



Mediating role of general health in relation to sleep quality, quality of life, job burnout, and work-life balance in nurses: A structural equation modeling study

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Abstract

Background: Quality of life (QOL) extends beyond physical well-being and is influenced by numerous factors. Job burnout has emerged as a growing concern among nurses in both developed and developing countries.

Objectives: This study aimed to investigate the mediating role of general health (GHQ) in the relationships between work-life balance, sleep quality, QOL, and job burnout among hospital nurses.

Methods: Data were collected from 300 nurses working in hospitals in Kashan, Iran, in 2024 using random sampling. Participants completed self-administered questionnaires assessing demographic characteristics, sleep quality, QOL, general health, job burnout, and work-life balance. Structural equation modeling (SEM) was employed to examine the proposed relationships among these variables.

Results: The mean (SD) scores for QOL, general health, job burnout, work-life balance, and sleep quality (QOS) were 60.41 (17.96), 27.49 (14.33), 50.64 (17.04), 74.80 (15.20), and 11.35 (6.56), respectively. SEM results indicated that the proposed model demonstrated a good fit: $P < 0.001$, root mean square error of approximation (RMSEA) = 0.01, comparative fit index (CFI) = 0.92, Tucker-Lewis index (TLI) = 0.90, $\chi^2/df = 1.72$, and standardized root mean squared residual (SRMR) = 0.04.

Conclusion: The findings suggest that hospital managers can enhance nurses' general health by improving sleep quality, promoting work-life balance, and reducing job stress, thereby mitigating job burnout and ultimately improving overall QOL.

Keywords: Quality of life, Sleep, General health, Job burnout, Work-life balance.

Introduction

Quality of life (QOL) is a concept that extends beyond physical well-being and represents one of the essential markers that should be independently assessed in various health studies as a critical outcome.^[1] The World Health Organization (WHO) defines QOL as an individual's subjective perception of their life circumstances, influenced by cultural values, personal goals, standards, needs, health status, and social relationships.^[2] Numerous factors, including culture, education, age, gender, illness, social environment, and, importantly, behavioral, occupational, and coping resources, affect QOL.^[3]

Additionally, occupational factors such as work stress and insufficient coping resources may lead to physical and mental health disorders and ultimately decrease QOL. In today's rapidly changing healthcare environment, professional demands have consistently increased, leading to closer examination of QOL among healthcare providers.^[4]

Sleep, which is essential for maintaining the body's homeostatic balance, significantly influences QOL because it is a dynamic and fundamental physiological requirement.^[5] Sleep disorders have pronounced psychological effects, negatively impacting work

performance and social interactions. Individuals with insomnia often use medications to alleviate symptoms, and statistics indicate that 70% of referrals to psychiatric services are related to sleep disturbances.^[6] Several factors, including work schedules, can affect the sleep-wake cycle.^[5] One of the most common disruptions of the circadian rhythm is night shift work, which can negatively influence both physical and psychological health and reduce productivity.^[7] Estimates from a U.S. study suggest that the prevalence of shift work has increased to 27%.^[8] Shift work disturbs sleep patterns and is associated with physical, psychological, social, and safety-related problems.^[9] Shift work is essential in many service sectors, yet no universal definition exists; generally, work outside the hours of 9 a.m. to 5 p.m. is considered shift work.^[8]

Job burnout, a major consequence of occupational stress, significantly reduces QOL, particularly among nurses.^[10] Burnout is a physical and psychological syndrome that leads to negative behaviors and attitudes toward oneself, work, and patients. It is characterized by high levels of emotional exhaustion, depersonalization, and feelings of personal inadequacy.^[11] Previous studies have reported a significant prevalence of burnout among nurses in various countries.^[12] In the United States, the prevalence of burnout among nurses ranges from 10% to 70%.^[13] In Iran, studies have reported variable prevalence: 25% in Isfahan hospitals, 75% among Tehran nurses in 2007, and 0.2% among Hamadan nurses in 2014.^[14] Job burnout adversely affects individual, family, organizational, and social relationships, leading to absenteeism, employee turnover, decreased quality of patient care, role conflict, fatigue, insomnia, reduced job satisfaction, and general health problems.^[10]

Among all healthcare professions, nurses represent the largest group of healthcare providers worldwide, and the demanding nature of their work exposes them to substantial stress due to complex issues encountered in daily practice.^[15] Such stress can result in severe adverse consequences. The QOL of nurses is crucial not only for their own well-being but also for patient outcomes.^[16] Compromised QOL among nurses can adversely affect the quantity and quality of patient care. Nurses comprise approximately 40% of the total hospital staff and often provide services 24 hours a day, with schedules frequently including night shifts.^[5] Multiple studies have emphasized that overall sleep quality among night shift nurses is significantly poorer than among day shift or rotating shift nurses. Sleep deprivation increases the risk of human error, occupational accidents, and medical errors. Fatigue and insufficient sleep are major contributors to

medication administration errors.^[7] Cognitive impairment, daytime sleepiness, anxiety, fatigue, and physical discomfort are common complaints among nurses and significantly influence their general health.^[5]

Brown et al. reported that 50% of nurses had normal general health (GH), 62.7% experienced high anxiety, 40.7% exhibited low social functioning, and 47.5% had low depression levels. Only 37.2% demonstrated moderate GH.^[8] Other studies have reported that none of the nurses had acceptable GH, with more than half exhibiting moderate GH levels.^[4] Research indicates that self-efficacy positively influences attitudes, reduces burnout, and enhances positive feelings.^[9,10] Self-efficacy also improves confidence in providing services under challenging conditions.^[11] Bandura asserts that self-efficacy is central to understanding behavior and regulating human functioning in social contexts.^[12] Dadipoor et al., found that only 37.2% of nurses had an adequate level of GH, with 50% showing normal levels and 62.7% experiencing high anxiety. Furthermore, 40.7% exhibited low social functioning, and 47.5% reported low depression levels.^[17] Other studies confirmed that none of the nurses had acceptable GH, and more than half had moderate GH levels.^[18]

Understanding the relationships among these individual variables is essential, as they may be direct or nonlinear, requiring in-depth analysis. This study employs structural equation modeling (SEM), an advanced multivariate technique that enables researchers to develop theoretical constructs, assess measurement reliability, hypothesize and test relationships, account for measurement error, and examine both direct and indirect effects. SEM uses observable indicators to represent latent variables that cannot be directly measured. While some researchers focus on identifying and validating latent variables, others primarily aim to test hypothesized relationships.^[19]

Based on the evidence presented, the QOL of nurses is a critical factor influencing healthcare delivery. Since multiple variables, including work-life balance, job burnout, sleep quality, and general health, affect QOL, investigating these factors and implementing preventive strategies is essential to improve nurses' well-being and overall patient care.

Objectives

Addressing factors that influence nurses' QOL and health in hospital settings is highly critical for providing high-quality patient care. Therefore, this study aimed to investigate the mediating role of general health in the relationship between work-life balance, sleep quality, job

burnout, and QOL among hospital nurses.

Methods

Study design and participants

This cross-sectional study employed SEM to examine the mediating role of several factors -including work-life balance, sleep quality, and job burnout- on the relationship between QOL and GH among hospital nurses. The study population consisted of nurses employed in hospitals affiliated with Kashan University of Medical Sciences, Iran. Participants were selected using random sampling from seven hospitals, with two researchers present on-site to facilitate data collection. Sampling and data collection adhered strictly to predefined inclusion and exclusion criteria. Data were collected from June to September 2024.

Following SEM guidelines, a minimum of 8–10 participants per variable is recommended. Given the study design, a total sample size of 300 was determined to be sufficient.^[19]

This study evaluated 21 variables, including five demographic variables (education, gender, marital status, shift work, and type of shift work), five primary variables (QOL, job burnout, work-life balance, quality of sleep [QOS], and general health), and eleven secondary variables, which were subcomponents of the questionnaires employed. To ensure robustness of the results, a total of 300 participants were recruited.

Inclusion criteria comprised a minimum of six months of professional experience, at least one month of tenure in the same unit, and absence of diagnosed psychological disorders. Psychological health was assessed through self-report, with participants asked about any use of psychotropic medications or history of mental health conditions before completing the questionnaires. Exclusion criteria were incomplete questionnaire responses, withdrawal from the study, or refusal to participate. All participants received detailed information regarding the study aims, provided informed consent, and were assured of anonymity and confidentiality. Data were stored securely and used solely for research purposes.

Data collection instruments

Five validated questionnaires were administered, with statistical analyses performed according to each instrument's scoring protocol and SEM applied to examine latent variable relationships.

Quality of Sleep (QOS): The QOS was originally developed by Buysse DJ in 1989 and adapted into Persian by Mezerji in 2017.^[20,21] It includes 19 items across seven components. Each item is scored from 0 (no problem) to 3

(very severe problem), and component scores are summed to obtain a total score ranging from 0 to 21. Higher scores indicate poorer sleep quality, with scores of 0, 1, 2, and 3 representing normal, mild, moderate, and severe sleep disturbances, respectively. A total score of 6 or higher indicates inadequate sleep quality. The Persian version demonstrated acceptable internal consistency (Cronbach's alpha=0.65) and validity, confirmed via factor analysis.^[21]

Quality of Life (WHO-QOL-BREF): This 26-item instrument, developed by the World Health Organization, assesses four domains: physical health, psychological health, social relationships, and environment. Raw scores for each domain are converted to standardized scores ranging from 0 to 100, with higher scores indicating better QOL. Responses are rated on a 5-point Likert scale. The Persian version, translated and back-translated by Nejat et al., demonstrated adequate internal consistency (Cronbach's alpha = 0.75) and validity, confirmed through known-group comparisons.^[22]

General Health Questionnaire (GHQ-28): This 28-item survey assesses four subscales: anxiety and sleep disorders, physical health, depression, and social functioning. Subscale scores range from 0 to 21, and total scores range from 0 to 84, with scores below 21 indicating good general health. The Persian adaptation, validated by Taghavi exhibited high reliability (Cronbach's alpha=0.93).^[23]

Job burnout: This instrument comprises 22 items rated on a 7-point Likert scale, measuring three dimensions: emotional exhaustion, depersonalization, and personal accomplishment. The Persian version, validated by Moalemi et al., demonstrated adequate internal consistency (Cronbach's alpha=0.75) and construct validity via exploratory factor analysis.^[24]

Work-Life Balance (WLB): The WLB questionnaire employs a 5-point Likert scale. Items 6, 20, and 21 are reverse-scored, and the mean of all items represents the overall WLB score. The Persian version, validated by Shakeri et al., demonstrated high reliability (Cronbach's alpha=0.89) and confirmed construct validity.^[25]

Data analysis

Following data collection, SEM was employed to evaluate the relationships and causal pathways between latent and observed variables. Model fit was assessed using absolute, comparative, and parsimonious fit indices. The root mean square error of approximation (RMSEA) was used to evaluate discrepancies between observed and predicted covariances, with values <0.08 indicating good fit. Comparative fit index (CFI) and Tucker-Lewis index (TLI) values closer to 1, standardized root mean square residual (SRMR) <0.1, and $\chi^2/df < 4$ were considered indicative of

acceptable model fit.^[26] All statistical analyses were performed using Stata 14 software.

Ethical considerations

The study was conducted in accordance with the Declaration of Helsinki. Institutional Review Board approval (code: IR.KAUMS.MEDNT.REC.1402.097) was obtained. All participants signed an informed consent.

Results

A total of 300 nurses participated in the study. The mean±SD age of the participants was 31.56±7.98 years, and the mean±SD work experience was 7.72±7.00 years. The majority of participants were female (74%), and 248 (83%) held a bachelor’s degree in nursing. Additionally, 217 participants (72%) worked rotating shifts, including morning, evening, and night shifts. The demographic characteristics of the study population are presented in Table-1.

Table-1. Demographic characteristics of the participants

Variables		Frequency (%)
Gender	Female	223 (74)
	Male	77 (26)
Education	Associate degree	11 (4)
	Bachelor	248 (83)
	Master and more	41 (13)
Marital status	Married	196 (65)
	Single	104 (35)
Shift working	Daily	83 (28)
	Shift work	217 (72)
Type of shift working	Morning	75 (25)
	Evening	40 (13)
	Night	1 (1)
	All (rotation)	184 (61)
		Means±SD
Age (year)		31.56 ± 7.98
Work experience (year)		7.72 ± 7.00

The mean ± SD scores for the main study variables were as follows: QOL, 60.41 ± 17.96; GHQ, 27.49 ± 14.33; job burnout, 50.64±17.04; WLB, 74.80±15.20; and QOS, 11.35±6.56 [Table-2].

Table-2. Mean scores of the studied questionnaires by sub-variables and final score

Questionnaire	Variables	Mean±SD
Quality of life (QOL)	Physical health (0-100)	54.12±14.57
	General health (0-100)	59.18±16.20
	Social relationship (0-100)	57.72±21.47
	Social environment (0-100)	55.20±15.71
	Total score (0-100)	60.41±17.96
General health	Physical health (0-21)	7.42±3.91
	Depression (0-21)	4.75±4.68
	Anxiety and sleep disorders (0-21)	7.63±4.51
	Social function (0-21)	7.68±3.88
	Total score (0-84)	27.49±14.33
Job burnout	Depersonalization (6-30)	8.40±4.64
	Emotional Exhaustion (6-54)	19.01±10.65
	Personal Accomplishment (6-48)	23.05±7.75
	Total score (6-132)	50.64±17.04
Work-life balance	Total score (7-189)	74.80±15.20
Quality of sleep (QOS)	Total score (7-56)	11.35±6.56

Pearson correlation analysis demonstrated a significant negative relationship between QOL and GHQ (r=-0.405, P<0.001). The strongest correlation was observed between QOS and GHQ (r = 0.640, P<0.001) [Table-3].

SEM was conducted to evaluate the hypothesized relationships among study variables. Model fit indices indicated an acceptable fit: CFI=0.92, TLI=0.90, RMSEA=0.01, SRMR=0.04, and $\chi^2/df = 1.72$ [Table-4].

The SEM results indicated significant relationships among the studied variables (P<0.001). Specifically, QOS, WLB, and job burnout had significant effects on GHQ, which, in turn, demonstrated a significant relationship with QOL. All hypothesized direct and indirect pathways in the model were statistically significant (P<0.001). These findings confirm significant associations among the main variables of the study (P<0.001) [Figure-1].

Table-3. Correlation matrix of measured variables

Variables	Quality of life	General health	Job burnout	Work-life balance	Quality of sleep
Quality of life	1				
General health	-0.405 ^a	1			
Job burnout	-0.156 ^a	0.373 ^a	1		
Work-life balance	-0.219 ^a	0.462 ^a	0.301 ^a	1	
Quality of sleep	-0.182 ^a	0.640 ^a	0.366 ^a	0.495 ^a	1

Note: ^a P < 0.001

Table-4. Fit indices of the studied model

Indicators	Estimated value	Reference value
Comparative Fit Index (CFI)	0.92	> 0.9
Tucker-Lewis Index (TLI)	0.90	> 0.9
Root Mean Square Error of Approximation (RMSEA)	0.01	< 0.05
Standardized Root Mean Squared Residual (SRMSR)	0.04	< 0.1
Chi-square (χ^2)/df	1.72	χ^2 /df < 4

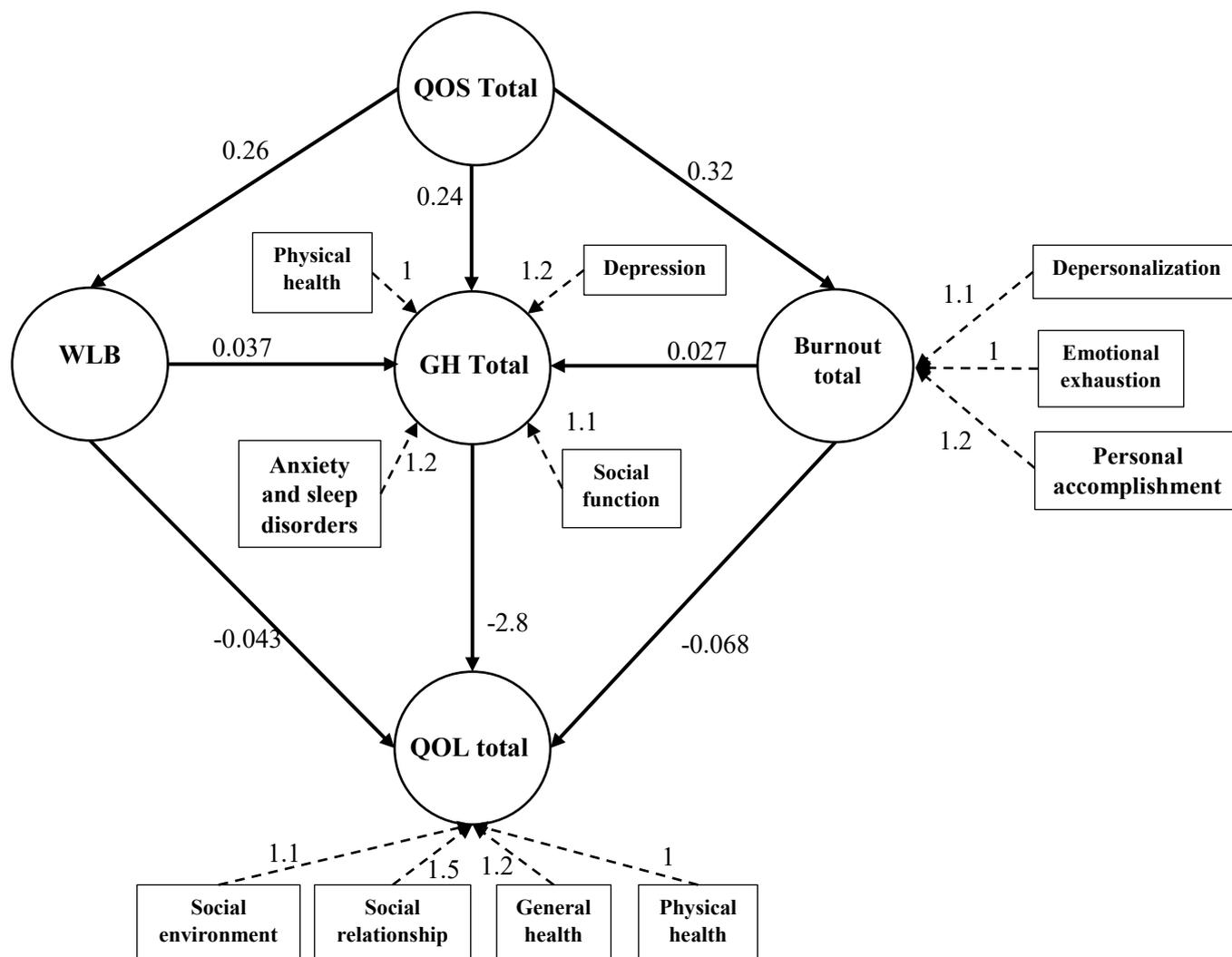


Figure-1. The final model. General Health: GH; Work Life Balance: WLB; Quality of Sleep: QOS; Quality of Life: QOL.

Discussion

This study examined the mediating role of GH in the relationship between WLB, QOS, job burnout, and QOL among hospital nurses, employing SEM. Significant pairwise correlations were observed among all variables, and the final model demonstrated good fit indices.

The results revealed that the GHQ scores and sleep quality of nurses were suboptimal. Consistent with previous studies, including those by Weston et al., the high proportion (72%) of participants working rotating shifts likely contributed to poor sleep quality.^[27] Similarly, Sobhani and Tabanfar reported that nurses in Iran

working rotating shifts experience low sleep quality.^[28] These findings emphasize that shift work, particularly night shifts, is a primary factor affecting nurses' sleep. In the present study, GHQ scores were also suboptimal, with a significant difference observed between nurses on fixed versus rotating shifts. This aligns with the findings of Chiang et al., indicating that the physical and mental health of nurses on rotating shifts is generally poorer than that of fixed-shift nurses.^[29] Married nurses on rotating shifts, with longer working hours and more night shifts, may be particularly vulnerable to health issues, underscoring the need for targeted interventions by

nursing managers and administrators. Additionally, Alipour et al., demonstrated a significant relationship between sleep quality and nurses' general health,^[30] which is supported by the correlation results of the present study.

The QOL of the nurses in this study was generally good and demonstrated significant relationships with all other examined factors. QOL is a multidimensional construct influenced by numerous factors. In this study, several key determinants were investigated, all of which showed significant associations, consistent with the overall SEM model. Nasiry Zarrin Ghabaee et al., also reported that gender significantly influences nurses' QOL, with male nurses exhibiting higher QOL than female nurses.^[31] The pressures of continuous, close contact with patients can negatively affect nurses' QOL, particularly among the majority female and married participants in this study, who balance professional responsibilities with social and familial roles.

Job burnout among participants was found to be at a concerning level and was significantly associated with QOL. Previous research indicates a negative and significant relationship between personal accomplishment and emotional exhaustion in nurses, affecting work-life quality.^[32] Emotional exhaustion, characterized by feeling overextended and depleted of emotional resources, may lead to disengagement and reduced positive affect.^[33] Decreased personal accomplishment reflects diminished competence in performing tasks and is considered a negative self-evaluation, often arising from a cycle of chronic stress.^[34] Work-life quality represents organizational culture or leadership practices that foster ownership, self-management, responsibility, and self-esteem, thereby enhancing organizational effectiveness and efficiency through respect, empowerment, and opportunities for professional growth.^[35]

WLB was also examined as a critical determinant of GH and QOL. The results indicated that WLB among participants was generally acceptable and was significantly associated with both GH and QOL. Nursing is characterized by low flexibility, high workloads, extended shifts, and often 42-hour work weeks, making work-life balance difficult to achieve.^[36] Prior studies have identified various dimensions of WLB, including working hours, sleep quality, and shift schedules.^[37] In the present study, participants maintained a reasonable balance, which was positively associated with their general health and QOL, consistent with previous findings.

Overall, the SEM model demonstrated that improvements in sleep quality and WLB, coupled with reductions in job burnout, could enhance nurses' general

health, thereby positively influencing QOL. Job burnout and WLB were directly associated with QOL, indicating that interventions targeting these factors may effectively improve nurses' overall well-being.

This study has several limitations. Its cross-sectional design precludes causal inference, though it highlights potential determinants of nurses' QOL. The length of the questionnaires led to some incomplete responses, which were excluded from analyses; this was mitigated by allowing participants to complete the surveys in a calm environment during rest periods. Additionally, the study was limited to public hospitals, constraining generalizability to private healthcare settings.

A key strength of this study is the use of SEM, which integrates multiple multivariate techniques, allowing simultaneous assessment of direct and indirect effects across multiple questionnaires and subscales. SEM provides a rigorous quantitative test of the hypothesized model, offering valuable insights into the relationships among WLB, QOS, job burnout, GH, and QOL.

Conclusion

This study demonstrated that GH, QOS, WLB, and job burnout are significantly associated with nurses' QOL. The SEM model indicated that improvements in QOS and WLB, along with reductions in job burnout, can enhance GH, thereby improving overall QOL. These findings suggest that hospital managers and administrators can enhance nurses' well-being and professional performance by implementing policies that promote QOS, foster WLB, and reduce occupational stress. Such interventions have the potential to increase nurses' GH and overall QOL, benefiting both healthcare providers and patients.

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Competing interests

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Abbreviations

General Health: GH; General Health Questionnaire: GHQ; Work Life Balance: WLB; Quality of Sleep: QOS; Quality of

Life: QOL; World Health Organization's: WHO; Root Means Square Residual Measurement Error: RMSEA; Comparative fit index: CFI; Tucker-Lewis index: TLI; Structural Equation Modeling: SEM; Standard Deviation: SD; Standardized Root Mean Squared Residual: SRMSR.

Authors' contributions

F.S.A. completed and analyzed data, wrote, and edited the manuscript. M.D.K. and M.Z. gathered field data and contributed to the manuscript. M.M. led the study and edited the manuscript. All authors read and approved the final manuscript. All authors take responsibility for the integrity of the data and the accuracy of the data analysis.

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None.

Availability of data and materials

The data used in this study are available from the corresponding author on request.

Ethics approval and consent to participate

The study was conducted in accordance with the Declaration of Helsinki. Institutional Review Board approval (code: IR.KAUMS.MEDNT.REC.1402.097) was obtained. All participants signed an informed consent form.

Consent for publication

By submitting this document, the authors declare their consent for the final accepted version of the manuscript to be considered for publication.

References

1. Khatatbeh H, Pakai A, Al-Dwaikat T, Onchonga D, Amer F, Prémusz V, et al. Nurses' burnout and quality of life: A systematic review and critical analysis of measures used. *Nurs Open*. 2022;9(3): 1564-74. doi:10.1002/nop2.936. PMID:33991408; PMCID:PMC8994939.
2. Kim S. World Health Organization Quality of Life (WHOQOL) assessment. In: *Encyclopedia of quality of life and well-being research*. Springer, Dordrecht. 2014, pp. 7260-1. doi:10.1007/978-94-007-0753-5_3282.
3. Berdida DJE, Grande RAN. Academic stress, COVID-19 anxiety, and quality of life among nursing students: The mediating role of resilience. *Int Nurs Rev*. 2023;70(1):34-42. doi:10.1111/inr.12774. PMID:35639606; PMCID:PMC9347892.
4. Ansari H, Abbasi M. Health-related quality of life among nurses in Zahedan University of Medical Sciences hospitals. *J Hospital*. 2015;14(3):47-55.
5. Kamkar M, Salimi Z, Koohi Kheili SG, Shahini N. The relationship between quality of sleep and quality of life in nurses. *J Fundam Mental Health*. 2021;23(1):91-7. doi:10.22038/jfmh.2021.18250.
6. Scharner V, Hasieber L, Sönnichsen A, Mann E. Efficacy and safety of Z-substances in the management of insomnia in older adults: a systematic review for the development of recommendations to reduce potentially inappropriate prescribing. *BMC Geriatr*. 2022;22(1):87. doi:10.1186/s12877-022-02757-6. PMID:35100976; PMCID:PMC9887772.
7. Ferri P, Guadi M, Marcheselli L, Balduzzi S, Magnani D, Di Lorenzo R. The impact of shift work on the psychological and physical health of nurses in a general hospital: a comparison between rotating night shifts and day shifts. *Risk Manag Healthc Policy*. 2016;9:203-11. doi:10.2147/RMHP.S115326. PMID:27695372; PMCID:PMC5028173.
8. Brown JP, Martin D, Nagaria Z, Verceles AC, Jobe SL, Wickwire EM. Mental health consequences of shift work: An updated review. *Curr Psychiatry Rep*. 2020;22(2):7. doi:10.1007/s11920-020-1131-z. PMID:31955278.
9. Lee SY, Song P, Choi SJ, Suh S, Kwon SO, Joo EY. The impact of the shift system on health and quality of life of sleep technicians. *Sleep Med*. 2020;76:72-9. doi:10.1016/j.sleep.2020.09.026. PMID:33120131.
10. Besharati F, Pourghane P, Farahbod F, Yousef Pour Gelsefidi H. Relationship between job burnout and quality of life of nurses in hospitals of Guilan university of medical sciences. *J Caspian Health Aging*. 2019;4(2):1-9.
11. Yuliana L, Azmy A, Nurwardana JR, Perkasa DH, Alfian R, Aisah N, et al. The impact of work stress and job burnout on turnover intention among Indonesia-China integrated industrial employees. *J Appl Bus Admin*. 2025;9(1):1-12. doi:10.30871/jaba.8108.
12. Arian M, Jamshidbeigi A, Kamali A, Dalir Z, Ali-Abadi T. The prevalence of burnout syndrome in nursing students: A systematic review and meta-analysis. *Teach Learn Nurs*. 2023;18(4):512-20. doi:10.1016/j.teln.2023.04.015.
13. Bridgeman PJ, Bridgeman MB, Barone J. Burnout syndrome among healthcare professionals. *Am J Health Syst Pharm*. 2018;75(3):147-52. doi:10.2146/ajhp170460. PMID:29183877.
14. Isfahani P. The prevalence of burnout among nurses in hospitals of Iran: a systematic review and meta-analysis. *J Health*. 2019;10(2):240-50. doi:10.29252/j.health.10.2.240.
15. Elomaa M, Eskelä-Haapanen S, Pakarinen E, Halttunen L, Lerkkanen M-K. Work-related stress of elementary school principals in Finland: Coping strategies and support. *Educational Manage Admin Leadership*. 2023;51(4):868-88. doi:10.1177/17411432211010317.
16. Oyama Y, Fukahori H. A literature review of factors related to hospital nurses' health-related quality of life. *J Nurs Manag*. 2015;23(5):661-73. doi:10.1111/jonm.12194. PMID:25807874.
17. Dadipoor S, Alavi A, Ghaffari M, Safari-Moradabadi A. Association between self-efficacy and general health: a cross-sectional study of the nursing population. *BMC Nurs*. 2021;20(1):49. doi:10.1186/s12912-021-00568-5. PMID:33743692; PMCID:PMC7981816.
18. Mohabati F, Farzi J, Hedayati P. The relationship between the quality of working life and the general health of hospitals employees in the post-Corona era: A cross-sectional study in

- hospitals of Zabol University of Medical Sciences, Iran. *J Health Field*. 2024;11(4). doi:10.22037/jhf.v11i4.43996.
19. Jobst LJ, Bader M, Moshagen M. A tutorial on assessing statistical power and determining sample size for structural equation models. *Psychol Methods*. 2023;28(1):207-21. doi:10.1037/met0000423. PMID:34672644.
 20. Zarrabi H, Novin MH, Soleimani R, Shirkhan Maleki B, Speily SK. The psychometric properties of the Persian version of the smoking urge questionnaire in the general population. *Caspian J Neurol Sci*. 2024;10(3):218-24. doi:10.32598/cjns.10.38.488.1.
 21. Mohammad Gholi Mezerji N, Naseri P, Omraninezhad Z, Shayan Z. The reliability and validity of the Persian version of Pittsburgh sleep quality index in Iranian people. *Avicenna J Neuro Psycho Physiol*. 2017;4(3):95-102. doi:10.32598/ajnpp.4.3.95.
 22. Nejat S, Montazeri A, Holakouie Naieni K, Mohammad K, Majdzadeh S. The World Health Organization Quality Of Life (WHOQOL-BREF) questionnaire: Translation and validation study of the Iranian version. *J School Public Health Instit Public Health Res*. 2006;4(4):1-12.
 23. Taghavi S. Validity and reliability of the general health questionnaire (ghq-28) in college students of Shiraz university. *J Psychol*. 2002;5(4):381-98.
 24. Moalemi S, Kavosi Z, Beygi N, Deghan A, Karimi A, Parvizi MM. Evaluation of the Persian version of maslach burnout inventory-human services survey among Iranian nurses: validity and reliability. *Galen Med J*. 2018;7:e995. doi:10.22086/gmj.v0i0.995. PMID:34466422; PMCID:PMC8343696.
 25. Shakeri M, Barzegar Bafrooei K, Panahi K. The effectiveness of training stress coping skills on work-life balance of the staff of education department in Yazd province. *J Toloo-e-Behdasht*. 2021;20(1):12-24. doi:10.18502/tbj.v20i1.6188.
 26. Bollen KA, Lilly AG, Luo L. Selecting scaling indicators in structural equation models (sems). *Psychol Methods*. 2024;29(5):868-89. doi:10.1037/met0000530. PMID:36201824; PMCID:PMC10275390.
 27. Weston G, Zilanawala A, Webb E, Carvalho L, McMunn A. Work hours, weekend working, nonstandard work schedules and sleep quantity and quality: findings from the UK household longitudinal study. *BMC Public Health*. 2024;24(1):309. doi:10.1186/s12889-024-17762-0.
 28. Sobhani S, Tabanfar S. Investigation the quality of sleep and life of industrial workers with rotating shifts. *J Occup Hyg Eng*. 2023; 10(2):81-8. doi:10.32592/joohe.10.2.81.
 29. Chiang SL, Chiang LC, Tzeng WC, Lee MS, Fang CC, Lin CH, et al. Impact of rotating shifts on lifestyle patterns and perceived stress among nurses: A cross-sectional study. *Int J Environ Res Public Health*. 2022;19(9):5235. doi:10.3390/ijerph19095235. PMID:35564629; PMCID:PMC9101667.
 30. Alipour Z, Nobahar M, Ghorbani R, Jahan E. The relationship between teamwork and moral distress among NICU nurses. *BMC Nurs*. 2024;23(1):790. doi:10.1186/s12912-024-02437-3. PMID:39468482; PMCID:PMC11520380.
 31. Nasiry Zarrin Ghabaee N, Talebpour Amir F, Hosseini Velshkolaei M, Rajabzadeh R. Quality of life and its relationship to the Job stress in among nursing staff in Hospitals of Sari, in 2015. *J Nurs Educ*. 2016;5(2):40-8. doi:10.20286/jne-05027.
 32. Zhang R, Voronov M, Toubiana M, Vince R, Hudson BA. Beyond the feeling individual: insights from sociology on emotions and embeddedness. *J Manage Stud*. 2024;61(5):2212-50. doi:10.1111/joms.12976.
 33. Farsi Z, Rajai N. Investigation of the relationship between individual characteristics with quality of work life of nurses in hospitals of Aja in Tehran. *Ebnesina*. 2015;17(2):12-8.
 34. Sadeghipour N, Aghdam BH, Kabiri S. Evaluation of burnout and job stress in care worker and comparison between front-line and second-line in care worker during coronavirus epidemic. *Health Sci J*. 2021:1-5.
 35. Li R, Zhu D, Tan Z. The effects of self-management education on self-efficacy, self-esteem, and health behaviors among patients with stroke. *Medicine (Baltimore)*. 2025;104(7):e40758. doi:10.1097/MD.00000000000040758. PMID:39960955; PMCID:PMC11835134.
 36. Weaver SH, de Cordova PB, Vitale TR, Hargwood P, Salmond S. Experiences and perceptions of nurses working night shift: a qualitative systematic review. *JBI Evid Synth*. 2023;21(1):33-97. doi:10.11124/JBIES-21-00472. PMID:35975311.
 37. Adah CA, Aghimien DO, Oshodi O. Work-life balance in the construction industry: A bibliometric and narrative review. *Engin, Construct Architect Manage*. 2025;32(1):38-58. doi:10.1108/ECAM-02-2023-0150.
 38. Lorentzon JJ, Fotoh LE, Mugwira T. Remote auditing and its impacts on auditors' work and work-life balance: auditors' perceptions and implications. *Account Res J*. 2024;37(1):1-18. doi:10.1108/arj-06-2023-0158.

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