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The mediating role of empathy and moral sensitivity in nurses' spiritual health and spiritual caregiving competence: a cross-sectional study

Jin Jiang[1], JinWei Du[2†], YingWei Sun[3], PeiXiao Zhang[4], YanYu Gong[4], Yue Sun[4] and Hong Qu[1*]

Abstract

Background There is a paucity of current research on the mechanisms that mediate the relationship between nurses' levels of spiritual health and spiritual caregiving competence.

Aim The aim of this study was to explore the mediating role of empathy and moral sensitivity between spiritual health and spiritual caregiving competence.

Methods A cross-sectional survey was conducted from January to December 2023 in six tertiary hospitals in Liaoning Province, China.Using convenience sampling, 587 clinical nurses were selected. Using the Spiritual care compentence scale, The spiritual health scale, The Jefferson Scale of Empathy and the Moral Sensitivity Questionaire-revised into Chinese Data were collected from nurses. Mediating effects were analyzed using a structural equation model based on maximum likelihood estimation.

Results The nurses' spiritual caregiving competency score was (55.25 ± 12.25), which was moderate level. The model shows that the total effect of spiritual health on spiritual care competence (β = 0.475) is divided into a direct effect (β = 0.314) and an indirect effect. The indirect effects of empathy and moral sensitivity are 0.114 and 0.027, respectively. Additionally, empathy and moral sensitivity contribute an indirect effect of 0.019 between spiritual health and spiritual care competence.

Conclusion The results show that nurses 'spiritual care capabilities can be indirectly improved by improving nurses' empathy and moral sensitivity.

Keywords Empathy ability, Moral sensitivity, Nurse, Spiritual health, Spiritual care ability

†JinWei Du contributed equally to this work as a co-author.

*Correspondence:
Hong Qu
13352455250@163.com
[1]Department of Neurosurgery, General Hospital of Northern Theater Command, Wenhua Road 83#, Shenyang, Liaoning Province 110016, China
[2]Department of General Surgery, Shenzhen University General Hospital, Shenzhen, Guangdong Province 518055, China
[3]Graduate school, Dalian Medical University, Dalian, Liaoning Province 116044, China
[4]School of Nursing, China Medical University, Shenyang, Liaoning Province 110122, China

Introduction

The importance of spiritual health and spiritual care ability in nursing practice

Spiritual care in clinical nursing practice is defined as nurses understanding patients' perceptions of life's meaning and purpose during treatment and care. Nurses use active listening to empathize with patients and provide space or facilities for religious activities for those with specific faiths. Additionally, they implement measures to improve patient care and experience. This helps patients transform their thoughts, leading to changes in personal attitudes and behaviors, achieving spiritual comfort [1]. Modern medical models has shifted from the traditional biomedical model to a biopsychosocial model. With the increasing importance of nurses in healthcare services, more countries are focusing on developing nurses' psychological care skills, especially spiritual care abilities [2]. These abilities affect how patients cope with health issues and life crises, not only for those near death or receiving palliative care but also for patients transitioning from major trauma to stability [3].Spiritual care ability is a core component of holistic nursing, enhancing it can improve nurses' awareness of patients' religious and cultural sensitivities, enabling them to better respect patients' beliefs and values. This reduces the risk of psychological crises, improves quality of life, and enhances spiritual comfort [4].

Spiritual health refers to a state of overall harmony between an individual and themselves, others, and the environment, it includes the individual's sense of meaning in life, self-understanding, overcoming adversity, and religious reliance [5]. Research indicates that nurses who have attended spiritual health workshops can understand and meet patients' spiritual needs, thereby improving care quality, this not only enhances empathy but also increases job satisfaction [6]. Moreover, it helps to improve patients' overall well-being and significantly enhances their quality of life. Nurses can support critically ill or terminal patients through spiritual practices such as prayer or meditation. Meeting spiritual needs provides comfort, enhances patients' sense of peace and spiritual well-being, and reduces anxiety and depression. Spiritual needs fulfillment is not limited to religious beliefs; it can encompass personal values, beliefs, and relationships [7, 8].

The influence of empathy ability and moral sensitivity on nurses' clinical practice ability

Studies indicate that empathy is the ability to understand and respond to others' feelings, while spirituality is an intrinsic emotional quality [9]. Empathy can help individuals enhance their spiritual caregiving abilities and better understand others' feelings and needs; similarly, enhancing spirituality can improve nurses' empathy, enabling a deeper understanding of patients' needs and more effective care [10]. Therefore, spirituality and empathy are interrelated and mutually reinforcing. Spiritual enhancement can manifest through empathy, and empathy can be used as a measure of spiritual growth.

In China, influenced by traditional culture, patients' families often prohibit healthcare providers from informing patients about their illness. This results in nurses having a strong desire to offer quality care to both patients and their families. However, due to self-imposed limitations, lack of knowledge and confidence, and limited experience in spiritual care, they suffer from moral distress [11].Moral sensitivity in nurses refers to the ability of clinical nursing professionals to recognize the ethical challenges patients face, understand the potential impact of these challenges on patients and their families, and respond based on professional ethical principles and moral judgment [12].Studies suggest that nurses with higher moral sensitivity are better at identifying and addressing the needs of patients and their families, which includes respecting patients' personal beliefs and values, and considering their spiritual needs during care [13]. Moreover, nurses with high moral sensitivity are more likely to exhibit compassion and empathy in clinical practice, which is essential for understanding and meeting patients' spiritual needs [14].

The potential mediating role of empathy and moral sensitivity between spiritual health and spiritual care ability in nurses

Spiritual health not only has a positive correlation with empathy but also relates to the level of moral sensitivity; spiritual health can boost nurses' self-awareness and spiritual perception, which in turn enhances their empathy and moral sensitivity [15, 16].Nurses with high empathy are better at understanding and responding to patients' spiritual needs [10]. Hence, empathy has a positive impact on spiritual caregiving ability.Nurses with high moral sensitivity are better at making ethical decisions in the care process, which improves the quality of spiritual care [13]. High moral sensitivity in nurses is also associated with high levels of empathy [14].Therefore, considering the relationships among spiritual health, empathy, moral sensitivity, and spiritual caregiving ability, a hypothetical model is constructed as shown in Fig. 1.

Theoretical framework

The model in this study is based on Watson's Human Caring Theory and Eriksson's Multidimensional Health Theory. The Theory of Human Caring includes 10 factors, such as the development of a humanistic-altruistic system of value, the development of a helping-trusting-human-loving relationship, instillation and enabling of faith and hope, and providing support, protection, and/

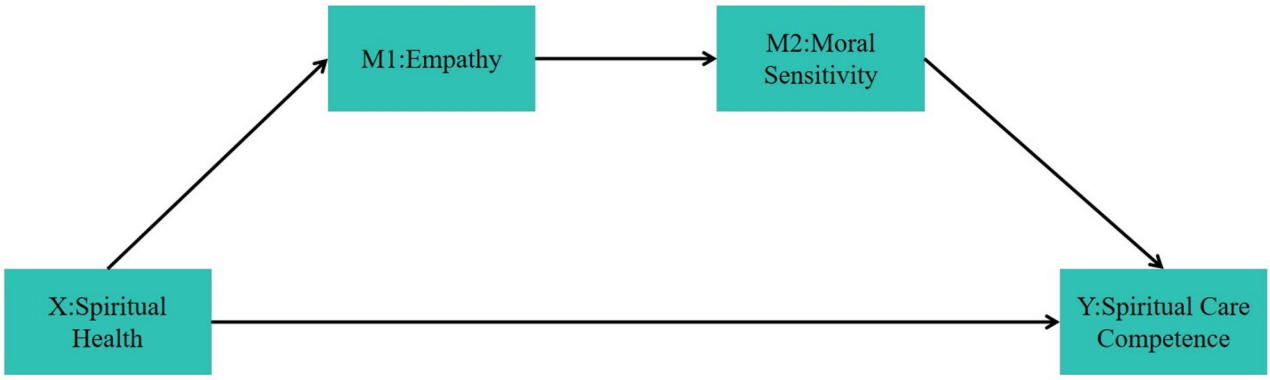

Fig. 1 The conceptual model for the whole sample, based on a previous study

or corrective mental, social, and spiritual environment [17, 18]. Watson connects love to experiences and processes in all dimensions of human life. She emphasizes that nurses should preserve, expand, or enhance the awareness of love in care, possess the ability to empathize with patients, and have a high degree of altruism, enabling patients to understand the meaning of their existence [19].Studies have confirmed that medical education curricula based on the Theory of Human Caring can enhance nursing students' caring abilities, empathy, and moral standards, and indicate a positive correlation between nurses' moral levels and empathy [20, 21]. Research has confirmed that medical education courses constructed based on human care theory can improve nursing students' care ability, empathy and moral level [21], and pointed out that nurses' moral level is positively correlated with empathy ability. Empathy is not only the basis of caring behavior, but also the bridge connecting nurses' own mental health and care ability. Its potential mechanism needs further discussion and analysis.

Eriksson's multidimensional health theory states that human beings consist of body, soul, and spirit. It suggests that health should not only be assessed through physical indicators, but also psychological, moral, and caring relationships [22]. It's theoretical foundation consists of seven basic assumptions, namely human dignity, caring relationships, invitation, responsibility, virtue, obligation or duty, and good and evil [23].Health, in its deepest sense, means sacredness [24], and sacreded means recognizing one's uniqueness and responsibility as a human. It involves understanding the meaning of life. The fundamental drive for health is the pursuit of an authentic life and self-transcendence. This motivation reflects the desire to prove one's existence and make life truly meaningful, capturing a deeper understanding of health [25]. This kind of motivation is characterized by the desire to prove the meaning of one's existence and the hope that one's life journey will become a real existence. This motivation reflects the deeper connotation of health, that is, the overall growth of the person [22, 23, 25].Spiritual health reflects not only a person's search for meaning and value in life, but also their mental well-being [5].As frontline caregivers, nurses' level of spiritual wellness influences their empathy, morality, and ability to care. Thus, it's essential to analyze the mechanisms that connect these qualities to improve service delivery [10, 14].

Purpose of the study

The purpose of this study was to explore the chain regulation mechanism of Chinese nurses from spiritual health to empathy, morally sensitive traits, and then to spiritual care. The ultimate goal is to deepen our understanding of the potential mechanism of nurses' empathy ability and moral sensitivity in spiritual quality, and to provide valuable insights for improving the efficiency and effectiveness of nursing practice. We look forward to further optimizing the curriculum of continuing education for nurses.

Methods

Participants and procedure

This study was a cross-sectional survey that collected data from Liaoning Province from January to December 2023. The main participants were clinical registered nurses.Participants were registered nurses working in six local government public hospitals, excluding student nurses and nurses not in clinical positions, who agreed to provide informed consent and were able to understand and complete the questionnaire. Online recruitment took place in Shenyang, Liaoning Province, China.

The study ensured that participant responses were anonymous and independent. Researchers addressed any questions from participants during the survey, and participants had the right to withdraw at any point. To increase the efficiency of data collection and reduce study costs, convenience sampling was used in this research. Nurses were given electronic questionnaires via the online survey platform "Wenjuanxing" (or the

"Wenjuanxing" mini-program in WeChat) in mainland China. This platform records the response time and registration ID. Questionnaires completed within 2 min or those with response times exceeding 20 min were excluded (43 participants did not meet the criteria), ensuring result reliability and reducing bias [26]. Trained research staff briefly explained the purpose and significance of the study to participants in the surveyed hospitals. The questionnaire link was distributed with the help of each hospital's nursing administration.In total, 630 nurses took part in the survey, and 93.2% (587) of them completed it.This study was approved by the Ethics Committee [Number: Y(2023)058].

Socio-demographic variables

Demographic characteristics include gender (male/female), age (categorized by year), residence (urban/rural), marital status (unmarried/married/divorced/widowed/cohabiting), educational level (high school and below/bachelor and above), type of professional title (nurse/Senior nurse/nurse in charge /deputy chief nurse and above), religious belief (yes/no), work experience (categorized by year), monthly income (≤ 3000RMB /3000-5000RMB /5000-10000RMB / ≥10000 RMB), number of night shifts per month (none/1–4/5–9/>10), current department (internal medicine/surgery/emergency/intensive care/operating room/others), and Have you ever heard of spiritual care? (yes/no).

Instruments

The scales or questionnaires used in this study have all been culturally adapted and theoretically verified in China, and have good reliability and validity. Open surveys and research were conducted at the instigation of the original author. The research tools used in this study are as follows.

Spiritual care compentence scale

The scale was developed by Dutch scholar Van Leeuwen et al. [1]. The original scale included 47 items. This study used the simplified version by Di Wei [27], which includes 22 items. These items cover six dimensions: attitude towards patients' spirituality (4 items), professionalization and improving quality of care(5 items), assessment and implementation of spiritual care (4 items), referral to professionals (2 items), personal support and counselling of patients (5 items), and communication (2 items), with scoring from 1 to 5. With a total score range of 22–110. Higher scores indicate stronger spiritual care abilities in nurses.In the Chinese version, the Cronbach's alpha coefficient ranges from 0.902 to 0.956 for each dimension of the scale [27]. In this study, Cronbach's alpha coefficient was 0.932.

The spiritual health scale

Developed by Taiwanese scholar Yachu Hsiao [5], the scale contains 24 items across five dimensions: connection to others (4 items), Meaning derived from living (6 items), Transcendence (6 items), religious attachment (4 items), and self-understanding (4 items). Each item was scored from 1 to 5, ranging from "strongly disagree" to "strongly agree", with a total score range of 24–120. Higher scores indicate higher levels of spiritual health in nurses, with the total Cronbaha alpha coefficient on the scale being 0.930, which is of good reliability [5]. In this study, the Cronbach's α coefficient for the overall scale is 0.972.

The Jefferson scale of empathy

The Jefferson Scale of Empathy is used to measure the empathy shown by nurses in caring for patients [28]. The Chinese version of the Jefferson Scale of Empathy Chinese version was Chineseised and validated by Ma [29] and consists of 20 items and 3 subscales: perspective taking(10 items), compassionate care(8 items), and standing in patients' shoes (2 items).Each item was measured on a 7-point Likert scale, with the 10 items scored inversely. Ma [14]reported a Cronbach's coefficient of 0.797 and a split-half coefficient of 0.788 for the Chinese version. Studies have shown that the questionnaire has good reliability among China nurses, with Cronbachα coefficients ranging from 0.790 to 0.890 [30]. In this study, the Cronbach's alpha coefficient for the scale was 0.882.

Moral sensitivity questionaire-revised into Chinese

The MSQ was developed and revised in 2006 by Lutzen et al. [31]. Huang et al. completed the Chinese translation and cultural adaptation of the MSQ [32]. The Chinese version of the MSQ consists of two dimensions: Moral Burden (4 items), Moral Responsibility and Strength (5 items), with a total of nine items. The MSQ-R-CV is scored on a 6-point Likert-type scale ranging from 1 "completely disagree" to 6 "completely agree. The composite score ranges from 9 to 54, with higher scores indicating higher levels of moral sensitivity.When applied to the nurse population in China, exploratory factor analysis showed that the two dimensions could explain 56.4% of the overall variation, and the Cronbach's alpha value of the scale was 0.889 [30]. In this study, Cronbach's alpha was 0.870.

Statistical analysis

All data analyses were conducted using SPSS version 26.0 and AMOS version 29.0 (IBM, USA). Frequency and percentage were used to describe the demographic characteristics of the participants. Data were tested for normality using the Shapiro-Wilk test, and the p-value was greater than 0.05, indicating that the data followed

a normal distribution. Thus, means ± standard deviations were used to describe the questionnaire scores, and Pearson correlation analysis was conducted to explore the relationships between nurses' spiritual care ability, spiritual health, empathy, and moral sensitivity. Cronbach's alpha coefficient was used to assess the internal consistency of the scales. Mediation analysis was used to explore the mediating role of empathy and moral sensitivity in the relationship between nurses' spiritual care ability and spiritual health. Figure 1 shows the conceptual model of mediation. A total of 5,000 bootstrap cycles were performed to calculate the standardized total and indirect effects, along with standard errors and bias-corrected 95% confidence intervals. A significant mediation effect was indicated if the confidence interval did not include 0. The indirect effect was calculated as the total effect minus the direct effect, and the indirect effect was equal to the product of the standardized path coefficients of the mediating variables.

Results

Description of the participants

Demographic characteristics demonstrated in Table 1 were 61 (89.6%) males and 526 (10.4%) females; 237 (40.4%) were aged 30–40 years; 489 (83.3%) lived in urban; 243 (41.4%) were married; 358 (61%) had received a bachelor's degree or higher; the type of occupational title had the highest number of senior nurse at 211 (35.9%); 237 (40.4%) had no religion; the number of nurses with 1–3 years of work experience was 169 (28.8%); the number of people with a monthly income between 3000RMB and 5000RMB was 149 (25.4%); the number of people who worked 1–4 days per month on the The number of night shifts was 310 (52.8%); the highest number of surgical nurses was 301 (51.3%); and 437 (74.4%) had heard of spiritual care.

Correlation coefficient of key variables using pearson correlation among participants

The correlation coefficients between the scales and the scores for each scale are described in Table 2. Pearson's correlation analysis showed that participants' spiritual caregiving competence score was (55.25 ± 12.25), spiritual health score was (68.75 ± 11.86), empathy score was (79.85 ± 18.80), and moral sensitivity score was (38.93 ± 10.35). Nurses' spiritual caregiving competence was positively correlated with spiritual health ($r = 0.764, P < 0.01$), empathic competence ($r = 0.720$, $P < 0.001$), and moral sensitivity ($r = 0.712, P = < 0.001$). Nurses' spiritual health was positively correlated with empathy ($r = 0.810, P < 0.001$) and moral sensitivity ($r = 0.782, P < 0.001$). Nurses empathic competence was positively correlated with moral sensitivity ($r = 0.788, P < 0.001$).

Mechanisms of the mediating effects of empathy and moral sensitivity between spiritual caregiving competence and spiritual health

The results in Table 3; Fig. 2 indicate that the total effect of spiritual health on spiritual care competence is significant ($\beta = 0.475$, $SE = 0.041$, 95%CI = 0.395–0.555). This suggests that, without accounting for the mediating roles of empathy and moral sensitivity, higher spiritual health levels lead to greater spiritual care competence.After controlling for the mediating effects of empathy and moral sensitivity, the direct impact of spiritual health on spiritual care ability remains significant ($\beta = 0.314$, $SE = 0.046$, 95%CI = 0.224–0.406). This demonstrates that spiritual health directly affects spiritual care ability, not through empathy and moral sensitivity.The indirect effect of spiritual health on spiritual care ability through empathy is significant ($\beta = 0.114$, $SE = 0.026$, 95%CI = 0.065–0.167). The indirect effect of spiritual health on spiritual care ability through moral sensitivity is significant ($\beta = 0.027$, $SE = 0.013$, 95%CI = 0.004–0.058). The combined indirect effect of spiritual health on spiritual care ability through empathy and moral sensitivity is significant ($\beta = 0.019$, $SE = 0.008$, 95%CI = 0.003–0.035).The model fit indices show $\chi^2/df = 3.588$, RMSEA = 0.059, NFI = 0.965, TLI = 0.963, and CFI = 0.971.

Discussion

Summary of findings

Our study found that nurses over 40 years old, with a bachelor's degree, with more than three years of experience, not working night shifts, working in intensive care units (ICU), and receiving spiritual care education had higher scores on spiritual care ability.In contrast, divorced or widowed nurses had lower scores. This result is consistent with previous research [33–35], which indicates that more experienced, older nurses tend to exhibit superior spiritual care abilities. Nurses holding a bachelor's or master's degree are likely to have higher spiritual competence, as they generally receive spiritual care-related training and have relevant clinical experience. Additionally, compared to Abu-Snieneh's findings [36], although no difference was found in spiritual care ability between nurses with and without religious beliefs, our study yields similar results regarding ICU nurses' spiritual care abilities. In the Chinese higher education system, Marxist philosophy is a required course, which leads to less influence from religious beliefs on Chinese students.Moreover, the humanistic spirit embedded in Marxist philosophy contributes to this [37]. The exposure to humanistic care courses in higher education further enhances the nurses' spiritual care ability [38]. In China, nurses over 40 years old are typically not assigned to night shifts. Among our participants, 25.2% were over 40, and 21.7% had over 10 years of work experience. These

Table 1 Univariate analysis of nurses' spiritual care competency scores ($N = 587, \bar{x} \pm s$)

Item	Number	Percentage(%)	Spiritual care ability score	T/F-value	*P*	Post Hoc test
Gender				0.977	0.329	
Female	526	89.60	55.42 ± 12.12			
Male	61	10.4	53.80 ± 13.35			
Age (years)				61.838	< 0.001	①<③④,②<③④,
< 30①	202	34.4	50.56 ± 10.70			
31–40②	237	40.4	52.86 ± 11.27			
41–50③	85	14.5	65.29 ± 10.07			
> 50④	63	10.7	65.75 ± 9.14			
Residence				2.214	0.027	
Urban	489	83.3	55.25 ± 10.28			
Rural	98	16.7	53.87 ± 11.06			
Marital status				6.640	< 0.001	①>③④,②>③,③<①②⑤,④<⑤
Unmarried①	71	12.1	59.55 ± 10.28			
Married②	243	41.4	55.81 ± 12.03			
Divorced③	88	15	50.76 ± 11.66			
Widowed④	24	4.1	50.07 ± 11.88			
Cohabiting⑤	161	27.4	55.72 ± 12.89			
Educational level				−3.752	< 0.001	
High school and below	229	39	52.90 ± 12.07			
Bachelor and above	358	61	56.75 ± 12.17			
Type of professional title						
Nurse	171	29.1	54.54 ± 12.33	0.585	0.625	
Senior nurse	211	35.9	55.02 ± 12.73			
Nurse-in-charge	142	24.3	56.32 ± 11.81			
Deputy Chief Nurse and above	63	10.7	55.53 ± 11.44			
Ligious belief				4.762	< 0.001	
Yes	350	59.6	57.19 ± 12.08			
No	237	40.4	52.37 ± 11.96			
Working experience(years)				83.304	< 0.001	①<③④⑤,②<③④⑤
< 1①	132	22.5	46.69 ± 8.05			
1–3②	169	28.8	49.36 ± 9.19			
3–5③	50	8.5	65.85 ± 9.86			
5–10④	85	14.5	63.84 ± 10.39			
> 10⑤	151	25.7	61.44 ± 11.37			
Average monthly income(￥)				115.239	< 0.001	①<③④,②<③④,
< 3,000 or lower①	154	26.2	47.28 ± 9.47			
3000-5,000②	149	25.4	48.83 ± 10.06			
5000-10,000③	148	25.2	62.49 ± 10.03			
> 10,000 or lower④	136	23.2	63.42 ± 9.30			
Number of night shifts per month(time)				4.086	0.007	①>②③④
None①	66	11.2	59.87 ± 11.97			
1–4②	310	52.8	55.14 ± 12.29			
5–9③	84	14.4	54.57 ± 12.16			
> 10④	127	21.6	53.56 ± 11.91			
Current department				3.593	0.003	①<②④,①>⑥,④>①②③⑤⑥
Internal Medicine ①	99	16.9	52.78 ± 12.80			
Surgery②	301	51.3	56.90 ± 12.44			
Emergency③	67	11.4	52.87 ± 10.89			
Intensive Care④	33	5.6	58.23 ± 10.33			
Operating Room⑤	83	14.1	53.28 ± 11.81			
Others⑥	4	0.7	47.77 ± 6.86			

Table 1 (continued)

Item	Number	Percentage(%)	Spiritual care ability score	T/F-value	*P*	Post Hoc test
Have you ever heard of spiritual care?				5.453	< 0.001	
yes	437	74.4	59.84 ± 11.30			
No	150	25.6	53.67 ± 12.17			

Note: The Bonferroni method was used to control type I error in comparisons between groups

Table 2 Descriptive statistics, internal consistencies, and correlations for the study variables (*N* = 587)

Variable	M	SD	α	1	2	3	4
Spiritual care compentence scal	55.25	12.25	0.932	-			
The Spiritual Health Scale	68.75	11.86	0.972	0.764*	-		
The Jefferson Scale of Empathy	79.85	18.80	0.882	0.720*	0.810*	-	
Moral Sensitivity Questionaire-revised into Chinese	38.93	10.35	0.870	0.712*	0.782*	0.788*	-

M:Mean,*SD*:Standard deviation,*α*:Cronbach's alpha,1:Spiritual care compentence scal,2:The Spiritual Health Scale,3:The Jefferson Scale of Empathy,4:Moral Sensitivity Questionaire-revised into Chinese,*:*P* < 0.001

Table 3 Total, indirect, and direct effects of levels of empathy and moral sensitivity on the relationship between spiritual health and spiritual caregiving competence in a group of nurses in Liaoning Province, China (*N* = 587)

Path	effect	standard error	Bootstrap 95% confidence interval	*P*
Total effect	0.475	0.041	0.395,0.555	< 0.001
Direct effect	0.314	0.046	0.224,0.406	< 0.001
Indirect effect1:X→M1→Y	0.114	0.026	0.065,0.167	-
Indirect effect2:X→M2→Y	0.027	0.013	0.04,0.058	-
Indirect effect3:X→M1→M2→Y	0.019	0.008	0.003,0.038	-

X: Nurses' spiritual health score, Y:Nurses' spiritual care compentence score, M1:Jefferson Empathy Scale score for nurses, M2:Nurses' Moral Sensitivity Scale score

nurses demonstrated better spiritual care abilities. This result may be attributed to the various pressures faced by younger nurses in the workplace, which contributes to a stronger turnover intention. Nurses with more than 10 years of experience tend to be more resilient and display greater humanistic care, resulting in lower turnover intention [39, 40].

In our study, the nurses' spiritual care ability showed positive correlations with spiritual health, empathy, and moral sensitivity, with correlation coefficients of 0.764 ($P < 0.05$), 0.720 ($P < 0.05$), and 0.712 ($P < 0.05$), respectively. These results are similar to previous studies [15, 41, 42], suggesting that the relationship among these four variables has been consistently validated across different studies, providing strong support for the analysis of potential mechanisms in this research. Notably, the correlation between spiritual care ability and moral sensitivity in our study was slightly lower than Liu's result ($r = 0.918$, $P < 0.01$) [42]. One possible explanation is the difference in participants; Liu's participants were palliative care nurses [42]. Palliative care nurses have gained increasing recognition in China in recent years, undergoing formal training and specialized nurse certification. These nurses tend to have a better perception of the spiritual needs of terminally ill patients.Another difference is the sample size; our sample was significantly larger than Liu's study [42]. The large sample size may have helped reduce sampling errors, but overall, there remains a moderate correlation between spiritual care ability and moral sensitivity. In the traditional Chinese cultural context,

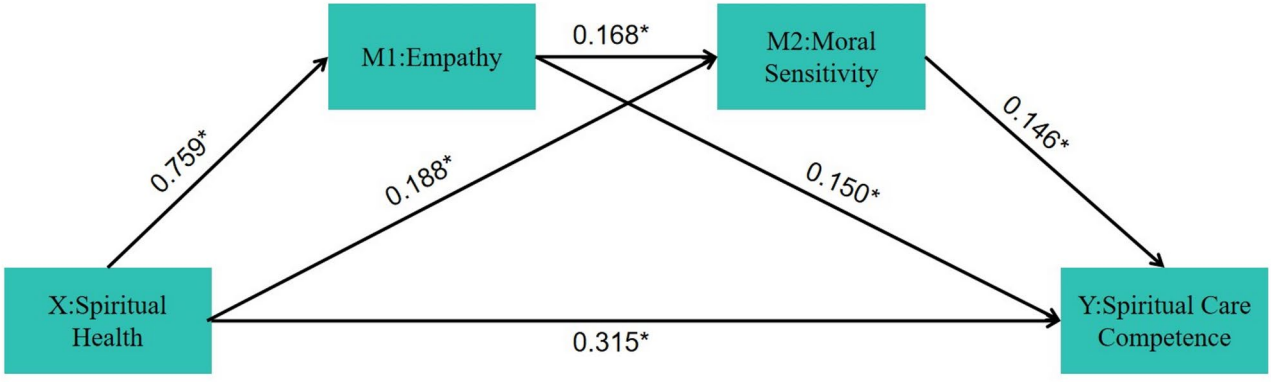

Fig. 2 Multiple mediator validation model plot of empathy and moral sensitivity between mental health and spiritual care competence among nurses in Liaoning province, China(*N* = 587)

discussing death-related topics, such as terminal cancer diagnoses, chemotherapy, and radiotherapy, is considered taboo. Consequently, many healthcare providers offer limited treatment information to patients, nd families might intentionally conceal significant facts.In fact, both the patient and his family are hiding their feelings from each other, because the pain caused by the disease and treatment is truly perceived by the patient.Palliative care nurses, having undergone formal training and obtained relevant qualifications, possess a higher understanding of medical ethics compared to general nurses. When addressing sensitive ethical issues, they are better equipped to mitigate risks and more effectively meet patients' spiritual needs.

The mediating effect of empathy and moral sensitivity

As China's comprehensive national strength increases, higher education is gradually constructing a modern education system that meets the needs of the people. With the improvement in living standards, the demand for healthcare services has shifted from basic medical security to higher quality and more comprehensive services.Among these, patients' spiritual needs have often been overlooked, resulting in the inability to fully meet their spiritual needs [43].Nurses, as the professionals who interact most closely with patients, should be capable of observing and providing appropriate spiritual care measures [13, 14]. This would help affirm patients' sense of personal value, improve care quality, and reduce care errors [15, 16].To understand the characteristics of nurses' spiritual qualities, this study explored the relationships between nurses' spiritual health, empathy, moral sensitivity, and spiritual caregiving ability. It also analyzed the mediating effects of empathy and moral sensitivity between spiritual health and spiritual caregiving ability.The results showed that spiritual health positively regulates spiritual caregiving ability($\beta = 0.314$,$P < 0.001$), which is consistent with the previous studies [15, 44, 45]. Nurses with higher spiritual health levels can build positive interpersonal relationships with patients. Through personal reflection on life's meaning, they provide empathy, which demonstrates respect for the patient's sense of life's worth.Our study found that half of the nurses held religious affiliations. Chinese society widely supports religious freedom and respects patient religious beliefs, free of political ideology [37].Therefore, nurses with higher spiritual health levels are better able to assess and recognize the spiritual needs of patients requiring spiritual care. When they lack the capacity to offer this care, they can refer patients to professional counselors for therapy.

This study further confirmed that empathy and moral sensitivity partially mediate the relationship between spiritual health and spiritual care ability, consistent with earlier research [41, 42, 46], with mediation effects constituting 33.89% of the total impact.The result highlights the essential role of empathy and moral sensitivity in nurses' spiritual caregiving.Empathy can modulate the effect of spiritual health on spiritual care ability ($\beta = 0.114$).Empathy serves as a foundation for nurses to comprehend and meet patients' spiritual needs and also mirrors the nurse's own spiritual well-being. With a high level of empathy, nurses can better convert spiritual health into actionable spiritual care practices. Empathy is reflected in three dimensions: perspective-taking, compassionate care, and considering the patient's viewpoint.These align with spiritual health and care abilities by affirming nurses' relational skills and recognition of patient values.However, spiritual health assesses self-transcendence and religious attachment, while spiritual care emphasizes assessment and action, thus making empathy a partial mediator.This insight suggests that nursing educators and managers should develop nurses' spiritual care abilities by focusing not only on spiritual health but also by incorporating empathy training into curricula.For example, role-playing, scenario simulation, and reflective practice can enhance nurses' empathy skills, maximizing the positive impact of spiritual health on spiritual care ability.However, simulation training faces challenges due to a lack of real clinical exposure. With increased clinical experience, empathy levels in healthcare providers tend to decline. Non-mandatory volunteer service might help improve empathy [47].

Moral sensitivity modulates the influence of spiritual health on spiritual care ability ($\beta = 0.027$). This suggests that it affects not only nurses' professional behavior and ethical decision-making but also the quality of their spiritual care.When nurses have higher moral sensitivity, they are better able to make ethically aligned caregiving decisions based on their spiritual health, thus enhancing spiritual care ability [42, 46, 48].Although this study confirms that moral sensitivity is a potential mechanism for converting spiritual health into spiritual caregiving behavior, its mediating effect is weak, explaining only 5.7% of the total effect. This may be due to different assessment perspectives. While correlations among the three variables are moderate, moral sensitivity tends to evaluate the burden and responsibility of unethical behavior.Nonetheless, this suggests that enhancing moral sensitivity in clinical nursing practice may improve nurses' spiritual caregiving abilities, as spiritual care must consider factors such as religious beliefs, educational background, and lifestyle. In China, the primary religions are Buddhism, Christianity, and Islam [49]. Chinese Buddhists follow a vegetarian diet, replacing animal proteins with plant-based ones, which often fails to meet the body's full protein requirements.Christians need spaces for prayer and worship, but public healthcare facilities in China cannot adequately provide such spaces for these spiritual needs.While these

real challenges can be simulated using ethical case studies, decision-making training, and reflective practices, intense workloads commonly impact nurses' ethical judgment and decisions in real work settings [12, 14, 46, 50].With the easing of restrictions on private and foreign investment in healthcare by the Chinese government, people requiring special spiritual care services may shift to such institutions, which could ease this issue.

Insights

Spiritual care is an essential component of holistic nursing.Enhancing nurses' awareness of patients' religion, culture, and moral sensitivity can better respect and understand patients' beliefs and values, reduce the risk of psychological crises, improve patients' quality of life, and boost their sense of spiritual well-being and satisfaction.By perceiving, understanding, and transcending their own life's meaning, nurses can stimulate their potential to maintain patients' dignity and provide psychological support [1, 50]. This enables nurses to deliver spiritual caregiving more sensitively and effectively.High levels of empathy enable nurses to deeply understand patients' perceptions of life meaning and spiritual needs. This helps nurses comprehend patients' beliefs and values during spiritual caregiving [15, 51].When interacting with patients, nurses can analyze the moral dilemmas and ethical challenges in these interactions. This helps nurses avoid cultural conflicts within patients' religious beliefs or values. It also helps patients adapt to the medical environment more quickly and improves treatment compliance [50].The interaction mechanisms between these four concepts significantly impact clinical nurses' ability to enhance holistic care.Spiritual health, empathy, and moral sensitivity combine to allow nurses to more thoroughly and carefully attend to patients' needs in spiritual care, thereby improving overall nursing quality.It canenhance nurses' professional competence, bring more career achievement and satisfaction, help them manage work stress and emotional burdens better, thereby reducing the risk of burnout [52].

Studies have summarized factors influencing nurses' spiritual caregiving ability [53], including professional skills, social roles and professional identity, intentions and goals, environmental context and resources, and patient influence.Based on our findings, nursing educators and hospital administrators could offer training or activities in spiritual health, including meditation and group reflection sessions.Managers can also organize narrative nursing training, empathy skills workshops, and ethical discussion sessions to further enhance nurses' emotional stability, empathy, and responsiveness to patients' moral dilemmas, enabling more comprehensive spiritual care.Effective spiritual care implementation relies not only on nurses' spiritual caregiving ability but also on patient-nurse interaction. Patient recognition of nurses' work value affects nurses' own professional identity.Research shows that 84.5% of Chinese medical students have experienced abuse at least once, with about 71.6% of this abuse coming from patients [39].The more frequently students face abuse, the lower their professional identity.Therefore, nursing educators and hospital managers should actively create a supportive work environment and career development programs for nurses. Implementing sustainable psychological support and alert systems can encourage career development and reinforce professional identity, thereby indirectly enhancing spiritual caregiving ability.

This study found a moderate positive correlation between nurses' spiritual health, moral sensitivity, empathy, and spiritual care competence, with partial mediation effects, indicating that nurses' spiritual health can be transformed into actual caregiving ability through moral sensitivity and empathy.With the rise in China's average education level and the awakening of patients' self-awareness, more patients have strong spiritual needs, making it particularly important to transform nurses' spiritual qualities into service-providing abilities.This provides an important perspective for clinical practice and nursing education.In other words, nurses with high empathy can resonate with patients' spiritual needs, indirectly transforming their own spiritual qualities into service abilities; similarly, by enhancing moral sensitivity, they can convert these qualities into spiritual service capabilities; furthermore, nurses' grasp of life's meaning, understanding of patient emotions, and perception of ethical conflicts can directly or indirectly influence their spiritual caregiving competence.This suggests that nursing educators and managers can optimize humanistic nursing curricula to shift focus from group needs to individual needs, allowing nursing students to engage early with end-of-life care processes, in-depth interviews with palliative patients, and cancer case management, thereby enhancing moral standards and empathy before clinical practice to develop abilities that meet patients' spiritual needs.

Limitation

The limitations of this study are primarily as follows. First, the cross-sectional design can only describe the phenomenon and establish causal inferences, but cannot establish causal relationships.Second, all participants were from tertiary hospitals in Liaoning Province, China, so caution is needed when generalizing the findings to other regions, particularly primary hospitals or grassroots health institutions.The third limitation is the omission of humanistic care as a variable, despite its known links to empathy and spiritual caregiving skills.Humanistic care skills could mediate the relationship between spiritual health and the ability to provide spiritual care.

Future research should incorporate this factor to provide a more comprehensive understanding of the mechanisms underlying spiritual care ability.Lastly, as China is a secular nation, public interest in religious culture is lower than in nations with religious governance, suggesting that future studies might examine cross-cultural differences and similarities.

Conclusion

Our findings provide prospective evidence that spiritual health may influence nurses' spiritual caregiving ability through empathy and moral sensitivity.Future research should consider creating diverse spiritual care training programs based on spiritual health, empathy, and moral sensitivity.For instance, clinical cases from different contexts, like patients of varying religious backgrounds, terminal cancer patients, or critically ill patients, could be utilized.Multicultural nursing education can incorporate standardized patient simulations. It is essential to help nurses resolve ethical conflicts related to racial, religious, and cultural differences, in order to preserve patient dignity and validate patient self-worth.

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Author contributions
JJ: Conceptualization, research, software, writing-manuscript, writing-review and editing. JD: Data collation, formal analysis, verification, visualization, writing-manuscript, writing-review and editing, consistent with JJ contributions. HQ: Conceptualization, formal analysis, supervision, validation, visualization, writing-manuscript, writing-review and editing. YS: Conceptualization, software, data collation, validation, writing-manuscripts. YG: Research, resources, software, writing-censorship and editing. YS: Research, resources, software, visualization, writing-manuscripts. PZ: Research, resources, software, visualization, writing-manuscripts.

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Data availability
The datasets used and analyzed during the current study can be provided by the corresponding author on a reasonable request.

Declarations

Ethics approval and consent to participate
This article was designed based on the Declaration of Helsinki.The design of this study was approved by The General Hospital of Northern Theater Command Hospital'S ethics committee and was conducted in accordance with local laws and regulations and the relevant regulations of the cooperating hospital. All subjects signed a written informed consent and agreed to participate in this study. Ethics Numberr: Y(2023)058.

Consent for publication
All authors have agreed to publish this article in this journal.

Competing interests
The authors declare no competing interests.

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