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Occupational Violence and Its Association with the Quality of Working Life of Nurses in Intensive Care Units of Educational-Medical Centers in 2019

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Abstract

Background: Violence is a critical phenomenon in clinical settings, which negatively affects the nurses' quality of working life (QoWL).
Objectives: The aim of this study was to determine occupational violence and its association with nurses' QoWL in intensive care units.
Methods: This was a descriptive, analytical, correlational study, the participants of which were 220 nurses working in the intensive care units of Mazandaran educational-medical centers. The participants were selected by using the stratified random sampling method in 2019. Data collection instruments were three questionnaires, namely Dumont Occupational Violence, Walton QoWL, and Demographic Information. The data were analyzed using SPSS, version 24, and descriptive and inferential statistics.
Results: Overall, 63.2% of the participants rated their QoWL as average, and 68.3% of the nurses stated that they had experienced violent behaviors from their nursing colleagues. Also, people with higher incomes had significantly higher QoWL ($P = 0.003$). In general, there was a significant negative correlation between occupational violence and QoWL ($P = 0.01$, $r = -0.173$).
Conclusions: By taking into account the various aspects of QoWL, nurse managers should adopt effective strategies to create favorable working conditions to improve the QoWL of nurses and reduce the incidence of violent behaviors.

Keywords: Nursing, Workplace Violence, Quality of Life, Intensive Care Units

1. Background

Violence in workplace is a widespread and increasing phenomenon among nurses (1). Due to the existing cultural and regional differences and the diversity of its definitions, it is difficult to gain general knowledge in this issue. Nevertheless, there is an agreement about violence in workplace in five cases, which include physical violence (mayhem and kicking), verbal abuse (swearing and disrespecting), threat, sexual harassment, and bullying. Abusers might be patients, patients' accompaniments, or family members, visitors, colleagues, or managers. A recent monolith study reported violence against nurses in workplaces in Angola, Asia, Europe, and Middle East, and it was found that 36.4% of nurses were exposed to physical violence, 66.9% had experienced non-physical violence, 39.7% were exposed to bullying, and 25% had experienced sexual abuse. Therefore, violence in the workplace might impact most nurses (2). On average, the prevalence of violence in western countries is 44% (3).

In Asia and Middle East, more than two-thirds of nurses are exposed to violence in the workplace during one working year (4). These statistics indicate how dangerous the conditions are for hospital personnel in Asia, including Iran. Another study demonstrated the highest violence rate (14.4%) was reported by supervisors and the lowest violence rate (5.1%) by doctors. According to the Occupational Health and Safety Organization report (2004), violence is more prevalent in mental, emergency, and elders units. Violent behaviors have also been increasingly observed in neonatal, pediatric, and adults intensive care units (5). In-

tensive care unit (ICU) nurses take care of patients who are in a critical condition. These nurses should be in contact with workers from different treatment units and keep up their knowledge with the state-of-art medical and remedial technologies. Therefore, they are under higher pressure compared to other nurses (6).

Research in South Korea showed that the highest rate of violence occurred in ICUs and the lowest happened in oncology units. Bullying was the most common type of violence that was perpetrated by the nursing colleagues (7). Various factors, such as age, sex, working resume, the kind of unit, labor shortage (8), critically ill patients, job position, responsibility and reporting systems (9), organizational factors, job application, the nursing unit, working experience, and educational level, caused violent behaviors in health workers (10).

In other countries, there is much worry about violent behaviors and its effects on nurses because violent behavior against nurses leads to discomfort, anxiety, low self-esteem, job dissatisfaction, disturbance in colleagues' relation, job absenteeism, decrease in the quality of nursing care, increase in clinical errors, and decrease in the quality of working life (QoWL), which results in patients' safety being endangered (9). The QoWL directly influences the capability of health organization to provide efficient services for patients, and if not assessed, it cannot be efficiently developed and maintained (11). Generally, the QoWL means an employee's mental image and satisfaction of a working environment in terms of physical and psychological atmosphere and the extent to which his/her needs are met through resources, results, and activities that are accomplished in the workplace (12, 13). In health and medical service organizations, where the existence of factors such as violence in the workplace is inevitable, it is crucial to prevent its effects (14) because violence in the workplace is one of the factors that leads to decrease in QoWL, job satisfaction, and nurses' general health, as it does physical harm as well as mental harm (12).

In a research on nurses in hospitals affiliated to Iran University of Medical Sciences, 74% of nurses were not satisfied with their jobs (15). Eslamian study in 2015 at Tehran University of Medical Sciences demonstrated that 70% of nurses were not satisfied with their QoWL and complained about most aspects of their working life (14), while the improvement of personnel's QoWL was mentioned as one of the main issues to guarantee health system stability, as high QoWL is essential to attract and preserve staff (16).

Experiencing violence in the workplace can undermine nurses' QoWL and do individual, organizational, and social harms, especially in ICUs. The negative atmosphere created after violence in the workplace affects the patient-staff communication and results in decreased responses of nurses to patients' needs, and consequently, patients' lower satisfaction with the quality of health care. According to the results obtained from limited studies conducted on the association of occupational violence with QoWL, violence varies in different cultures, and it seems that other factors such as amount of income (17), absence of mental and psychological problems (18), and other demographic factors have impacts on violence and QoWL. The obtained results can encourage nurse managers to pave the way for the improvement of the function and working life of nurses exposed to workplace violence, as well as patients' care through the control and management of workplace violence and making necessary changes in working conditions (14).

2. Objectives

This study aims to determine the prevalence of occupational violence and its association with QoWL of ICU nurses in educational-medical centers affiliated to Mazandaran University of Medical Sciences.

3. Methods

This descriptive, analytical, correlational study conducted in 2019 to determine the relationship of occupational violence with QoWL of nurses in the ICUs of Mazandaran University of Medical Sciences. Overall, 220 nurses were selected by using the stratified random sampling method in proportion to the number of nurses working in each hospital. The samples were selected by lottery. The inclusion criteria were having a Bachelor's degree or higher degrees, having one year of working experience in ICU, willingness to participate in the study, and lack of any mental health disorders. The exclusion criterion was any event preventing continuation of the study. The researcher referred to the ICU after receiving permit from Mazandaran University of Medical Sciences, recommendation from university vice chancellor of research, and permission from the officials of educational-medical centers and nurses. After explaining the objectives of the study and receiving the consent of the nurses to participate in the research, and assuring them of confidentiality of information, the questionnaires were distributed among the participants. Then, the completed questionnaires were placed in a packet already given to them. They closed the packets and put them in a box which was placed in each unit.

3.1. Questionnaires

Dumont occupational violence questionnaire (19) designed in 2011 was used to determine violence rate and its

prevalence among nurses who experienced violent behaviors. This tool is rated on a 6-point Likert scale (1: never, 2: once, 3: rarely, 4: once a month, 5: once a week, 6: everyday). This questionnaire consists of 36 questions and analyzes four aspects of violence. According to the first section, on average, the closer the number to 6, the more the person has shown violent behaviors. In the second section, the closer the number to 6, the more the nurse encountered violence. In the third section, the closer the number to 6, the more the person has displayed motivation not to report violent behavior. In general, considering 3.5 for each section, those people who gained a score higher than 3.5 are considered as the intended non-reporting point. The reliability of this scale was obtained as 92% in Iran through Cronbach's alpha (18).

Richard Walton's QoWL questionnaire was codified in 1973 and consists of 24 items and 8 elements of QoWL that include adequate and fair payment, safe and healthy workplace, growth opportunities and continuous security, legalism in working organization, social affiliation of working life, the general life environment, social integration and solidarity, and developing human capabilities. The questionnaire is analyzed based on a 5-point Likert scale (i.e., very low, low, average, high, and very high), and the score on each item is from 1 (very low) to 5 (very high). The reliability of the questionnaire was approved by the test-retest method and Cronbach's alpha of 0.85 and 0.89, respectively (20). The validity and reliability of the questionnaire were approved by Mosadeghrad et al. in Iran (21).

The demographic information form included items on age, gender, marital status, educational level, employment status, the working unit, work resume, work resume in intensive care unit, the average of work hours in a week, work shifts, income adequacy, and housing status.

3.2. Data Analysis

The data were analyzed by using descriptive (mean score, standard deviation) and inferential (Pearson and Spearman correlation) statistics in SPSS version 24.

4. Results

The mean age of the nurses was 33.18 $\pm$ 6.5 years, which ranged from 22 - 51 years. In addition, 69.1% of them were working in the ICU, 27.3% in the CCU, and 3.6% in the dialysis unit. Their work experience was 8.83 $\pm$ 5.59 years, they worked 47.73 $\pm$ 9 hours a week, and most of them worked rotating shifts (91.8%). Other demographic information of the participants is presented in Table 1.

In Table 2, a comparison of demographic factors to QoWL and occupational violence is illustrated. Those individuals with an adequately high-income, had a significantly higher mean quality of life, and these individuals had the lowest mean occupational violence score. Those individuals with rented housing had the lowest mean quality of life.

Table 1. Demographic Characteristics of the Participants

Demographic Characteristics	No. (%)
Gender	
Female	189 (85.9)
Male	31 (14.1)
Marital status	
Married	159 (72.3)
Single	61 (27.7)
Education	
Bachelors	193 (87.7)
Masters or above	27 (12.3)
Employment status	
Permanent	79 (35.9)
Promissory	59 (26.8)
Contractual	38 (17.3)
Training program	44 (20)
Housing status	
Rented	49 (22.3)
Owner	171 (77.7)
Income	
Low	91 (41.4)
Average	122 (55.5)
Good/high	7 (3.2)

The mean scores of QoWL and occupational violence were 60.68 $\pm$ 74.12 and 2.27 $\pm$ 0.72, respectively. Among the dimensions of QoWL, the highest and lowest mean scores were related to developing human capabilities and adequate and fair payment, respectively. Other dimensions of QoWL and occupational violence are also illustrated in Table 3. Also, 63.2% of the participants reported their QoWL as average, 34.5% of them rated their QoWL as low, and reaction to violence had the highest occupational violence mean.

Pearson correlation coefficient demonstrated a significant inverse relationship between the QoWL and occupational violence. In Table 4, the relationship between different dimensions of occupational violence and QoWL, and the reverse, is shown. Moreover, according to this table, there was a significant inverse relationship between occupational violence and the dimensions of QoWL, including safe and healthy workplace, growth opportunities and continuous security, legalism in working organization, and social affiliation of working life ($P < 0.05$).

Table 2. Comparison of the Quality of Working Life (QoWL) and Occupational Violence to Demographic Factors

	Occupational Violence		QoWL	
	Mean ± SD	P Value	Mean ± SD	P Value
Education				
Bachelors	2.25 ± 0.7	0.34	60.35 ± 12	0.29
Masters and above	2.39 ± 0.5	0.23	63.07 ± 14	0.36
Unit				
ICU	2.29 ± 0.7	0.38	59.69 ± 12	0.22
CCU	2.17 ± 0.6		62.98 ± 12	
dialysis	2.48 ± 0.4		62.25 ± 8	
Employment status				
Permanent	2.19 ± 0.6	0.07	59.53 ± 12	0.5
Promissory	2.34 ± 0.7		61.22 ± 13	
Contractual	2.49 ± 0.6		59.66 ± 10	
Training program	2.12 ± 0.8		62.91 ± 14	
Work shifts				
Fixed	2.27 ± 0.6	0.9	64 ± 13	0.25
Rotating	2.27 ± 0.7	0.9	60.3 ± 12	0.27
Housing status				
Rented	2.22 ± 0.8	0.63	59.2 ± 13	0.35
Owner	2.28 ± 0.7	0.66	61.1 ± 12	0.38
Income adequacy				
Low	2.38 ± 0.7	0.13	57.2 ± 13	0.003
Average	2.2 ± 0.6		62.9 ± 11	
High	2.02 ± 0.5		65.2 ± 12	

Table 3. Mean Scores of Different Dimensions of the Quality of Working Life and Occupational Violence

Dimensions	Minimum	Maximum	Mean ± SD
QoWL			
Adequate and fair payment	1	4.5	1.85 ± 0.7
Safe and healthy workplace	1	4	2.44 ± 0.7
Growth opportunities and continuous security	1	4.25	2.48 ± 0.7
Legalism in working organization	1	4	2.50 ± 0.7
Social affiliation of working life	1	5	2.58 ± 0.8
The general life environment	1	4.75	2.58 ± 0.7
Social integration and solidarity	1	4	2.44 ± 2.392
Developing human capabilities	1	4.67	3.01 ± 0.7
Occupational violence			
Experience of violent behavior toward nurses	1	6.0	1.949 ± .8534
Reaction to violence	1	5.8	2.597 ± .8769
Violent behaviors and Nurse's non-reporting	1	6	2.071 ± .9260
Determining violent people	1	6	2.081 ± .9899

5. Discussion

Our findings showed that most nurses experienced violent behaviors, which is in line with previous studies (22-25).Overall, 68.3% of the nurses had acted violently toward their nursing colleagues more than once in the last 12 months; this concords with the results of Hegney et al. (26) study in Australia, in which nurses reported nursing colleagues as the most prevalent source of violence among health workers. However, another study in 2015 in South Korea reported the most violence toward nurses and doctors (27). In Park et al. (2013) (7) study, the most violent behavior was toward doctors. In Kelbiso's study (28), nurses did not have a good relationship with doctors, either. Another study conducted in Turkey on the impact of occupational violence on nurses and doctors showed that doctors only experienced violence when faced with their doctor colleagues, but nurses were exposed to violence both from their nursing colleagues and doctors (29). In this study, the

Table 4. The Relationship Between the Dimensions of Occupational Violence and the Quality of Working Life and the Reverse (Pearson Correlation Coefficient)

Dimensions of QoWL	Occupational Violence		Dimensions of Occupational Violence	QoWL	
	P Value	r		P Value	r
Adequate and fair payment	0.181	-0.091	Experience of violent behavior toward nurses	0.431	-0.053
Safe and healthy workplace	0.010	-0.172	Reaction to violence	0.066	-0.124
Growth opportunities and continuous security	0.026	-0.151	Violent behaviors and Nurse's non-reporting	0.082	-0.118
Legalism in working organization	0.005	-0.187	Determining violent people	0.002	-0.209
Social affiliation of working life	0.074	-0.121	Occupational violence	0.01	-0.173
The general life environment	0.799	-0.017			
Social integration and solidarity	0.058	-0.128			
Developing human capabilities	0.394	-0.058			

least experience of violent behavior was from the hospital manager; of course, one reason could be that nurses have fewer encounters with hospital managers.

Other research findings were on the relationship between age and occupational violence, which was direct and significant. This is in alignment with Heidari Gorji et al. study (18), which showed that no significant relationship between age and violent behaviors, but in another study, it was stated that violent behavior was more frequent among nurses aged 20-40 years compared to other age groups (30). In this study, more than half of the nurses had encountered violent behaviors at least once during the past year, and they did not know to whom they had to report, which is consistent with the two studies in South Korea stating that most nurses did not even know properly how to cope with violence or whether there are any measures against violence in the hospital or not. In addition, about 40.5% of them had not been trained for the prevention of violence (27, 31).

In this study, the majority (63.2%) of the participants rated their QoWL as average, which is consistent with the findings of previous studies (32-36). However, in this study, 34.5% of the participants considered their QoWL low, which the same results as the results of studies performed in other countries (14, 28, 37-39). Due to the significance of the QoWL in any occupation, especially in nursing, and because the QoWL impacts the personnel's work and performance on different levels and can dispose them to display violent behaviors, the respective authorities must heed its dimensions and causes and take into consideration some measures to enhance the staff's QoWL.

Statistical analyses showed no significant correlation between age and QoWL. Koushki (40) and Moradi (41) studies also confirmed this finding. Nonetheless, in one study, it was revealed that people had a higher quality of life at the age of 30 - 40 years; it seems that nurses with higher working experience are more compatible with their work environment (42, 43); one reason can be the differences in work environment and work conditions.

In this study, individuals with fixed shifts had higher QoWL mean scores than those with rotating shifts. In one study, one of the reasons for nurses' dissatisfaction was rotating shifts and intensive working hours (34). According to this study, most nurses considered their working hours unfair and unreasonable. A study of nurses in Turkey and health workers in Germany, Netherlands, and Belgium reported that people with longer working hours had a lower QoWL and were more prone to leave their jobs (36, 44). Furthermore, in another study, it was reported that more than half of nurses believed that their working hours were not suitable for their everyday life (28). Long working hours and rotating shifts were among health and environmental factors that could cause physical and mental problems and side effects for nurses, increase the occurrence of violent behaviors in them, and lead to problems in their QoWL. In this study, 64.5% of the nurses had decided to leave their jobs at least once in the last 12 months, which is in line with the results of studies performed in Italy (45) and Finland (46), which showed nurses with unstable occupational conditions were more certain to leave their jobs. In another study, the results indicated that those individuals working in favorable work environments are less likely to show exhaustion and intention to leave their jobs, but they are more likely to report job satisfaction (47).

In this study, those with higher incomes had a significantly higher QoWL, which concords with previous findings (33, 39). In one study, it was demonstrated that according to the nature of the their responsibilities, nurses claimed their salaries were not adequate, and considered salaries and wages a crucial factor that could cause them

to feel frustrated and decrease their QoWL (28). One study demonstrated that nurses were working in two different hospitals to have a better QoWL (42), and health workers who were not satisfied with their salaries had less intention to stay in their jobs (44). In this study, the lowest mean score was related to the adequate and fair payment dimension, and there was a significant negative correlation between two dimensions of QoWL, namely safe and healthy workplace and growth opportunities and continuous security, and occupational violence, which in agreement with the findings of Faraji et al. (37), who showed that nurses were not provided with a safe and healthy workplace and complained about lack of safety rules in workplace and inappropriate health conditions. Since nurses, as the largest members of the health group, have more constant contacts, and their low QoWL can impact their display of violent behavior, health service managers and policymakers should a closed attention to their work load and satisfaction with their income.

In this study, there was an overall significant negative correlation between occupational violence and QoWL, which confirms the previous findings of other researchers (27, 48). Moreover, some studies demonstrated that occupational violence could have a significant impact on nurses' stress and a negative impact on their physical and mental health (24, 49). The study conducted by Henwood et al. (50), showed that violent incidents might lead to some serious adverse effects on nurses' emotions and cognitive process and increase their work load in taking care of inpatients, which can lower their QoWL and quality of life, and occupational violence with its effects undermine nurses' physical and mental health in an extended period of time.

This study showed that the higher the nurses' QoWL, the less will be the rate of violent behavior display. The nurses' biggest dissatisfaction was about inadequate and unfair payment. It was demonstrated in former studies that with a safer, more principled work environment where social integration and solidarity exists and opportunity to prosper, and fair salary, wage and working hours are provided for the workers, the occupational violence rate will decline among workers, and the level of QoWL will rise. Considering different aspects of the QoWL, nursing managers must adopt effective strategies to create a favorable working environment where nurses' QoWL improves.

5.1. Conclusions

In clinical units, nurses are exposed to violent behaviors from their colleagues, and experiencing these behaviors can lower their QoWL. Accordingly, preventing the violence that nurses experience is of great prominence, and the rate of violence display for endangered groups can be diminished by focusing on educational programs and culturalization. Due to nurses' important role in interacting with patients and their recovery, their satisfaction with their jobs and working environment specifically, and their QoWL in general, need to be improved. By taking into consideration the different aspects of QoWL, nursing managers should adopt effective strategies to create favorable working conditions through which nurses' QoWL also improves, and by solving their problems, their violent behaviors would be reduced.

5.2. Limitations

Since the present study was performed in some selected hospitals affiliated to Mazandaran University of Medical Sciences, caution should be exercised about the generalization of the results, and analyses must be extended to nurses from all regions. Furthermore, in this study, nurses' occupational violence was studied over the recent one-year period, and if this study be extended to their whole working period, the experience of violent behaviors might be increased. Additionally, the kind of violence experienced can be different based on the individual's perception. Thus, complementary data collection must be deployed. This study is of cross-sectional design; therefore, it is suggested that a longitudinal study be designed to assess the impacts of violence on nurses' QoWL.

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Footnotes

Authors' Contribution: Study concept and design: H.J.; acquisition of data: F.Gh.Ch.; analysis and interpretation of data: R.E.; drafting of the manuscript: F.Gh.Ch.; critical revision of the manuscript for important intellectual content: H.J. and R.E.; statistical analysis: S.N.M.; study supervision: H.J.

Conflict of Interests: The authors declare no conflicts of interest in reporting the results of this study, and there was no financial involvement with or dependency on any organization or any institution with direct financial benefits on the topic or the materials under discussion in this paper.

Ethical Approval: The project was approved by the Ethics Committee of the Mazandaran University of Medical Sciences (IR.MAZUMS.REC.95.2708). After introducing herself to the research unit, the researcher explained the purpose

of the research to them. She also told them that their participation in the research was optional, and all the participants gave their consent to participate in the study. Additionally, the required information was collected anonymously.

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References

1. Sato K, Wakabayashi T, Kiyoshi-Teo H, Fukahori H. Factors associated with nurses' reporting of patients' aggressive behavior: A cross-sectional survey. *Int J Nurs Stud*. 2013;**50**(10):1368–76. doi: 10.1016/j.ijnurstu.2012.12.011. [PubMed: 23305760].
2. Spector PE, Zhou ZE, Che XX. Nurse exposure to physical and nonphysical violence, bullying, and sexual harassment: A quantitative review. *Int J Nurs Stud*. 2014;**51**(1):72–84. doi: 10.1016/j.ijnurstu.2013.01.010. [PubMed: 23433725].
3. Zhao S, Liu H, Ma H, Jiao M, Li Y, Hao Y, et al. Coping with workplace violence in healthcare settings: Social support and strategies. *Int J Environ Res Public Health*. 2015;**12**(11):14429–44. doi: 10.3390/ijerph121114429. [PubMed: 26580633]. [PubMed Central: PMC4661658].
4. Al-Ali NM, Al Faouri I, Al-Niarat TF. The impact of training program on nurses' attitudes toward workplace violence in Jordan. *Appl Nurs Res*. 2016;**30**:83–9. doi: 10.1016/j.apnr.2015.11.001. [PubMed: 27091259].
5. Laura A, Stokowski RN. *Violence: Not in my job description*. New York, USA: Medscape; 2010. Available from: https://www.medscape.com/viewarticle/727144.
6. Yoo HJ, Suh EE, Lee SH, Hwang JH, Kwon JH. Experience of violence from the clients and coping methods among ICU nurses working a hospital in South Korea. *Asian Nurs Res*. 2018. doi: 10.1016/j.anr.2018.02.005. [PubMed: 29535021].
7. Park M, Cho SH, Hong HJ. Prevalence and perpetrators of workplace violence by nursing unit and the relationship between violence and the perceived work environment. *J Nurs Scholarsh*. 2015;**47**(1):87–95. doi: 10.1111/jnu.12112. [PubMed: 25352254].
8. Bakker S. *Covert violence in nursing: A Western Australian experience [dissertation]*. Joondalup, Australia: Edith Cowan University; 2012.
9. Sharps PW, Bullock LF, Campbell JC, Alhusen JL, Ghazarian SR, Bhandari SS, et al. Domestic violence enhanced perinatal home visits: The DOVE randomized clinical trial. *J Womens Health (Larchmt)*. 2016;**25**(11):1129–38. doi: 10.1089/jwh.2015.5547. [PubMed: 27206047]. [PubMed Central: PMC5116686].
10. Lewis-Pierre L, Anglade D, Saber D, Gattamorta KA, Piehl D. Evaluating horizontal violence and bullying in the nursing workforce of an oncology academic medical center. *J Nurs Manag*. 2019;**27**(5):1005–10. doi: 10.1111/jonm.12763. [PubMed: 30793404].
11. Nazari A, Alimohammadzadeh K, Hosseini SM. A study of relationship quality of working life and its relation with the productivity of nurses in hospitals in Qom: 2016. *J Res Dev Nurs Midw*. 2019;**16**(1):26–33. doi: 10.29252/jgbfnm.16.1.26.
12. Aruldoss A, Kowalski KB, Parayitam S. The relationship between quality of work life and work-life-balance mediating role of job stress, job satisfaction and job commitment: Evidence from India. *J Adv Manag Res*. 2020;**18**(1):36–62. doi: 10.1108/jamr-05-2020-0082.
13. Farid H, Izadi Z, Ismail IA, Alipour F. Relationship between quality of work life and organizational commitment among lecturers in a Malaysian public research university. *J Soc Sci*. 2019;**52**(1):54–61. doi: 10.1016/j.soscij.2014.09.003.
14. Eslamian J, Akbarpoor AA, Hoseini SA. Quality of work life and its association with workplace violence of the nurses in emergency departments. *Iran J Nurs Midwifery Res*. 2015;**20**(1):56–62. [PubMed: 25709691]. [PubMed Central: PMC4325414].
15. Hashemi Dehaghi Z, Sheikhtaheri A. Quality of work life and job satisfaction of nursing managers. *Iran J Public Health*. 2014;**43**(4):537–8. [PubMed: 26005667]. [PubMed Central: PMC4433739].
16. Nursalam N, Fardiana A, Asmoro CP, Fadhillah H, efendi F. The correlation between the quality of nursing work life and job performance. *Indian J Public Health Res Dev*. 2018;**9**(10):330. doi: 10.5958/0976-5506.2018.01364.5.
17. Asadi K, Niknami M, Jafari Asl M, Kazemnezhad Leyli E. Relationship between the dimensions of quality of work life and general health in Iranian nurses. *J Holist Nurs Midwifery*. 2019;**29**(1):266–72. doi: 10.29252/hnmj.29.1.266.
18. Heidari Gorji MA, Jannati Y, Yazdani Cherati J, Jafari K. Horizontal violent behavior in critical care nurses and related factors. *J Maz Univ Med Sci*. 2015;**25**(123):78–86.
19. Dumont C, Meisinger S, Whitacre MJ, Corbin G. Nursing2012. Horizontal violence survey report. *Nursing*. 2012;**42**(1):44–9. doi: 10.1097/01.NURSE.0000408487.95400.92. [PubMed: 22157835].
20. Hosseinabadi R, Karampourian A, Beiranvand S, Pournia Y. The effect of quality circles on job satisfaction and quality of work-life of staff in emergency medical services. *Int Emerg Nurs*. 2013;**21**(4):264–70. doi: 10.1016/j.ienj.2012.10.002. [PubMed: 23266112].
21. Mosadeghrad AM, Ferlie E, Rosenberg D. A study of relationship between job stress, quality of working life and turnover intention among hospital employees. *Health Serv Manage Res*. 2011;**24**(4):170–81. doi: 10.1258/hsmr.2011.011009. [PubMed: 22040944].
22. Lin WQ, Wu J, Yuan LX, Zhang SC, Jing MJ, Zhang HS, et al. Workplace violence and job performance among community healthcare workers in China: The mediator role of quality of life. *Int J Environ Res Public Health*. 2015;**12**(11):14872–86. doi: 10.3390/ijerph121114872. [PubMed: 26610538]. [PubMed Central: PMC4661685].
23. Wu S, Lin S, Li H, Chai W, Zhang Q, Wu Y, et al. A study on workplace violence and its effect on quality of life among medical professionals in China. *Arch Environ Occup Health*. 2014;**69**(2):81–8. doi: 10.1080/19338244.2012.732124. [PubMed: 24205959].
24. Zhang SE, Liu W, Wang J, Shi Y, Xie F, Cang S, et al. Impact of workplace violence and compassionate behaviour in hospitals on stress, sleep quality and subjective health status among Chinese nurses: A cross-sectional survey. *BMJ Open*. 2018;**8**(10). e019373. doi: 10.1136/bmjopen-2017-019373. [PubMed: 30287664]. [PubMed Central: PMC6194400].
25. Gabrovec B, Erzen I. Prevalence of violence towards nursing staff in Slovenian nursing homes. *Zdr Varst*. 2016;**55**(3):212–7. doi: 10.1515/sjph-2016-0027. [PubMed: 27703541]. [PubMed Central: PMC5031071].
26. Hegney D, Plank A, Parker V. Workplace violence in nursing in Queensland, Australia: A self-reported study. *Int J Nurs Pract*. 2003;**9**(4):261–8. doi: 10.1046/j.1440-172x.2003.00431.x. [PubMed: 12887378].
27. Bae Y, Lee T. Relationship of experience of violence and professional quality of life for hospital nurses'. *J Korean Acad Nurs Adm*. 2015;**21**(5):489. doi: 10.11111/jkana.2015.21.5.489.
28. Kelbiso L, Belay A, Woldie M. Determinants of quality of work life among nurses working in Hawassa town public health facilities, South Ethiopia: A cross-sectional study. *Nurs Res Pract*. 2017;**2017**:5181676. doi: 10.1155/2017/5181676. [PubMed: 29379654]. [PubMed Central: PMC5742902].
29. Ekici D, Beder A. The effects of workplace bullying on physicians and nurses. *Aust J Adv Nurs*. 2014;**31**(4):24–33.
30. Dithisawatwet S, Sawaengdee K, Tangcharoensathien V, Teerawit T, Thinkamrop B. Effect of workplace violence on the intention of leave a nursing career. *J Sci Technol Humanit*. 2014;**12**(1):53–63.
31. Liu W, Zhao S, Shi L, Zhang Z, Liu X, Li L, et al. Workplace violence, job satisfaction, burnout, perceived organisational support and their

effects on turnover intention among Chinese nurses in tertiary hospitals: A cross-sectional study. *BMJ Open*. 2018;**8**(6). e019525. doi: 10.1136/bmjopen-2017-019525. [PubMed: 29886440]. [PubMed Central: PMC6009508].
32. Borhani F, Arbabisarjou A, Kianian T, Saber S. Assessment of predictable productivity of nurses working in Kerman University of Medical Sciences' teaching hospitals via the dimensions of quality of work life. *Glob J Health Sci*. 2016;**8**(10):55666. doi: 10.5539/gjhs.v8n10p65. [PubMed: 27302445].
33. Bagheri-Nesami M, Kazemi A, Goudarzian AH, Nasiri F, Davari J. Association between religious coping and quality of working life in nurses. *Iran J Psychiatry Behav Sci*. 2016;**11**(1). doi: 10.5812/ijpbs.4946.
34. Jaafarpour M, Mahamodian MR. Evaluation of the quality of nursing work life and its association with job burnout in Isfahan University of Medical Sciences. *Int J Epidemiol Res*. 2015;**2**(1):30–9.
35. Nasirizade M, Amouzeshi Z, Unesi Z, Vagharseyyedin SA, Biabani F, Bahrami M. The relationship between quality of work life and organizational effectiveness among hospital nurses. *Mod Care J*. 2017;**14**(1). doi: 10.5812/modernc.63815.
36. Eren H, Hisar F. Quality of work life perceived by nurses and their organizational commitment level. *Int J Hum Sci*. 2016;**13**(1):1123. doi: 10.14687/ijhs.v13i1.3440.
37. Faraji O, Salehnejad G, Gahramani S, Valiee S. The relation between nurses' quality of work life with intention to leave their job. *Nursing Practice Today*. 2017;**4**(2):103–11.
38. Ahmed WAEM, Soliman ES, Shazly MM. Staff nurses' performance obstacles and quality of work life at Benha University Hospital. *J Nurs Health Sci*. 2018;**7**(2):65–71.
39. Gonzalez-Cruz NL, Peñarrieta-de Córdova MI, Castañeda-Hidalgo H, Flores-Barrios F, Gutierrez-Gomez T, Caballero-Rico F. Quality of work life in primary care of nursing professionals in public health clinics in Tampico, Mexico. *J Hosp Adm*. 2016;**5**(3):90. doi: 10.5430/jha.v5n3p90.
40. Koushki MS, Arab M. [Quality of working life and its relation with productivity of nurses' performance in Shahid Beheshti University of Medical Sciences hospitals]. *Journal of school of public health and institute of public health research*. 2013;**10**(4):81–90. Persian.
41. Moradi T, Maghaminejad F, Azizi-Fini I. Quality of working life of nurses and its related factors. *Nurs Midwifery Stud*. 2014;**3**(2). e19450. [PubMed: 25414904]. [PubMed Central: PMC4228533].
42. Sadat Z, Aboutalebi MS, Masoudi Alavi N. Quality of work life and its related factors: A survey of nurses. *Trauma Mon*. 2016;**22**(3). Persian. e31601. doi: 10.5812/traumamon.31601.
43. Reyasi H. [Work life quality of nurses working in educational hospitals affiliated to Birjand University of Medical Sciences, 2012]. *Mod Care J*. 2013;**10**(1):84–90. Persian.
44. Steinmetz S, de Vries DH, Tijdens KG. Should I stay or should I go? The impact of working time and wages on retention in the health workforce. *Hum Resour Health*. 2014;**12**:23. doi: 10.1186/1478-4491-12-23. [PubMed: 24758705]. [PubMed Central: PMC4021570].
45. Cortese CG. Predictors of critical care nurses' intention to leave the unit, the hospital, and the nursing profession. *Open J Nurs*. 2012;**2**(3):311–26. doi: 10.4236/ojn.2012.223046.
46. Flinkman M, Laine M, Leino-Kilpi H, Hasselhorn HM, Salantera S. Explaining young registered finnish nurses' intention to leave the profession: A questionnaire survey. *Int J Nurs Stud*. 2008;**45**(5):727–39. doi: 10.1016/j.ijnurstu.2006.12.006. [PubMed: 17280674].
47. Chen YM, Fang JB. [Correlation between nursing work environment and nurse burnout, job satisfaction, and turnover intention in the Western Region of Mainland China]. *Hu Li Za Zhi*. 2016;**63**(1):87–98. Chinese. doi: 10.6224/JN.63.1.87. [PubMed: 26813067].
48. Choi SH, Lee H. Workplace violence against nurses in Korea and its impact on professional quality of life and turnover intention. *J Nurs Manag*. 2017;**25**(7):508–18. doi: 10.1111/jonm.12488. [PubMed: 28547784].
49. Lin SH, Liao WC, Chen MY, Fan JY. The impact of shift work on nurses' job stress, sleep quality and self-perceived health status. *J Nurs Manag*. 2014;**22**(5):604–12. doi: 10.1111/jonm.12020. [PubMed: 25041800].
50. Henwood T, Tuckett A, Bagadi NE, Oliffe J. Connecting leisure-time physical activity and quality of sleep to nurse health: Data from the e-Cohort study of nurses and midwives. *J Nurs Care*. 2015;**4**:254.