RESEARCH ARTICLE

Moral distress and Moral Sensitivity and their correlation with Safe nursing care

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ABSTRACT

Moral distress is the situation in which nurses know the moral principles that should guide their actions but are not allowed by the constraints of the health system. Moral sensitivity is the ability of nurses to perceive the moral dimensions of certain situations or actions. Safe care is a range of services provided to patients by nurses and consequently nurses with the aim of monitoring, promoting, maintaining or restoring the health of patients. Moral distress negatively affects safe health care, and moral sensitivity is the solution to moral distress. This study investigates the relationship between both moral distress and moral sensitivity of nurses with safe nursing care. A total of 163 nurses from a General Greek Hospital participated in the research. The protocol included the Moral Resilience (RMRS), Moral Distress (MMD-HP) and Moral Sensitivity Control (Byrd's NEST) scales.

For the Moral Resilience scale, higher scores are recorded for the moral efficacy dimension. Moderate scores are recorded for the Moral Distress scale, so nurses are characterized by moderate moral sensitivity. None of the nurses had left or considered leaving the clinic due to moral distress, up to the time of the present study. Health professionals based on Byrd's NEST scale are characterized by moderate moral sensitivity. The greater the integrity of the relationships, the greater the reactions to moral adversity. The greater the moral distress, or the better the perceptions of the security offered by management, the greater nurses' personal integrity. As relational integrity or the distress decreased, moral efficacy increased. The higher the moral distress of the nurses, the greater the integrity of the relationships. Nurses who had children also felt more secure about working conditions than those who did not. The greater the dynamics of the clinic, the less reactions to moral adversity. Finally, greater moral deadlock was associated with both greater personal integrity and greater relational integrity, and less moral efficacy. Increased moral sensitivity prevents the occurrence of moral distress and has a positive effect on the provision of safe health care.

Keywords: Moral Distress, Moral Resilience, Nurses, MMD-HP and RMRS, Moral Sensitivity Control.

1. Introduction

Nurses, i.e. medical and nursing staff, regularly face difficult situations that forced them to make difficult decisions in daily practice that may, at times, led them moral distress. Moral distress appears more frequently in times of crisis, such as in the covid-19 pandemic. It is important for the nurses to recognize when they may be experiencing moral dilemmas, difficulties and distress, and how they can use coping strategies to prevent negative moral effects. Nurses are responsible for providing care to patients and are facing moral issues, such as the right to life and death, increasing medical interventions in patient care, changes in healthcare requirements and concepts and the number of patients in need of end-of-life care is increasing, and limitations of patients' autonomy. All these factors have led nurses that deal with these situations to moral decision making[1].

Moral distress appears in situations where the nurses know and understand which is the right and moral way to act, however, institutional obstacles make it impossible to take that action[2,3]. Moral sensitivity is an essential skill for the nurses in nursing practice, as it is the nurse's intuitive understanding of the patient's vulnerability, having knowledge of the moral consequences of decisions on the individual's behalf. To make moral decisions, nurses must be able to recognize a moral conflict and be sensitive to the patient's state[4,5]. An advanced level of moral sensitivity can help the nurses to feel confident in justifying moral decisions and

professional responsibilities and scope of practice and feel prepared to deal with moral issues[6].

Safe nursing care refers to the cognitive and value levels and the abilities of nurses to face on a daily basis a multitude of situations that lead them to stressful situations and possible moral distress. Accordingly, nursing care is defined by the moral, cognitive background, and emotional ramifications that ensure communicative relationships that facilitate decisions as well as the effectiveness of nursing practice[7]. The high quality of nursing care is related to the existence of efficient, sustainable and adaptable nurses in a healthy healthcare system[8].

Nurses are constantly facing moral adversity in their work. They are emotionally charged on a daily basis in the pursuit of safe nursing care for patients and their families, carrying their own personal moral dilemmas, traumas and possible distress. Instead of developing their moral sensitivity, they are overwhelmed by feelings of fear, panic, guilt, insecurity, isolation from their patients and/or the rest of the nursing staff and then from society. To provide safe care, nurses must receive emotional support to develop their moral sensitivity. Caring situations that reduce moral sensitivity intensify moral dilemmas and distress. These situations can be the workload, individuality of patients, the criticism they face from patients, attendants or fellow nurses, the lack of support from the healthcare system and hospital, the ambiguities in their duties, the frequent shift changes, the daily contact with

human suffering and death, staff shortages, and constant technological development in the health sector. All of these simultaneously jeopardize safe nursing care. Despite efforts to build moral sensitivity, there are moments and situations that nurses cannot cope and ensure safe patient care[9]. These difficulties may result in moral distress and reduced ability to provide safe care. Maintaining moral sensitivity prevents the emergence of moral, and affects positively the provision of safe health care[10].

Moral sensitivity has generally been touted as the antidote to moral distress. There are different approaches to building moral resilience, but many of them include recognition of moral agency, effective and life-time continues moral education and meditation, opportunities to process unpleasant events, and institutional efforts to reduce moral distress[11]. The moral sensitivity and competence, and practical skills are essential to resolve moral problems judiciously and promptly in nursing practice[12]. Nurses who develop their moral sensitivity are able to identify a greater number of moral problems in their daily practice. Therefore, they must be prepared to resolve such problems while reducing moral distress[13]. The meaning of safe nursing care in practice for nurses was meeting human needs through caring, empathetic, respectful interactions in which responsibility, willingness and advocacy are an essential, integral foundation through moral sensitivity.

In the Greek health care system, it is widely accepted that all patients should have equal opportunities to access and receive medical care thought-out the pandemic. This is possible when there are sufficient resources. But in resource-poor settings, difficult decisions about who receives intensive care (e.g., ICU beds, ventilators) must be made by triaging patients. Healthcare resource allocation decisions can lead to moral distress, particularly when the nurses are required to make decisions dictated by circumstances beyond their control. Moral distress can have a devastating impact on nurses. The moral distress and sensitivity remind that compassion, honesty, humility, integrity and prudence -fundamental virtues of nursing- can support the nurses in difficult, sometimes morally impossible, situations. The separation of professional and personal life can reduce anxiety and stress in nurses working in frontline departments, such as ICUs, EDs and operating rooms[14, 15]. This study attempts to explore the relationship between both moral distress and sensitivity of nurses with safe nursing care during the pandemic in the Greek healthcare system.

2. Material and Methods

This contemporary study has approached the issues of moral distress and sensitivity of nurses in covid clinics and ICU's in Greek public healthcare structures, using the cross-sectional case survey. The purpose of the present study was to investigate the relationship between both moral distress and sensitivity of the nurses with safe nursing care. In particular, an attempt was made to determine the level of moral resilience of nurses as well as its relationship with the

degree of moral distress as they were often called upon to face during clinical practice, as well as the way in which the above characteristics affect the levels safe nursing care in order to identify possible solutions and design strategies that resulted in safer and better quality of healthcare is provided.

Our specific objectives included the determination of the frequency and intensity with which nurses experience moral distress in their professional daily life, the effects that may brought in their feelings of moral distress that nurses experience in the level of safety of nursing care, the extent to which nurses were able to act in accordance with their personal values, the correlation of moral distress and moral resilience with the demographic and working characteristics of nurses and of the levels of moral resilience of nurses with the degree to which they experience feelings of moral distress in the context of clinical practice and of the effective management of moral dilemma with safer nursing care, and the relationship of the moral sensitivity of the nurses with the more effective management of the moral dilemma.

Quantitative research was used as the methodology to gather the available statistical dataset, based on the five research hypotheses. Data were collected "vertically over time" due to short duration and implementation, using a closed-form protocol giving high levels of reliability[16]. The following research hypotheses are formulated:

a. Nurses with higher levels of moral resilience manage moral distress more effectively;

b. Moral distress results in high perceived moral distress;

c. Nurses who exhibit higher moral sensitivity manage moral dilemmas in better ways;

d. Demographics such as gender, age, experience and education affect levels of moral resilience; and

e. Higher levels of moral resilience and sensitivity lead to safer nursing care for patients.

The sample of this study consisted of 163 nurses working in the covid clinic and ICU of the General Hospital of Trikala for the year 2022. The non-probability sampling, in combination to the snowball avalanche method was used with research protocols[16]. Moral issues involved the information of the nurses for the aim of the study, preservation of their anonymity, confidentiality, privacy and personal data and the voluntary nature of participation. The inclusion criteria were that the nurses were nurses of all educational levels that worked in the covid clinic and ICU of the General Hospital of Trikala where patients are treated during the pandemic.

2.1. MEASURES

The protocol comprises 68 statements/variables distributed in four parts. In this study the protocol was translated in Greek, culturally adapted and tested for its reliability. The process of translation and cultural adaptation of its scales was based on the guidelines of WHO during which two different health professionals initially made two independent translations from English to Greek. After comparing these two translations, a new

translation emerged and a third healthcare professional. This version was then back-translated by professional translator and who was unaware of its original version. The back-translation was rechecked to detected language issues and formulating of the questions.

In the first part, 11 statements related to the nurses' demographics (e.g., gender, age, level of education, previous total experience, department in the hospital, previous experience of in the specific department, position in the department/hospital, marital status, number of children, and clinic capacity in nurses and patients). The second part of the protocol uses the Rushton Moral Resilience Scale (RMRS[17, 18]). The RMRS scale which includes seventeen questions, and 4 four subscales; five of which concern the "moral adversity" subscale (statements 2, 4, 5, 8 and 14), three the "personal integrity" (1, 6, and 17), five examine the "relational integrity" (10, 11, 13, 15 and 16), and four the "moral efficacy" (3, 7, 9 and 12). Responses are recorded on a four-point Likert scale: "disagree", "somewhat disagree", "agree" and "somewhat agree". Higher scores indicate greater resilience. This imposes the recoding of negatively-worded statements. The scoring for each subscale was obtained by calculating the mean score for the subscale statements, whilst the total score is calculated by adding up all seventeen statements.

The third part of the protocol relies on the Measure of Moral Distress for Nurses scale (MMD-HP)[19] which measures the causes of moral distress. The MMD-HP scale comprises 27 statements assigned to health system-, patient-, peer-related team- and patient-related team-level dimensions that explore the frequency of occurrence of difficult moral situations or dilemmas and how painful it was when the nurses experienced it. It uses a five-point Likert-type scale where 0 equals to "Never" and 4 equals to "Very". The questionnaire also includes two multiple-choice questions that examine the respondent's thoughts about a possible resignation from their position. The dimensions involved in moral distress should always be combined. For the overall score which ranges from 0 to 432, the frequency scores were multiplied with the corresponding risk. Moreover, Epstein et al.[19] reported that the nurses who considered leaving their positions due to moral distress scored mean MMD-HP scores of ~ 168, while those who did not consider leaving their positions scores mean MMD-HP score of ~ 94 (details in Epstein et al.[19]).

The forth part applies on the Safety Attitudes Scale (SAQ) which was is based on the conceptual models of risk and safety analysis and the quality of health care provided to patients. The scale is structured by 6 different sub-sections, indicating attitudes, namely cooperation and safety climate, working conditions, job satisfaction, management perceptions and stress recognition[20]. The SAQ consists of 60 statements, although 36 of the 60 statements were used. Each of the 60 items is answered using a five-point Likert scale (strongly disagree, slightly disagree, neutral, slightly agree, strongly agree). The scores of each subsection are calculated from the sum of the scores per statement, while the total score is from the total sum of the statements[20].

The last part of the protocol consists of the Byrd's nurses' Moral Sensitivity Test (Byrd's NEST)[21]. This tool consists of ten moral dilemmas that nurses in the nursing sector are asked to face. The respondent is then asked to choose between three alternative ways of actions that correspond to low, medium and high levels of moral sensitivity.

2.2. PROCEDURE AND DATA TREATMENT

The protocols were collected during the summer of 2022 with a special permission obtained from the scientific council of the Trikala General Hospital (Prot. No. 42/27-10-2022). To ensure the minimum number of protocols, ~ 200 questionnaires were given by the researcher of which 163 were returned fully completed, while 2 protocols were not fully completed, and so they were not included in the research. As a result, N = 163 nurses who met the respective criteria participated in this study. The nurses were given the option to complete the protocol either inside or outside the Trikala General Hospital. Before completing the protocol and collecting the statistical data, the nurses have been informed about the purpose of the study, the time of its conduct, and the methodology of data collection. Nurses who agreed to participate were also informed about the ways to complete the protocol.

Means, standard deviations (SD) and medians and interquartile ranges were used to describe the quantitative variables. Absolute (N) and relative (%) frequencies were used to describe qualitative variables. The non-parametric Mann-Whitney-test was used to compare quantitative variables between two groups. The non-parametric Kruskal-Wallis test was used to compare quantitative variables between more than two groups. Spearman's correlation coefficient (rho) was used to test the relationship between two quantitative variables. Linear regression analysis was used to find independent factors associated with the various scales from which dependence coefficients (β) and their standard errors (SE) were derived. When the distribution of the dependent variable was not normal, its logarithm was used in the analysis. Significance levels are two-sided and significance was set at 0.05. The statistical program SPSS 26.0 was used for the analysis.

For the needs of the research our questionnaire was translated, culturally adapted and then checked for reliability. The process of translation and cultural adaptation of the scale was based on the guidelines of the WHO during which two different health professionals initially made two independent translations from the original English text into Greek language. After comparing these two translations, a new translation emerged and a third healthcare professional was called to confirm the version created. This version was then back-translated by a bilingual person whose mother tongue was English, who was a professional translator and who was unaware of the original version of the questionnaire. The back translation was checked to capture problems with the wording and understanding of the questions. Our questionnaire was resulted from the composition and modification of the Rushton Moral Resilience Scale (RMRS[17,18]), the Measurement of Moral Distress-Nurses (MMD-HP[19]), the Safety Attitudes

(SAQ[20]) and Byrd's Nurses' Ethical Sensitivity Test (Byrd's NEST[21]). In a first phase was piloted to N = 16 (10 % of the sample) health professionals. The validity and reliability test was carried out of the corrected questionnaire, which was submitted to a final validity and reliability test, with a new pilot study on 16 other professionals health, and was then distributed to the participants (N = 163). Calculation of optimal sample size was performed to estimate the minimum sample size that may be adequate and to determine the level of statistical significance were performed using the online calculator provided by Qualtrics

(https://www.qualtrics.com/blog/calculating -sample/). The nurses who worked at the Trikala General Hospital during the second wave of the pandemic were ~280 and for a 95% confidence level the ideal sample size was ~162 nurses which is statistically significant (p < 0.05). Then, the content predictive validity ratio was calculated, which was positive, while the conceptual construct validity for each scale was given. Additionally, per scale and on the same sample of individuals, we have applied both the translated and the standard questionnaire. The coefficients of agreement (kappa) and correlation (Pearson's correlation coefficient) and factor analysis (factor analysis) were used (Annex, Table 1).

3. Results

3.1. SAMPLE PROFILE

A total of 163 nurses from the Trikala General Hospital responded to the protocol. Their demographic and working characteristics are given in Table 1. From these ~80% were women, with an average age of ~41 ± 9. They had an average working experience of ~12.5 ± 9 years, and ~56% of them were university nursing graduates that served in the ER (~23%) and ICU clinic (~15%). In this particular department they had an experience of ~11 ± 8 years. They were mostly married (~56%) and didn't had any children (~38%). Finally, the nurses reported that the capacity of their clinic was ~24.5 ± 8 nurses, while for patients was ~25 ± 15.

Table 1. Demographic and working characteristics of the healthcare professionals from the General Hospital of Trikala.

		N	%
Gender	Men	32	19.6
	Women	131	80.4
Age		41.2	41.0
(years, M, SD, median, confidence intervals)		(9.0)	(33.0-48.0)
Level of education	IEK	62	38.0
	TEI	91	55.8
	AEI	10	6.1
Marital status	Married	54	33.1
	Single	109	66.9
Number of children	0	62	38.0
	1	33	20.2
	2	43	26.4
	3	18	11.0
	4	6	3.7
	5	1	0.6
Professional experience (years, M, SD, median, confidence intervals)		12.5 (9.4)	10 (4-20)
Department	Pathology A	21	12.9
	Pathology B	22	13.5
	Hemodynamic	7	4.3
	ER	38	23.3
	General	17	10.4
	ICU	25	15.3
	Surgery	19	11.7
	Cardiology	14	8.6
Past experience in the department (M, SD, median, confidence intervals)		10.9 (8.4)	9 (3-15)
Working experience in the position (M, SD, median, confidence intervals)		10.9 (8.2)	9 (3-17)
Capacity of clinic (M, SD, median, confidence intervals)		24.5 (8.2)	22 (19-25)
mean number of patients accommodated in the clinic per day (M, SD, median, confidence intervals)		25 (15.2)	20 (10-25)

3.2. UNIVARIATE ANALYSIS

On the RMRS scale for moral resilience (Table 2), the nurses have scored for the dimension of "response to moral distress" an average of 2.1 (SD = 0.2), for "personal integrity" and "relational integrity" of 2.2 (SD = 0.3), and "moral efficacy" of 3.1 (SD = 0.2). Their moral resilience is characterized as moderate-to-high, and they have achieved the highest score for "moral efficacy" (for all the scales the scores in each dimension has been calculated on average of the corresponding questions; higher values implied greater moral resilience on each dimension, and Cronbach's α reliability coefficient was greater than 0.7 indicating acceptable reliability). On the MMD-HP scale for moral distress (Table 2), the nurses have scored between 245 and 335, with an average of 276.7 (SD = 17.2). Higher values implied a greater sense of moral distress. Their scoring indicates moderate levels of moral distress[19]. Moreover, none of the nurses had left or had considered leaving the clinic due to moral distress; as on the question of: "Are you now thinking of leaving your position because of moral distress?" only 2.5 % had positively answered.

On the Byrd's Nurse's Moral Sensitivity scale (Table 2, with the score ranging between 10 and 30 points, and higher values correspond to greater moral sensitivity) the scores were between 17 and 23 with an average of 18.3 (SD = 0.9). All healthcare professionals were classified in the category of moderate moral sensitivity. Lastly, on the Safety Perceptions scale (Table 2, where higher values suggest better moral perception in each dimension), the nurses for the dimension of "cooperation climate" had scored an average of 45 (SD = 6.5 points), for "safety climate" 31.7 (SD = 7.4), for "working conditions" of 17.7 (SD = 3.2), and for "job satisfaction" of 65.3 (SD = 5.9). For the dimension "perceptions of management" they have scored an average of 15.9 (SD = 5.9) while for "stress recognition" of 51.7 (SD = 6.1). The highest scores were given for the dimensions "job satisfaction" and "stress recognition".

Table 2. Scoring on RMRS and MMD-HP scales.

	Min	Max	M (SD)	Median (Confidence Intervals)	Cronbach's a
RMRS scale					
Response to Moral Adversity	1.4	2.6	2.1 (0.2)	2.2 (2-2.2)	0.72
Personal Integrity	1.3	3.0	2.2 (0.3)	2.3 (2-2.3)	0.71
Relational Integrity	1.3	2.8	2.2 (0.3)	2.2 (2-2.3)	0.73
Moral Efficacy	2.5	4.0	3.1 (0.2)	3 (3-3.3)	0.72
MMD-HP scale					
Measure of moral distress	245.0	335.0	276.7 (17.2)	-	0.72
BNEST scale					
Moral sensitivity	17.0	23.0	18.29 (0.86)	18.0 (18.0-18.0)	0.72
Safety Perceptions scale					
Cooperation climate	20.0	65.0	45 (6.5)	45 (45-45)	0.72
Safety climate	14.3	55.0	31.7 (7.4)	29.2 (28.6-35.7)	0.73
Working conditions	0.0	25.0	17.7 (3.2)	18.8 (18.8-18.8)	0.71
Job satisfaction	45.0	80.0	65.3 (5.9)	65 (65-65)	0.72
Perceptions of management	0.0	25.0	15.9 (4.3)	16.7 (16.7-16.7)	0.71
Stress recognition	37.5	81.3	51.7 (6.1)	50 (50-50)	0.73

3.3. STATISTICAL DIFFERENCES AND CORRELATIONS

The correlations between the scales of moral resilience, distress, sensitivity, and perceptions of security (Table 3) identified that the dimensions of the RMRS scale "reactions to moral adversity" and "relationship integrity" were significantly related. The "personal integrity" was also significantly related to the measure of moral distress (MMD-HP scale) and "perceptions of management" of the Safety Perceptions scale. The correlations of both were positive. The "moral efficacy" was significantly related to both "relational integrity" (RMRS scale) and to the measure of moral distress. The correlations were negative. The "relationship integrity" was significantly and positively related to the measure of moral distress. The univariate analysis of the dimensions of "cooperation climate", "safety climate", "working conditions", "job satisfaction", "perceptions of management", and "stress recognition" with the demographic and working characteristics of the nurses (e.g., age, experience, number of children, human resources and daily number of patients) didn't indicated no significant differences.

Table 3. Correlations of RMRS, MMD-HP, Byrd's NEST and Safety Perceptions scales.

	Personal Integrity	Moral Efficacy	Relational Integrity	Measure of Moral Distress	Moral Sensitivity	Cooperation Climate	Safety Climate	Working Conditions	Job Satisfaction	Perceptions of Management	Stress Recognition
Response to Moral Adversity	0.02 0.81	-0.09 0.26	0.3 <0.01	0.03 0.669	-0.01 0.87	<0.01 0.97	0.09 0.25	0.07 0.35	-0.02 0.828	0.08 0.29	0.13 0.10
Personal Integrity		-0.12 0.12	0.14 0.066	0.31 <0.01	0.08 0.33	0.04 0.61	-0.04 0.57	<0.01 0.98	-0.01 0.912	0.15 0.05	-0.05 0.50
Moral Efficacy			-0.3 <0.01	-0.25 <0.01	0.01 0.95	0.01 0.88	-0.06 0.43	-0.06 0.45	-0.04 0.59	0.001 0.99	-0.03 0.67
Relational Integrity				0.4 <0.01	-0.04 0.60	-0.02 0.84	-0.11 0.15	0.11 0.15	0.13 0.11	0.01 0.89	0.07 0.39
Measure of Moral Distress					<0.01 0.99	0.13 0.09	-0.12 0.14	0.05 0.49	0.05 0.50	0.15 0.06	0.02 0.77
Moral Sensitivity						-0.02 0.83	0.03 0.73	<0.01 0.96	0.08 0.28	0.24 0.00	-0.04 0.61
Cooperation Climate							0.04 0.57	<0.01 0.96	-0.09 0.24	0.02 0.81	-0.03 0.71
Safety Climate								-0.01 0.91	0.01 0.89	-0.06 0.41	-0.07 0.38
Working Conditions									0.04 0.62	-0.05 0.52	0.09 0.23
Job Satisfaction										-0.09 0.23	0.11 0.16
Perceptions of Management											-0.12 0.14

The "safety climate" was only found to vary relatively to clinic capacity. Then, in order to find the factors independently related to "safety climate", a multivariate linear regression (inclusion-removal method, Table 4) was performed with the scores on this dimension (dependent variable) and the demographic and working characteristics of the nurses and the scales of moral sensitivity, resilience and the measure of moral distress (independent variables). Clinic capacity was found to be independently associated with "safety climate". The same statistic treatment was performed with the score on the "working conditions" (dependent variable) and the demographic and working characteristics of the nurses and the scales of moral sensitivity,

moral resilience and the measure of moral distress (independent variables) (Table 4). Whether the nurses had children or not was found to be independently associated with working conditions. Lastly, the multivariate linear regression was performed with the score of "perceptions of management" (dependent variable) and the demographic and working characteristics of the nurses and the scales of moral sensitivity, resilience and the variable measure of moral distress (independent variables) (Table 4). The "personal integrity" and the moral sensitivity scale were found to be independently related to "perceptions of safety" offered by management.

Table 4. Correlates.

	Age	Total working experience	Department working experience	Position working position	Clinic capacity nurses	Clinic capacity patients
Collaborative climate	0.10*	0.11	0.10	0.11	-0.12	-0.03
	0.23*	0.17	0.21	0.15	0.12	0.72
Security climate	0.04	-0.02	-0.09	-0.07	0.16	0.07
	0.59	0.83	0.27	0.40	0.04	0.39
Working conditions	-0.12	-0.13	-0.09	-0.11	0.03	-0.08
	0.12	0.11	0.25	0.15	0.68	0.33
Work satisfaction	-0.08	-0.12	-0.05	-0.06	0.10	0.06
	0.29	0.12	0.57	0.42	0.20	0.44
Perceptions of management	-0.05	-0.03	-0.02	-0.02	-0.04	0.09
	0.50	0.72	0.78	0.83	0.65	0.25
Recognition of stress	0.05	0.04	0.03	0.01	-0.12	-0.16
	0.56	0.66	0.69	0.88	0.14	0.07

*rho, ** $p < 0.05$.

A multivariate linear regression was performed with the score on the dimensions of "reactions to moral adversity", "personal integrity", "moral efficacy", "relational integrity", and "moral sensitivity scale" (dependent variables) and the demographic and working characteristics of the nurses, measure of moral distress and sensitivity scale (independent variables) (Table 5).

Table 5. Multivariate linear regression.

	β*	SE**	p
Security climate			
Clinic capacity nurses	0.002	0.001	0.034
Working conditions			
Number of children	0.02	0.01	0.046
Perceptions of management			
Personal integrity	0.07	0.04	0.042
Moral Sensitivity	0.03	0.01	0.045
Moral adversity			
Clinic capacity nurses	-0.002	<0.001	<0.001
Personal integrity			
Measure of Moral Distress	0.001	<0.001	<0.001
Moral efficacy			
Measure of Moral Distress	-0.001	<0.001	0.005
Relational integrity			
Measure of Moral Distress	0.001	<0.001	<0.001

*Dependence coefficient, **Standard error (note: The logarithm of the dependent has been used).

Only clinic capacity was found to be independently related to "reactions to moral adversity". More specifically, the greater the capacity of the clinic, the less "reactions to moral adversity". Moreover, the measure of moral distress was found to be independently related to "personal integrity". Greater moral distress entailed greater "personal integrity". The measure of moral distress was found to be independently related to "moral efficacy" and "relational integrity". The clinic capacity and the average daily number of patients admitted to the clinic were found to be independently associated with moral sensitivity, and the measure of moral distress. The higher the capacity, the lower the moral sensitivity, while the more people were accommodated daily in the clinic, the higher the moral sensitivity. Also, the greater the potential, the greater the moral distress. Also, the more people were accommodated daily in the clinic, the more the moral distress increased (table 6).

Table 6. Multivariate linear regression.

	β*	SE**	p
Moral Sensitivity			
Level of education	-0.003	0.004	0.441
Sex	0.01	0.004	0.316
Age	0.001	<0.001	0.717
Total working experience	-0.001	<0.001	0.960
Family status	0.000	0.01	0.936
Clinic capacity nurses	-0.001	<0.001	0.034
Clinic capacity patients	0.001	<0.001	0.038
Children	0.001	0.005	0.801
	β+	SE++	p
Measure of Moral Distress			
Level of education	0.75	3.05	0.805
Sex	-2.60	3.26	0.428
Age	0.18	0.34	0.601
Total working experience	4.80	4.44	0.282
Family status	-0.48	0.31	0.123
Clinic capacity nurses	0.92	4.65	0.844
Clinic capacity patients	0.69	0.31	0.027
Children	-0.58	0.17	0.001

*Dependence coefficient, **Standard error (note: The logarithm of the dependent has been used), +Dependence coefficient, ++Standard error.

4. Discussion

Nurses during the pandemic have constantly faced adversity in their work. They are emotionally charged on a daily basis in the pursuit of safe nursing care for their patients and their families, carrying their own personal moral dilemmas, traumas and distress. During the pandemic, instead of developing their moral sensitivity, they were overwhelmed by emotions of fear, panic, guilt, insecurity, isolation first from patients and the rest of the healthcare system, and then from society. To provide safe care, nurses must develop their moral sensitivity. Despite efforts to build moral sensitivity, there are moments and/or situations when nurses cannot cope and ensure safe patient care. These events can reduce moral sensitivity and also intensify moral dilemmas and distress. These situations can be the workload, particularities of and criticism from patients, attendants or fellow nurses, lack of support from the Greek healthcare system, ambiguities in their duties, frequent shift changes, daily contact with human suffering and death, staff shortage and technological development. All of these factors jeopardize safe nursing care, and may resulted in moral distress and reduced ability to provide safe care. Safe nursing care during the pandemic was associated to caring, empathetic and respectful interactions with

patients in which responsibility, willingness and advocacy are an essential, integral foundation through moral sensitivity. Maintaining moral sensitivity prevents the emergence of moral distress, and affects positively the provision of safe health care[9, 10].

Nurses who have develop their moral sensitivity are able to identify a greater number of moral dilemmas or distresses in their daily practice. Therefore, they are more prepared to resolve such problems while reducing moral distress[13]. As Lachman[11] reported it is the nurses' ability and willingness to speak up and take correct actions against adversity. Moral sensitivity, competence, and practical skills needed to judiciously and promptly resolve moral problems and ensure safe nursing practice, can be developed through effective moral programs. There are different approaches to build moral sensitivity which include recognition of moral agency, dilemma and/or distress, moral education, meditation, opportunities to process unpleasant events, and institutional efforts to reduce moral distress[12].

Our sample consisted of 163 nurses from which ~80% of the sample were females, with an average age of ~41 years and of ~12 years of experience, ~56% of them were A/TEI graduates, ~67% were married and ~38% had no children. The ~23% of them worked in the ER and ~15% in the ICU, with an average experience in these departments of ~11 years. The capacity of the clinic and the average number of visits per day was ~25 people. For the RMRS higher scores are recorded for the dimension "moral efficacy". For the MMD-HP scale, as a measure of the moral distress, moderate scores are recorded; so the health professionals are characterized by a moderate moral distress. None of the health professionals had left or considered leaving the clinic due to moral distress. Nurses who participated in the research are characterized by moderate moral sensitivity. In the Safety Perception scale, they have scored the highest scores at the dimensions "job satisfaction" and "stress recognition".

The dimension "reactions to moral adversity" and (RMRS scale) is significantly related to the "relationship integrity", which denotes that the greater the integrity of relationships lead to greater moral adversity. The dimension of "personal integrity" was significantly and positively related to the measure of moral distress (MMD-HP scale) and "perceptions of management" (Safety Perception scale). It is detected that greater moral sensitivity or better the "perceptions of security" offered by management correspond to higher "personal integrity" of the nurses. The "moral efficacy" was also related to "relationship integrity" and the measure of moral distress. The correlation with both was negative. If the "relational integrity" had decreased, moral efficacy had increased. The "relational integrity" is significantly and positively related to measure of moral distress. Higher moral distress of the nurses corresponds to greater "relational integrity". The moral sensitivity scale is significantly related to "perceptions of management". The better perceptions of management correspond to greater moral sensitivity.

The "safety climate" was found to vary according to clinic capacity; as the greater the capacity correspond to greater sense of security. Clinic capacity was found to be independently associated with "safety climate". Also, greater capacity corresponds to greater sense of safety. The "working

conditions" was related to whether health professionals had children or not. Those who had children also felt more secure about working conditions than those who did not. The "personal integrity" and moral sensitivity scale were found to be independently related to "perceptions of safety" offered by management. More specifically, greater "personal integrity" and moral sensitivity had also entailed better perceptions of management. Clinic capacity was found to be independently related to the dimension of reactions to moral adversity. The greater the capacity of the clinic, the less reactions to moral adversity. Accordingly, the scale for measuring moral distress was found to be independently related to "personal integrity", "relational integrity" and "moral efficacy". Greater moral distress was associated with both greater personal integrity and greater relational integrity, and less moral efficacy.

Clinic capacity and average daily number of patients admitted to the clinic were found to be independently associated with moral sensitivity. Higher capacity corresponded to lower moral sensitivity, while the number of patients that were daily accommodated in the clinic corresponded to higher moral sensitivity. Clinic capacity and the average daily number of patients admitted to the clinic were found to be independently associated with the measure of moral distress. The higher capacity corresponded to greater moral distress. Also, the more people were accommodated daily in the clinic, the more the moral distress increased.

The results of the present study were correlated with previous research using the literature review of Salari et al.[22] (N = 1090 articles between 2005 and 2020). This review did not directly relate moral distress to moral sensitivity and safe patient care, but examined these parameters in pairs. Moral distress was and is one of the most important problems faced by nurses in patient care[21]. Previous studies have mainly focused on determining the frequency and severity of moral distress in nurses. For more complete correlations of our research with previous ones, the results of Shahriari et al.[23], Musto, Rodney, & Vanderheide[24], Bayat, Shahriari, & Keshvari[25], Haahr, Norlyk, Martinsen, & Dreyer[26], Arries-Kleyenstüber[27], Llop-Gironés et al.[28] and Kim & Chang[29].

Our results suggest that the greater the relational integrity correspond to higher reactions to moral distress. The fact is also reported by Salari et al.[22] and Arries-Kleyenstüber[27]. The greater the moral distress or the better the perceptions about the security offered by the administration, the greater the personal integrity of the healthcare profetionals[22]. As relational integrity or the measure of moral distress of nurses had decreased their moral efficacy increased. The higher the moral distress of the nurses corresponded to greater the relational integrity. Similar results are reported by Bayat, Shahriari, & Keshvari[23] and Haahr, Norlyk, Martinsen, & Dreyer[26]. The authors emphasize the importance of creating a positive moral climate to reduce moral distress as well as the need for professional interventions to increase moral support. Healthcare professionals who had children also felt more secure about working conditions than those who did not[28]. The greater the capacity of the clinic, the less reactions to moral distress. This result is reported for the first time by the present research. Finally, greater moral distress was associated with both greater "personal integrity" and "relational integrity", and less to moral efficacy[24, 29].

5. Conclusion

The results of this research suggest that elevated moral sensitivity of nurses and preserving it prevented the occurrence of moral distress. The strengthening of moral sensitivity has a positive effect on the provision of safe health care. Nurses who developed their moral sensitivity were able to identify a greater number of moral problems in their daily practice.

This study is expected to lead to the identification of possible correlations between moral resilience and certain demographic characteristics of health professionals, as well as the frequency and intensity with which they experience moral distress in the context of clinical practice. At the same time, it is expected that it will help the Greek health system to determine the frequency with which health professionals face moral distress in their daily lives and the intensity of the moral discomfort that this entails. Finally, the conclusions of the present study are expected to lead to the design of practices aimed at strengthening the moral resilience of health professionals as well as at eliminating factors that result in the more frequent presence of moral distress, with the aim of increasing safety levels of the nursing care offered. Further studies are needed to evaluate the factors with the greatest influence on moral distress, sensitivity and safe nursing care. However, moral sensitivity leads to moral resilience that is the antidote to moral dilemmas and distress and ensures safe nursing care.

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