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Moral Distress and Related Factors among Nurses Working in the Emergency Departments: A Cross-sectional Study

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ABSTRACT

Objective: The present study aimed to determine the prevalence and severity of moral distress (MD) and its associated factors among emergency department nurses.
Methods: This cross-sectional study was conducted in 2023 on 172 nurses from the emergency departments of medical training centers affiliated with Mazandaran University of Medical Sciences. the census method was used to collect the data, which included demographic variables and Corley's MD questionnaire. The Data were analyzed using SPSS software (version 22), using an independent T-test, analysis of variance (ANOVA), and multiple regressions.
Results: Out of 172 nurses, 60.5% were women, with an average age of 32.52±6.88 years. The results demonstrated an average MD score of 69.73±25.68. In terms of frequency and intensity, around 53.5% of the participants experienced MD at a low level (0-72), while the remaining 46.5% reported experiencing it at a medium level (14-73). A significant association was found between MD and age (p=0.037), workplace hospital (p=0.005), and history of mental disorders (p=0.005). Furthermore, linear regression analysis revealed a statistically significant association between MD, marital status, and occupational type (p<0.05).
Conclusion: The results showed that nurses had low to moderate levels of MD. Several factors, including age, history of mental disorders, marital status, employment type, workplace hospital, and education, were associated with the overall MD score. To reduce MD and its negative effects on nurses, it is necessary to address these factors and develop an effective strategy for identifying and managing MD to improve nursing care quality.

Keywords: Ethics, Nurses, Emergencies, Emergency departments, Emergency nursing.

Introduction

Ethics is an essential component of the nursing profession, as nurses encounter several ethical dilemmas in their professional setting on a daily basis [1-3]. Understanding and adhering to the fundamental concepts of ethics in the realm of healthcare constitute a crucial aspect of nurses' professional responsibilities, providing them with a fresh perspective when caring for vulnerable groups of patients [4, 5].

Nurses have significant challenges in the form of adverse experiences classified as moral distress (MD) [6-10]. MD is a significant issue in nursing since it leads to physical and mental health problems, discouragement from work, job dissatisfaction, poor employment retention, changes in job status, and limited interaction with patients and families. These issues ultimately lead to nursing professionals leaving the field, causing a nursing workforce shortage [11]. MD was first introduced by Jameton in 1984 [12]. Despite the evidence available on the severity and frequency of MD among intensive care nurses, there is little knowledge about MD in Emergency Department nurses throughout the world, particularly in Iran.

The various studies on the level of MD experienced by nurses reported conflicting results. For example, Jalali *et al.,* reported high levels of MD among ED nurses [13], Anami *et al.,* reported moderate levels [14], and Hou *et al.,* reported low levels [12]. Besides, Ebrahimi *et al.,* reported a moderate to high level of MD [15].

Since emergency departments can be challenging places to work, emergency nurses might have higher MD levels than nurses in other departments [12, 16].

Considering that the emergency department of public hospitals is frequently the first referral center for patients with acute and life-threatening conditions in many countries, this causes congestion in the emergency department, which, due to limitations in resources, is likely to increase job stress in healthcare service providers, reduce the quality of care, and increase medical errors. This involves nurses in moral situations and decisions, both consciously and unconsciously, while providing care [17-20].

In addition to the persistent dread of getting infected with COVID-19, a lack of resources and unfamiliar care duties contribute to nurses' MD [21]. This is primarily owing to the utilization of triage guidelines as a last resort, as well as the ethical conflicts arising from resource allocation decisions and availability, particularly among emergency department staff [22]. Several studies revealed that nursing practitioners had less healthier work environment than other professions and were frequently stressed at work. Nurses working in emergency departments may also experience increased stress as a result of specific working conditions and patients [23]. Hence, the present study was designed with a larger sample size and several demographic factors to investigate the prevalence and severity of MD, as well as its associated factors, among nurses working in the emergency departments of medical training facilities affiliated with Mazandaran University of Medical Sciences.

Participants and Methods

This descriptive-analytical-cross-sectional study was conducted on nurses working in the emergency departments of medical educational centers affiliated with Mazandaran University of Medical Sciences (Imam Khomeini, BuAli Sina, Fatemeh Zahra, Zareh, and Razi Hospitals) in 2023. Nurses with at least a bachelor's degree in nursing, at least six months of work experience in the emergency department, and willingness to participate in the present study were included in the present study.

This study employed the census method to include all 201 nurses working in the emergency department, from May to June 2023. Three nurses were eliminated from the study because their employment duration in the emergency department was less than six months, 26 nurses declined to complete the questionnaire, and finally, 172 nurses were included in the study.

The data collection tools were the demographic information Questionnaire and Corley's MD Questionnaire. The Questionnaire included a wide range of demographic variables, including age, sex, marital status, education level, income level, employment status, dominant work shift, number of years in one's profession, work experience in the emergency department, history of mental disorders, experience of working in the corona department, and workplace hospital.

Corley's MD Questionnaire had 36 questions that assessed the severity of MD based on the clinical situations that caused it [24]. This questionnaire aimed to measure the intensity of MD for each situation on a 6-point Likert scale from 0 to 6. On this scale, the number six represented the greatest level of moral discomfort, while zero indicated the absence of MD. The MD questionnaire had a total score range from 0 to 216, and the severity of MD was graded on three levels, including low, moderate, and severe, with scores ranging from 0 to 72 (low MD), scores between 73 to 144 (moderate MD), and scores between 145 to 216 (severe MD) [25]. The validity and reliability of the questionnaire were investigated by Beikmoradi *et al*., [25]. Pearson's correlation coefficient and Cronbach's alpha coefficient were 0.82 and 0.93, respectively [25], and Cronbach's alpha coefficient was 0.87 in this study.

The variables were expressed as percentages, frequencies, means, medians, and standard deviations. The Kolmogorov-Smirnov test was employed to analyze the hypothesis of the normality of the MD questionnaire score. In the hypothesis

testing section, various statistical analyses were employed to investigate the research questions. Firstly, the normality of the scores of the questionnaire was confirmed. Subsequently, an independent T-test was conducted to compare the mean scores of the two groups. Moreover, an analysis of variance was employed to compare the average scores of more than two groups, and multiple regression analysis was used to simultaneously examine the impact of all variables on the MD score. The data were analyzed using IBM SPSS Version 22.0 (SPSS Inc., Chicago, IL, USA). In all statistical analyses, $p \leq 0.05$ was considered statistically significant.

Results

Out of the 172 nurses in this study, 60.5% were women. The average age of the nurses was 32.52±6.88 years. In terms of marital status, 64.5% were married, and 95.9% had bachelor's degrees in nursing. According to the nurses' self-reported history of mental disorders, 2.9% experienced mental disorders and were under the supervision of a psychiatrist or using various medicines (Table 1). According to the findings of this study, the mean score of the MD among nurses using Corley's MD questionnaire was 69.73±25.68. The lowest MD score was 13, and the maximum MD score was 140.

There were 92 nurses (53.50%) in the low MD group and 80 nurses (46.50%) in the medium MD group, with the frequency and severity of MD being low to moderate. A statistically significant association was observed between MD and the variables of age (p=0.037), workplace hospital (p=0.005), and history of mental disorders (p=0.005). Other variables, including sex (p=0.788), shift (p=0.060),

Table 1. Distribution of demographic variables for nurses working in emergency departments.

Variables		Number (%)	Variables		Number (%)
Age (year)	20-25	18 (10.5)	Workplace hospital	1	36 (20.9)
	26-30	63 (36.6)		2	47 (27.3)
	31-35	51 (29.7)		3	30 (17.4)
	36-40	21 (12.2)		4	10 (5.8)
	>41	19 (11.0)		5	49 (28.5)
Sex	Male	68 (39.5)	Total work experience (year)	5>	62 (36.0)
	Female	104 (60.5)		5-10	57 (33.1)
Marital status	Married	111 (64.5)		10<	53 (30.8)
	Single	61 (35.5)	Work experience in emergency ward (year)	5>	115 (66.9)
Education	Bachelor of Science	165 (95.9)		5-10	40 (23.3)
	Masters of Science	7 (4.1)		10<	17 (9.9)
Shift work	Morning	15 (8.7)	Employment status (year)	Permanent contract	87 (50.6)
	Evening	6 (3.5)		Treaty	30 (17.4)
	Night	7 (4.1)		Contractual employment	7 (4.1)
	Rotation	144 (83.7)		Planned employment	32 (18.6)
Income (million Rials)	1-8	10 (5.8)		Corporate employment	16 (9.3)
	8-12	119 (69.2)	Work experience in the Corona ward	Yes	138 (80.2)
	12-16	34 (19.8)		No	34 (19.8)
	>16	9 (5.2)	History of mental disorders	Yes	5 (2.9)
				No	167 (97.1)

Table 2. The average score of MD for nurses working in emergency departments

Variables		Mean of MD[a]	Standard deviation	Statistics	*p* value
Age	20-25	66.33	23.07	F=2.62	0.037
	26-30	68.57	24.14		
	31-35	77.94	27.49		
	36-40	58.10	25.37		
	>41	67.58	23.86		
	Total	69.73	25.68		
History of mental disorders	Yes	101.20	19.89	T[b]=2.84	0.005
	No	68.78	25.28		
	Total	69.73	25.68		
Workplace hospital	1	64.17	22.42	F[c]=3.83	0.005
	2	73.81	25.61		
	3	57.37	24.60		
	4	69.30	23.39		
	5	77.55	26.22		
	Total	69.73	25.68		

[a]MD: Moral Distress; [b]F: Analysis of variance test; [c]T: Independent T-test; $p \leq 0.05$ was considered statistically significant.

Table 3. Identification of factors affecting MD score using linear regression for nurses working in emergency departments

Variable		Regression coefficient	Standard deviation	Confidence interval	t[b] statistic	p value[c]
Employment status (year)	Permanent contract	Reference				
	Treaty	-5.55	5.28	-15.90, 4.81	1.05	0.294
	Contractual employment	-20.84	10.05	-40.54, -1.15	2.07	0.038
	Planned employment	-3.31	6.62	-16.28, 9.66	0.50	0.617
	Corporate employment	-1.27	7.18	-15.35, 12.82	0.17	0.860
Marital status	Married	Reference				
	Single	-13.06	4.38	-21.66, -4.47	2.98	0.003

[a]MD: Moral Distress; [b]t: Independent t-test; [c]$p \leq 0.05$ was considered statistically significant

work Experience in the emergency ward ($p=0.763$), total work experience ($p=0.229$), work experience in the corona ward ($p=0.636$), income ($p=0.076$), education ($p=0.965$), had no significant relationship with the MD score (Table 2).

Statistical analysis based on linear regression showed that the variables of age, marital status, workplace hospital, type of employment, and history of mental disorders had a significant relationship with the MD score. The nurses' MD scores were different within different age groups and hospitals. The MD score of nurses with no history of mental disorders was 29.29 points lower than that of nurses with a mental disorder history (Table 2). The mean MD score in single nurses was 13.06 units less than married ones. The average score of MD in nurses with contractual employment was 20.84 points lower than those with official (permanent) employment (Table 3).

Discussion

The primary objective of this study was to determine the frequency and severity of MD, as well as its related factors, among nurses working in the emergency departments at medical education centers affiliated with Mazandaran University of Medical Sciences in 2023.

Previous studies reported a low degree of MD [12, 26], which was consistent with the findings of the present study. Due to limited information about the patient's wishes, emergency department nurses might be less morally challenged [27], and they might spend less time with their patients than nurses in intensive care units, who dedicate days to building relationships with patients and their families [28]. Emergency nurses seemed to make many decisions in a split second, with little time to ponder, particularly in cases involving patient death. Consequently, emergency nurses might be less morally tense.

According to the findings of the present study, moderate levels of MD were detected in almost half of the studied population, which was consistence with previous studies conducted in Iran [14, 26, 29, 30]. The average degree of MD might result from a combination of the elements listed above. Therefore, further research is required to determine the causes

of developing a moderate level of MD.

Several comparable studies were conducted in the emergency department and found a high level of MD [13, 18, 31], which contradicted the findings of the present study. According to a study conducted by Clark *et al.*, nurses with higher levels of MD were less interested in completing the questionnaire, and thus less likely to participate in studies [32]. One potential explanation for the disparity in the results might be attributed to differences in the research community, questionnaire design, and sample size, as well as differences in the type of study, work environment, ward of service, and participants' attitudes and knowledge.

Our findings indicated a statistically significant association between the nurses' age and the mean MD score. According to the findings of previous studies, there was a positive correlation between the age of nurses and the level of MD experience [33, 34]. Shafipour *et al.*, conducted a study among the pediatric unit and pediatric intensive care unit and observed that individuals under the age of 35 had a significantly higher level of MD, while those over the age of 40, had the lowest level [35]. Consequently, a negative correlation was found between age and the intensity of MD, indicating a decline in distress as age increased. However, Zadvinskis *et al.*, conducted a study exclusively in the emergency department and found no significant relationship between age and MD [36]. Besides, Behboudi *et al.,* conducted an investigation in the Mazandaran burn hospital and found no significant relationship between age and MD [4]. Similarly, Babamohammadi *et al.*, Joolaee *et al.,*, and Fogel *et al.,* found a negative relationship between age and MD [30, 37, 38]. Most emergency department nurses were in the same age range and had the same work experience because the majority of newly graduated nurses began their careers in the emergency departments. This suggested that the age variable was unlikely to be significant.

In the present study, there was a significant relationship between marital status and the mean score of MD. The mean MD score of unmarried nurses was 13.06 units lower than that of married nurses. Behboudi *et al.,* reported comparable findings to ours [4]. These findings suggested that married people might have a lower mental capacity to endure complex work conditions due to their high

family responsibilities and experience a higher level of MD when interacting with patients.

The average degree of MD had no significant association with the level of education of nurses in this study. However, Babamohammadi *et al.,* Ebrahimi *et al.,* and Shafipour *et al.,* reported that the MD score had a strong association with the nurse's level of education, which contradicted the findings of our study. Nevertheless, Sirilla *et al.,* found a significant negative relationship between the level of education and the experience of MD [15, 30, 35, 39]. Nurses with advanced nursing degrees indicated less involvement in direct patient care. In addition, individuals with a higher level of education had higher expectations for their work environment and conditions. In addition, the academic progress of these individuals leads to increased expectations from both colleagues and the wider work environment. Nurses with a higher degree of education appear to have higher professional expectations, which leads to higher stress levels, particularly when their work environment fails to meet these expectations [40]. These factors can affect the moral status of nurses.

In this study, there was a significant correlation between the mean MD score and nurses' employment type. The MD score among nurses with contractual employment was 20.84 points lower than in those with official (permanent) employment. In previous research, Anami *et al.,* found that nurses with contractual employment had the highest average MD, while nurses with nursing planned employment had the lowest. In the study by Shamsalinia *et al.*, there was a statistically significant difference between employment type and MD, which was consistent with our findings [11, 14]. Behboudi *et al.* found that the severity of MD was higher in nurses with permanent employment than in those with contractual employment. However, such a difference was not statistically significant [4]. Mohammadi *et al.*, Burhani *et al.*, and Abbaszadeh *et al.*, did not obtain results that were compatible with the present study [4, 41-43]. Based on the findings of multiple studies, it can be inferred that the level of MD experienced by nurses varied depending on the type of employment. Nurses with permanent employment, in particular, tend to experience higher levels of MD than those with contractual employment. However, nurses with nursing planned employment experienced a higher degree of MD than those with contractual employment. Furthermore, contractual employment was associated with higher levels of MD than official employment. These findings suggested that inconsistencies in employment conditions, such as low salaries and other privileges, might contribute to the increased MD experienced by nurses [1, 11, 14, 38]. Several previous research found that nurses' MD level was significantly correlated with personal, social, and professional factors [13, 44-46].

There were some limitations in this study. Firstly, there was a possibility of fatigue, lack of time, and lack of concentration in answering questionnaires in the emergency departments. Secondly, the participants' psychological states while filling out the questionnaire could affect the results of the research, which was out of our control. Thirdly, this study was conducted only in the emergency departments of medical centers affiliated with Mazandaran University of Medical Sciences. Therefore, its findings cannot be generalized to other departments. We recommend further investigations for nurses working in emergency departments as well as other departments using a larger sample size to determine the MD on the night shift, masters of science education, and contractual staff. Furthermore, a study of MD in nurses with a history of mental diseases was suggested.

MD is important because it has an impact on various elements of emergency nursing, including the quality of services provided, the duration of patient care, and the satisfaction levels of the patients and their companions. The results of the present study revealed that nurses in emergency departments experienced low to moderate levels of MD. MD levels were affected by a variety of demographic and professional factors, including age, history of mental disorders, marital status, employment type, workplace hospital, and education. The findings highlighted the importance of supporting nurses, providing ethics training courses and workshops, teaching stress management techniques, and rotating nurses in departments on a regular basis.

Declaration

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