

Original Paper

Moral Distress and Related Factors in Nurses Working in Intensive Care Units



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ABSTRACT

Introduction: The intensive care unit is a stressful environment due to the high mortality rate of patients, the occurrence of moral problems and working in a tense atmosphere. Faced with these conditions, nurses may be exposed to moral distresses. Therefore, it is important to study the moral distresses that nurses face in these units.

Objective: This study aimed to determine the level of moral distress and related factors in nurses working in the intensive care units of Guilan Province, Iran.

Materials and Methods: This analytical cross-sectional study was performed on nurses working in all intensive care units in 20 hospitals affiliated to Guilan University of Medical Sciences. The study samples were 414 intensive care nurses chosen by census method in 2018. The data collection instruments were the individual-social factors questionnaire and the 21-item Corley's moral distress scale standard questionnaire. Data were analyzed using descriptive and inferential statistics (Mann-Whitney, Kruskal-Wallis and Logistic Regression).

Results: The majority of the studied samples were women (90.6%), married (67.4%), full-time employees (44.6%), undergraduate (90.3%) with Mean±SD work experience of 75.69±9.93 months in the intensive care units. The mean total score of moral distress was 91.30±65.03 (out of 0-332 scores). Based on the final logistics regression model, gender (OR=2.410, 95%CI; 1.19-5.6, P=0.016) and work experience in the intensive care unit (OR=0.64, 95%CI; 0.43-0.94, P=0.023) were identified as two factors related to moral distress.

Conclusion: The results of this study support the existence of moral distress in nurses in intensive care units, can be considered in planning to reduce the moral distress of nurses in the workplace and improve the quality of nursing care.

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Highlights

- Nurses working in various units of health care centers may experience unintended moral distress.
- Due to the stressful nature of intensive care units, working in these areas may be associated with moral distress.
- Individual and organizational factors may affect experiences related to moral distress.

Plain Language Summary

Nursing is a job that often includes the care of patients in hospitals. Patients who refer to hospitals for care and treatment, have different symptoms and need different degrees of care. Depending on the type of illness and the degree of care they need, inpatients may be admitted to intensive care units. The deteriorating condition of many of these patients and the special and complex care that must be provided for them, as well as the fact that the nurses in these wards face many deaths may cause moral distress in these nurses. The results of the present study, which determined the level of moral distress experienced by nurses in the intensive care unit, showed that these nurses experience some degree of moral distress. Experienced moral distress can cumulatively affect nurses' decision-making power and their ability to prioritize care. Different factors can affect the intensity of experienced moral distress. The present study showed that the two variables of "gender" and "work experience in intensive care unit" can affect the level of moral distress experienced by nurses.

Introduction

Considering the physical, mental, and psychological dimensions of human beings, caring for patients and their families has always been among the moral issues. In the meantime, the nursing profession is essentially a moral profession due to the principle of the need to care for others. Nurses spend most of their time on patients' bedsides, so they are constantly dealing with ethical issues and decisions [1]. However, doing so and adhering to ethical issues and responsibilities can sometimes lead to obstacles that ultimately result in moral distress [2, 3].

Nurses working in various sections of health care centers may inadvertently experience occupational stress. Nurses sometimes have to make ethical decisions in caring for the patient and are expected to adhere to ethical principles in their performance [4, 5]. Approximately one out of three nurses experiences moral distress, which in some cases may even lead to job leaving [6].

Moral distress is a feeling of uneasiness that results from not doing the right moral action. This can be caused by factors such as time constraints, medical restrictions, care institute policies, and moral, personal, or religious considerations [7-9], which can have a negative impact on the nurses, patients and their families, as well as on the health care systems [10]. As a result, moral distress can cause dissatisfaction, stress and burnout

in nurses, forcing them to quit their job. On the other hand, the quality of nursing care may decrease and the length of hospital stay may increase. Also, health care providers may be affected and incur heavy costs for staff loss, reduced service quality, and patient's dissatisfaction [10-12].

Various factors such as heavy workloads, imbalance between the number of nurses and the number of patients, direct therapeutic and care communication with patients and their families, lack of participation and cooperation of members of the care and treatment team, decision making for patients in the late stages of their lives, all can cause moral distress [13]. Studies in this regard showed different results. For example, the results of a study in northwestern Iran showed that the majority of nurses working in different units had moderate to high moral distress [14]. Abbaszadeh et al. showed in their study that the level of moral distress of nurses was moderate [15]. However, in some studies, the moral distress of nurses working in the emergency and psychiatric wards has been reported at a low level [5, 16]. As nursing duties become more specialized and their responsibilities in caring for critically-ill patients increase, the intensity of moral distress increases too [17, 18]. Therefore, moral distress as a negative experience seems to be one of the serious problems of nurses working in the intensive care unit [19, 20]. The long-term consequences of moral distress on nurses in intensive care units can include avoidance, emotional exhaustion, and even in-

difference to patients [21]. In addition, it can have several negative consequences on nurses' health [23] and can be expressed as anxiety, depression, nightmares, insomnia, palpitations and neck pain [24].

Considering what was said about the challenging environment of the intensive care units and the fact that moral distress overshadows the functional quality of nurses, we decided to conduct a study to determine the moral distress and related factors in nurses working in intensive care units of educational and medical centers throughout Guilan Province, Iran.

Materials and Methods

This was an analytical cross-sectional study and the research population included all nurses working in intensive care units of 20 hospitals affiliated to Guilan University of Medical Sciences, including 414 people (172 nurses in coronary care units and 242 nurses in intensive care units) in 2018. The inclusion criteria were having at least a bachelor's degree in nursing and one year of experience in the intensive care unit (to ensure that the subject is fully acquainted with the conditions of the ward and equipment). Nurses with more than one month's sick leave, and those who did not agree to participate in the research, were not included in the study. In order to collect data, a complete enumeration method was used and 341 out of 414 nurses in the intensive care units of Guilan Province were included in the research. A total of 51 nurses refused to cooperate or did not complete the questionnaires, and 22 were on long leave.

The data collection instrument was a 9-item questionnaire of individual-social factors, including age, gender, marital status, level of education, type of employment, work experience, duration of work in the intensive care unit, monthly working hours, and monthly income.

To examine the moral distress in nurses, the 21-item standard Corley's moral distress scale questionnaire was used based on two components: intensity and frequency. The moral distress questionnaire items on "intensity" was scored from 0 to 4 (from "not at all" to "very high"), and on "frequency" from 0 to 4 (from "never" to "frequent"). The actual score of moral distress was calculated by first combining the score of the two components "intensity" and "frequency" to get the score of each item. The score of each item was between 0-16 and the final score of 21 items of the standard instrument was between 0 and 336. A higher score indicated higher moral distress and a lower score indicated lower moral distress [25]. The instrument validity was

confirmed by CVR and CVI content validation methods by more than 90% by nursing faculty members. The reliability of the instrument was also determined using Cronbach alpha coefficient of 92%.

After obtaining the necessary permits to collect information and explaining the objectives of the research and the questionnaire items, as well as explaining the confidentiality of the information, the questionnaires were distributed among qualified nurses at the beginning of a shift and then collected at the end of the same shift. Data analysis was performed under SPSS version 21 using descriptive statistics indicators and the Kolmogorov-Smirnov tests to determine the normal distribution, and Mann-Whitney, Kruskal-Wallis, and logistic regression analysis by backward LR were performed. The significance level of the tests was set at less than 0.05.

Results

Results showed that the majority of the surveyed units were female (90.6%), married (67.4%), official employees (44.6%), 31 to 40 years old (50.4%) with an Mean \pm SD age of 34.19 \pm 11.7 years, 4 to 96 months work experience (46.9%) with an average of 112.61 \pm 75.98 months, 1 to 96 months work experience in the intensive care unit (68.6%) with an Mean \pm SD of 75.69 \pm 59.93 months, with monthly working hours more than 170 hours per month (39.6%), with a bachelor's degree (90.3%), and with a monthly income of 300 to \$800 (76.5%). Their mean score of moral distress was 91.30 \pm 65.03 (range 0-332).

The results also showed that the nurses' moral distress score in terms of "gender" ($P=0.012$) (based on Mann-Whitney U test), and in terms of "work experience in intensive care unit" ($P=0.027$), "monthly working hours" ($P=0.023$) and "income" ($P=0.029$) (based on the Kruskal Wallise statistical test) had a significant difference (Table 1).

Logistic regression model was used in multiple analysis of determining individual, social, and organizational factors related to moral distress. In this model, the score below the average moral distress was 0 and the score above the average was 1. Then, in the first step, the individual-social variables that had a $P<0.25$ in the single-variable analysis were included in the model (gender, monthly working hours, monthly income, work experience, work experience in the intensive care unit).

In the final model, "gender" (OR=2.410, 95%CI; 1.19-5.6, $P=0.016$) and "work experience in intensive care unit" (OR=0.64, 95%CI; 0.94 0.43, $P=0.23$) were identified as two factors associated with moral distress. That

Table 1. Comparison of moral distress score according to individual-social factors

Individual and Social Factors		Moral Distress Score	Mean±SD	Median	Sig.
Gender	Female		87.89±62.55	78	0.012*
	Male		124.22±79.14	104.50	
Marital status	Single		95.68±68.91	86	0.491*
	Married		89.19±63.11	83	
Employment	Full-time		93.36±65.65	86.50	0.669**
	Part-time		86.37±60.81	84.50	
	contractual		98.07±68.27	84	
	trainee		85.70±65.20	75	
Age range	22 to 30 years		96.26±69.38	85	0.851**
	31 to 40 years		88.20±64.20	83	
	41 to 50 years		92.21±59.72	83	
	More than 50 years		83.67±55.67	60	
Work experience	4 to 96 months		92.26±65.72	85.50	0.087**
	97 to 180 months		94.61±68.46	83.50	
	181 to 300 months		88.06±54.12	76	
	More than 300 months		39.00±30.46	32	
Work experience in intensive care unit	1 to 96 months		98.00±67.91	92.50	0.027**
	97 to 180 months		76.24±55.99	64.50	
	More than 180 months		78.5±56.21	75	
Monthly working hours	Less than 150 hours per month		80± 66.19	77	0.023**
	Between 150-170 hours per month		102±71.80	92	
	More than 170 hours a month		78.40±51.48	71	
Level of education	Bachelor's degree		90.73±65.83	83	0.435*
	Master's degree		96.64±57.55	97	
Monthly income (\$)	<400		75.09±53.52	69	0.029**
	400-700		96.80±66.89	85	
	>700		62.55± 66.66	29	

* Mann-Whitney U test;

** Kruskal-Wallis H test

is, the high average score related to moral distress in men was 2.4 times higher than in women. Also, with increasing work experience in the intensive care unit, the chances of having a high average score in the studied samples were reduced by 0.642 times (Table 2).

Discussion

The results of this study showed that the nurses in intensive care units participating in this study had a low average score of moral distress. In line with the present study, Fumis in Brazil [26], Allen in the United States [27] and Karagozoglu in Turkey [28] all showed some degree

Table 2. Estimation of regression coefficients of factors related to moral distress of the studied units

	Variable	Beta Coefficient	SE	Sig.	Odds Ratio	95%CI	
						Lower	Upper
First step	Gender	0.880	0.413	0.033	2.410	1.072	5.417
	Monthly working hours			0.509			
	Monthly working hours (1)	-0.042	0.512	0.934	0.958	0.351	2.614
	Monthly working hours (2)	0.266	0.243	0.273	1.305	0.811	2.099
	monthly income			0.723			
	Monthly income (1)	-0.332	0.713	0.641	0.718	0.178	2.900
	Monthly income (2)	-0.103	0.661	0.876	0.902	0.247	3.299
	Work experience(month)	-0.001	0.002	0.547	0.999	0.995	1.003
	Work experience in intensive care unit(month)	-0.389	0.264	0.141	0.678	0.403	1.138
	Constant	-0.231	1.004	0.818	0.794		
Final step	Gender (male to female)	0.958	0.397	0.016	2.606	1.197	5.673
	Work experience in intensive care unit(month)	-0.443	0.194	0.023	0.642	0.439	0.940
	Constant	-0.589	0.491	0.230	0.555		

of moral distress in nurses in intensive care units. In Iran, studies of Mohammadi in Tabriz [29], Etebari in Ardabil [30], Sadeghi in Shahroud [31], and Ashktorab in Tehran [32] showed the moral distress in nurses. While Wenwen et al. in China [33] confirmed less moral distress in nurses in intensive care units. The results of other studies also showed less range of moral distress in nurses in intensive care units [34-36].

This difference in the results may be due to differences in research communities and in the instruments used. Due to the specific work environment of intensive care units, the moral distress faced by nurses in these sections are different from those in other parts. Intensive care units are places where patients benefit from advanced medical care technologies. Because dying patients are cared for in these units and vital decisions are made about the final stages of these patients' lives, nurses working in these units are exposed to a lot of stress and moral issues. This condition not only affects the quality of care and clinical decisions of the nurses, but also overshadows their personal lives. It seems that the equipment, manpower and even the type of disease of patients admitted to these units can affect the level of moral distress experienced by nurses.

Among the individual-social factors related to moral distress, "gender", "work experience in intensive care unit", "monthly working hours", and "income" are the

items that have a statistically significant relationship with moral distress. In multiple analysis of determining the individual-social factors associated with moral distress, the results of logistic regression showed that "gender" and "work experience in the intensive care unit" were considered to be the only factors related to moral distress.

The results of Ebrahimi's study in Iran showed no significant statistical relationship between gender and moral distress, but similar to the present study, the average score of men's overall moral distress was higher than women's [14]. This result was similar to the results of another study conducted in Iran by Sadeghi [37]. O'Connell's study, meanwhile, found that women had a higher moral distress than men [38]. However, the results of some studies have not shown a relationship between gender and experienced moral distress [9, 28, 30, 39].

Different cultures, the type of intensive care unit under study, and the number of male nurses in these studies can be the reasons for different results in different studies. It may seem that women due to their sensitive spirit are more exposed to moral distress arising from work environment, but due to women's ability to openly express their feelings and emotions in sensitive situations, they may be less likely to be exposed to moral distress than male nurses.

Regarding the relationship between work experience in the intensive care unit and the results of the present study, Ashktorab's study showed a relationship between work experience and moral distress [32]. In his study of nurses in intensive care unit, Sauerland found a significant relationship between moral distress and nurses' work experience [40]. While Karagozolu's study did not show this relationship [28]. Regarding these different results and considering the fact that nurses in intensive care units are constantly exposed to critically ill patients with life-threatening diseases and with a high rate of mortality, then it is likely that more work experience in these units may lead to more moral distress.

In terms of income, the results of Wenwen's study in China showed a significant relationship between moral distress and monthly income; as income increased, so did moral tensions [33]. Instead of examining the monthly income level of nurses, some research has examined employment status [32, 37], which in itself can be a sign of job stability and better income of permanent employees than others. To explain the relationship between monthly income and moral distress, it can be said that high income in the face of high stress in the work environment may, to some extent, can make better the condition of nurses.

The results of the present study can help managers and officials of health care services to hold classes and retraining courses for health care staff in order to familiarize them with the concept of moral distress and the factors affecting it and how to reduce it.

Also, recognizing the problems related to moral distress and its impact on job performance and the quality of patient care, and the impact of organizational issues on moral distress, it can draw the attention of health management to hospitals. It is recommended that steps be taken to establish and strengthen supporting institutions, and to acquaint nurses working in stressful units with the culture of adaptability to a variety of psychological and moral problems. According to the results of this study, it is suggested that more extensive studies be conducted on the moral distress of nurses in different wards in terms of different clinical conditions.

One of the limitations of this research was that the moral distress questionnaire was self-reporting. Also, the conditions prevailing in the hospital unit at the time of completing the questionnaires could affect the mental state and psychological condition of the participants.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Research Ethics Committee of Guilan University of Medical Sciences (Code: IR.GUMS.REC.1397.024).

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Authors contributions

Conceptualization: Seyedeh Mohadeseh Habibzadeh, Shadman Reza Masouleh, Minoo Mitra Chehrzad and Ehsan Kazemnezhad Leili; Drafting and data analysis : Seyedeh Mohadeseh Habibzadeh, Shadman Reza-Masouleh; Investigation and data analysis: Seyedeh Mohadeseh Habibzadeh and Ehsan Kazemnezhad Leili; and Editing and review: All authors.

Conflict of interest

The authors declared no conflicts of interest.

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