Turnover Intention Among Nurses: The Role of Burnout Dimensions and Interprofessional Relationships With Physicians

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Abstract- Job burnout and the professional relationship between nurses and physicians affect the nurses' intention to leave their profession and ultimately the quality of care. In this study, we determine the prevalence of turnover intention among nurses and its relationship with personal and occupational characteristics, as well as burnout domains and the professional relationship between nurses and physicians. In this cross-sectional study, 296 nurses from hospitals affiliated with Tehran University of Medical Sciences were selected using a multi-stage sampling method. Burnout is assessed via the Maslach Burnout Inventory. The physician-nurse professional relationship and intention turnover were evaluated using the Shokri and Cammann questionnaires, respectively. SPSS 26 software was applied for data analysis. The rate of turnover intention among nurses was 61.5%. A significant negative relationship was found between the nurse's age, work experience, and number of children and their intention to leave the job. (P<0.01). The turnover intention was higher among nurses with rotating shifts compared to those with fixed shifts (P=0.04). The results of the Pearson correlation analysis revealed a significant positive relationship between the burnout dimensions of emotional exhaustion and depersonalization, and turnover intention (P<0.01), as well as a negative relationship between the dimension of personal achievement and the nurse's abandonment tendency (P<0.01). Additionally, there was a significant negative relationship between the doctor-nurse professional relationship and nurses' intention to quit (P<0.01). Our findings indicate that emotional exhaustion and a positive nurse-physician professional relationship significantly increase turnover intention among nurses, while personal accomplishment decreases it. Depersonalization did not have a significant impact on turnover intention. These results highlight the importance of addressing burnout factors and fostering collaborative interprofessional relationships to reduce turnover intention and enhance retention in healthcare settings.

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Introduction

Almost half of all healthcare workers worldwide are nurses and midwives, and nurses are cornerstones of the healthcare system, playing a critical role in disease prevention and delivering medical careo patients (1). According to Boniol *et al.*, there will be a growing demand for an additional 4.5 million nursing professionals by030 (2). The shortage of the nursing workforce is a global concern that may compromise patient care, safety, and outcomes (3,4). The turnover of staff is a contributing factor to this shortage, which imposes additional costs on the healthcare system in training and recruiting new workers (5). Jones estimates that turnover costs $82,000 to $88,000 for each registered nurse in the United States in the fiscal year 2007 (6).

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Voluntary turnover refers to the intentional quitting of an occupation by an employee within an organization while the individual possesses the physical capability to continue working at the time of resignation (7). A multicenter study involving 1,854 nurses in China founa high turnover intention rate of 69.4% among them (8). According to a meta-analysis by Xu *et al*., more than 27% of worldwide intensive care nurses consider leaving their careers. This issue can be addressed by identifying the factors that impede personnel from continuing their profession and considering them inealth system policies (9). Demographic and personal characteristics, e.g., sex, age, marital status, department of service, and duration of employment, as well as organizational factors such as insufficient nursing staff, workload, workplace injustice and violence, interpersonal relationships, burnout, and job dissatisfaction, influence the nurse's tendency to leave their occupation (10-12).

Burnout, as described in the 11th revision of the International Classification of Diseases (ICD-11), arises from overwhelming occupational stress and consists of 3 distinct elements: 1) excessive fatigue and lowered energy; 2) a feeling of mental disengagement towards one's job; and 3) diminished efficacy (13). Yoon *et al*., in a study of 283 nurses from four general hospitals in Seoul, found that the intentiono quit was significantly correlated with work stress, burnout, and occupational climate (14). Nantsupawat *et al*., in a cross-sectional survey of 1351 nurses using the Maslach Burnout Inventory, revealed that a more favorable work environment was significantly associated with lower job dissatisfaction, burnout, and intent to leave. Additionally, collaboration between doctors and nurses was found to have significant relationship with lower turnover intent (15). According to Baggs et al., the relationship between physicians and nurses is crucial for delivering optimal care, and refining this professional communication can significantly impacthe outcome of hospitalization (16).

This study aims to determine the prevalence of turnover intention among nurses and its relationship with work burnout, as well as the professional relationship between physicians and nurses.

Materials and Methods

Study design and sampling

This study was a cross-sectional study performed at three university hospitals in Tehran, Iran. The inclusion criterion was having at least one year of work experience. Individuals who refused to complete the questionnaires were excluded from the analysis. We assumed a prevalence of high turnover intention of 63%, based on Miligi et al.'s work with 126 nurses (17), and used Cochran's (1977) formula to calculate the appropriate sample size, with a margin of error of 0.06 and a 95% confidence level. To consider potential dropout and nonresponse, a 10% increase was applied to the initial sample size, and the final sample size of this study was determined to be 290 participants.

The samples were collected through multi-stage sampling to ensure representativeness of the entire population. Nurses from departments of: 1) internal medicine and cardiology; 2) general surgery and neurosurgery; 3) emergency; and 4) intensive care units (ICUs) and cardiac care units (CCUs) were included proportionally to the number of nurses in each of the hospitals and the targeted departments. From hospital A, 190 nurses (64.2% of the total sample) were selected and distributed as 68 from internal medicine and cardiology, 40 from surgery, 37 from emergency departments, and 45 from ICUs. From hospital B, 60 nurses (20.3%) were involved in the study, structured as follows: 21 from internal medicine, 13 from surgery, 12 from emergency departments, and 14 from ICUs. From hospital C, 46 nurses (15.5%) were included, organized as: 18 from internal medicine, 9 from surgery, 8 from emergency units, and 11 from ICUs.

Data collection

Study participants' characteristics, including age, sex, marital status, number of children, years of work experience, type of employment, regular shift type, and working department, were collected. The Maslach Burnout Inventory (1981) was utilized to assess burnout among nurses. This inventory was first adapted and validated for use in Iran by Filian in 1993 with a reliability coefficient of 0.78 using Cronbach's alpha (18). The Maslach inventory contains 22 questions to assess 3 domains: 1) emotional exhaustion, 2) depersonalization, and 3) a lack of personal accomplishment. Respondents score every question via a Likert scale ranging from 0 to 7 (19). Items 1, 2, 3, 6, 8, 13, 14, 16, and 20 evaluate emotional exhaustion ranging from 0 to 54. A score of 17 or below indicates low, 8 to 29 indicates moderate, and 30 or above implies a high level of emotional tiredness. Depersonalization is measured through items 5, 10, 11, 15, and 22, on a scale of 0 to 30. A score of 5 or below suggests low, 6 to 11 indicates moderate, and 12 or above shows high depersonalization. Personal accomplishment is assessed through questions 4, 7, 9, 12, 17, 18, 19, and 21, which range from 0 to 48. A score of 33 or below indicates

significant, 34 to 39 indicates moderate, and 40 or above indicates low personal accomplishment. The scores for items 1, 2, 3, 5, 6, 8, 10, 11, 13, 14, 15, 16, 20, and 22 are interpreted in the opposite direction.

An inventory designed by Shokri was applied to determine the professional relationship between doctors and nurses. This questionnaire includes 25 items, scored on a 1-5 Likert scale, ranging from very low to very high. The minimum obtained score is 25 and the maximum is 125. A score of 25 to 58 indicates a weak relationship, while scores of 59 to 92 and 93 to 125 denote moderate and strong professional relationships, respectively. The reliability of this test was estimated at 0.95 via Cronbach's alpha (20).

We employed a questionnaire designed by Cammann and colleagues to evaluate turnover intention, which consists of 3 items scored on a 0-6 Likert scale. A score of 0 indicates strong disagreement, while a score of 6 demonstrates strong agreement, and the third item was scored inversely. The overall possible attainable score ranges from 0 to 18 (21). The reliability of this questionnaire was calculated by Arshadi using Cronbach's alpha, which yielded a value of 0.87 (22).

Data analysis

The entire data was entered into SPSS version 21.0. Qualitative variables were reported as percentages and frequencies, while quantitative amounts were described as means and standard deviations (SD). To explore the relationships between the dependent and independent parameters, chi-square tests, independent t-tests, ANOVA, and Pearson correlation tests were conducted according to the types of variables. A multiple regression analysis was performed to identify the effects of burnout and the nurse-physician professional relationship on turnover intention. The regression model included turnover intention as the dependent variable, while emotional exhaustion, depersonalization, personal achievement, and nurse-physician professional relationship were treated as independent variables. The model's fit was evaluated using R-squared (R^2) and adjusted R-squared (adjusted R^2) values. $P<0.05$ is considered statistically significant.

Results

Participants characteristics

Table 1 demonstrates a description of our sample. 23.3% of the nurses were male (n=69), and the mean age of the individuals was 34.87 (SD=6.96). Ninety-one nurses (30.7%) in the sample were single, and the mean number of children was 0.85 (SD=0.91), ranging from 0 to 4. The mean work experience was 10.91 years (SD=6.32, Min=1, Max=29). In terms of work shifts, 68 out of the nurses (23%) had fixed shifts, while 77% (n=228) worked in rotating shifts. 107 out of nurses (36.1%) worked in the internal medicine department, followed by emergency (23.6%), surgery (20.9%), and ICU (19.3%), respectively. 15.5% of the sample had a history of chronic non-communicable diseases.

Table 1. Participants characteristics

Variable		Mean (SD)/number (%)	Min-Max
Age		34.87 (6.96)	22 - 56
Gender: Male		69 (23.3%)	-
Marital status	**Single**	91 (30.7%)	-
	Married	205(69.3%)	-
Number of children		0.85 (0.91)	0 - 4
Work experience		10.91 (6.32)	1 - 29
Work shift	**Fix**	68 (23.0)	-
	Rotating	228 (77.0)	-
Department	**Internal**	107 (36.1)	-
	Surgery	62 (20.9)	-
	Emergency	70 (23.6)	-
	ICU	57 (19.3)	-
Chronic diseases	**Yes**	46(15.5%)	-
	No	250(84.5%)	-
BMI		24.92 ± 3.29	-

ICU: Intensive Care Unit, BMI: Body Mass Index

Table 2 demonstrates an overview of turnover intention, burnout dimensions, and nurse-physician professional relationships among participants. 182 nurses (61.5%) intended to quit their position, while 114 out of the individuals (38.5%) expressed no turnover intention. The mean turnover intention score in the Cammann scale

was 11.27±4.53 among the population. In terms of the 3 burnout parameters in the Maslach inventory, 41.95% (n=124) of participants declared high levels of emotional exhaustion. In contrast, 39.2% (n=116) reported moderate emotional exhaustion, and 18.9% (n=56) exhibited low levels. In the case of depersonalization, 33.4% (n=99) of respondents experienced significant depersonalization, whereas 42.6% (n=126) reported moderate depersonalization, and 24.0% (n=71) reported low depersonalization. The mean score of depersonalization among the respondents was 9.64±5.35, according to the Maslach scale. Regarding personal accomplishment, the majority of respondents (82.4%, n=244) reported significant reductions in their levels of personal accomplishment. Moderate and low levels of decline in personal achievement were reported by 42 (14.2%) and 10 (3.4%) individuals, respectively, within the population. Evaluation of the interprofessional collaboration between nurses and physicians revealed that 36.1% (n=107) of the population reported satisfying relationships, while 63.9% (n=189) reported moderate relationships, and no participants reported weak professional relationships. The mean score of the physician-nurse professional relationship was 80.02±13.37.

Table 2. Overview of turnover intention, burnout aspects, and nurse-physician professional relationship

Variable			Number (%)	Mean±SD	Min-Max
Turnover intention		**Yes**	182 (61.5)	11.27 ± 4.53[1]	0 – 18[1]
		No	114 (38.5)		
Burnout	**Emotional Exhaustion**	**Low**	56 (18.9)	26.47±9.82[2]	1 - 54[2]
		Moderate	116 (39.2)		
		High	124 (41.9)		
	Depersonalization	**Low**	71 (24.0)	9.64±5.35[2]	0-26[2]
		Moderate	126 (42.6)		
		High	99 (33.4)		
	Lack of Personal Accomplishment	**Low**	10 (3.4)	25.84±7.24[2]	9 - 48[2]
		Moderate	42 (14.2)		
		High	244 (82.4)		
Nurse-Physician Professional Relationship		**Low**	00 (0.0)	80.02±13.37[3]	60 - 109[3]
		Moderate	189 (63.9)		
		High	107 (36.1)		

1 – Measured by the Cammann Inventory
2 – Measured by the Malach Inventory
3- Measured by the Shokri Inventory

The correlation between turnover intention and participants' characteristics, i.e., age, gender, marital status, number of children, work experience, type of work shift, department, presence of chronic disease, and BMI, is shown in Table 3. Turnover intention was significantly higher among female nurses with a *P* of 0.02. A significant relationship was found between lower age, fewer children, and work experience, and turnover intention, with a *P* of <0.01. In addition, turnover intention was higher among nurses with rotating shifts compared to those with fixed shifts, with a *P* of 0.04. However, no significant relationship was reported between marital status, working department, chronic diseases, and BMI and turnover intention, with *P* of 0.1, 0.25, 0.99, and 0.73, respectively.

Table 4 demonstrates the distribution of burnout dimensions and nurse-physician professional collaboration across participants with and without turnover intention. For emotional exhaustion, 93.5% of participants with substantial emotional exhaustion reported turnover intention, while the majority of nurses with low emotional exhaustion (91.1%) had no intention to abandon their position. Moreover, among participants with moderate emotional fatigue, 52.6% expressed a turnover intention, and 47.4% did not.

Regarding depersonalization, most individuals with high depersonalization (82.8%) reported turnover intention, while 17.2% did not. Seventy-six nurses (60.3%) from the moderate depersonalization group acknowledged turnover intention, while 39.7% did not. Among those with low depersonalization levels, 33.8% had turnover intention, compared to 66.2% who did not. All ten nurses without substantial personal success had no intention of turnover. Additionally, 70.1% of participants with a high and 26.2% of them with a moderate decrease in personal accomplishment reported turnover intention. In terms of the nurse-physician professional relationship, 76.2% of participants with moderate professional

relationships reported an intention to turnover, compared to 23.8% who did not. Conversely, 35.5% of those with high professional relationships reported an intention to turnover, while 64.5% did not. No participants reported a low professional relationship score.

The association between burnout dimensions and physician-nurse relationship scores, as well as turnover intention scores, is described in Table 5 via Pearson correlation analysis. There was a significant positive relationship between emotional fatigue and depersonalization with turnover intention, with Pearson correlations of 0.69 and 0.42 and *P* of <0.01. On the contrary, a significant negative relationship was found between the score of personal accomplishment and turnover intention (Pearson correlation=-0.50, *P*<0.01). Additionally, a significant negative relationship was observed between the doctor-nurse relationship and turnover intention (Pearson correlation coefficient=-0.50, *P*<0.01).

We performed a multiple regression analysis to assess the effects of emotional exhaustion, depersonalization, personal achievement, and the physician-nurse professional relationship on turnover intention. The detailed results are mentioned in Table 6. The model explains a significant portion of the variance in turnover intention, with R=0.72, R^2=0.523, and adjusted R^2=0.516. Emotional exhaustion was a significant positive predictor of turnover intention (B=0.27, SE=0.03, β=0.58, *P*<0.01). In contrast, depersonalization was not a significant predictor of turnover intention (B=0.08, SE=0.46, β=0.09, *P*=0.09). Personal accomplishment was reported as a significant negative predictor of turnover intention (B= -0.08, SE=0.03, β=-0.13, *P*=0.01). Furthermore, the nurse-physician professional relationship was also a significant negative predictor of turnover intention (B=-0.06, SE=0.02, β=-0.17, *P*<0.01).

Table 3. The correlation between turnover intention and participants' characteristics

Variable		Turnover Intention + Mean (SD)/number (%)	Turnover Intention – Mean (SD)/number (%) /	*P*
Age		33.17±6.05	37.58±7.47	< 0.01
Gender:	**Male**	36 (52.2)	33 (47.8)	0.02
	Female	146 (64.3)	81(35.7)	
Marital status	**Single**	66 (72.5)	25 (27.5)	0.1
	Married	116 (56.6)	89 (43.4)	
Number of children		0.70±0.88	1.10±0.91	< 0.01
Work experience		9.51±5.69	13.15±6.64	< 0.01
Work shift	**Fix**	31 (45.6)	37 (54.4)	0.04
	Rotating	151 (66.2)	77 (33.8)	
Department	**Internal**	71 (66.4)	36 (33.6)	0.27
	Surgery	39 (62.9)	23 (37.1)	
	Emergency	34 (59.6)	23 (40.4)	
	ICU	38 (54.3)	32 (45.7)	
Chronic diseases	**Yes**	26 (56.5)	20 (43.5)	0.99
	No	156 (62.4)	94 (37.5)	
BMI		24.91±3.01	24.94±3.70	0.73

ICU: Intensive Care Unit, BMI: Body Mass Index

Table 4. The distribution of burnout domains and nurse-physician professional relationship across participants with and without turnover intention

Variable			Turnover Intention+ Mean (SD)/number (%)	Turnover Intention- Mean (SD)/number (%)
Burnout	**Emotional Exhaustion**	Low	5(8.9%)	51(91.1%)
		Moderate	61(52.6%)	55(47.4%)
		High	116(93.5%)	8(6.5%)
	Depersonalization	Low	24(33.8%)	47(66.2%)
		Moderate	76(60.3%)	50(39.7%)
		High	82(82.8%)	17(17.2%)
	Lack of Personal Accomplishment	Low	00(0.0%)	10(100.0%)
		Moderate	11(26.2%)	31(73.8%)
		High	171(70.1%)	73(29.9%)
Nurse-Physician Professional Relationship		Low	00(0.0%)	00(0.0%)
		Moderate	144(76.2%)	45(23.8%)
		High	38(35.5%)	69(64.5%)

Table 5. Relationship between burnout and the physician-nurse relationship with turnover intention

Variable		Pearson correlation	*P*
Burnout	Emotional Exhaustion	0.69	< 0.01
	Depersonalization	0.42	< 0.01
	Personal Accomplishment	-0.50	< 0.01
Doctor-Nurse professional relationship		-0.50	< 0.01

Table 6. Regression analysis of factors influencing turnover intention

Variable	Unstandardized coefficient (B)	Coefficients standard Error (SE)	Standardized coefficient (β)	*P*
Emotional exhaustion	0.27	0.03	0.58	<0.01
Depersonalization	0.08	0.46	0.09	0.09
Personal Accomplishment	-0.08	0.03	-0.13	0.01
Nurse-Physician Professional Relationship	-0.06	0.02	-0.17	<0.01

Discussion

This study aims to assess turnover intention, burnout dimensions, and nurse-physician professional relationships among nurses of 3 university hospitals. Additionally, we aimed to clarify the correlation between personal and occupational parameters, burnout domains (i.e., emotional fatigue, depersonalization, and lack of personal accomplishment), and the nurse-physician professional relationship with turnover intention across the population. Furthermore, we have conducted a regression analysis to identify the factors contributing to nurses' intention to leave their profession.

In this survey, the frequency of turnover intention was 61.5% among participants, representing a notable increase compared to previous studies. In a 2013 cross-sectional study of 23,159 nurses, 9 outf every 100 nurses considered resigning from their position (23). In a 2023 meta-analysis of 23,140 intensive care nurses from 23 countries, 23.5% of them intended to leaveheir occupation (24), the prevalence of turnover intention was 35%, 32.7%, and 56%, respectively (25-27).

In our study, younger age, female gender, shorter employment tenure, having fewer children, and working rotating shifts were found to be contributors to higher turnover intention. In the studied population, nurses with younger ages had less work experience and fewer children on average. Several studies have demonstrated an inverse relationship between age and turnover intention, which alignsith our study (28,29) and (30). The association between gender and intention turnover has been a topic of controversy in previous studies. Although several studies indicated female nurses have a higher intention to quit their job (27,31), some studies showed higher rates of turnover intention among males, and several articles claimed no relationship between this intention and gender. The role of rotating work shifts in increasing the desire for job turnover is expressed in studies by Haji Muhammad Hoseini and Yu and colleagues, independently (32,33). Sleep disturbances resulting from inconsistent lifestyle routines may lead to dissatisfaction among healthcare workforces compared to those with fixed schedules, who experience lower occupational stress and better physical and mental health.

Our findings suggest that marital status, working department, history of chronic diseases, and BMI were not correlated with nurses' decisions to abandon their profession. In a study by Ayalew *et al*., no significant relationship was observed between marital status and intention turnover, which is in accordance with our findings (34). Some studies have also shown a relationship between marital status and both job burnout and turnover intention (35) and (36). Positive family support in married life may act as a protective factor against the negative effects of job stress. In previous studies, it has been shown that nurses in intensive care and emergency departments experience higher levels of job stress, burnout, and turnover intention (37-39). In the study by Ki *et al*., there was a relationship between stronger desire to quit and lower BMI (40), in line with

the study by Shimizu *et al*. (41), in contrast with a study by Yan *et al*., which demonstrated no relationship between job turnover and BMI (42).

In this study, the mean scores on the Maslach Inventory revealed that most nurses suffered from high levels of reduced personal accomplishment, moderate depersonalization, and emotional exhaustion. These results were parallel to Wang *et al.*'s previous publication on 717 nurses in China (43). In the study by Spooner-Lane and colleagues, moderate degrees of burnout were observed in all three dimensions of burnout, which is compatible with our findings regarding theimensions of depersonalization and emotional tiredness (44). Kar and Suar believe that stressors such as role conflict, role ambiguity, taking on responsibilities beyond one's capacity, intrapersonal and interpersonal conflicts, and lack of autonomy induce high levels of emotional exhaustion and reduced personal accomplishment, which ultimately leads to a decrease in the individual's decision to quit their job (45). The results of the research showed that 42.6% of nurses had a moderate level of depersonalization on the subscale. Long-term emotional exhaustion weakens the employee's mental capacity to cope with work struggles, leading to disinterest and apathy toward their job, known as depersonalization. These issues ultimately lead to diminished self-esteem and job satisfaction, as well as a desire toleave one's job (46).

According to the results of the Pearson correlation analysis, a significant relationship was found between all dimensions of job burnout and turnover intention, with a P of <0.01. The strongest correlation was observed between emotional fatigue and turnover. The regression model confirmed the relationship in terms of emotional exhaustion and personal accomplishment. In a study conducted by Karimi et al. in Iran, a significant negative relationship was found between personal attainment and turnover intention among nurses (47). Various studies have also confirmed the relationship between job burnout and turnover intention (27,48,49).

In this study, the majority of nurses reported a moderate level of relationship with their physician coworkers, and the nurse-physician professional relationship was inversely linked to turnover intention. The relationship between favorable nurse-physician collaboration and staff's job satisfaction is demonstrated in a study by Lee *et al*., (50). Additionally, Poku and colleagues suggested that burnout acts as a mediator between nurses' relationshipsith physicians and their tendency to quit (51).

The study's cross-sectional nature limits the ability to establish the causality linkage between variables, and prospective longitudinal studies would be needed to assess these relationships over time. The participants in this study included nurses from various departments, including internal medicine, surgery, emergency, and ICU, in three hospitals. Due to the limited sample size, the results may not be generalizable to nurses working in different healthcare settings. Therefore, it demands future comprehensive studies with a larger sample to examine nurses working in other departments and medical centers. A number of individuals refused to cooperate in completing the questionnaires, mostly due to fatigue resulting from their work shift. To address this issue, we distributed the questionnaires at the beginning of the work shift and collected them at the end of the shift. In this study, job burnout, the doctor-nurse working relationship, and intention to leave the job were assessed by self-report, which may induce bias in the accuracy of responses. Therefore, it is recommended that interviews also be used in future research work. In addition, unpleasant incidents in the workplace that affect employees may influence their responses and ultimately impact the study's results, which are beyond the researcher's control. Although the current survey suggested correlations between key factors, such as burnout and professional relationships, and turnover tendency, other potential influencing factors, including salary satisfaction, organizational elements, and opportunities for professional development, were not investigated in the analysis, which may overlook important contributors to turnover intention.

In conclusion, emotional exhaustion was the strongest positive predictor of turnover desire and personal accomplishment, and nurse-physician professional relationships were significant negative predictors. Demographic characteristics, i.e., younger age, female gender, lower work experience, fewer children, and working rotating shifts, were all significantly associated with higher turnover intention. However, no significant relationships were found between turnover intention and marital status, department, chronic diseases, or BMI.

It is recommended that hospital managers provide the necessary conditions for counselors to be present in hospitals, offering solutions to reduce burnout and nurses' intention to leave, based on the results of this study. Some of these strategies include increasing the number of nurses in high-pressure departments to reduce workload, ensuring timely payment of salaries and benefits, prioritizing nurses' well-being, providing appropriate welfare services, and implementing psychological support services for nurses experiencing burnout. Given

the significant relationship between the nurse-physician working dynamic and the intention to leave, clarifying nurses' roles and responsibilities, granting them more power and authority, and reducing physician-dominated environments in departments can help lower nurses' intention to leave.

References

1. Nursing and Midwifery. (Accessed at Sep, 01, 2024, https://www.who.int/health-topics/nursing#tab=tab_2.)
2. Boniol M, Kunjumen T, Nair TS, Siyam A, Campbell J, Diallo K. The global health workforce stock and distribution in 2020 and 2030: a threat to equity and 'universal' health coverage? BMJ Glob Health 2022;7:9316.
3. Heinz D. Hospital nurse staffing and patient outcomes: a review of current literature. Dimens Crit Care Nurs 2004;23:44-50.
4. Buerhaus PI, Donelan K, Ulrich BT, Norman L, DesRoches C, Dittus R. Impact of the nurse shortage on hospital patient care: comparative perspectives. Health Aff Millwood 2007;26:853-62.
5. May JH, Bazzoli GJ, Gerland AM. Hospitals' responses to nurse staffing shortages. Health Aff Millwood 2006;25:w316-w323.
6. Jones CB. Revisiting nurse turnover costs: adjusting for inflation. J Nurs Adm 2008;38:11-8.
7. Morrell K, Loan-Clarke J, Wilkinson A. Unweaving leaving: The use of models in the management of employee turnover. Int J Manag Rev 2001;3:219-44.
8. Liu Y, Duan Y, Guo M. Turnover intention and its associated factors among nurses: a multi-center cross-sectional study. Front Public Health 2023;11.
9. Xu G, Zeng X, Wu X. Global prevalence of turnover intention among intensive care nurses: A meta-analysis. Nurs Crit Care 2023;28:159-66.
10. Chan ZCY, Tam WS, Lung MKY, Wong WY, Chau CW. A systematic literature review of nurse shortage and the intention to leave. J Nurs Manag 2013;21:605-13.
11. Liu Y, Duan Y, Guo M. Turnover intention and its associated factors among nurses: a multi-center cross-sectional study. Front Public Health 2023;11.
12. Halter M, Boiko O, Pelone F, Beighton C, Harris R, Gale J, et al. The determinants and consequences of adult nursing staff turnover: a systematic review of systematic reviews. BMC Health Serv Res 2017;17.
13. ICD-11 classifies burnout as an occupational condition | Sedgwick. (Accessed at Sep, 02, 2024, https://www.sedgwick.com/blog/icd-11-classifies-burnout-as-an-occupational-condition/?loc=eu.)
14. Young S. Influences of Job Stress and Burnout on Turnover Intention of Nurses. J Korean Acad Nurs Adm 2010;16:507-16.
15. Nantsupawat A, Kunaviktikul W, Nantsupawat R, Wichaikhum OA, Thienthong H, Poghosyan L. Effects of nurse work environment on job dissatisfaction, burnout, intention to leave. Int Nurs Rev 2017;64:91-8.
16. Critical Care Medicine. (Accessed at Sep 02, 2024, https://journals.lww.com/ccmjournal/abstract/1999/09000/association_between_nurse_physician_collaboration.45.aspx.)
17. The Impact of Work Stress on Turnover Intentions among Palliative Care Nurses in Saudi Arabia. Int J Nurs. (Accessed at Sep, 07, 2024, https://ijn.thebrpi.org/vol-6-no-2-december-2019-abstract-8-ijn.)
18. Filian E. Evaluation of burnout and its correlation with coping mechanisms in nurses of educational hospitals of Tehran [dissertation]. Tehran University of Medical Sciences 1993;45.
19. Cleary R. Dictionary of Statistics and Methodology. J Am Stat Assoc 1999;94:657.
20. Shokri A, Yazdan Panah A, Vahdat S. The Professional Relationship between the Nurses and Physicians from their Own Point of View. Arumshcj 2013;15:69-76.
21. Lawler E, Cammann C, Nadler D, Jenkins D. Michigan organizational assessment questionnaire. J Vocat Behav 1979.
22. Hayati D, Neisi A, Arshadi N. The Effect of Pay Satisfaction on Turnover Intention: Mediating Role of Job Satisfaction, Organizational Commitment, and Work Motivation. Psychol Achiev 2012;19:19-42.
23. Heinen MM. Nurses' intention to leave their profession: a cross sectional observational study in 10 European countries. Int J Nurs Stud 2013;50:174-84.
24. Xu G, Zeng X, Wu X. Global prevalence of turnover intention among intensive care nurses: A meta-analysis. Nurs Crit Care 2023;28:159-66.
25. Mosadeghrad AM. Occupational Stress and Turnover Intention: Implications for Nursing Management. Int J Health Policy Manag 2013;1:169.
26. Sokhanvar M, Kakemam E, Chegini Z, Sarbakhsh P. Hospital nurses' job security and turnover intention and factors contributing to their turnover intention: A cross-sectional study. Nurs Midwifery Stud 2018;7:133.
27. Ariapooran S, Mosavi SV, Amirimanesh M. Turnover Intention of Nurses in the outbreak of COVID-19: The Role of Compassion Fatigue, Compassion Satisfaction and Burnout. Q J Nurs Manag 2021;10:80-93.
28. Takase M, Teraoka S, Yabase K. Retaining the nursing workforce: factors contributing to the reduction of nurses' turnover intention in Japan. J Nurs Manag 2016;24:21-9.

29. Takase M, Teraoka S, Yabase K. Retaining the nursing workforce: factors contributing to the reduction of nurses' turnover intention in Japan. J Nurs Manag 2016;24:21-9.
30. He R, Liu J, Zhang WH, Zhu B, Zhang N, Mao Y. Turnover intention among primary health workers in China: a systematic review and meta-analysis. BMJ Open 2020;10.
31. Kaddourah B, Abu-Shaheen AK, Al-Tannir M. Quality of nursing work life and turnover intention among nurses of tertiary care hospitals in Riyadh: A cross-sectional survey. BMC Nurs 2018;17:1-7.
32. Haji Mohammad Hoseini M, Asayesh H, Amaniyan S, Sharififard F, Elahi A, Yaghoubi Kopaie S. Role conflict and role ambiguity as predictors of turnover intention among nurses. J Nurs Midwifery Sci 2021;8:49-53.
33. Yu M, Kang KJ. Factors affecting turnover intention for new graduate nurses in three transition periods for job and work environment satisfaction. J Contin Educ Nurs 2016;47:120-31.
34. Ayalew F. Factors Affecting Turnover Intention among Nurses in Ethiopia. World Health Popul 2015;16:62-74.
35. Halter M. The determinants and consequences of adult nursing staff turnover: a systematic review of systematic reviews. BMC Health Serv Res 2017;17.
36. Kim SO, Moon SH. Factors Influencing Turnover Intention among Male Nurses in Korea. Int J Environ Res Public Health 2021;18:9862.
37. Chen H, Li G, Li M, Lyu L, Zhang T. A cross-sectional study on nurse turnover intention and influencing factors in Jiangsu Province, China. Int J Nurs Sci 2018;5:396-402.
38. Cao J, et al. Nurses' turnover intention and associated factors in general hospitals in China: A cross-sectional study. J Nurs Manag 2021;29:1613-22.
39. Kavaklı BD, Yildirim N. The relationship between workplace incivility and turnover intention in nurses: A cross-sectional study. J Nurs Manag 2022;30:1235-42.
40. Ki J, Ryu J, Baek J, Huh I, Choi-Kwon S. Association between Health Problems and Turnover Intention in Shift Work Nurses: Health Problem Clustering. Int J Environ Res Public Health 2020;17:4532.
41. Shimizu T, Eto R, Horiguchi I, Obata Y, Feng Q, Nagata S. Relationship between turnover and periodic health check-up data among Japanese hospital nurses: a three-year follow-up study. J Occup Health 2005;47:327-33.
42. Yan S, et al. The prevalence of turnover intention and influencing factors among emergency physicians: a national observation. Hum Resour Health 2021;19:1-9.
43. Wang S, Liu Y, Wang L. Nurse burnout: personal and environmental factors as predictors. Int J Nurs Pract 2015;21:78-86.
44. Spooner-Lane R, Patton W. Determinants of burnout among public hospital nurses. Aust J Adv Nurs 2007;25:8-16.
45. Kar S, Suar D. Role of Burnout in the Relationship between Job Demands and Job Outcomes among Indian Nurses. Indian J Public Adm 2014;39:23-37.
46. Malach-Pines A. Nurses' burnout: an existential psychodynamic perspective. J Psychosoc Nurs Ment Health Serv 2000;38:23-31.
47. 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.
48. Xiaoming Y, Ma BJ, Chang CL, Shieh CJ. Effects of workload on burnout and turnover intention of medical staff: A study. Stud Ethno-Med 2014;8:229-37.
49. Ran L, Chen X, Peng S, Zheng F, Tan X, Duan R. Job burnout and turnover intention among Chinese primary healthcare staff: the mediating effect of satisfaction. BMJ Open 2020;10.
50. Lee SY, Kim CW, Kang JH, Yoon TH, Kim CS. Influence of the Nursing Practice Environment on Job Satisfaction and Turnover Intention. J Prev Med Public Health 2014;47:258.
51. Poku CA, Donkor E, Naab F. Impacts of Nursing Work Environment on Turnover Intentions: The Mediating Role of Burnout in Ghana. Nurs Res Pract 2022;2022:1310508.