Journal of Clinical and Nursing Research, 2025, Volume 9, Issue 8
http://ojs.bbwpublisher.com/index.php/JCNR
Online ISSN: 2208-3693
Print ISSN: 2208-3685

Nurses' Characteristics Associated with Moral Distress and Coping Program in Selected Government Hospitals in Shandong, China

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Abstract: *Purpose:* This study aimed to determine the nurses' profile characteristics that are associated with moral distress among nurses in selected government hospitals in Shangdong, China. *Methods:* This is a descriptive-correlational study. A total of 185 clinical registered nurses who met the eligibility criteria from different departments in two tertiary governmental hospitals in Jinan city were purposively selected to participate in this study. The instruments included the general demographic characteristics and Chinese version of Moral Distress Scale-Revised (MDS-R). Correlation technique, specifically Spearman's rho, was utilized to determine the significant correlation between the selected nurse's characteristics and moral distress. Ethical considerations were given by the Far Eastern University ethics review committee (FEU-ERC Code:2020-2021-079). *Results:* The number of patients nurses handled per shift (r_s= 0.650, p= 0.032) and the type of patients that nurses handled (r_s = 0.718, p= 0.020) are the nurses' profile factors that are significantly correlated with nurses' moral distress (p-value < 0.05). As there is an increase in the number of patients handled every shift and the patients are becoming unstable, requiring complex care, the frequency and intensity of moral distress increase as well. *Conclusion:* The nurses' moral distress was registered at a low level in this study. Characteristics related to patients, such as the number and type assigned to nurses, are correlated to moral distress. The main source of the high frequency and intensity of moral distress among nurses is "futile care" and "false hope". Educational learning program is recommended to manage and alleviate the moral distress of nurses.

Keywords: Nurses; Moral distress; Moral Distress Scale-Revised (MDS-R); Nursing ethics

Online publication: September 4, 2025

1. Introduction

Moral distress is a key issue affecting nurses globally, including in China [1]. It impacts nurses' psychological, emotional, and physical well-being, arising from situational constraints with significant negative outcomes, and

effective recognition and coping are vital to reduce staff turnover and improve care quality [2]. Chinese nurses, particularly those in ICU and emergency departments, experience varying levels of moral distress. Prevalence varies due to work environments, organizational cultures, and demographic factors like age, experience, and education. Long-serving nurses with strong expertise are more prone to moral distress from identifying inappropriate practices [3]. The COVID-19 pandemic exacerbated this, with healthcare workers struggling to meet patient/colleague needs, alongside systemic issues like resource shortages [4, 5].

Research on Chinese nurses' moral distress remains nascent, introduced by scholar Xia, with debates over influencing factors and limited depth/scope [6]. Multicenter, large-scale studies are needed [7]. Interventions are scarce—relying on peer support—and underprioritized by managers; recommendations include psychological counseling, enhanced autonomy, and resilience training [8]. Personal clinical experience of moral distress—due to age, department, experience, and low position—further motivates this study, which aims to identify influencing factors and propose solutions.

2. Materials and methods

2.1. Aims and limitations

This study aimed to identify nurses' profile characteristics influencing moral distress among nurses in Shandong, China, and propose a corresponding intervention program. A descriptive correlational and cross-sectional design was adopted, with data collected from two tertiary public hospitals in Shandong Province. Purposive sampling was used to select registered nurses (RNs) who had experienced moral distress. The Moral Distress Scale-Revised (MDS-R) was employed to assess moral distress, measuring both its frequency (F) and intensity (I).

Limitations include: (1) Constraints of time and manpower limited the study to two hospitals in one city of Shandong, excluding nurses from other provinces, cities, regions, and hospitals of different levels, potentially reducing result generalizability; (2) The descriptive correlational design may not capture the continuous, dynamic, or long-term nature of factors influencing moral distress, which would require longitudinal studies; (3) Online data collection, despite detailed questionnaire instructions, led to incomplete responses in the MDS-R; (4) Unmeasured nurse characteristics or variables might have affected moral distress and results; (5) The study focused on identifying influencing factors and proposing a program but did not implement interventions.

2.2. Research paradigm

The study's paradigm identifies nurses' profile variables as independent variables, including age, gender, clinical department, years of experience, highest education, professional title/position, institution, monthly income, number of patients per shift, and patient types. The dependent variable is nurses' moral distress, measured by its frequency (F) and intensity (I). Understanding the contexts and factors most commonly causing moral distress is critical for developing mitigation strategies.

The study's output is an educational program derived from its findings. A study noted that ethical education enhances nurses' ethical decision-making abilities and reduces moral distress, emphasizing that nurse managers should prioritize ethical training to foster professional moral awareness and the application of personal ethical values in patient care [9].

2.3. Research design

A descriptive correlational design was used to characterize nurses' profile factors and moral distress, and to

examine their relationship.

A cross-sectional design was adopted, a type of descriptive study that provides a "snapshot" of the frequency and characteristics of phenomena in a population at a specific time—useful for measuring prevalence and assessing healthcare needs [10]. This design was chosen due to constraints (time, manpower, regional limitations), despite recognizing that factors influencing moral distress may be continuous, dynamic, or long-term (requiring longitudinal study).

As a non-experimental descriptive-correlational study, no interventions were implemented, and no changes were made to nurses' existing moral distress; data were collected via structured questionnaires.

2.4. Research locale

This study was conducted in two tertiary public hospitals in Jinan City, Shandong Province, China. These hospitals were selected for their role in providing comprehensive healthcare services to local and surrounding areas, undertaking higher education and research tasks, and having sufficient departments and nursing staff to ensure an adequate study population.

As Level-III Grade-A tertiary hospitals, they meet national standards: a minimum of 501 beds, with at least 0.4 nurses per bed, and required departments including emergency, internal medicine, surgery, obstetrics and gynecology, pediatrics, traditional medicine, otolaryngology, stomatology, ophthalmology, dermatology, anesthesia, rehabilitation, and preventive health. These standards guarantee the availability of diverse departments and nursing staff necessary for the study.

Permission to conduct the research was obtained from both hospitals, and informed consent was secured from participants. Additional advantages included the researcher's familiarity with the institutions and the willingness of nursing staff to cooperate, facilitating data collection.

2.5. Population and sample

2.5.1. Sample and size

The researcher used purposive sampling for subject selection. Purposive sampling is a non-probability sampling method, and it occurs when elements selected for the sample are chosen by the judgment of the researcher. Researchers often believe that they can obtain a representative sample by using sound judgment, which will result in saving time and money.

The sample size was calculated by using power analysis by the statistician. Previous research of similar measures and the population was considered. The total number of people in this study was 221, and 36 of them were excluded because they did not meet the criteria in the screening process. Of these, 32 had their responses removed because they had not experienced any level of moral distress (Their responses were considered impossible in clinical nursing practice and this information maybe was inaccurate which affects the results of the study), 2 people worked in the nursing administration departments and didn't direct care patients, 1 person worked for less than one year, and 1 person was a nursing intern and unemployed. A total of 185 participants were selected as the sample size to participate in this study and entered data analysis finally with a response rate of 83.7%.

2.5.2. Inclusion criteria

Respondents included in the study were: (1) Registered nurses (RNs); (2) Registered nurses (RNs) who have experienced the different level (Low, Medium, High) of moral distress; (3) Work in the government hospitals of Jinan

city, Shandong province; (4) must at least one year of working experience; (5) Provide direct clinical nursing services; (6) Currently work in the current departments and are not on leave; and (7) Willing to participate in this study.

2.5.3. Exclusion criteria

The exclusion criteria were as follows: (1) Non-nursing staff (i.e. nursing intern); (2) Registered nurses (RNs) who haven't experienced the different level (Low, Medium, High) of moral distress; (3) Work in the non-government hospitals of Jinan city, Shandong province; (4) Do not have at least one year of working experience; (5) Work in administrative and other auxiliary units or departments which do not directly provide clinical nursing services for patients; (6) Do not work in the current department (such as going out for further study, taking maternity leave).

2.6. Sampling technique

Purposive sampling was employed in this study. This non-probability sampling technique involves selecting units judged to be most representative of the population based on the researcher's subjective judgment, prioritizing those that can provide in-depth, comprehensive data to inform theoretical construction or problem understanding. Given the study's focus on identifying factors influencing moral distress among Chinese nurses, this approach was suitable for targeting nurses with direct experience of moral distress.

A total of 185 participants were recruited, all meeting the eligibility criteria and employed in various departments across two tertiary public hospitals in Shandong Province. Recruitment was conducted via an online questionnaire, with nurses self-responding to participate.

2.7. Research instruments

Two instruments were used in this study: (1) Demographic Profile, (2) Moral Distress Scale-Revised (MDS-R).

2.7.1. Demographic profile questionnaire

A researcher-developed demographic questionnaire was used, adapted from relevant literature, to collect data on nurses' characteristics, including: age, gender, clinical department, years of experience, first degree, highest educational attainment, professional title/position, institution, monthly income, number of patients handled per shift, and types of patients handled [11]. Number of patients per shift was categorized as: < 5, 6–10, 11–15, or > 15.

Patient types were classified into four groups: (1) life-threatening with unstable vital signs; (2) potentially life-threatening with critical but deteriorating vital signs; (3) potentially deteriorating with relatively stable vital signs (requiring assisted self-care); (4) acute but stable with stable vital signs (able to self-care). The questionnaire also included a screening question to identify nurses who had experienced, were currently suffering from, or had been affected by moral distress.

2.7.2. Moral Distress Scale-Revised (MDS-R)

The MDS-R was used to assess nurses' moral distress. The 21-item MDS-R measures frequency (0 = never to 4 = often) and intensity (0 = none to 4 = largely) of distressing situations, with a composite score (0–336) calculated as the sum of [frequency × intensity] for all items. It has good reliability (Cronbach's $\alpha = 0.8816$).

This study used the Chinese version, adapted by a study with high validity (content validity index = 0.909) and reliability (Cronbach's $\alpha = 0.879$–0.896) [11, 12]. Scores were categorized into high/medium/low using a study cut-score method [13].

3. Result

3.1. Participants' characteristics

Based on **Table 1**, a total of 185 registered nurses participated. The average age was 34.91 years (SD = 5.83, range = 22–55 years); 88% were female, 91% married, and 90% held bachelor's degrees. Most (53%) were primary nurses in charge, 61% in contractual positions. Top departments: obstetrics-gynecology (13%), pediatrics (10%), neurology (9%), emergency room (9%).

Average hospital experience was 3.94 years (SD = 0.279, range = 2–4 years). Over half handled 6–10 (36%) or 11–15 (34%) patients/shift; 70% cared for stable patients needing minimal to independent self-care. Most (46%) had a monthly income of 3,001–5,000 RMB. Regarding moral distress, 63% were aware and 60% had experienced it.

These align with China's nursing trends, hospital hiring preferences, and study inclusion criteria. Department distributions reflect selected hospitals' focus. High moral distress awareness/experience relates to growing attention in China and links to the study's conceptual framework (Role Conflict and Value Systems Theories) [1, 14]. Variations may stem from contextual factors [15].

Table 1. Characteristics of respondents (n= 185)

Nurse's characteristics	Results
Age	Mean=34.91, SD=5.83, range= 22–55 years old
Gender	
Male	23 (12.4%)
Female	162 (87.6%)
Marital status	
Single	16 (8.6%)
Married	169 (91.4%)
Educational attainment	
College	13 (7.0%)
Bachelor	167 (90.3%)
Master	5 (2.7%)
Clinical department	
Surgery	16 (8.65%)
Cardiology	14 (7.57%)
Obstetrics-gynecology	24 (12.97%)
Pediatrics	19 (10.27%)
Gastroenterology	5 (2.70%)
Infectious diseases	3 (1.62%)
Neurology	17 (9.19%)
Rehabilitation	8 (4.32%)
Pulmonology	9 (4.86%)
Emergency room	17 (9.19%)
Outpatient clinic/ Traditional Chinese medicine	6 (3.24%)
Hemodialysis/ Nephrology	15 (8.11%)

Table 1 (Continued)

Nurse's characteristics	Results
Intensive care unit	12 (6.49%)
Operating room	6 (3.24%)
Oncology	3 (1.62%)
Endocrinology	5 (2.70%)
General Adult Medical	6 (3.24%)
Years of working	Mean=3.94, SD=0.279, range= 2–4 years
Number of patients handled per shift	
Less than 5	20 (10.8%)
6–10	67 (36.2%)
11–15	63 (34.1%)
More than 15	35 (18.9%)
Types of patients handled	
Actual life-threatening, unstable	26 (14.1%)
Potential life-threatening, unstable	27 (14.6%)
Stable, requires assisted self-care	53 (28.6%)
Stable, performs independent self-care	79 (42.7%)
Nurse position	
Primary nurse in charge	98 (52.97%)
Nurse practitioner	59 (31.89%)
Head nurse	21 (11.35%)
Nurse educator	7 (3.78%)
Nature of work	
Permanent	66 (35.67%)
Agency	5 (2.70%)
Contractual	112 (60.54%)
Temporary	2 (1.1%)
Monthly income	
Less than 3,000 RMB	8 (4.32%)
3,001–5,000 RMB	85 (45.95%)
5,001–7,000 RMB	61 (32.97%)
More than 7,001 RMB	31 (16.76%)
Know about moral distress	
Yes	117 (63.24%)
No	68 (36.76%)
Have you had experienced moral distress	
Yes, I have.	111 (60.0%)
Yes, I have, but I don't know.	74 (40.0%)

3.2. Indicators of moral distress

Table 2 shows moral distress frequency (never to frequently). The most common scenario was "initiating extensive life-saving actions only to prolong death" (29.2% often). Others included: sometimes following family requests for non-beneficial life support (33.5%), avoiding death discussions with dying patients (26.5%), caring for ventilator-dependent hopeless patients (28.6%), and concealing terminal illnesses (31.9%).

These cluster into "futile treatment" and "false hope"—consistent with prior findings linking such practices to moral distress. Advanced life-sustaining technologies conflict with nurses' values, aligning with a study definition of moral distress (constraint from right action) and the study's framework (role/value conflicts) [6, 16].

Chinese cultural taboos around death exacerbate this, as family demands for concealment/treatment violate nurses' values

Table 2. Frequency of moral distress indicators reported by the respondents (n=185)

	Md	0 Never	1 Hardly	2 Sometimes	3 Often	4 Frequently
1. Provide less than optimal care due to pressures from administrators or insurers to reduce costs.	1	67 (36.2%)	67 (36.2%)	38 (20.5%)	6 (3.2%)	7 (3.8%)
2. Witness healthcare providers giving "false hope" to a patient or family.	1	81 (43.8%)	57 (74.6%)	32 (17.35%)	12 (6.5%)	3 (1.6%)
3. Follow the family's wishes to continue life support even though I believe it is not in the best interest of the patient.	2	19 (10.3%)	57 (30.8%)	62 (33.5%)	34 (18.4%)	13 (7%)
4. Initiate extensive life-saving actions when I think they only prolong death.	3	9 (4.9%)	26 (14.1%)	47 (25.4%)	54 (29.2%)	49 (26.5%)
5. Follow the family's request not to discuss death with a dying patient who asks about dying.	2	40 (21.6%)	49 (26.5%)	49 (26.5%)	21 (11.4%)	26 (14.1%)
6. Carry out the physician's orders for what I consider to be unnecessary tests and treatments.	1	44 (23.8%)	73 (39.5%)	48 (25.9%)	12 (6.5%)	8 (4.3%)
7. Continue to participate in care for a hopelessly ill person who is being sustained on a ventilator, when no one will make a decision to withdraw support.	2	31 (16.8%)	41 (22.2%)	53 (28.6%)	35 (18.9%)	25 (13.5%)
8. Avoid taking action when I learn that a physician or nurse colleague has made a medical error and does not report it.	0	124 (67%)	34 (18.4%)	22 (11.9%)	1 (0.5%)	4 (2.2%)
9. Assist a physician who, in my opinion, is providing incompetent care.	1	45 (24.3%)	74 (40%)	44 (23.8%)	14 (7.6%)	8 (4.3%)
10. Be required to care for patients I don't feel qualified to care for.	1	82 (44.3%)	69 (37.3%)	27 (14.6%)	5 (2.7%)	2 (1.1%)
11. Witness medical students perform painful procedures on patients solely to increase their skill.	0	97 (52.4%)	59 (31.9%)	23 (12.4%)	3 (1.6%)	3 (1.6%)
12. Provide care that does not relieve the patient's suffering because the physician fears that increasing the dose of pain medication will cause death.	0	101 (54.6%)	55 (29.7%)	28 (15.1%)	0	1 (0.5%)
13. Follow the physician's request not to discuss the patient's prognosis with the patient or family.	1	51 (27.6%)	60 (32.4%)	51 (27.6%)	12 (6.5%)	11 (5.9%)
14. Increase the dose of sedatives/opiates for an unconscious patient that I believe could hasten the patient's death.	0	150 (81.1%)	15 (89.2%)	18 (9.7%)	1 (0.5%)	1 (0.5%)

Table 2 (Continued)

	Md	0 Never	1 Hardly	2 Sometimes	3 Often	4 Frequently
15. Take no action about an observed ethical issue because the involved staff member or someone in a position of authority requested that I do nothing.	0	142 (76.8%)	21 (88.1%)	18 (9.7%)	2 (1.1%)	1 (1.1%)
16. Follow the family's wishes for the patient's care when I do not agree with them, but do so because of fears of a lawsuit.	1	49 (26.5%)	66 (35.7%)	42 (22.7%)	18 (9.7%)	10 (5.4%)
17. Work with nurses or other healthcare providers who are not as competent as the patient care requires.	1	59 (31.9%)	83 (44.9%)	35 (18.9%)	5 (2.7%)	3 (1.6%)
18. Witness diminished patient care quality due to poor team communication.	1	67 (36.2%)	67 (36.2%)	44 (23.8%)	4 (2.2%)	3 (1.6%)
19. Ignore situations in which patients have not been given adequate information to insure informed consent.	0	122 (65.9%)	37 (20%)	23 (12.4%)	1 (0.5%)	2 (1.1%)
20. Watch patient care suffer because of a lack of provider continuity.	0	114 (61.6%)	45 (24.3%)	23 (12.4%)	1 (0.5%)	2 (1.1%)
21. Work with levels of nurse or other care provider staffing that I consider unsafe.	1	71 (38.4%)	84 (45.4%)	25 (13.5%)	3 (1.6%)	2 (1.1%)
22. Conceals illness from terminally ill patients or cancer patients at the request of the family.	2	31 (16.8%)	43 (23.2%)	59 (31.9%)	28 (15.1%)	24 (13%)

Md= median.

3.3. Level of disturbance in moral distress

Table 3 shows disturbance levels (none to a large extent) among 185 respondents. Most distressing situations: following family requests for non-beneficial life support (37.1% some disturbance), life-saving actions prolonging death (32.3%), and caring for ventilator-dependent hopeless patients without withdrawal decisions (30.1%).

These align with prior findings linking futile care to high-intensity distress, including non-beneficial treatments and ventilator-dependent care. Per a study, moral distress stems from the inability to act on moral choices—here, due to limited nurse decision-making, conflicting with roles/values [17]. Repeated exposure worsens intensity, fitting the study's theoretical framework [16].

Table 3. Level of disturbance caused by moral distress as reported by the participants (n=185).

	Md	0 None	1 To a small extent	2 To some extent	3 To a moderate extent	4 To a Great extent
1. Provide less than optimal care due to pressures from administrators or insurers to reduce costs.	1	59 (31.7%)	60 (32.3%)	52 (28%)	9 (4.8%)	5 (2.7%)
2. Witness healthcare providers giving "false hope" to a patient or family.	0	81 (43.5%)	52 (28%)	41 (22%)	10 (5.4%)	1 (0.5%)
3. Follow the family's wishes to continue life support even though I believe it is not in the best interest of the patient.	2	24 (12.9%)	61 (32.8%)	69 (37.1%)	21 (11.3%)	10 (5.4%)
4. Initiate extensive life-saving actions when I think they only prolong death.	2	19 (10.2%)	38 (20.4%)	60 (32.3%)	32 (17.2%)	36 (19.4%)
5. Follow the family's request not to discuss death with a dying patient who asks about dying.	1	39 (21%)	55 (29.6%)	52 (28%)	18 (9.7%)	21 (11.3%)

Table 3(Continued)

	Md	0 None	1 To a small extent	2 To some extent	3 To a moderate extent	4 To a Great extent
6. Carry out the physician's orders for what I consider to be unnecessary tests and treatments.	1	44 (23.7%)	69 (37.1%)	52 (28%)	13 (7%)	7 (3.8%)
7. Continue to participate in care for a hopelessly ill person who is being sustained on a ventilator, when no one will make a decision to withdraw support.	2	35 (18.8%)	51 (27.4%)	56 (30.1%)	27 (14.5%)	16 (8.6%)
8. Avoid taking action when I learn that a physician or nurse colleague has made a medical error and does not report it.	0	122 (65.6%)	36 (19.4%)	24 (12.9%)	1 (0.5%)	2 (1.1%)
9. Assist a physician who, in my opinion, is providing incompetent care.	1	50 (26.9%)	71 (38.2%)	44 (23.7%)	13 (7%)	7 (3.8%)
10. Be required to care for patients I don't feel qualified to care for.	0	82 (44.1%)	65 (34.9%)	32 (17.2%)	5 (2.7%)	1 (0.5%)
11. Witness medical students perform painful procedures on patients solely to increase their skill.	0	100 (53.8%)	51 (27.4%)	29 (15.6%)	4 (2.2%)	1 (0.5%)
12. Provide care that does not relieve the patient's suffering because the physician fears that increasing the dose of pain medication will cause death.	0	98 (52.7%)	57 (30.6%)	28 (15.1%)	2 (1.1%)	1 (0.5%)
13. Follow the physician's request not to discuss the patient's prognosis with the patient or family.	0	59 (31.7%)	59 (31.7%)	47 (25.3%)	11 (5.9%)	9 (4.8%)
14. Increase the dose of sedatives/opiates for an unconscious patient that I believe could hasten the patient's death.	0	146 (78.5%)	14 (7.5%)	23 (12.4%)	2 (1.1%)	1 (0.5%)
15. Take no action about an observed ethical issue because the involved staff member or someone in a position of authority requested that I do nothing.	0	141 (75.8%)	20 (10.8%)	22 (11.8%)	1 (0.50%)	1 (0.50%)
16. Follow the family's wishes for the patient's care when I do not agree with them, but do so because of fears of a lawsuit.	0	56 (30.1%)	53 (28.5%)	51 (27.4%)	17 (9.1%)	8 (4.3%)
17. Work with nurses or other healthcare providers who are not as competent as the patient care requires.	1	65 (34.9%)	75 (40.3%)	38 (2.6%)	4 (2.2%)	3 (1.6%)
18. Witness diminished patient care quality due to poor team communication.	0	75 (40.3%)	55 (29.6%)	45 (24.2%)	8 (4.3%)	2 (1.1%)
19. Ignore situations in which patients have not been given adequate information to insure informed consent.	0	124 (66.7%)	34 (18.3%)	26 (14%)	1 (0.50%)	1 (0.50%)
20. Watch patient care suffer because of a lack of provider continuity.	0	113 (60.8%)	39 (21%)	31 (16.7%)	1 (0.50%)	1 (0.50%)
21. Work with levels of nurse or other care provider staffing that I consider unsafe.	0	76 (40.9%)	73 (39.2%)	32 (17.2%)	2 (1.1%)	2 (1.1%)
22. Conceals illness from terminally ill patients or cancer patients at the request of the family.	0	43 (23.1%)	49 (26.3%)	56 (30.1%)	21 (11.3%)	16 (8.6%)

Md= median.

3.4. Distribution of moral distress levels

Table 4 categorizes moral distress by total scores (frequency × intensity sum): low (1–112), medium (113–224), high (225–336). **Table 5** shows the total moral distress scores of the respondents and found that most participants (95.1%) had low distress; 8 had medium, 1 had high.

This aligns with studies showing low moral distress among Chinese nurses [18–21]. The contributing factors include: local patients with light medical burdens, few severe cases (patients seeking better resources), a specialized maternal/child hospital, and institutional focus on ethics [22]. Medium/high distress linked to departments (e.g., emergency, ICU), individual values, and institutional barriers, supporting the need for educational programs [16, 17].

Table 4. Interpretation of moral distress scores

Scores= [F (frequencies score) × I (intensity score)]	Interpretation
1–112	Low level moral distress
113–224	Medium level moral distress
225–336	High level moral distress

Table 5. Total moral distress reported by the respondents (n=185)

Score range	Interpretation	Frequency	Percentage
225–336	High distress	1	0.5%
113–224	Medium moral distress	8	4.3%
1–112	Low moral distress	176	95.1%

Table 6. Impact of moral distress on intention to leave among participants (n=185)

Quit	Frequency	Percentage
Never considered quitting	76	41.1%
Considered quitting but stay	100	54.1%
Left the position	9	4.9%

Table 7 presents the correlation coefficients between selected nurse's characteristics and moral distress.

Table 7. Correlation of nurse's characteristics and moral distress (n= 185)

Nurses' profile characteristics	Dependent variable	Correlation coefficient	Interpretation	*p* value	Decision
Age	Moral distress	- 0.091	Small	0.216	Do not reject the null hypothesis
Gender	-do-	- 0.166	Small	0.024	Do not reject the null hypothesis
Years of working experience	-do-	0.003	Small	0.965	Do not reject the null hypothesis
Nurse position	-do-	- 0.048	Small	0.515	Do not reject the null hypothesis
Nature of work	-do-	0.066	Small	0.373	Do not reject the null hypothesis
Educational attainment	-do-	- 0.009	Small	0.902	Do not reject the null hypothesis
Personal monthly income	-do-	0.099	Small	0.179	Do not reject the null hypothesis
Number of patients handled per shift	-do-	0.650*	Strong	0.032	Reject the null hypothesis
Type of patients handled	-do-	0.718*	Strong	0.020	Reject the null hypothesis

Correlation technique, specifically Spearman's rho, was utilized to determine the strength and direction of correlation. The strength of correlation was guided by general guidelines provided by Cohen (1988) as follows in **Table 8**:

Table 8. General guidelines of Spearman's rho correlation technique

Coefficient value	Strength of Association
0.10–0.30	Small correlation
0.31–0.50	Medium / Moderate correlation
> 0.51	Large / Strong correlation

Given the scarcity of research and interventions targeting moral distress among healthcare professionals, the correlation between nurses' ethical education level and the degree of moral distress, as well as Chinese nurses' insufficient awareness of moral distress and the late introduction of this concept, the researcher has proposed an educational program entitled "Learning More about Moral Distress in Nursing Practice". The program aims to enhance nurses' relevant awareness and coping abilities. It is planned to propose the program to the nursing administrators of the selected hospitals. Upon obtaining permission, a four-week pilot project will be launched. During this period, collaborative activities will be carried out, and after the pilot, an evaluation will be conducted to improve and promote the program.

4. Summary of findings

As people pay more and more attention to the consciousness and spiritual aspects, the professionalism and ethics of nurses have also become the focus. One of the important ethical issues that Chinese nurses are facing is moral distress. Moral distress was defined as a phenomenon in which one or nurse knows the right action to take, but is constrained from taking it, because of some reasons, internal or external. It is necessary to know more about actual situation of Chinese nurses in moral distress, and analyze the factors affecting moral distress among nurses, so as to carry out better management and intervention for nurses' moral distress. The purpose of this study is to describe the profile of nurses, determine the nurses' profiles characteristics that affect moral distress among nurses in Shangdong, China.

The researcher used Jameton's concept of moral distress in nursing, House and Rizzo's role conflict theory, and Rokeach's theory on values and value systems as theoretical underpinnings of this study. A descriptive-correlation design was also employed in this study. Data were collected immediately after all participants had completed all the questions in the online questionnaire. Purposive sampling was used in the study. A total of 185 participants, who are registered nurses (RNs), experienced moral distress, participated in the study. Moral Distress Scale-Revised (MDS-R) as one research instrument was used to examine moral distress, which includes the frequency (F) and disturbance/ intensity (I) of moral distress among nurses in this study.

The findings of the study are the following:

(1) The participants of the study are registered nurses, predominantly female, married, and bachelor's degree holders with an average age of 35 years old and work in obstetrics-gynecology, pediatrics, neurology, and emergency room generally. They usually handle 6–10 patients and 11–15 patients per shift, and their patients were described to be in stable condition and perform minimal to independent self-care. The

majority are primary nurses in charge and work on a contractual position. Besides, they predominantly have personal monthly income of 3,001–5,000 RMB and have knowledge and experience on moral distress.

(2) Generally, the overall moral distress is registered at a low level. The main source of the high frequency and intensity of moral distress among nurses is "futile care". Besides, "false hopes" is the main source that caused the high frequency of moral distress among in this study.

(3) The number of patients nurses handled per shift and the type of patients nurses handled are the nurses' factors that are significantly correlated with nurses' moral distress. This means, the more patients nurses handle per shift, the higher the moral distress of nurses is. The greater patient acuity, such as patients in life-threatening conditions, unstable and requiring complex care nurses handle, the higher the moral distress the nurses are experiencing.

(4) Based on the findings of the study, an educational learning program is recommended to manage and alleviate nurses' moral distress. Educational learning programs can be used to popularize nurses' basic knowledge about moral distress and improve their awareness, ethical dimension, and moral sensitivity about moral distress.

5. Conclusion

The nurses' moral distress was registered at a low level in this study. The main sources of the high frequency and intensity of moral distress among nurses are futile care and false hope. The number of patients nurses handled per shift and the type of patients that nurses handled are the factors that have a significant correlation with nurses' moral distress. An educational learning program is recommended to conduct to manage and alleviate the moral distress of nurses.

Disclosure statement

The authors declare no conflict of interest.

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