influenced by confounding variables (18).

Considering the positive impact of moral intelligence on reducing job burnout (19) and the role of resilience in mental health (20-22), it is recommended

that training programs be developed to enhance resilience and moral intelligence among health system employees.

4.1. Conclusions

A combination of workplace stressors and personal fears associated with the COVID-19 pandemic appears to have placed a significant psychological burden on healthcare teams. To minimize burnout, it is suggested that supportive approaches, including access to psychosocial support services such as web-based platforms, psychological first aid, psychological support hotlines, and self-care techniques, be provided to individuals throughout their service years.

Acknowledgements

We appreciate the Mazandaran University of Medical Sciences' commitment to promoting ethical standards in research, as evidenced.

Footnotes

Authors' Contribution: M.B.: Conceptualized the study, and completed data entry and analysis; M.Q. and F.A-M.: Coordinated the project; T.Y. and F.T.: Wrote the paper. All authors approved the final manuscript.

Conflict of Interests Statement: The authors declare no conflict of interest in this manuscript.

Data Availability: Readers can freely access the data used in this study upon request.

Funding/Support: The publication of this study was not supported by any external funding.

References

1. Woo T, Ho R, Tang A, Tam W. Global prevalence of burnout symptoms among nurses: A systematic review and meta-analysis. *J Psychiatr Res*. 2020;**123**:9-20. https://doi.org/10.1016/j.jpsychires.2019.12.015.
2. De Hert S. Burnout in Healthcare Workers: Prevalence, Impact and Preventative Strategies. *Local Reg Anesth*. 2020;**13**:171-83. [PubMed ID: 33149664]. [PubMed Central ID: PMC7604257]. https://doi.org/10.2147/lra.s240564.
3. Leo CG, Sabina S, Tumolo MR, Bodini A, Ponzini G, Sabato E, et al. Burnout Among Healthcare Workers in the COVID 19 Era: A Review of the Existing Literature. *Frontiers in Public Health*. 2021;**9**. https://doi.org/10.3389/fpubh.2021.750529.
4. van Wouwe JP, Salvagioni DAJ, Melanda FN, Mesas AE, González AD, Gabani FL, et al. Physical, psychological and occupational consequences of job burnout: A systematic review of prospective studies. *Plos One*. 2017;**12**(10). e0185781. https://doi.org/10.1371/journal.pone.0185781.
5. Shuang F, Hou S, Zhu J, Ren D, Cao ZJT; US Department of Health & Human Services. Quality assessment tool for observational cohort and cross-sectional studies. *PLoS One*. 2014;**10**.
6. Maslach C, Jackson SE, Leiter MP. Maslach Burnout Inventory: Third edition. In: Zalaquett CP, Wood RJ, editors. *Evaluating stress: A book of resources*. Lanham, MD, US: Scarecrow Education; 1997. p. 191-218.
7. Sheykhi M, Naderifar M, Firouzkohi M, Abdollahimohammad A. ARTICLE Effect of group logotherapy on death anxiety and occupational burnout of special wards nurses Medical Science. *Med Sci*. 2019;**23**(98):532-9.
8. Aghili M, ahmadi joybari N, Asghari A, Namazi M. [Evaluation of burnout rate of nurses in different intensive care units, obstetrics and gynecology wards and neonatal wards in public hospitals]. *Zanko J Med Sci*. 2022;**23**(76):25-33. Persian.
9. Torabi Parizi M, Eskandarizadeh A, Karimi Afshar M, Asadi Shekaari M, Jangjoo A. [The Frequency of Job Burnout among Dentists of Kerman City]. *Health Dev J*. 2015;**3**(4):333-40. Persian.
10. Zare S, Kazemi R, Izadi A, Smith A. Beyond the Outbreak of COVID-19: Factors Affecting Burnout in Nurses in Iran. *Annals of Global Health*. 2021;**87**(1):51. [PubMed ID: 34221904]. [PubMed Central ID: PMC8231475]. https://doi.org/10.5334/aogh.3190.
11. Etesam F, Akhlaghi M, Vahabi Z, Akbarpour S, Sadeghian MH. Comparative Study of Occupational Burnout and Job Stress of Frontline and Non-Frontline Healthcare Workers in Hospital Wards during COVID-19 Pandemic. *Iran J Public Health*. 2021. https://doi.org/10.18502/ijph.v50i7.6633.
12. Jalili M, Niroomand M, Hadavand F, Zeinali K, Fotouhi A. Burnout among healthcare professionals during COVID-19 pandemic: a cross-sectional study. *Int ArchOccupational Environ Health*. 2021;**94**(6):1345-52. [PubMed ID: 33864490]. [PubMed Central ID: PMC8052946]. https://doi.org/10.1007/s00420-021-01695-x.
13. Kamali M, Kalateh Sadati A, Khademi MR, Ghahramani S, Zarei L, Ghaemi SZ, et al. Burnout among Nurses during Coronavirus Disease 2019 Outbreak in Shiraz. *Galen Med J*. 2020;**9**. e1956. [PubMed ID: 34466619]. [PubMed Central ID: PMC8343654]. https://doi.org/10.31661/gmj.v9i0.1956.
14. Khorshidian N, Hashemian-Esfahani SS, Asadollahi-Shahir AA, Najimi A. [The Relationship between Mental Disorders and Burnout in Health Practitioners]. *Health Syst Res*. 2016;**11**(4):677-82. Persian.
15. Bazmi E, Alipour A, Yasamy MT, Kheradmand A, Salehpour S, Khodakarim S, et al. Job Burnout and Related Factors among Health Sector Employees. *Iran J Psychiatry*. 2019;**14**(4):309-16. [PubMed ID: 32071605]. [PubMed Central ID: PMC7007511].
16. Shokrpour N, Bazrafkan L, Talebi M. The relationship between empowerment and job burnout in auxiliary health workers in 2019. *J Educ Health Promot*. 2021;**10**:27. [PubMed ID: 33688536]. [PubMed Central ID: PMC7933607]. https://doi.org/10.4103/jehp.jehp_239_20.
17. Sarabi RE, Javanmard R, Shahrbabaki PM. Study of burnout syndrome, job satisfaction and related factors among health care workers in rural areas of Southeastern Iran. *AIMS Public Health*. 2020;**7**(1):158-68. [PubMed ID: 32258197]. [PubMed Central ID: PMC7109528]. https://doi.org/10.3934/publichealth.2020014.
18. Zarei E, Ahmadi F, Sial MS, Hwang J, Thu PA, Usman SM. Prevalence of Burnout among Primary Health Care Staff and Its Predictors: A Study in Iran. *Int J Environ Res Public Health*. 2019;**16**(12). [PubMed ID: 31242691]. [PubMed Central ID: PMC6616853]. https://doi.org/10.3390/ijerph16122249.
19. Kalani SD, Azadfallah P, Oreyzi HR, Azizkhani R, Adibi P. Prevalence of Burnout Syndrome among the Residents in Isfahan University of Medical Sciences, Isfahan, Iran. *J Isfahan Med Sch*. 2017;**35**(442):993-9.
20. Roghanizad N, Vatanpoor M, Seddigh Oraee S, Sharifi V, Abbasi M. Prevalence of Burnout Syndrome and Its Three Dimensions in Dental

Faculty Members of Azad Dental University in 2008. *J Iran Dent Assoc*. 2013;**25**(2):87-93.

21. Monsef Kasmaei V, Haghshenas Bakerdar F, Asadi P, Zia Ziabari SM, Khodadadi-Hassankiadeh N, Kouchakinejad-Eramsadati L, et al. Comparative Study of Occupational Burnout between Professors and Residents of Emergency Medicine in Educational -Remedial Centers of Medical Sciences Universities. *Res Med Educ*. 2022;**14**(1):54-63. https://doi.org/10.52547/rme.14.1.54.
22. Kakemam E, Chegini Z, Rouhi A, Ahmadi F, Majidi S. Burnout and its relationship to self-reported quality of patient care and adverse events during COVID-19: A cross-sectional online survey among nurses. *J Nurs Manag*. 2021;**29**(7):1974-82. [PubMed ID: 33966312]. [PubMed Central ID: PMC8237033]. https://doi.org/10.1111/jonm.13359.
23. Amiri M, Vahedi H, Mirhoseini SR, Eghtesadi AR, Khosravi A. Study of the Relationship Between Self-Efficacy, General Health and Burnout Among Iranian Health Workers. *Osong Public Health Res Perspect*. 2019;**10**(6):359-67. [PubMed ID: 31897365]. [PubMed Central ID: PMC6927415]. https://doi.org/10.24171/j.phrp.2019.10.6.06.
24. Homayoun Valiani F, Bigdeli S, Fata L. Investigating the relation between basic psychological needs' satisfaction and job burnout among basic and clinical sciences' faculty members of Iran University of Medical Sciences. *Razi J Med Sci*. 2017;**23**(153):55-66.
25. Bijari B, Abassi A. Prevalence of Burnout Syndrome and Associated Factors Among Rural Health Workers (Behvarzes) in South Khorasan. *Iran Red Crescent Med J*. 2016;**18**(10). e25390. [PubMed ID: 28180014]. [PubMed Central ID: PMC5286445]. https://doi.org/10.5812/ircmj.25390.
26. Eslamipour F, Yazdchi E. [Occupational burnout among dentists in Isfahan]. *J Isfahan Dent Sch*. 2017;**12**(4). Persian.
27. Ziaei M, Yarmohammadi H, Karamimatin B, Yarmohammadi S, Nazari Z, Gharagozlou F. Prevalence and risk factors of occupational burnout among nurses of a hospital in Kermanshah in 2013. *J Ergon*. 2014;**2**(2):67-74.
28. Dashti S, Faradmal J, Soheili Zad M, Shahrabadi R, Salehiniya H. [Survey of factors associated with burnout among health care staffs in Hamadan County in year 2012]. *Pajouhan Sci J*. 2014;**13**(1):1-8. Persian.
29. Saeidi M, Mazlumi S, Vahedian M, Jalalpour Z, Kiani MA. [The effect burnout on social support and self-esteem in health care workers in Yazd city]. *Occupational Med*. 2013;**5**:46. Persian.
30. Habibi E, Dadkhah Tehrani S, Ghareh baei S, Mahaki B. [A survey of the relationship between shift work and job burnout in nurse staff of Alzahra hospital application maslach's burnout questionnaire]. *Health Sys Res*. 2015;**11**(1):77-87. Persian.
31. Torgheh M, Aliakbari dehkordi M, Alipour A. [Effect of humour on burnout and resiliency of nurses]. *J Holistic Nurs Midwifery*. 2015;**25**(2):57-64. Persian.
32. Marofi M, Mousaviasl F, Hemati Z. [The relationship between burnout and Quality of work life in pediatrics and NICU nurse]. *Iran J Pediatr Nurs*. 2016;**3**(1):11-20. Persian. https://doi.org/10.21859/jpen-0301151.
33. Sadra Abarghouei N, Jafarpour H. [Surveying the relationship of Total Ergonomics with burnout (With Case Study)]. *J Ergon*. 2017;**5**(1):51-9. Persian. https://doi.org/10.21859/joe-05017.
34. Amini F. [The Relationship between Resiliency and Burnout in Nurses]. *J Res Dev Nurs Midwifery*. 2013;**10**(2):94-102. Persian.
35. Soleimani R, Shokrgozar S, Kianmehr S, Fallahi M, Pakdaman M. [Comparison of Mental Health and Burn Out in Medical Staff of Rasht Shafa and Heshmat Hospitals]. *Res Med Educa*. 2015;**7**(4):20-30. Persiann. https://doi.org/10.18869/acadpub.rme.7.4.20.
36. Mosavianasl Z, Babaeipouya A, Karimi A. [The Relationship between Shift Work and Occupational Burnout among Nurses in a Teaching Hospital in Ahvaz]. *Occupational Hygine Health prom J*. 2017;**1**(2):118-28. Persian.
37. Assadi T, Sadeghi F, Noyani A, SeidAbadi AM, Yekesadat SM. Occupational Burnout and Its Related Factors Among Iranian Nurses: A Cross-Sectional Study in Shahroud, Northeast of Iran. *Open Access Maced J Med Sci*. 2019;**7**(17):2902-7. [PubMed ID: 31844456]. [PubMed Central ID: PMC6901852]. https://doi.org/10.3889/oamjms.2019.744.
38. Moghaddasi J, Mehralian H, Aslani Y, Masoodi R, Amiri M. Burnout among nurses working in medical and educational centers in Shahrekord, Iran. *Iran J Nurs Midwifery Res*. 2013;**18**(4):294-7. [PubMed ID: 24403925]. [PubMed Central ID: PMC3872864].
39. Molavynejad S, Babazadeh M, Bereihi F, Cheraghian B. Relationship between personality traits and burnout in oncology nurses. *J Family Med Prim Care*. 2019;**8**(9):2898-902. [PubMed ID: 31681663]. [PubMed Central ID: PMC6820379]. https://doi.org/10.4103/jfmpc.jfmpc_423_19.
40. Yektatalab S, Honarmandnejad K, Janghorban R. Relationship between occupational burnout and demographic variables among nurses in Jahrom, Iran. *Pan Afr Med J*. 2019;**34**:22. [PubMed ID: 31762891]. [PubMed Central ID: PMC6859009]. https://doi.org/10.11604/pamj.2019.34.22.15642.
41. Darban F, Balouchi A, Narouipour A, Safarzaei E, Shahdadi H. Effect of Communication Skills Training on the Burnout of Nurses: A Cross-Sectional Study. *J Clin Diagn Res*. 2016;**10**(4):IC01-IC04. [PubMed ID: 27190832]. [PubMed Central ID: PMC4866130]. https://doi.org/10.7860/jcdr/2016/19312.7667.
42. Soroush F, Zargham-Boroujeni A, Namnabati M. The relationship between nurses' clinical competence and burnout in neonatal intensive care units. *Iran J Nurs Midwifery Res*. 2016;**21**(4):424-9. [PubMed ID: 27563328]. [PubMed Central ID: PMC4979268]. https://doi.org/10.4103/1735-9066.185596.
43. Noori F, Kazemeini S, Owlia F. Determination of professional job burnout and temperament (Mizaj) from the viewpoint of Traditional Persian Medicine and work-related variables among Iranian dentists: a cross-sectional study. *BMC psychol*. 2022;**10**(1):94.
44. Taleghani F, Ashouri E, Saburi M. Empathy, Burnout, Demographic Variables and their Relationships in Oncology Nurses. *Iran J Nurs Midwifery Res*. 2017;**22**(1):41-5. [PubMed ID: 28382057]. [PubMed Central ID: PMC5364751]. https://doi.org/10.4103/ijnmr.IJNMR_66_16.
45. Karimi L, Raei M, Parandeh A. Association Between Dimensions of Professional Burnout and Turnover Intention Among Nurses Working in Hospitals During Coronavirus Disease (COVID-19) Pandemic in Iran Based on Structural Model. *Front Public Health*. 2022;**10**:860264. [PubMed ID: 35692308]. [PubMed Central ID: PMC9174661]. https://doi.org/10.3389/fpubh.2022.860264.
46. Amiri M, Khosravi A, Eghtesadi AR, Sadeghi Z, Abedi G, Ranjbar M, et al. Burnout and its Influencing Factors among Primary Health Care Providers in the North East of Iran. *PLOS ONE*. 2016;**11**(12). e0167648. https://doi.org/10.1371/journal.pone.0167648.
47. Abarghouei MR, Sorbi MH, Abarghouei M, Bidaki R, Yazdanpoor S. A study of job stress and burnout and related factors in the hospital personnel of Iran. *Electron Physician*. 2016;**8**(7):2625-32. [PubMed ID: 27648189]. [PubMed Central ID: PMC5014501]. https://doi.org/10.19082/2625.
48. Zakeri MA, Rahiminezhad E, Salehi F, Ganjeh H, Dehghan M. Burnout, Anxiety, Stress, and Depression Among Iranian Nurses: Before and During the First Wave of the COVID-19 Pandemic. *Front Psychol*. 2021;**12**:789737. [PubMed ID: 34899542]. [PubMed Central ID: PMC8654725]. https://doi.org/10.3389/fpsyg.2021.789737.
49. Ghoraishian M, Zare Mehrjardi H, Askari J, Abrisham SJ, Sobhan MR. The Frequency of Burnout among Iranian Orthopedic Surgeons and Residents. *Arch Bone Jt Surg*. 2022;**10**(1):78-84. [PubMed ID: 35291244]. [PubMed Central ID: PMC8889434]. https://doi.org/10.22038/abjs.2021.52914.2625.

50. Janighorban M, Dadkhahtehrani T, Najimi A, Hafezi S. The Correlation between Psychological Empowerment and Job Burnout in Midwives Working in the Labor Ward of Hospitals. *Iran J Nurs Midwifery Res*. 2020;**25**(2):128-33. [PubMed ID: 32195158]. [PubMed Central ID: PMC7055180]. https://doi.org/10.4103/ijnmr.IJNMR_100_19.
51. Rivaz M, Asadi F, Mansouri P. Assessment of the Relationship between Nurses' Perception of Ethical Climate and Job Burnout in Intensive Care Units. *Invest Educ Enferm*. 2020;**38**(3). [PubMed ID: 33306902]. [PubMed Central ID: PMC7885543]. https://doi.org/10.17533/udea.iee.v38n3e12.
52. Maghbouli N, Fatehi F, Mafinejad MK, Pourhassan S, Sohrabpour AA, Ali JH. Burnout and clinical learning environment among residents in Tehran: A cross-sectional study. *Heliyon*. 2021;**7**(6). e07238. [PubMed ID: 34189297]. [PubMed Central ID: PMC8215171]. https://doi.org/10.1016/j.heliyon.2021.e07238.
53. Shirali G, Mohammadi A, Elyasigomari A. The Effect of COVID-19 Pandemic On Mental Workload and Occupational Burnout in Medical Staff: A Case-Control Study. *J Ergon*. 2022;**10**(2):81-9.
54. Masror Roudsary D, Salehi Z, Haghani H. Relationship Between Job Burnout and Organizational Climate in Nurses Working in Teaching Hospitals Affiliated to Iran University of Medical Sciences. *Iran J Nurs*. 2022;**35**(137):276-89.
55. Hasani Z, Shojaei Baghini G, Khalvati M. [Job Burnout and Mental Health of Non-medical Staff of General, Specialty and Sub-specialty Hospitals Affiliated to the Iranian Oil Industry]. *J Health Safety Work*. 2022;**12**(1):176-88. Persian.
56. Honarvar Z, Doustkam M, Toozandehjani H. [The Effect of Emotional Intelligence on Distress Tolerance and Burnout in Mashhad Forensic Staff, Iran]. *Iran J Forensic Med*. 2022;**28**(1):27-34. Persian.
57. Talebi Ghadicolaei H, Hadinejad Z, Hosseinnataj A, Hosseini SL, Yaghoubi T. [Relationship Between Moral Intelligence and Occupational Burnout in Mazandaran Pre-Hospital Emergency Staff During COVID-19 Pandemic]. *J Mazandaran Univ Med Sci*. 2022;**32**(212):87-96. Persian.
58. Sadeghzade G, Rahmati S, Sadeghi F, Mohammadi Bolbanabad A, Darvishi E. [Assessment of Mental Workload and Job Burnout of Medical Employees during the COVID-19 Pandemic in Iran]. *J Ergon*. 2021;**9**(2):1-16. Persian. https://doi.org/10.30699/jergon.9.2.1.
59. Seyedi P, Beiranvand A, Fereidouni H, Qolami M. Investigating the relationship of emotional intelligence with job satisfaction and burnout in nurses. *J Fundamentals Mental Health*. 2021;**23**(2):149-53. https://doi.org/10.22038/jfmh.2021.18319.
60. Nasrolah Beigi F, Raeissi P, Ebadifard Azar F. The Relationship between Human Resources Management Functions and Job Burnout from the Perspective of Managers and Staff in Deputy of Health in Iran University of Medical Sciences. *Hospital*. 2021;**20**(2):66-76.
61. Sharjabad F, Amini A, Kamali M, Rayani M. [Job Burnout and its Related Factors Among the Workers of Comprehensive Healthcare Centers in Bushehr and Borazjan, Iran, in 2019]. *Iran South Med J*. 2021;**24**:197-211. Persian. https://doi.org/10.52547/ismj.24.3.197.
62. Mohammadnahal L, Mirzaei A, Khezeli MJ. THE EFFECT OF CARING FOR COVID 19 PATIENTS ON NURSES' PRODUCTIVITY AND BURNOUT. *Nurs Midwifery J*. 2021;**18**(11):859-72.
63. Sanaz EY, Kermani A, Keyvanlo S, Javdan Z, Ebadi M. [Comparison of perceived stress, work-family conflict and job burnout in nurses and teachers in Bandar Abbas]. *Occupational Hygiene Health Promotion*. 2021;**5**(2). Persian.
64. Rastjoo S, Zandvanian A. [Predicting of job burnout of female nurses based on effort–reward imbalance and components of positive psychology]. *Occupational Med Quarterly J*. 2021;**13**(2):29-39. Persian.
65. Hemmat Panah A, Farsi Z, Rajai N. [The Relationship between Leadership Styles with Occupational Stress, Organizational Deviant Behaviors, and Job Burnout in a Military Health, Rescue, and Treatment Center]. *Nurs Physician within War*. 2021;**9**(30):61-70. Persian. https://doi.org/10.29252/npwjm.9.30.61.
66. Rahmani R, Sargazi V, Shirzaei Jalali M, Babamiri M. [Relationship between COVID-19-caused Anxiety and Job Burnout among Hospital Staff: A Cross-sectional Study in the Southeast of Iran]. *J Occupational Hygiene Engineering*. 2021;**7**(4):61-9. Persian. https://doi.org/10.52547/johe.7.4.61.
67. Farrokhi P, Irannejad B, Hajizadeh A. [Job Stress and Its Management Methods among Pre-Hospital Emergency Staff in Iran: A Systematic Review]. *J Rafsanjan Univ Med Sci*. 2022;**21**(6):661-76. Persian. https://doi.org/10.52547/jrums.21.6.661.
68. Hezaveh Z, Seyedfatemi N, Mardani - Hamooleh M, Aabbasi Z, Haghani S, Ghaljeh M. [The Effect of Resilience Training Program on the Job Burnout of Nurses: A Quasi-experimental Study]. *Iran J Nurs*. 2021;**33**:100-12. Persian. https://doi.org/10.52547/ijn.33.128.100.
69. Ghanbar R, Einollah M, Mahmoodi G. [The management approach of nurse administrators and Occupational burnout among nurses staff of Golestan University hospitals]. *Pars Jahrom Univ Med Sci*. 2008;**6**:38-55. Persian. https://doi.org/10.29252/jmj.6.3.4.38.

Table 2. The Characteristics of the Iranian Included Studies

Author, City, Year (Ref)	Title of the Study	Type of Study	Sample Size	Instruments	Main Results
Sheykhi, MA, Zabol, 2020 (7)	The effect of group logotherapy on burnout of nurses in special wards	Quasi-experimental	40	Demographic, Maslach burnout inventory, and semantic therapy	There was a significant relationship between meaning therapy and its effect on the frequency and severity of job burnout. Also, it means that therapy was effective in three areas of job burnout: Emotional exhaustion, depersonalization, and job conflict. These were effective, but they did not affect the dysfunction area.
Aghili, M, Gorgan, 2022 (8)	Evaluation of burnout rate of nurses in different intensive care units, obstetrics and gynecology wards, and neonatal wards in public hospitals	Cross-sectional	162	Maslach burnout inventory	The level of burnout among nurses in the obstetrics and gynecology unit was reported to be significantly lower than that of nurses in intensive care units.
Torabi Parizi, M, Kerman, 2015 (9)	The frequency of job burnout among dentists of Kerman City	Cross-sectional	145	Maslach burnout inventory	There was a significant relationship between marital status and employment with the depersonalization component.
Zare, S, Shiraz,2021 (10)	Beyond the outbreak of COVID-19: Factors affecting burnout in nurses in Iran	Cross-sectional	208	Britain Health and Safety Executive (HSE) Stress Indicator and Maslach burnout inventory	The workload was recognized as the most crucial factor in job burnout.
Etesam, F, Tehran, 2021 (11)	Comparative study of occupational burnout and job stress of frontline and non-frontline healthcare workers in hospital wards during the COVID-19 pandemic	Case-control	324	Demographic questionnaire, Maslach burnout inventory, Parker`s Job Stress Scale	There was a significant relationship between different levels of job burnout with job stress and its two dimensions (time and pressure).
Jalili, M, Tehran, 2021 (12)	Burnout among healthcare professionals during COVID-19 pandemic: A cross-sectional study	Cross-sectional	645	Demographic and occupational characteristics questionnaire and Maslach burnout inventory	Factors such as age, gender, job class, and workplace had a significant relationship with job burnout.
Kamali, M, Shiraz, 2020 (13)	Burnout among nurses during the coronavirus disease 2019 outbreak in Shiraz	Cross-sectional	261	Maslach burnout inventory	The total number of shifts during the pandemic had a significant positive correlation with emotional exhaustion.
Khorshidian, N, Shiraz, 2016 (14)	The relationship between mental disorders and burnout in health practitioners	Cross-sectional	300	Maslach burnout inventory, symptoms checklist for mental disorders	There was a positive and significant relationship between job burnout and all symptoms of mental disorders.
Bazmi, E, Tehran, 2019 (15)	Job burnout and related factors among health sector employees	Cross-sectional	1807	Maslach burnout inventory	Factors such as being single, having more than twenty years of work experience, and working shifts were associated with job burnout.
Shokrpour, N, Fasa, 2021 (16)	The relationship between empowerment and job burnout in auxiliary health workers in 2019	Descriptive-analytical	120	Maslach burnout inventory, psychological empowerment instrument	There was a negative relationship between psychological empowerment and job burnout.
Ershad Sarabi, R, Kerman, 2020 (17)	Study of burnout syndrome, job satisfaction, and related factors among health care workers in rural areas of Southeastern Iran	Cross-sectional	225	Maslach burnout inventory, Smith e job satisfaction questionnaires	Emotional exhaustion had a negative and significant relationship with job satisfaction
Zarei, E, Western region of Iran, 2019 (18)	Prevalence of burnout among primary health care staff and its predictors: A study in Iran	Cross-sectional	539	Maslach burnout inventory	Single-status healthcare workers with less work experience, over 35, and being physicians were at higher risk of job burnout.
Kalani, S, Isfahan, 2017 (19)	Prevalence of burnout syndrome among the residents in Isfahan University of Medical Sciences, Isfahan, Iran	Cross-sectional	104	Demographic, Maslach burnout inventory	The prevalence of burnout in married assistants was significantly higher than that of single assistants. Job burnout was higher in women than men, but this difference was not statistically significant.
Roghanizad, N, Tehran, 2013 (20)	Prevalence of burnout Syndrome and its three dimensions in Dental Faculty Members of Azad Dental University in 2008	Descriptive-analytical	99	Demographic, Maslach burnout inventory	Variables such as the duration of employment in dentistry, the number of working hours per week, and the field of specialization did not significantly correlate with job burnout.
Monsef Kasmaei, V, Iran, 2022 (21)	Comparative study of occupational burnout between professors and residents of Emergency Medicine in Educational-Remedial Centers of Medical Sciences Universities	Descriptive-analytical	176	Demographic, Maslach burnout inventory	In the group of emergency medical assistants, there was a significant relationship between gender, having children, and the number of monthly patient visits.
Kakemam, E, Tabriz, 2021 (22)	Burnout and its relationship to self-reported quality of patient care and adverse events during COVID-19: A cross-sectional online survey among nurses	Cross-sectional	1004	Demographic, Maslach burnout inventory	The most important symptoms of job burnout were high emotional burnout and lack of personal success.

Author, City, Year (Ref)	Title of the Study	Type of Study	Sample Size	Instruments	Main Results
Amiri, M, Shahroud, 2019 (23)	Study of the relationship between self-efficacy, general health, and Burnout among Iranian health workers	Cross-sectional	249	Sherer Self-Efficacy Scale Questionnaire, General Health Questionnaire, Maslach burnout inventory	There was a statistically significant relationship between gender and general health status, in which men had a higher level of public health. Job burnout was higher in married individuals.
Homayoun Valiani, L, Tehran, 2017 (24)	Investigating the relation between basic psychological needs satisfaction and job burnout among basic and clinical sciences faculty members of Iran University of Medical Sciences	Survey	100	Maslach burnout inventory, Desi and Ryan basic psychological needs satisfaction questionnaire	Among the dimensions of job burnout, the highest mean was related to personal adequacy, emotional exhaustion, and personality.
Bijari, B, Birjand, 2016 (25)	Prevalence of burnout syndrome and associated factors among rural health workers (Behvarzes) in South Khorasan	Cross-sectional	423	Demographic, Maslach burnout inventory, General Health Questionnaire-22	This study's average general health score was three, from 0 to 12. About 34.5% of the participants experienced moderate to severe burnout.
Eslamipour, F, Isfahan, 2017 (26)	Occupational burnout among dentists In Isfahan	Cross-sectional	300	Maslach burnout inventory	Women, women with more age and work experience, and married people had less job burnout.
Ziaei, M, Kermanshah, 2014 (27)	Prevalence and risk factors of occupational burnout among nurses of a hospital in Kermanshah in 2013	Cross-sectional	189	Demographic, Maslach burnout inventory	With increasing age and work experience, personal adequacy increased. Also, there was a significant relationship between employment status and education level with emotional exhaustion and employment status, and work shift with depersonalization.
Dashti, S, Hamedan, 2014 (28)	Survey of factors associated with burnout among health care staff in Hamadan County in the year 2012	Descriptive-analytical	278	Demographic, Maslach burnout inventory	There was a significant relationship between university major with emotional exhaustion score, age and university major with depersonalization, and level of education and university major with personal sufficiency.
Saeidi, S, Yazd, 2013 (29)	The effect of job burnout on social support and self-esteem of personnel health of Yazd city	Cross-sectional	130	Maslach's burnout inventory, Eyseng's self-esteem, and Cassidy's social support	There was a significant relationship between the dimensions of job burnout and the variables of work experience, marital status, gender, place of service, type of job, and personnel work experience.
Habibi, E, Isfahan, 2015 (30)	A survey of the relationship between shift work and job burnout in nurse staff of Alzahra Hospital application Maslach's burnout questionnaire	Descriptive-analytical	77	Demographic, Maslach burnout inventory	There was a significant relationship between shift work and burnout of nurses.
Torgheh, M, Ghazvin, 2015 (31)	Effect of humor on burnout and resiliency of nurses	Descriptive	60	Maslach burnout inventory	There was a statistically significant relationship between the mean burnout score and the frequency of burnout with the humor score.
Marofi, M, Isfahan, 2016 (32)	The relationship between burnout and quality of work life in pediatric and neonatal intensive care unit nurses	Descriptive-correlational	76	Maslach burnout inventory, Connor's quality of life	There was an inverse statistical relationship in the intensity range between emotional exhaustion and the average score of quality of work life.
Sadra Abarghouei, M, Yazd, 2016 (33)	Surveying the relationship of total ergonomics with burnout (with case study)	Descriptive-correlational	216	Maslach burnout inventory, organizational support, organizational justice, and physical conditions of the work environment	There was a significant relationship between job burnout and its components with variables such as organizational support, organizational justice, and the physical conditions of the work environment.
Amini, F, Tehran, 2013 (34)	The relationship between resiliency and burnout in nurses	Descriptive-correlational	304	Maslach burnout inventory, Connor and Davidson resilience questionnaire, and demographic	As the level of resilience increased, the burnout of nurses decreased.
Soleimani, R, Rasht, 2015 (35)	Comparison of Mental Health and Burn Out in Medical Staff of Rasht Shafa and Heshmat Hospitals	Descriptive-correlational	183	Demographic, Maslach burnout inventory, General Health Questionnaire	The mean emotional exhaustion and depersonalization among Heshmat Hospital nurses was average, more than that of the nurses of Shefa Hospital. Also, the nurses of both hospitals had good mental health. In Heshmat nurses, physical symptoms, anxiety, and depression were reported more than in Shafa nurses.
MosaviaN, Z, Ahvaz, 2017 (36)	The relationship between shift work and occupational burnout among nurses in a teaching hospital in Ahvaz.	Descriptive-correlational	180	Demographic, Maslach burnout inventory	A significant relationship was reported between the type of nurse employment ward, shift work, and depersonalization component.
Assadi, T, Shahroud, 2019 (37)	Occupational burnout and its related factors among Iranian nurses: A cross-sectional study in Shahroud, Northeast of Iran	Cross-sectional	250	Demographic, Maslach burnout inventory, job satisfaction	There was a significant relationship between the gender variable and emotional exhaustion component and the marriage variable with individual dysfunction
Moghaddasi, J, Shahrekord, 2013 (38)	Burnout among nurses working in medical and educational centers in Shahrekord, Iran	Descriptive	340	Demographic, Maslach burnout inventory, job information	The burnout rate among nurses in Shahrekord was significant due to the disproportionate relationship between the number of nurses, income, and workload.
Molavynejad, Sh, Ahvaz, 2019 (39)	Relationship between personality traits and burnout in oncology nurses	Cross-sectional	106	Maslach burnout inventory, Personality questionnaire (NEO)	There was a significant relationship between all dimensions of job burnout with personality traits and anxiety and depression.
Yektatalab, S, Jahrom, 2019 (40)	Relationship between occupational burnout and demographic variables among nurses in Jahrom, Iran	Descriptive-correlational	250	Demographic, Maslach burnout inventory	There was a significant relationship between educational level, age, and individual success. Similarly, there was a significant relationship between the three components of job burnout with the income level and a

Author, City, Year (Ref)	Title of the Study	Type of Study	Sample Size	Instruments	Main Results
					significant relationship between personality disorder and gender.
Darban, F, Sistan and Baluchestan, 2016 (41)	Effect of communication skills training on the burnout of nurses: A cross-sectional study	Cross-sectional	60	Maslach burnout inventory, Communication skills training workshop two days for 8 hours a week	With the intervention, job burnout decreased.
Soroush, F, Isfahan, 2016 (42)	The relationship between nurse clinical competence and burnout in neonatal intensive care units	Cross-sectional	86	Demographic, Maslach burnout inventory, Patricia clinical competency	There is a significant negative relationship between burnout and clinical competency.
Noori, F, Yazd, 2022 (43)	Determination of professional job burnout and temperament (Mizaj) from the viewpoint of Traditional Persian Medicine and work-related variables among Iranian dentists: a cross-sectional study	Cross-sectional	120	Maslach burnout inventory	There was a positive significant relationship between emotional exhaustion and work avoidance.
Taleghani, F, Isfahan, 2017 (44)	Empathy, burnout, demographic variables and their relationships in oncology nurses	Descriptive	67	Demographic, Maslach burnout inventory, Jefferson Scale of Empathy	There was a significant negative relationship between job burnout and empathy.
Karimi, L, Tehran, 2022 (45)	Association between dimensions of professional burnout and turnover intention among nurses working in hospitals during Coronavirus disease (COVID-19) pandemic in Iran based on structural model	Cross-sectional	170	Maslach burnout inventory, Turnover intention questionnaire	A significant relationship between the work position and interest in being in the organization with the turnover intention was reported
Amiri, M, Shahroud, Sabzevar, Neishabur, Bojnoord, 2016 (46)	Burnout and it is influencing factors among primary healthcare care providers in the northeast of Iran	Cross-sectional	548	Maslach burnout inventory	There was a significant relationship between job interest and job burnout
Abarghouei, M, Yazd, 2016 (47)	A study of job stress and burnout and related factors in the hospital personnel of Iran	Cross-sectional	306	Demographic, Maslach burnout inventory, HSS-35	There was a significant positive relationship between personal success and job history, emotional exhaustion, and age and a negative relationship between the two variables of age and job history and depersonalization. Also, married health workers reported more burnout.
Zakeri, M, South regions of Iran, 2021 (48)	Burnout, anxiety, stress, and depression among Iranian nurses: Before and during the first wave of the COVID-19 pandemic	Cross-sectional	508	Demographic, Maslach burnout inventory, DASS-21	There was a significant relationship between variables such as types of hospital wards and shifts with nurses' burnout.
Ghoraishian, M, Tehran & Yazd, 2021 (49)	The frequency of burnout among Iranian orthopedic surgeons and residents	Cross-sectional	180	Demographic, Maslach burnout inventory	There was a significant relationship between variables such as lower educational level, low age, little time spent on leisure and sports activities, and working in the public sector with job burnout.
Janighorban, M, Isfahan, 2020 (50)	The Correlation between Psychological Empowerment and Job Burnout in Midwives Working in the Labor Ward of Hospitals	Cross-sectional	282	Maslach burnout inventory, Psychological Empowerment Questionnaire (PEQ)	No significant relationship was found between job burnout and psychological empowerment with demographic variables.
Rivaz, M, Shiraz, 2020 (51)	Assessment of the relationship between nurses' perception of ethical climate and job burnout in intensive care units	Cross-sectional	212	Maslach burnout inventory, Olson's Hospital Ethical Climate Survey (HECS)	There was an inverse relationship between the severity and frequency of burnout and moral climate. A significant association was reported between variables such as age with moral climate and gender, and work shift with job burnout.
Maghbouli, N, Tehran, 2021 (52)	Burnout and clinical learning environment among residents in Tehran	Cross-sectional	221	Maslach burnout inventory, PHEEM	Job burnout components were significantly predicted by perceived social support.
Shirali, Gh, Tehran 2022 (53)	The effect of COVID-19 pandemic on mental workload and occupational burnout in medical staff: a case-control study	Case-control	412	NASA-TLX and Maslach Burnout Inventory questionnaires were used to assess mental workload and burnout, respectively	The present study's findings revealed that the prevalence of COVID-19 could increase the values of mental workload parameters and burnout of healthcare personnel in medical settings.
Masoor Roudsary, D, Tehran, 2022 (54)	Relationship between job burnout and organizational climate in nurses working in teaching hospitals affiliated to Iran University of Medical Sciences	Cross-sectional	200	Demographic form, the Maslach burnout inventory, and Halpin and Croft's organizational climate description questionnaire were used	With the increase in organizational climate, emotional exhaustion increases, resulting in more job burnout. Emotional exhaustion domain of job burnout had a statistically significant correlation with all dimensions of organizational climate except for group spirit and disengagement

Author, City, Year (Ref)	Title of the Study	Type of Study	Sample Size	Instruments	Main Results
Hasani, Z, Abadan Ahwaz, Mahshahr and Tehran, 2018 (55)	Job burnout and mental health of non-medical staff of general, specialty and sub-specialty hospitals affiliated to the Iranian oil industry	Descriptive-analytical	251	Demographic checklist, Goldberg General Health Questionnaire, and Maslach Burnout Questionnaire.	There is a meaningful and reverse relationship between burnout and mental health, mental health and emotional exhaustion, and depersonalization and personal adequacy in non-medical staff in general.
Honarvar, Z, Mashhad, 2022 (56)	The effect of emotional intelligence on distresstolerance and burnout in forensic staff	Quasi-experimental	30	Metacognition and behavior and monte aha positive metacognition questionnaires, Simmons and Kaher (2005) distress tolerance questionnaire and Mezlach burnout were used to collect data.	Metacognitive training can be effective on the dimensions of happiness, stress tolerance, and burnout.
Talebi Ghadicolaei, H, Mazandaran, 2022 (57)	Relationship between moral intelligence and occupational burnout in Mazandaran pre-hospital emergency staff during COVID-19 pandemic	Cross-sectional	250	Data were collected using a demographic characteristics checklist, the Moral Intelligence Scale (Lennick & Kiel), and the Maslach Burnout Inventory (MBI).	Improvements in moral intelligence scores decreased the burnout score.
Sadeghzade, Gh, Tehran, Isfahan, and Sanandaj, 2021 (58)	Assessment of mental workload and job burnout of medical employees during the COVID-19 pandemic in Iran	Descriptive-analytic research	510	The mental workload and the job burnout of staff have been evaluated using NASA-TLX software and the job burnout Maslach, respectively.	The mental workload and job burnout in medical employees during the COVID-19 pandemic are high, and warning and the mental workload in employees associated with patients suffering from COVID-19 are higher than other employees.
Seyedi, p, Hospitals in Khorramabad city, 2021(59)	Investigating the relationship of emotional intelligence with job satisfaction and burnout in nurses	Descriptive-analytic research	467	The instruments used in this study were Demographic Information, Bradbury and Graves' Emotional Intelligence Questionnaire, Maslach burnout inventory (MBI), and Visoki and Chrome's Job Satisfaction Questionnaire	The findings showed that there was no significant relationship between emotional intelligence and job satisfaction, but there was a significant relationship between emotional intelligence and burnout.
Nasrolah Beigii, F, Tehran, 2021 (60)	The relationship between human resources management functions and job burnout from the perspective of managers and staff in deputy of health at Iran University of Medical Sciences	Cross-sectional	242	Two questionnaires on burnout and human resources management functions.	Job burnout can be significantly reduced with the improvement of human resources management functions.
Sharjabad, F, Bushehr and Borazjan, Iran, 2021 (61)	Job burnout and its related factors among the workers of comprehensive healthcare centers in Bushehr and Borazjan, Iran, in 2019	Cross-sectional	203	Data were collected using the Maslach burnout inventory and HSE Management Standards Questionnaires in 2019.	There was a strong negative correlation between job burnout and management standards ($r = -0.69$, $P < 0.001$). The two components, including the organizational role and job relationship, predicted job burnout and explained 63% of the changes in job burnout.
Mohammadnahal, I, Tehran 2020, (62)	THE effect of caring for COVID-19 patients on nurses' productivity and burnout	Descriptive-analytical cross-sectional	120	Data was collected using the Maslach Burnout Questionnaire and Hersey and Goldsmith Human Resources Productivity Questionnaire, and they were analyzed using descriptive statistics.	Caring for COVID-19 patients reduces productivity and increases the burnout of nurses.
EYNi, S, Bandar Abbas, 2021(63)	Comparison of perceived stress, work-family conflict and job burnout in nurses and teachers in Bandar Abbas	Descriptive and causal-comparative	70 nurses and 70 teachers were selected by simple random sampling	Cohen et al.'s (1983) Perceived Stress Questionnaire, Carlson et al.'s Family Conflict Questionnaire (2000), and Maslash Burnout Questionnaire (1981) were used to collect data.	Job burnout among nurses was higher than among teachers due to a lack of job security and a bright future.
Rastjoo, S, Yazd, 2021 (64)	Predicting job burnout of female nurses based on effort-reward imbalance and characteristics of positive psychology	Descriptive; correlation type	132	Three questionnaires (Muslesh & Jacksons *jobburnout*, *Seligmans* positive psychological characteristics scale, and effort-reward imbalance of Seigersit) were completed by nurses.	Job burnout of nurses is moderate. the results of multiple regression analysis showed that 40% of variances of job burnout were predicted by the meaning of life, the effort-reward imbalance, and the engagement life.
Hemmat Panah, A, Tehran, 2021 (65)	The relationship between leadership styles with occupational stress, organizational deviant behaviors, and job burnout in a military health, rescue, and treatment center	Descriptive-analytical study	165	The instruments used were the Bass Leadership Style Questionnaire, the Kahn Stress questionnaire, Bennett's Deviant Behaviors Questionnaire, and the Maslach Burnout Questionnaire.	Transformational, transactional, and laissez-faire leadership styles are important predictors of job stress, organizational deviant behaviors, and burnout.
Rahmani, R, Zahedan, 2020 (66)	Relationship between COVID-19-caused anxiety and Job Burnout among hospital staff: A cross-sectional study in the Southeast of Iran	Descriptive cross-sectional	353	Containing demographic and occupational information, the Corona Disease Anxiety Scale, and the Maslach Burnout Inventory	There was a significant relationship between corona-caused anxiety and job burnout.
Farrokhi, P, 2022 (67)	Job stress and its management methods among pre-hospital				

Author, City, Year (Ref)	Title of the Study	Type of Study	Sample Size	Instruments	Main Results
	emergency staff in Iran: A systematic review	Systematic review	Published English and Persian studies without time limitation were searched and reviewed electronically in Persian and English databases from PubMed, Web of Science, Scopus, SID, Magiran, and Google Scholar using related keywords.	After removing duplicate and unrelated articles, the quality of the articles was evaluated by the authors based on the Strobe checklist. Finally, the narrative synthesis method was used to combine the data.	Pre-hospital emergency workers face stressful situations on average in Iran.
HonarvarZ , Neishabour, 2022 (56)	The effect of emotional intelligence on distress tolerance and burnout in forensic staff	Quasi-experimental study	30	Metacognition and behavior and Monte Aha positive metacognition questionnaires, Simmons and Kaher (2005) distress tolerance questionnaire and Mezlach burnout were used to collect data.	Findings indicate that metacognitive intervention has been associated with increased distress tolerance and meta-emotional dimensions and reduced burnout.
Hezaveh Z, Tehran, 2021 (68)	The effect of resilience training program on the job burnout of nurses: A quasi-experimental study	This quasi-experimental	96	Data were collected using the demographic form and Maslach and Jackson Burnout Inventory	The resilience training program reduces the burnout of nurses and, given that nursing is one of the professions that makes people prone to burnout
Roohi, Gh, Gorgan, 2008 (69)	How to manage nursing and its relationship with job burnout in nurses of Golestan University of Medical Sciences Hospitals	Descriptive-analytical	277	Tasks of planning, organizing, controlling and monitoring, directing and leading, motivating, employee participation, encouraging and punishing. and the tool for measuring job burnout is the Maslach Standard Questionnaire (MBI), including the dimensions of emotional exhaustion, depersonalization, and It was an individual failure.	The relatively favorable management style of nursing managers promises to provide better quality services. The existence of a relationship between the way of management and job burnout of nurses requires managers to pay more attention to personnel and use scientific methods of management.

Table 3. Evaluation of the Quality of Included Studies to Check the Risk of Bias

Author, City, Year (Ref)	Was an Acceptable Case Definition Used in the Study?	Was the Study Instrument That Measured the Parameter of Interest (e.g., Prevalence of Burn Out) Shown to Have Reliability and Validity (if Necessary)?	Was the Same Mode of Data Collection Used for All Subjects?	Was the Length of the Shortest Prevalence Period for the Parameter Of Interest Appropriate?	Score
Sheykhi, M. A, Zabol, 2020 (7)	Yes	Yes	Not clear	Not clear	Moderate risk of bias
Aghili, M, Gorgan, 2022 (8)	Yes	Yes	Not clear	Not clear	Moderate risk of bias
Torabi Parizi, M, Kerman, 2015 (9)	Yes	Yes	Not clear	Yes	Low risk of bias
Zare, S, Shiraz,2021 (10)	Yes	Yes	No	Not clear	Moderate risk of bias
Etesam, F, Tehran, 2021 (11)	Yes	Yes	Not clear	Not clear	Moderate risk of bias
Jalili, M, Tehran, 2021 (12)	Yes	Yes	No	No	Moderate risk of bias
Kamali, M, Shiraz, 2020 (13)	Yes	Yes	Not clear	No	Moderate risk of bias
Khorshidian, N, Shiraz, 2016 (14)	Yes	Yes	Not clear	Yes	Low risk of bias
Bazmi, E, Tehran, 2019 (15)	Yes	Yes	Not clear	Not clear	Moderate risk of bias
Shokrpour, N, Fasa, 2021 (16)	Yes	Yes	Not clear	Yes	Low risk of bias
Ershad Sarabi, R, Kerman, 2020 (17)	Yes	Yes	Yes	Not clear	Low risk of bias
Zarei, E, Western region of Iran, 2019 (18)	Yes	Yes	Yes	Not clear	Low risk of bias
Kalani, S, Isfahan, 2017 (19)	Yes	Yes	Not clear	Yes	Low risk of bias
Roghanizad, N, Tehran, 2013 (20)	Yes	Yes	No	Yes	Low risk of bias
Monsef Kasmaei, V, Iran, 2022 (21)	Yes	Yes	Yes	Not clear	Low risk of bias
Kakemam, E, Tabriz, 2021 (22)	No	Yes	Not clear	Not clear	High risk of bias
Amiri, M, Shahroud, 2019 (23)	Yes	Yes	Not clear	Yes	Low risk of bias
Homayoun Valiani, F, Tehran, 2017 (24)	Yes	Yes	Yes	Not clear	Low risk of bias
Bijari, B, Birjand, 2016 (25)	Yes	Yes	Yes	Not clear	Low risk of bias
Eslamipour, F, Isfahan, 2017 (26)	Yes	Yes	Not clear	Not clear	Moderate risk of bias
Ziaei, M, Kermanshah, 2014 (27)	Yes	Yes	Yes	No	Low risk of bias
Dashti, S, Hamedan, 2014 (28)	Yes	Yes	Not clear	Yes	Low risk of bias
Saeidi, M, Yazd, 2013 (29)	Yes	Yes	Not clear	Not clear	Moderate risk of bias
Habibi, E, Isfahan, 2015 (30)	Yes	Yes	Yes	Yes	Low risk of bias
Torgheh, M, Ghazvin, 2015 (31)	Yes	Yes	Yes	Yes	Low risk of bias
Marofi, M, Isfahan, 2016 (32)	Yes	Yes	Yes	No	Low risk of bias
Abarghouei, M, Yazd, 2016 (33)	Yes	No	Not clear	Not clear	High risk of bias
Amini, F, Tehran, 2013 (34)	Yes	Yes	Not clear	Not clear	Moderate risk of bias
Soleimani, R, Rasht, 2015 (35)	Yes	Yes	Yes	Not clear	Low risk of bias
Mosavianasl, Z, Ahvaz, 2017 (36)	Yes	Yes	Yes	Yes	Low risk of bias
Assadi, T, Shahroud, 2019 (37)	Yes	Yes	Yes	Yes	Low risk of bias
Moghaddasi, J, Shahrekord, 2013 (38)	Yes	Yes	No	No	Moderate risk of bias
Molavynejad, Sh, Ahvaz, 2019 (39)	Yes	Yes	Yes	No	Low risk of bias
Yektatalab, S, Jahrom, 2019 (40)	Yes	Yes	Not clear	No	Moderate risk of bias

Author, City, Year (Ref)	Was an Acceptable Case Definition Used in the Study?	Was the Study Instrument That Measured the Parameter of Interest (e.g., Prevalence of Burn Out) Shown to Have Reliability and Validity (if Necessary)?	Was the Same Mode of Data Collection Used for All Subjects?	Was the Length of the Shortest Prevalence Period for the Parameter Of Interest Appropriate?	Score
Darban, F, Sistan and Baluchestan, 2016 (41)	Yes	Yes	Not clear	Not clear	Moderate risk of bias
Soroush, F, Isfahan, 2016 (42)	Yes	Yes	Not clear	Yes	Low risk of bias
Noori, F, Yazd, 2022 (43)	Yes	Yes	Not clear	Yes	Low risk of bias
Taleghani, F, Isfahan, 2017 (44)	Yes	Yes	Yes	Yes	Low risk of bias
Karimi, I, Tehran, 2022 (45)	Yes	Yes	No	No	Moderate risk of bias
Amiri, M, Shahroud, Sabzevar, Neishabur, Bojnoord, 2016 (46)	Yes	Yes	Yes	Yes	Low risk of bias
Abarghouei, M, Yazd, 2016 (47)	Yes	Yes	Yes	Yes	Low risk of bias
Zakeri, M, South regions of Iran, 2021 (48)	Yes	Yes	Not clear	Not clear	Moderate risk of bias
Ghoraishian, M, Tehran & Yazd, 2021 (49)	Yes	Yes	Yes	Yes	Low risk of bias
Janighorban, M, Isfahan, 2020 (50)	Yes	Yes	Yes	Not clear	Low risk of bias
Rivaz, M, Shiraz, 2020 (51)	Yes	Yes	Yes	Not clear	Low risk of bias
Maghbouli, N, Tehran, 2021 (52)	Yes	Yes	Not clear	Not clear	High risk of bias
Shirali, Gh, Tehran 2022 (53)	Yes	Yes	Yes	Not clear	Moderate risk of bias
Masoor Roudsary, D, Tehran, 2022 (54)	Yes	Yes	Not clear	Not clear	High risk of bias
Hasani1, Z, Abadan Ahwaz, Mahshahr and Tehran, 2018 (55)	Yes	No	Yes	No	High risk of bias
Honarvar, Z, Mashhad, .2022 (56)	Yes	Yes	Yes	Yes	Low risk of bias
Talebi Ghadicolaei, H, Mazandaran, 2022 (57)	Yes	Yes	Yes	Yes	Low risk of bias
Sadeghzade, Tehran, Isfahan, and Sanandaj, 2021 (58)	Yes	Yes	Yes	No	Moderate risk of bias
Seyedi, P, hospitals in Khorramabad city, 2021 (59)	Yes	Yes	Yes	No	Moderate risk of bias
Nasrolah Beigi1, F, Tehran, 2021 (60)	Yes	Yes	Yes	No	Moderate risk of bias
Najafi Sharjabad, F, Bushehr and Borazjan, 2021 (61)	Yes	Yes	Not clear	No	High risk of bias
Mohammadnahal, I, 2020, Tehran (62)	Yes	Yes	Yes	No	Moderate risk of bias
EYNi, S, 2021, Bandar Abbas (63)	Yes	Yes	No	No	High risk of bias
Rastjoo S, Yazd, 2021 (64)	Yes	Yes	Yes	No	Moderate risk of bias
Hemmat Panah, A, Tehran, 2021 (65)	Yes	Yes	No	No	High risk of bias
Rahmani, R, Zahedan, 2020 (66)	Yes	Yes	Yes	Yes	Low risk of bias
Farrokhi, P, 2022 (67)	Yes	Yes	Yes	No	Moderate risk of bias
Honarvar, Z, Neishabour, 2022 (56)	Yes	Yes	Yes	No	Moderate risk of bias
Hezaveh, Z, Tehran ,2021 (68)	Yes	Yes	Yes	No	Moderate risk of bias
Roohi, Gh, Gorgan, 2008 (69)	Yes	Yes	Yes	No	Moderate risk of bias