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Effect of moral distress on professional quality work among nurses in intensive care units

Murtadha Kudhair Al-Turfi
MSc student, University of Baghdad / College of Nursing, Bab Al Muadham, Baghdad, Iraq, Postal Code: 10047.
Corresponding author Email:
mortada.khodair1202a@conursing.uobaghdad.edu.iq

Mohammed Baqer Al-Jubouri
Assist Prof. Dr., University of Baghdad/ College of Nursing, Iraq.

***Abstract*---**Background: Moral distress, as one of the most important issues in the nursing profession, can negatively affect the healthcare system. Purpose: To examine the effect of moral distress on professional quality work life. Method: A descriptive cross-sectional study a non-probability sampling method used and total sample collected was (126) of ICU nurses. Results: Moral distress, BO, STS, and, CS among ICUs nurses were moderate. Conclusion: Nurses in ICUs suffered from moderate MD which that effected their BO and STS, and the result can be negative effects on quality of care. Although MD did not affect nurses' CS, it is still an important issue that nurses may face in ICUs.

***Keywords*---**Moral distress, Professional quality work, ICU nurses.

Introduction

Ethical challenges, and a tension-filled atmosphere (Mealer & Moss, 2016). The intensive care unit (ICU) is a particularly complicated and challenging work environment for critical care nurses (Mealer & Moss, 2016). Critical care nurses are regularly exposed to work-related stressors, such as engagement in end-of-life talks, artificial support device extension, and the possibility of providing ineffective treatment (Mealer & Moss, 2016). When nurses face these difficult situations, they may feel helpless, unable to provide treatment according to their own convictions, and hence subject to moral suffering (Mealer & Moss, 2016).

Moral distress (MD) is the stress a health care practitioner experiences when he or she is confident of an ethical course of action but is unable to take it (Dodek et al., 2016). MD arises when an individual knows the proper course of action but is unable to carry it out due to hospital constraints (Mealer & Moss, 2016).

According to Austin et al. (2017), MD has been associated with job dissatisfaction and turnover in the workplace, both of which have a detrimental effect on an individual's professional quality of life (ProQOL).

ProQOL is concerned with the level of satisfaction experienced by nurses as a result of their employment (Wulandari et al., 2018). ProQOL includes two dimensions: compassion satisfaction and compassion weariness. According to the findings, the PROQOL has subscales for compassion fatigue, burnout, and compassion fulfillment, and these three concepts should be seen in conjunction (Ylmaz & Üstün, 2018). Job satisfaction, purpose to leave, turnover rate, personality, and job stress are all influencing variables (Huang et al., 2020). Sociology, psychology, education, administration, health care, and nursing are a few of the sectors that have conducted research on the QWL (Huang et al., 2020). Indeed, recruitment and retention of ICU nurses are correlated with their QWL (Huang et al., 2020).

As one of the most critical challenges in the nursing profession, moral anguish may have a detrimental impact on the healthcare system (Heydari et al., 2018). Additionally, it is a sophisticated and tough topic that has the potential to have a significant negative impact on the healthcare team, ranging from limiting nurses' ability to advocate for patients to driving them to abandon their job or profession (Shorideh et al., 2012). It warrants special scrutiny since it has an effect on the delivery of care. On the other hand, understanding MD and its management can aid nurses in resolving and addressing moral dilemmas, allowing them to continue working in this sector.

According to Ayash et al. (2021), firms must have a high-quality work-life program in place to maintain high performance and profitability growth, as well as to recruit and retain talent. MD has been found to be strongly associated with job dissatisfaction and turnover, both of which have a negative impact on one's ProQOL (Austin et al., 2017). ProQOL is a multidimensional notion that is impacted by workers' perceptions of their job, organization, engagement in the workplace, and satisfaction with their resources, activities, and results of their tasks. (Tehranineshat and colleagues, 2020).

According to Heydari et al. (2018), there is a knowledge gap on MD in the literature that requires more investigation. The current study sought to determine the MD and ProQOL of nurses working in intensive care units in order to do this. Additionally, the effect of MD on ProQOL will be evaluated among nurses working in intensive care units. The researchers anticipated that nurses working in critical care units have a high rate of MD but a low rate of professional quality work life. Additionally, there may be a substantial association between MD and professional quality of work life in critical care units.

Method

The Study Design: To achieve the study objectives, a descriptive cross-sectional design was used in this study.

Sample, Sampling, and Sample Size: The study sample were ICU nurses in intensive care units in Iraq. A non-probability (purposive) sampling method was used to select the sample. The total number of nurses who work in ICUs was 180 nurses. The minimum sample size was with a confidence level of 90% and margin of error 5%. The total collected data was 126 nurses with a response rate of 86%, so the analyzed sample was 109.

The inclusion criteria were nursing staff that works in ICUs with at least one year of experience. A nursing high school degree is the lowest degree in nursing that was included in the study. Both morning and night shifts were included, too. Exclusion criteria were nurses who experience less than one year, nurses who work in administrations, and nurses who are working in places rather than ICUs.

Instrumentation: The questionnaire contained an MD scale, ProQOL scale, and demographics which include age, gender, marital status, educational level, years of experience, and type of shift.

Moral distress scale: MD Scale -11 (MDS-11) is an 11-item Italian modified MDS created by Sondra et al. (2017). The permission was obtained from the copyright owner by Emil. Each item scores based on two parts; frequency and intensity. With a 5-point Liker scale for each part, the score for each item can be anywhere from one to 25 by multiplying frequency with intensity. The total score of MDS-11 is ranged from one-275 (25x11). The MDS-11 was translated into Arabic based on Brisling`s back translation model (Brislin, 1970). The reliability was confirmed by using Cronbach's alpha coefficient which showed 0.91. The content validity index based on the average method was 0.98.

Professional Quality of Life (ProQOL)

Regarding the ProQOL scale, it was created by Stamm (2010) which measures how one feels in relation to their work as a helper incorporating both positive and negative aspects (Stamm, 2010). This tool assesses the feelings (positive and negative effects) of dealing with people experiencing tremendously traumatic events (Stamm, 2010).

The tool is composed of three subscales with 10 items each. The subscales are Compassion Satisfaction (CS) and Compassion fatigue (CF) which CF composed consists of Burnout (BO) and Secondary Traumatic Stress (STS). Items are rated on a 5-point scale; (1 = never, 2 = rally, 3 = sometime, 4= often, and 5 = very often). A summation of all items was used. Each category's summation scores ranges from 10 to 50. For CS a score ≤22 means low CS level; 23–41 denotes average level, and ≥42 specifies high level. For BO and STS, a score of ≤22 shows low level; 23–41 indicates average level; and ≥42 reveals high level of BO. Arabic version of the tool is remarkably reliable by (Lu et al., 2020) with results of (CS subscale, a=0.81; BS subscale, a=0.73; STS subscales, a=0.76).

Setting and Data Collection

The study was conducted in five ICUs in five different hospitals in four Iraqi governorates. These hospitals were Imam Hussain Medical City hospital in Karbala City, Al Hillah surgical hospital in Babylon city, Al Furat and Al Sader

hospitals in Najaf City, and Al Diwaniah hospital in Al Diwaniah City**.** The data collection began in first of January 2022 till end of February 2022. The data was collected by giving a printed questionnaire to the study sample. Each participant needed ten to 15 minutes to complete the questionnaire.

Data Analysis

Mean and standard deviation for MD and ProQOL were calculated. Pearson correlation coefficient, Spearman's Rank Correlation Coefficient, Analysis of variance (ANOVA) and Linear regression model were used to determine the correlation between variables by using the statistical package for social sciences (SPSS) version 2021. The significance level was at $p < 0.05$.

Result

Table (1)
Demographic Characteristics among the Study Sample

Characteristics	f.	%
Age M ± SD 25.3 ± 0.832		
Gender		
Male	47	43.1
Female	62	56.9
Total	109	100.0
Years of experience M ± SD 8.2 ± .60662		
Level of education		
Nursing school graduate	18	16.5
Diploma	37	33.9
Bachelor’s degree	50	45.9
Master’s or Ph. D	4	3.7
Total	109	100.0
Shift	68	62.4
Morning	41	37.6
Night	109	100.0
Total		
Marital status		
Single	61	56.0
	47	43.1
Married	1	.9
	0	0
Divorce		
Widow		

f. = Number of frequency, %=Percentage

In Table 1, the results show that the mean of nurses' age in the study was 25.3 years with a SD of 0.832. More than half of the participants were female (56.9%). The mean of participants' years of experience was 8.2 with SD of 0.60662. Most of the participants had bachelor's degree (45.9%). Furthermore, 62.4% of nurses worked in the morning duty. Moreover, more than half of nurses in this study were single 56.0%.

Table (2)
The MD Rate among the Participants

N.	Items	Frequency		Intensity		Item's score	
		Mean	SD	Mean	SD	Mean	SD
1	Provide less than optimal care due to pressure from administrators to reduce costs.	2.30	1.23	2.75	1.25	7.0183	6.23904
2	Witness healthcare providers giving "false hope" to a patient or a family	2.28	1.06	2.59	1.07	6.2202	4.57319
3	Follow a family's wishes to continue life support even though it is not the best interest of the patient.	2.16	1.17	2.77	1.23	6.2936	5.10501
4	Initiate extensive life-saving actions when I think they only prolong death	2.98	1.30	3.15	1.27	10.137	7.26033
5	Follow a family's request not to discuss death with a dying patient who asks about dying.	2.69	1.41	2.80	1.33	8.4037	6.77703
6	Carry out physician's order for what I consider unnecessary tests and treatments.	2.97	1.44	3.14	1.24	10.275	7.68942
7	Continue to participate in care for a hopelessly ill person who is being sustained on ventilator, when no one will make a decision to withdraw support.	3.51	1.41	3.66	1.15	13.614	7.61809
8	Avoid taking action when I learn that a nurse colleague has made a medication error and does not report it.	2.42	1.30	3.01	1.24	7.9174	6.05091
9	Assist a physician who, in my opinion, is providing incompetent care	3.20	1.40	3.62	1.24	12.192	7.69376
10	Be required to care for patients I don't feel qualified to care for	2.70	1.39	3.37	1.23	9.7890	6.77833
11	Witness some medical students perform painful procedures on patients solely to increase their skills.	2.80	1.24	3.14	1.15	9.5505	6.64090
	Total	101.4128 ±		32.74486			

M=Means, SD = Stander deviation. Interval: F= 1-5, I = 1-5, F *I = 1-25, Total = 11- 275.

Table 2 shows the total score of each item and the total score of moral distress. Participant scored higher in item seven "*Continue to participate in care for a hopelessly ill person who is being sustained on the ventilator, when no one will make a decision to withdraw support*" with a mean of ± SD 13.614 and SD of ±7.61809. Item nine "*Assist a physician who, in my opinion, is providing incompetent care*" is followed by Mean and ± SD of 12.192 and ± 7.69376. The lowest score was on item two *"Witness healthcare providers giving "false hope"* with a Mean ± SD of 6.2202 and ±4.57319. The total mean score of MD among the study sample was 101.4128 ±32.74486 which indicated moderate moral distress.

Table (3)
Professional Quality of Work Life among the Study Sample

Subscale	M	SD	Interpretation
Compassion Satisfaction	38.1560	7.39266	Moderate
Burnout	27.1468	6.67337	Moderate
Secondary Traumatic Stress	28.1009	5.21739	Moderate

M = Mean, SD = Stander deviation. (Mean of 22 and less =low, 23-41=moderate, 42 and more =high)

Table 3 shows the level of the ProQOL. The level of CS was moderate (Mean ± SD 38.15± 7.392) followed by STS which was also moderate (Mean ± SD 28.1± 5.21) and (BO) was moderate (Mean ± SD 27.14±6.67).

Table (4)
The Correlation between Moral Distress and Professional Quality of Work Life

	Professional quality of life					
	Compassion Satisfaction		Burnout		Secondary Traumatic Stress	
Moral distress	P. value .220	Cc -.118-	P. value .049	Cc .189	P. value .046	Cc .196

P=probability value, NS: Non-Significant at P > 0.05, S: Significant at P < 0.05

Table 4 demonstrates that there is a significant correlation between MD with BO and MD with STS (p=.049 and p=.046) respectively among nurses in this study. The results also show that there is no significant correlation (p=.220) between MD and CS.

Table (5)
Correlation between Nurses' demographics' and MD and ProQOL

	Moral distress		Professional quality of life					
			CS		B		STS	
	P. value	Cc =	P. value	Cc=	P. value	Cc =	P. value	Cc =
Age	.043	.201	.290	.002	.034	.140	.048	.170
		F =		F =		F =		F =
Gender	.206	1.254	.081	3.10	.034	4.61	.026	5.09
Years of		Cc =		Cc=		Cc =		Cc =
experience	.034	.354	.126	.184	.021	.270	.044	.283
Level of		F =		F =		F =		F =
education	0.42	2.243	.169	1.92	.034	2.69	.037	2.46
		Cc =		Cc=		Cc =		Cc =
Shift	.749	.095	.992	.000	.062	3.56	.550	.359
Marital		F =		F =		F =		F =
status	.764	.267	.099	2.36	.457	.788	.230	1.49

P=probability value, NS: Non-Significant at P > 0.05, S: Significant at P < 0.05

In Table 5, the results indicate that there is a significant correlation between age and moral distress BO, and STS at P-value levels (.043, .045, .034, and .048) respectively. It is shown there are no significant differences between male and female regarding their MD (p-value= .206). However, there is a significant difference in participants' gender regarding STS and BO at p-value (.026 and .034) respectively. Also shows there is a significant correlation between moral

distress, (BO) and (STS with nurses' years of experience of (p-value .034, .034, .021, and .044) respectively. The results have shown there is a no significant correlation between nurses' years of experience and (CS) p= .126. It is shows there is a significant difference in nurses' educational level with regard to moral distress, BO, and STS (p= .042, .043, and .037) respectively. On the other hand, there is no significant difference in nurses' educational level and their (CS) p = .169. Table 5 shows there are no significant differences in moral distress, CS, BO, and STS with regard to nurses' working shifts (p = .749, .166, .992, .062, and .550) respectively. There are no significant differences between moral distress, Secondary Traumatic, Stress BO, and CS with nurses' marital status (p=.764, .099, .457, and .230) respectively.

Discussion

The result of table (1) show that ages group has participants ranging in age from 30 to 62 years. The sample mean age was (2.531.456 Nurses' MD was moderate in this study with a total mean score of 101.4 and SD 32.7. In comparison with other studies, Lusignani et al. (2017) conducted a study in Treviso, Italy. The findings indicated moderate level of MD among nurses who worked in medical, surgical, and intensive-care settings. Hamric et al. (2012) also find similar findings of moderate MD among nurses. Furthermore, Epstein et al. (2019) found that nurses had moderate moral distress. The researcher believes that ICU nurses feel distressed because they deal with critical patients (Mealer & Moss., 2016) and they work difficult that expose them to many hard situations and events (Mealer & Moss., 2016).

The results regarding ProQOL showed a moderate level of CS with a mean ± SD was 38.15± 7.392. This result consists with Adolfo (2021) and Remegio et al. (2021) which they found a moderate level of CS. This can be due to feeling job satisfaction and empathy among nurses working in critical care units, but stress at work and the difficulties they face can affect their job satisfaction (Dodek et al., 2016) or can interfere with feelings of joy, empowerment, energy, and exhilaration (Huang et al., 2020), as caregivers continue to see the positive impact with their patient's improved health conditions (Yılmaz & Üstün, 2018).

The result showed a moderate level of BO with a mean ± SD (27.14±6.67). Kim et al. (2015) and Alshehry et al. (2019) also found a moderate level of BO among nurses. Indeed, BO is characterized by tension, anger, aggression, and depression (Kim et al. 2015) which is associated with increased workloads and unsupportive work environments that can be found in ICU (Chuang et al., 2016).

Regarding STS the result also shows a moderate level with Mean ± SD (28.1± 5.21). This finding is similar to Kim et al. (2015) and Alshehry et al. (2019) who found moderate level of STS. STS can affect ICU nurses due to the negative consequences of stress and work-related trauma, which include sleep difficulties, invasive surgical images, and fear of remembrance of the person's experiences (Sheen et al., 2014).

Overall, the total result of ProQOL in this study was moderate level among ICU nurses which is consistent with many studies (Adolfo, 2021; Alshehry et al.,

2019; Remegio et al., 2021; Kim et al., 2015; Wulandari et al., 2018). In fact, the workload in ICUs (Mohammadi et al., 2017), dealing with a critical patient Mohammadi et al. (2017), or difficulty to sleep Alshehry et al. (2019), can make nurses to not fell high level of ProQOL in ICUs. However, factors such as feeling happy when helping patients Sacco et al. (2015) and feel satisfied with the job as an ICU nurse Sacco et al. (2015) may prevent the low level of ProQOL.

In this study, there was a significant correlation between age and moral distress, BO, and STS Karakachian and Colbert (2019) found a correlation between MD and nurses' age. Indeed, with age; the responsibility becomes more stressor Borhani et al. (2014) and may increase the effect on work and stress (Liu et al., 2016).

The findings of the study show there are no significant differences between MD with nurses' gender and this was found similar to Lazzari et al. (2020). On the other hand, O'Connell (2015) stated that MD was statistically higher in females than in males. This is controversial, but male and female nurses have the same level of thinking which does not affect the patient care (Azizi et al., 2015). There are significant differences between STS and BO with nurses' gender and this is supported by Alshehry et al. (2019). The reason can be female nurses are more affected by hard works because of the nature of the body (Aprilia et al., 2019).

It is also there is a significant correlation between moral distress, BO, and STS with nurses' years of experience and there is no significant correlation between CS with nurses' years of experience. These findings consist with Dodek et al. (2016) and Austin et al., (2017) that were found no significant correlations between CS with nurses' years of experience. However, Alshehry et al. (2019) and Kim et al. (2015) found no significant correlations between BO, STS, CS and years of experience Although this is controversial, experience in the nursing profession improves the thinking, skills, and quality of care (Nowrouzi et al., 2016)

The study shows there were a significant difference between moral distress, BO, and STS with nurses' level of education. However, there was no significant difference between CS with nurses' level of education. This find consists with Dodek et al. (2016) also found BO, and STS with nurses' level of education, another study by Sirilla et al. (2017) found that education had no significant relation with MD scores. Alshehry et al. (2019) found a significant difference between BO, and STS with nurses' level of education in Saudi. In general, level of education can effect on the development of thinking and how nurses deal with events, be satisfied with work, and do nursing care process (Gazarian et al., 2016).

The study found there are no significant differences between moral distress, CS, BO, and STS with nurses shift of work. This result is similar to the result of Mason et al. (2014). Working at night or in the morning does not change nurse's personality and nursing care if shifts are regular with appropriate number of nurses (Kunaviktikul et al., 2015).

The result shows there are no significant differences between moral distress, STS, BO, and CS with nurses' marital status. This found consistent with the result of

Bayat et al. (2019). Another study by Alshehry et al. (2019) also found no significant differences between BO and STS with nurses' marital status. El-Shafei et al. (2018) was found no significant differences between CS, BO, and STS with nurses' marital status. Marital status is not interfering with nursing care and duties in ICUs (Moradi et al., (2014)

Conclusion

I In conclusion, nurses in ICUs suffered from moderate MD which that effected their BO and STS, and the result can be negative effects on quality of care. Although MD did not affect nurses' CS, it is still an important issue that nurses may face in ICUs. Indeed, high levels of BO and STS were significantly related among ICU nurses. Despite the different tasks and duties of nurses in ICUs (as they deal with critically ill patients), MD can be an issue to be faced in ICUs.

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References

Adolfo, C. S. (2021). Predictors of professional quality of life among nurses–a cross-sectional study. *International Journal of Advanced and Applied Sciences*, *8*(2), 44-53. https://doi.org/10.21833/ijaas.2021.02.006

Al-Dossary, R. N., Kitsantas, P., & Maddox, P. J. (2016). Clinical decision-making among new graduate nurses attending residency programs in Saudi Arabia. *Applied Nursing Research*, *29*, 25-30. https://doi.org/10.1016/j.apnr.2015.05.008

Alshehry, A. S., Alquwez, N., Almazan, J., Namis, I. M., Moreno-Lacalle, R. C., & Cruz, J. P. (2019). Workplace incivility and its influence on professional quality of life among nurses from multicultural background: A cross-sectional study. *Journal of Clinical Nursing*, *28*(13-14), 2553-2564. https://doi.org/10.1111/jocn.14840

Aprilia, T. D., Somantri, I., & Mirwanti, R. (2019). Nurses' Mental workload in critical care rooms and emergency department. *Journal of Nursing Care*, *2*(3). https://doi.org/10.24198/jnc.v2i3.20372.

Austin, C. L., Saylor, R., & Finley, P. J. (2017). Moral distress in physicians and nurses: Impact on professional quality of life and turnover. *Psychological Trauma : Theory, Research, Practice and Policy*, *9*(4), 399–406. https://doi.org/10.1037/tra0000201

Ayash, M. H. (2021). Quality of nursing care provided for patients in intensive care units at governmental hospitals in the gaza strip*: Nurses' Perspective* (Doctoral dissertation, Islamic University of Gaza).

Azizi-Fini, I., Hajibagheri, A., & Adib-Hajbaghery, M. (2015). Critical thinking skills in nursing students: a comparison between freshmen and senior students. *Nursing and Midwifery Studies*, *4*(1).

Badolamenti, S., Fida, R., Biagioli, V., Caruso, R., Zaghini, F., & Sili, A. (2017). Modified moral distress scale (MDS-11): Validation study among Italian nurses. *Professioni Infermieristiche*, *70*(4).

Barlem, E. L. D., Lunardi, V. L., Lunardi, G. L., Dalmolin, G. D. L., & Tomaschewski, J. G. (2012). The experience of moral distress in nursing: the

nurses' perception. *Revista da Escola de Enfermagem da USP*, *46*, 681-688. https://doi.org/10.2478/fon-2020-0033

Bayat, M., Shahriari, M., & Keshvari, M. (2019). The relationship between moral distress in nurses and ethical climate in selected hospitals of the Iranian social security organization. *Journal of Medical Ethics and History of Medicine*, *12*.

Borhani, F., Mohammadi, S., & Roshanzadeh, M. (2014). Moral distress and its relationship with professional stress in nurses. *Iranian Journal of Medical Ethics and History of Medicine*, *6*(6). http://eprints.skums.ac.ir/id/eprint/6176

Chuang, C. H., Tseng, P. C., Lin, C. Y., Lin, K. H., & Chen, Y. Y. (2016). Burnout in the intensive care unit professionals: a systematic review. *Medicine*, *95*(50). 10.1097/MD.0000000000005629

Dodek, P. M., Wong, H., Norena, M., Ayas, N., Reynolds, S. C., Keenan, S. P., ... & Alden, L. (2016). Moral distress in intensive care unit professionals is associated with profession, age, and years of experience. *Journal of Critical Care*, *31*(1), 178-182. https://doi.org/10.1016/j.jcrc.2015.10.011

Elpern, E. H., Covert, B., & Kleinpell, R. (2005). Moral distress of staff nurses in a medical intensive care unit. *American Journal of Critical Care*, *14*(6), 523-530. https://doi.org/10.4037/ajcc2005.14.6.523

El-Shafei, D. A., Abdelsalam, A. E., Hammam, R. A., & Elgohary, H. (2018). Professional quality of life, wellness education, and coping strategies among emergency physicians. *Environmental Science and Pollution Research*, *25*(9), 9040-9050.

Epstein, E. G., Whitehead, P. B., Prompahakul, C., Thacker, L. R., & Hamric, A. B. (2019). Enhancing understanding of moral distress: the measure of moral distress for health care professionals. *AJOB Empirical Bioethics*, *10*(2), 113-124. 10.1080/23294515.2019.1586008

Gazarian, P. K., Fernberg, L. M., & Sheehan, K. D. (2016). Effectiveness of narrative pedagogy in developing student nurses' advocacy role. *Nursing Ethics*, *23*(2), 132-141. https://doi.org/10.1177/0969733014557718

Hamric, A. B., Borchers, C. T., & Epstein, E. G. (2012). Development and testing of an instrument to measure moral distress in healthcare professionals. *AJOB Primary Research*, *3*(2), 1-9. https://doi.org/10.1080/21507716.2011.652337

Heydari, A., Ahrari, S., & Toghian Chaharsoughi, N. (2018). Moral distress in nursing and its contributors in the context of Iran. *Health, Spirituality and Medical Ethics*, *5*(3), 44-50. https://doi.org/10.1111/inr.12195

Huang, H., Zhang, H., Xie, Y., Wang, S. B., Cui, H., Li, L., ... & Geng, Q. (2020). Effect of balint group training on burnout and quality of work life among intensive care nurses: a randomized controlled trial. *Neurology, Psychiatry and Brain Research*, *35*, 16-21.

Karakachian, A., & Colbert, A. (2019). Nurses' moral distress, burnout, and intentions to leave: an integrative review. *Journal of Forensic Nursing*, *15*(3), 133-142. doi: 10.1097/JFN.0000000000000249

Kim, K., Han, Y., Kwak, Y., & Kim, J. S. (2015). Professional quality of life and clinical competencies among Korean nurses. *Asian Nursing Research*, *9*(3), 200-206. https://doi.org/10.1016/j.anr.2015.03.002

Kunaviktikul, W., Wichaikhum, O., Nantsupawat, A., Nantsupawat, R., Chontawan, R., Klunklin, A., ... & Sirakamon, S. (2015). Nurses' extended work hours: patient, nurse and organizational outcomes. *International Nursing Review*, *62*(3), 386-393.

Lazzari, T., Terzoni, S., Destrebecq, A., Meani, L., Bonetti, L., & Ferrara, P. (2020). Moral distress in correctional nurses: A national survey. *Nursing Ethics*, *27*(1), 40-52.

Liu, Y., Wu, L. M., Chou, P. L., Chen, M. H., Yang, L. C., & Hsu, H. T. (2016). The influence of work-related fatigue, work conditions, and personal characteristics on intent to leave among new nurses. *Journal of Nursing Scholarship*, *48*(1), 66-73. https://doi.org/10.1111/jnu.12181

Lu, M. H., Weng, L. T., Chen, Y. L., Lin, C., Wang, C. H., & Pan, H. H. (2020). Predictors of professional quality of life among nursing staff following the Taiwan Formosa Fun Coast explosion. *Burns*, 46(2), 423-429. https://doi.org/10.1016/j.burns.2019.02.010

Ludin, S. M. (2018). Does good critical thinking equal effective decision-making among critical care nurses? A cross-sectional survey. *Intensive and Critical Care Nursing*, *44*, 1-10. https://doi.org/10.1016/j.iccn.2017.06.002Get

Lusignani, M., Giannì, M. L., Re, L. G., & Buffon, M. L. (2017). Moral distress among nurses in medical, surgical and , intensive-care units. *Journal of Nursing Management*, *25*(6), 477-485. https://doi.org/10.1111/jonm.12431

Mealer, M., & Moss, M. (2016). Moral distress in ICU nurses. *Intensive Care Medicine*, *42*(10), 1615-1617. https://doi.org/10.1007/s00134-016-4441-1

Moradi, T., Maghaminejad, F., & Azizi-Fini, I. (2014). Quality of working life of nurses and its related factors. *Nursing and Midwifery Studies*, *3*(2). https://doi.org/10.1177/0969733019834976

Nowrouzi, B., Giddens, E., Gohar, B., Schoenenberger, S., Bautista, M. C., & Casole, J. (2016). The quality of work life of registered nurses in Canada and the United States: A comprehensive literature review. *International Journal of Occupational and Environmental Health*, *22*(4), 341-358.

O'Connell, C. B. (2015). Gender and the experience of moral distress in critical care nurses. *Nursing etEthics22*(1), 32-42. https://doi.org/10.1177/0969733013513216

Remegio, W., Rivera, R. R., Griffin, M. Q., & Fitzpatrick, J. J. (2021). The professional quality of life and work engagement of nurse leaders. *Nurse Leader*, *19*(1), 95-100. https://doi.org/10.1080/10773525.2016.1241920

Robaee, N., Atashzadeh-Shoorideh, F., Ashktorab, T., Baghestani, A., & Barkhordari-Sharifabad, M. (2018). Perceived organizational support and moral distress among nurses. *BMC nursing*, *17*(1), 1-7.

Razieh, S., Somayeh, G., & Fariba, H. (2018). Effects of reflection on clinical decision-making of intensive care unit nurses. *Nurse education today*, *66*, 10-14.

Sacco, T. L., Ciurzynski, S. M., Harvey, M. E., & Ingersoll, G. L. (2015). Compassion satisfaction and compassion fatigue among critical care nurses. *Critical Care Nurse*, *35*(4), 32-42. https://doi.org/10.4037/ccn2015392

Sheen, K., Slade, P., & Spiby, H. (2014). An integrative review of the impact of indirect trauma exposure in health professionals and potential issues of salience for midwives. *Journal of Advanced Nursing*, *70*(4), 729-743. https://doi.org/10.1111/jan.12274

Shorideh, F. A., Ashktorab, T., & Yaghmaei, F. (2012). Iranian intensive care unit nurses' moral distress: a content analysis. *Nursing Ethics*, *19*(4), 464-478. https://doi.org/10.1177/0969733012437988

Sirilla, J., Thompson, K., Yamokoski, T., Risser, M. D., & Chipps, E. (2017). Moral distress in nurses providing direct patient care at an academic medical center. *Worldviews on Evidence-Based Nursing*, *14*(2), 128-135. https://doi.org/10.1111/wvn.12213

Tehranineshat, B., Torabizadeh, C., & Bijani, M. (2020). A study of the relationship between professional values and ethical climate and nurses' professional quality of life in Iran. *International Journal of Nursing Sciences*, *7*(3), 313-319. https://doi.org/10.1016/j.ijnss.2020.06.001

Turchi, V., Verzuri, A., Nante, N., Napolitani, M., Bugnoli, G., Severi, F. M., ... & Messina, G. (2019). Night work and quality of life. A study on the health of nurses. *Annali dell'Istituto Superiore di Sanità*, *55*(2), 161-169.

Wulandari, A. E., Susilaningsih, F. S., & Somantri, I. (2018). The Professional quality of life of nurses who work in the intensive care unit and emergency unit. *Journal of Nursing Care*, *1*(3). https://doi.org/10.24198/jnc.v1i3.18983

Yılmaz, G., & Üstün, B. (2018). Professional quality of life in nurses: Compassion satisfaction and compassion fatigue. *Journal of Psychiatric Nursing/Psikiyatri Hemsireleri Dernegi*, *9*(3). https://doi.org/10.14744/phd.2018.86648