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Moral distress, attitude toward death, and palliative care core competencies among ICU nurses: a cross-sectional study

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Abstract

Background Palliative care is becoming more widely acknowledged as a crucial part of intensive care for all patients with life-threatening illnesses. Intensive care unit (ICU) nurses regard as a lead role to facilitate this integration, which require nurses to possess professional and comprehensive core competencies. However, there is little knowledge about the palliative care core competencies among ICU nurses.

Aims To explore the association of moral distress, attitude toward death, and palliative care core competencies of ICU nurses, and explore the mediating role of attitude toward death.

Methods This is a quantitative, cross-sectional study. Random cluster sampling method was used. 342 ICU nurses were selected from 5 hospitals across 4 provinces in China. Participants were evaluated using the Moral Distress Scale-revised (MDS-R), the Attitude toward Death Profile-Revised (DAP-R), and the Palliative Care Nurses' Core Competencies Scale (PCNCC). This study followed the STROBE statement.

Results The level of palliative care core competencies among ICU nurses is moderate. Moral distress and negative attitude toward death are negatively associated while positive attitude toward death is positively associated with core competencies in palliative care among ICU nurses. Attitude toward death partially mediates the relationship between moral distress and core competencies.

Conclusion Link between moral distress, attitude toward death, and palliative care core competencies among ICU nurses was found in this study.

Keywords Moral distress, Attitude toward death, Palliative care core competencies, Intensive care unit, Nurses

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Introduction

The aim of intensive care unit (ICUs) is to support the functions of critically ill patients to reduce mortality. Even the development of technologies and advancements in treatment, mortality rates in ICU remain high, ranging from 20–48.7% [1, 2]. Strategies focusing on anticipating, preventing, and treating suffering become common when therapies fail to achieve the caring goals or may lead to the burden outweighing the benefits [3]. Palliative care is patient and family-centered care, which aimed to improving the quality of life for individuals with serious, chronic, or life-threatening illnesses. Existing evidence demonstrates that integrating palliative care to the ICU can reduce hospital and ICU lengths of stay, and ICU healthcare resource utilization [4, 5]. Fundamental palliative care components, such as end-of life discussion based on the patient's disease and wishes, should be standard critical care practice and a core competency for all ICU healthcare professionals [6]. However, there is little knowledge about the palliative care core competencies of ICU nurses.

Core competencies represent the organizational's accumulated learning, particularly concerning the skills essential for producing a product or service, ensuring the integration of requisite knowledge and technologies [7]. The cornerstone of the nursing profession and the primary factor in ensuring the quality of care is the core competence of nurses [8]. The ICU has a high death rate, and delivering palliative care is necessary and important. Studies conducted in the last few years indicate that palliative care is becoming more and more beneficial for ICU patients. To improve the palliative care quality in ICU, it is important to develop the core competencies constantly. However, there is growing evidence regarding the palliative care training and education of ICU nurses are deficient [9]. ICU nurses' preparedness of implementing palliative care is insufficient due to the lack of competence, which identified as an important barrier of palliative care [10]. which requires ICU nurses to keep fundamental palliative care core competencies.

When caring for persons with life-limiting diseases, healthcare professionals are confronted with stressful. Moral distress arises when the level of suffering becomes unreasonable [11]. Moral distress frequently happened by ICU nurses because of the high intensity work environments, complex condition of patients and end-of-life decisions [12]. The integration of palliative care with the ICU may increase the frequency of moral distress for ICU nurses, as there may be ethical dilemmas with the life-death process. Previous studies [13, 14] identified that moral distress is an evident phenomenon in palliative care, and as one sort of occupational stressor, it can have an impact on numerous dimensions of competence, particularly in complex medical settings like ICU. Furthermore, Peng et al. [15] found that moral distress limit nurses' career enthusiasm and identity, which might lead to a lack of interest and initiative in learning clinical knowledge and skills, which could negatively affect core competencies. Even these evidences discuss the negatively consequences of moral distress on competencies among nurses, little is known about the actual impact and a potential mediating effects has not been explored.

The mortality rate in ICU is high. ICU nurses deal with death daily. Although it might be challenging to prepare for the dying process, nurses' reactions and attitudes about death can vary based on their prior experiences [16]. In Chinese traditional culture, the concept of "enjoying life and detesting death" is deeply rooted, leading to public fear of death and avoidance of discussing death, and a lack of "life and death education" result in inadequate understanding of death [17]. "Filial piety" constitutes an indispensable aspect of traditional Chinese culture. Even opting for "aggressive treatment" for terminally ill patients might be "lauded", whereas opting for "palliative care" could potentially be stigmatized as "unfilial". Previous study showed that the conflict between the values of Chinese traditional culture and palliative care, which is a direct cause of nurses' increased propensity to view death and dying negatively [18]. Attitudes of nurses towards death influence the support for family members and palliative care quality [19]. Furthermore, Li et al. [20] demonstrated that oncology nurses' attitude towards death was significant related to spiritual care competence. Nguyen et al. [21] found that the more positive oncology nurses' attitude toward palliative care were, the higher their self-competence. As a result, ICU nurses' attitudes towards death may be related to palliative care core competencies.

Terror Management Theory (TMT) was developed by Greenberg and Arndt [22]. The theory suggests that human attitudes toward death trigger subconscious anxiety and have implications for individual behavior and competence development. In order to promote the development of positive attitudes towards death and alleviate this anxiety, individuals strive to act in accordance with social values even if they are contrary to their value standards, and moral distress may be elevated as a result. This study examines the relationship between moral distress, attitude toward death, and core competencies in palliative care since this theoretical framework. Four hypotheses are proposed and hypothetical model showed in Fig. 1.

H1 ICU nurses' moral distress is negatively correlated with palliative care core competencies.

H2 ICU nurses' negative attitude toward death is negatively correlated with palliative care core competencies.

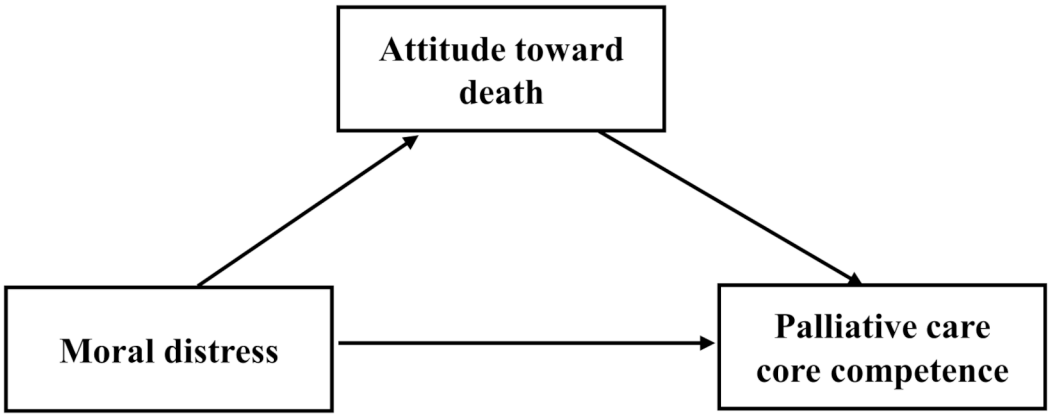

Fig. 1 The hypothesized model

H3 ICU nurses' positive attitude toward death is positively correlated with palliative care core competencies.

H4 Attitude toward death mediates the association of moral distress and palliative care core competencies.

Objectives

To explore the association of moral distress, attitude toward death, and palliative care core competencies among ICU nurses, and explore the mediating role of attitude toward death.

Methods

Study design

A quantitative, cross-sectional study.

Study setting and sampling

Random cluster sampling is a useful technique in cross-sectional studies, particularly when dealing with large, geographically dispersed populations or when it is impractical to survey individuals directly due to resource constraints. Therefore, this sampling method was used in this study. First, we coded the 34 provincial administrative regions in China and selected 5 provinces based on a random number table, and then coded the tertiary-level hospitals in each province and randomly selected 4 hospitals. Finally, ICU nurses from 5 hospitals in 4 provinces participated in this study between March and April of 2024. If a registered nurse had at least one year of ICU work experience and gave their agreement to participate, they were considered included. Nurses on sick or maternity leave were not included. Larger sample sizes in surveys are known to yield more accurate and representative results. According to MacCallum et al. [23], there should be a minimum required sample size of 100 or a minimum sample size to variable number ratio of 5, resulting in a final sample size range of 300 to 500 ICU nurses.

Measures

A four-part questionnaire, consisting of the demographic information, and Moral Distress Scale-Revised (MDS-R), the Attitude toward death Profile-Revised (DAP-R), Palliative Care Nurses' Core Competences Scale (PCNCC) was used for data collection.

Demographic information

Including age, gender, work experiences, marital status, education status, position, region, palliative care-related education or training.

Moral distress scale-revised (MDS-R)

The 38-item MDS was first created by Corley et al. [24] and then amended to 21 items by Hamric et al. [25] The MDS-R uses a Likert scale to assess moral distress frequency, which goes from 0 (never) to 4 (very frequently), and present severity, which goes from 0 (none) to 4 (large extent). Each item score is obtained by multiplying the intensity and frequency scores. Total score ranges from 0 to 336. The moral distress will increase with a higher score. Sun et al. [26] translated the MDS-R in China. MDS-R in this study has a Cronbach's alpha of 0.893.

Attitude toward death profile-revised (DAP-R)

The Attitude toward death Profile-Revised (DAP-R) is 32-item measure with five subscales: fear of death (negative), death avoidance (negative), neutral acceptance(positive), approach acceptance (positive), and escape acceptance (positive). Scores for positive or negative dimension are averaged by the number of items, and the scale does not calculate a total score but

rather interprets attitudes based on individual dimension scores. Item with scores ranging from 1 (totally disagree) to 5 (totally agree), the total score is the sum of the scores for each attitude subscale, higher scores indicate a stronger tendency towards the attitude represented by each dimension [27]. Tang et al. [28] translated DAP-R in China. DAP-R in this study has a Cronbach's alpha of 0.910.

Palliative care nurses' core competences scale (PCNCC)

Palliative care nurses' core competence scale was developed by Han [29] based on Competency outcome and performance assessment model (COPA), which includes 28 items across four dimensions: ethical care competency, physical and mental care competency, spiritual care competency, and self-psychological adjustment competency. Each item ranging from "not capable" to "very capable" for a total score of 0 to 112, with higher scores indicating a higher core competency. PCNCC in this study has a Cronbach's alpha of 0.924, split-half reliability and retest reliabilities are 0.889 and 0.976, respectively.

Data collection

This study was conducted on online, which is called "wenjuanxing", the largest e-questionnaire platform in China. Our research team contacted the directors of the nursing departments of 5 hospitals in 4 provinces and after explaining the study's purpose, process and obtaining consent, the directors of the nursing departments sent the questionnaire URL link to the participants who met the inclusion criteria. The first page of the questionnaire described the study in detail and asked participants if they were willing to join, and only those who selected "Yes, I agree to join" were allowed to complete the rest of the questionnaire.

Data analysis

IBM SPSS ver. 19.0 were used. The variables and characteristics of the participants were described using descriptive statistics. The mediating effect was investigated using a stepwise regression analysis, and correlations between the variables were examined using Pearson's coefficient. Step 1 involved regressing moral distress (independent variable) on palliative care core competencies (dependent variable). Step 2 involved regressing moral distress (independent variable) on palliative care core competencies. Step 3, palliative care core competencies was regressed on attitude toward death and moral distress. The link between moral distress and palliative care core competencies became less (partial) or non-significant (full) when put moral distress and attitude toward death into the regression model. This showed that the mediating effect was confirmed. The indirect effect was estimated using a bootstrap approach, which included a 95% CI. Model 4 was carried out with the Process macro. The p-value less than 0.05 indicates statistical significance.

Ethical consideration

The study was approved by The First Affiliated Hospital of Dali University (with the codes DFY20240403001). We explained the study's purpose and process in the consent form, as well as the voluntary nature and anonymous. Lastly, all data were securely stored on a password-protected computer accessible only to team members.

Results

Participants

Finally, four-hundred nurses were participated in the study, and 342 completed, providing a response rate of 85.5%. 301 of the 342 nurses were female (88.0%). The nurses' mean age was 32.68 years (SD = 6.37). The education status for 80.1% of the participants was an undergraduate, with 74.9% married. Table 1 shows the detailed characteristics.

Descriptive statistics for variables

ICU nurses showed moderate level of palliative care core competencies (mean = 58.96; SD = 21.56). The level of moral distress was low (mean = 58.34; SD = 42.99), and both negative and positive attitude toward death in moderate to high level (mean = 36.43; SD = 10.37; mean = 60.36; SD = 15.47, respectively) (Table 2).

Correlations for variables

Palliative care core competencies were negatively correlated with moral distress ($r = -0.617$, $p < 0.001$) and negative attitude toward death ($r = -0.614$, $p < 0.001$), while positively correlated with positive attitude toward death ($r = 0.491$, $p < 0.001$) (Table 3).

Regression analysis for moral distress, negative attitude toward death, and palliative care core competencies

Table 4 shows how a negative attitude toward death mediates the connection between moral distress and palliative care core competencies. In Step 1, moral distress predicted palliative care core competency ($\beta = -0.617$, $p < 0.001$). In Step 2, moral distress predicted a negative attitude towards death ($\beta = 0.819$, $p < 0.001$). In Step 3, the standardized regression coefficient for the link between moral distress and core competencies fell from $\beta = -0.617$ to -0.348 ($p < 0.001$), when the mediating variable, negative attitude toward death, was added.

Mediation analysis for moral distress, negative attitude toward death, and palliative care core competencies

Table 5 illustrates the path coefficients of the direct (0.359) and indirect (0.157) impacts of moral distress on

Table 1 Characteristics of the participants ($n = 342$)

Characteristics	*n*	%	Mean	SD
Age (years)			32.68	6.07
Work experiences (years)			10.23	6.37
Gender				
Male	41	12		
Female	301	88		
Marital status				
Single	80	23.4		
Married	256	74.9		
Divorced or widowed	6	1.7		
Education status				
≤Junior college	29	8.5		
Undergraduate	274	80.1		
≥Postgraduate	39	11.4		
Position				
Nurse	305	89.2		
Head nurse	37	10.8		
Region				
Yes	15	4.4		
No	327	95.6		
Have you been received palliative care-related education or training?				
Yes	78	22.8		
No	264	77.2		

Table 2 Descriptive statistics for variables ($n = 342$)

Variable	Dimensions	Score range	Mean ± SD
Moral distress	**Overall**	**0 ~ 352**	**58.34 ± 42.99**
	Individual responsibility	0 ~ 128	17.05 ± 16.26
	Not in patient's best interest	0 ~ 80	14.79 ± 11.23
	Values conflicts	0 ~ 96	19.74 ± 14.26
	Harm to patient's interest	0 ~ 48	6.76 ± 6.25
Attitude toward death	Negative attitude toward death	12 ~ 60	36.43 ± 10.37
	Positive attitude toward death	20 ~ 100	60.36 ± 15.47
Palliative care core competencies	**Overall**	**0 ~ 112**	**58.96 ± 21.56**
	Ethical care competency	0 ~ 287	17.31 ± 5.91
	Physical and mental care competency	0 ~ 4010	21.28 ± 8.31
	Spiritual care competency	0 ~ 246	10.11 ± 5.93
	Self-psychological adjustment competency	0 ~ 205	10.26 ± 4.18

Table 3 Correlations for variables ($n = 342$)

Variable	Palliative care core competencies	Moral distress	Negative attitude toward death	Positive attitude toward death
Palliative care core competencies	1			
Moral distress	−0.617**	1		
Negative attitude toward death	−0.614**	0.819**	1	
Positive attitude toward death	0.491**	−0.515**	−0.446**	1

**$p < 0.001$; *$p < 0.05$

Table 4 Regression analysis for moral distress, negative attitude toward death, and palliative care core competencies ($n = 342$)

Dependent variables	Independent variables	β	t	*p*	F	R^2	*p*
Palliative care core competencies	Moral distress	**−0.617**	44.882	<0.001	209.144	0.379	<0.001
Negative attitude toward death	Moral distress	0.819	26.302	<0.001	691.818	0.670	<0.001
Palliative care core competencies	Moral distress	**−0.348**	−4.813	<0.001	120.982	0.413	<0.001
	Negative attitude toward death	−0.329	−4.550	<0.001			

Table 5 Mediating effect of negative death attitude between moral distress and palliative care core competencies ($n = 342$)

Model pathways	Estimated effect	95%CI	
		Lower	Upper
Direct effect			
Moral distress→negative attitude toward death	0.262	0.241	0.281
Moral distress→palliative care core competencies	−0.359	−0.313	−0.014
Negative attitude toward death→palliative care core competencies	−0.598	−0.856	−0.340
Indirect effect			
Moral distress→negative attitude toward death→palliative care core competencies	−0.157	−0.241	−0.065

CI: confidence interval

Table 6 Regression analysis for moral distress, positive attitude toward death, and palliative care core competencies ($n = 342$)

Dependent variables	Independent variables	β	t	*p*	F	R^2	*p*
Palliative care core competencies	Moral distress	**−0.617**	44.882	<0.001	209.144	0.379	<0.001
Positive attitude toward death	Moral distress	−0.515	−11.088	<0.001	122.846	0.263	<0.001
Palliative care core competencies	Moral distress	**−0.496**	−10.284	<0.001	123.574	0.418	<0.001
	Positive attitude toward death	0.236	4.890	<0.001			

Table 7 Mediating effect of positive death attitude between moral distress and palliative care core competencies ($n = 342$)

Model pathways	Estimated effect	95%CI	
		Lower	Upper
Direct effect			
Moral distress→positive attitude toward death	−0.232	−0.272	−0.191
Moral distress→palliative care core competencies	−0.288	−0.344	−0.233
Positive attitude toward death→palliative care core competencies	0.305	0.182	0.428
Indirect effect			
Moral distress→positive attitude toward death→palliative care core competencies	−0.071	−0.109	−0.037

CI: confidence interval

core competencies, indicating that a negative attitude towards death has a partially mediate role.

Regression analysis for moral distress, positive attitude toward death, and palliative care core competencies

Table 6 shows how a positive attitude toward death mediates the connection between moral distress and palliative care core competencies. In Step 1, moral distress predicted palliative care core competency (β = −0.617, $p <$ 0.001). In Step 2, moral distress predicted a positive attitude towards death (β = −0.515, $p <$ 0.001). In Step 3, the standardized regression coefficient for the link between moral distress and core competencies fell from β = −0.617 to -0.496 ($p <$ 0.001), when the mediating variable, positive attitude toward death, was added.

Mediation analysis for moral distress, positive attitude toward death, and palliative care core competencies

Table 7 illustrates the path coefficients of the direct (−0.288) and indirect (0.071) impacts of moral distress on core competencies, indicating that a positive attitude towards death has a partially mediate role.

Discussion

This study proposes improving ICU nurses' palliative care core competencies from moral distress and attitudes toward death, to a certain extent, to make up for the shortcomings of the existing research, provides important research data. The level of palliative care core competencies among ICU nurses is moderate. Moral distress and negative attitude toward death are negatively associated while positive attitude toward death is positively associated with core competencies in palliative care

among ICU nurses. Attitude toward death partially mediates the relationship between moral distress and core competencies.

The palliative care core competencies were at a moderate level. This result is consistent with Shen's [30] findings even though a different scale was used. Palliative care practice in China is in an early stage due to the government policy and cultural context [31]. Previous study [32] showed that palliative care education is lacking. In addition, compared to usual care, the acceptance and willingness of healthcare professionals to provide palliative care is comparatively low, which hinders the establishment of core competencies for nurse in palliative care [32]. The core competence of ICU nurses can be defined as the ability to integrate professional thinking, knowledge, and superb skills, and it is important that develop and build the level of competencies constantly [33]. There is a growing demand for palliative care in ICU. ICU nurses, as a critical component of healthcare providers, with a high level of core competencies can facilitate the incorporation of palliative care practices into the ICU, decreasing the patients painful and improving their quality of life and, in turn, reducing the cost of healthcare [34]. Therefore, ICU nurses should self-assessment their own core competencies in palliative care as to increase attention to competency deficiencies. In additional, nursing managers should provide ICU nurses with education and training, and lead discussion for how to develop palliative care core competencies.

This study demonstrated that moral distress was negatively related to palliative care core competencies of ICU nurses, which is consistent with previous study [35]. Moral distress, as one sort of occupational stressor, can result in negative emotions such as powerlessness, self-blame, and guilt, particularly in complex medical environments such as ICU [14]. These outcomes may negative impact on the formation and nutrition of ICU nurses' core competencies [33]. Wolf et al. [35] reported that many ICU nurses have not prepared to implement palliative care because of the associated knowledge and skills lack. This may be related to moral distress. The integration of palliative care into the ICU has received attention from healthcare systems worldwide, and it is critical that all ICU healthcare workers maintain core competencies in basic palliative care [33]. Given these links, nursing managers could improve core competence by implementing ways to deal with and minimize moral distress among ICU nurses. Both organizational and individual aspects need to be taken into consideration to lessen moral distress and thus improve core competencies. Training nurses through ethical workshops, offering ethical support to nurses, and alerting nurses about moral distress and its repercussions were all considered effective [36].

In this study, attitude toward death was related to core competence in palliative care among ICU nurse, where positive attitude toward death was positively related and negative attitude toward death was negatively related. Few studies have directly explored the association of these two variables, despite some studies' subtle suggestions. For example, a study done in Iran showed that good death was positively correlated with end-of-life care competence of ICU nurses [37]. Li et al. [20] conducted a survey with oncology nurses, and the results showed that part of attitude towards death were related to nurses' spiritual care competence. Henriksen et al. [38] used a meta-ethnography design to show that possessing a supportive and encouraging attitude is a fundamental component of nurses' core competencies. Mortality among patients in the ICU is higher than in most health care settings and it create fears and anxieties for healthcare providers [19]. Palliative care is becoming increasingly important in ICU care, nurses with positive death attitudes may better able to detect patients' palliative care needs thus provide good services. Therefore, nursing administrators should recognize ICU nurses' attitudes toward death, promote nurses' approach to death through increased self-acceptance, and death education to improve their core competencies in palliative care.

Another significant conclusion was attitude toward death partially mediates the relationship of moral distress and palliative care core competencies among ICU nurses. This presents a mediating approach that can be incorporated into global research efforts, focusing on mediators of moral distress and core competence. Moral distress is a typical challenge faced by nurses during practices, mainly facing to the dying and death, it can be a stressful and difficult experience for nurses [39]. Nurses' attitudes toward death reflect individual coping tendencies and can directly influence care decision-making, quality of care for terminally ill patients and competence building [40]. ICU nurses' competency development has been predominantly focused on providing life-sustaining care, rather than on caring for patients who do not react to life-prolonging medications. Palliative care, which aims to meet the complex needs of patients, is being widely promoted for integration with ICU practice, it requires nurses to have core competencies in palliative care [41]. Nurses experiencing moral distress are prone to experiences of psychological imbalance and mental anguish, and nurses tend to adopt negative coping styles and attitude toward deaths, leading to a decrease in career identity and work engagement, and ultimately causing a decline in core competencies [15, 42]. This study offers support for an effectiveness education designed to improve positive attitude toward death and enhance core competence in palliative care among ICU nurses.

Limitation

This study has some limitations. All participants were invited by the nursing leaders, and in China, the relationship between leaders and employees is often characterized by strictness, possibly leading participants to not fully disclose their true feelings while filling out questionnaires due to organizational pressures. In order to reduce the pressure for the nurses and to improve the authenticity of the results, tis study used an online questionnaire and anonymity can reduce this bias to some extent, in addition to the informed consent which states that the protection of the participants' rights and interests will not be jeopardized by the results. The data were collected via self-reported online surveys and recall bias may exist. This study's findings are exploratory and only provide an overview of the situation for ICU nurses, the external validity of the study must be evaluated further. Even though we invited participants from different provinces, they were not representative of all ICU nurses, and the results are limited in generalization. ICU nurses' core competencies in palliative care may faire to change with self-directed learning and organizational training; therefore, a longitudinal study was suggested to examine long-term effects of core competence through moral distress and attitude toward death.

Conclusion

This study discovered a significant association between moral distress, attitude toward death, and palliative care core competencies among ICU nurses. It was observed that both positive and negative attitude toward death partially mediated this relationship. This finding underscores the importance of supporting nurses who may harbor negative attitude toward death, as enhancing their core competencies is crucial. Furthermore, this study suggests developing both organizational and individual moral strategies for ICU nurses. These insights are invaluable for reinforcing the foundations of palliative care and guiding future research endeavors aimed at cultivating an ethical environment for ICU nurses.

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Author contributions

M.P: Methodology, Data curation; Formal analysis; Investigation; Methodology; Resources; Visualization; Writing - original draft; Writing - review & editing. Q.G: Investigation, Data curation, Writing - review & editing. X.Z: Methodology, Supervision, Resources; Review & editing.

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Data availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

Ethics approval was obtained from The First Affiliated Hospital of Dali University (with the codes DFY20240403001). Consent was embedded at the beginning of the online questionnaire and participants were prompted to withdraw at any time. Participants completed and submitted the electronic questionnaire indicating that their informed consent had been obtained.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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