Original Article

Spiritual care competence in nursing students: the predictive roles of spiritual well-being and emotional intelligence

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Abstract

Background & Objective: Spiritual care is the essence of nursing services and one of the main duties of nurses. Also, spiritual well-being and emotional intelligence are factors affecting the caring behaviors of nurses. This study aimed to check the level of perceived Competence in Spiritual Care (CSC) and to look into the predictive roles of Spiritual Well-Being (SWB) and Emotional Intelligence (EI) among nursing students.

Materials & Methods: This descriptive-correlational research study involved 215 undergraduate nursing students. Participants were recruited using a census sampling way. Data collection took place between May 6 and July 18, 2023, using four standardized instruments: a demographic information checklist, the Scale for Assessment of Nurses' Competencies in Spiritual Care, the Spiritual Well-Being Scale, and the Wong and Law Emotional Intelligence Scale. Statistical analyses were carried out using SPSS version 25, which included independent t-tests, one-way Analysis Of Variance (ANOVA), Pearson's correlation coefficient, and multiple linear regression to look at the relationships among the variables.

Results: The present study revealed a positive and significant correlation between CSC and EI ($p < 0.001$, $r = 0.54$), as well as between CSC and SWB ($p < 0.001$, $r = 0.47$). Regression models revealed that EI ($\beta = 0.408$, $p < 0.001$), SWB ($\beta = 0.308$, $p = 0.004$), age ($\beta = -0.126$, $p = 0.021$), and marital status ($\beta = -0.117$, $p = 0.032$) were significant predictors of CSC in nursing students. These variables accounted for 39% of the variance in spiritual care competencies.

Conclusion: EI and SWB have a significant effect on nursing students' ability to give spiritual care to patients. These results stress the significance of including emotional and spiritual growth into nursing education programs. By building these attributes through targeted training and helpful strategies, nursing students can be better prepared to address patients' spiritual needs, promote holistic healing, and improve the overall quality of care in various clinical settings.

Keywords: spiritual care, spiritual care competency, emotional intelligence, spiritual well-being, nursing students

Introduction

Spirituality is a basic aspect of human existence, including values and connections that foster well-being and healing. Its significance in recovery has attracted growing scholarly attention [1]. Spiritual care is vital in nursing practice, as it affects patient responses to illness by addressing their spiritual needs through interventions such as empathy, active listening, and respect for cultural differences [2–4]. The increasing demand for spiritual care stresses the necessity of building spiritual care competence among nurses, beginning in nursing education [5]. Clinical competence is defined as an individual's experience level and readiness to effectively combine knowledge, attitudes, values, beliefs, and skills [6]. Spiritual care competence is characterized as an ongoing active process that combines three elements, namely awareness of human values, empathy for clients, and the ability to tailor individualized interventions to each client [7]. Despite the acknowledged significance of

spiritual care, many nurses overlook this aspect, frequently leaving patients' spiritual needs unaddressed [8, 9]. This issue may arise from various factors, including not enough training, excessive workloads, time limitations, cultural diversity, ethical dilemmas, and a reluctance to engage in spiritual care [9, 10]. Several factors can serve as predictors of spiritual attentiveness among nurses and nursing students. Notably, understanding one's own spirituality and possessing strong Spiritual Well-Being (SWB) are crucial for understanding the spiritual needs of others [11, 12]. SWB, defined as a harmonious and combined relationship between inner and external forces, includes two dimensions: religious and existential [13]. The religious dimension pertains to connection with a higher power, while the existential dimension involves seeking life's meaning and purpose [13]. The SWB of the healthcare team plays a crucial role in delivering quality patient care and achieving health goals [14]. Studies have shown that nurses with higher SWB show greater competence and a stronger sense of control [15]. Conversely, impaired SWB has been reported to be associated with negative consequences in nurse-patient relationships and a decline in caregiving behaviors [16]. Also, nurses with higher SWB exhibit positive attitudes towards spirituality and display greater competence in giving spiritual care [11, 12]. Since the formation of spiritual beliefs and values during the nursing education period can affect one's spiritual approach to patients and care delivery [17], looking into the role of SWB in predicting nursing students' competence in giving spiritual care is essential. Another important factor that can be effective in giving care services to patients is Emotional Intelligence (EI) [18]. EI, a subset of social intelligence, includes the ability to monitor, distinguish, and use one's own and others' emotions to guide thoughts and actions [19]. According to the theory of emotional intelligence, this type of intelligence plays a key role in emotion regulation and interpersonal relationships [20]. Nursing is considered an emotional profession that demands that nurses have skills such as problem solving, appropriate decision-making, correct judgment in different clinical situations, the ability to recognize and manage their own and their clients' emotions and feelings, and set up appropriate and empathetic social communication with patients. These abilities are part of the factors that make up emotional intelligence [21, 22]. So, EI has a basic role in effective job performance among nurses [23]. Individuals with high EI possess a strong understanding of their strengths and weaknesses,

realistically manage their emotions and actions, and foster empathy and trust [21, 22]. Also, nurses who have higher EI perform better at the work environment [23, 24] and have higher job satisfaction [25]. In addition, studies have shown that EI makes better nurses' caregiving behaviors [26] and enables them to better identify patients' spiritual needs [27]. EI also serves as a significant factor affecting nursing students' clinical performance, helping them effectively manage clinical challenges and make better their leadership and performance skills [28]. So, a rigorous exploration of the impact of EI on spiritual care competence within the nursing student population is warranted. By gaining a deeper understanding of this impact, we can create practical interventions to holistically make better students' competence for the best provision of this type of care. Although numerous studies have looked into the individual effects of SWB and EI on nurses' competence in delivering spiritual care, there is limited research looking at their joined affect on spiritual care competence, particularly among nursing students. Most existing literature puts first practicing nurses, overlooking the formative stage of nursing education where students' values, attitudes, and competencies are built. This gap is critical, as nursing students represent the future workforce, and their preparedness to address patients' spiritual needs can significantly impact the quality of care. Also, the lack of combined educational strategies targeting both emotional and spiritual growth in nursing curricula stresses the need for empirical evidence to tell curriculum design. So, this study aims to look into the predictive roles of emotional intelligence and spiritual well-being in determining nursing students' competence in giving spiritual care, thereby addressing a critical gap in nursing education research.

Materials & Methods
Design and setting(s)
This research is a cross-sectional study carried out between May 6 and July 18, 2023, at the Faculty of Nursing, Ahvaz Jundishapur University of Medical Sciences.

Participants and sampling
Participants were selected using a census sampling method. Of the 280 nursing students who met the eligibility standards, 65 chose not to take part. As a result, the final sample consisted of 215 students who voluntarily took part in the study. The inclusion standards stipulated that participants must have

completed a minimum of two semesters of undergraduate nursing education. This requirement was set up to ensure that students had gotten foundational knowledge of essential care principles and had started their clinical internships in hospital settings.

Tools/Instruments

Nursing students provided information on their age, sex, academic year, marital status, history of training in spiritual care (yes or no), history of clinical practice (yes or no), and interest in the field of nursing (yes or no).

The competence of nursing students in giving spiritual care was checked using the Iranian Scale for Assessment of Nurses' Competencies in Spiritual Care (SANCSC), built by Adib-Hajbaghery et al. This scale comprises 32 items across five dimensions: knowledge (4 items); attitudes (3 items); human values (6 items); assessment and implementation of spiritual care (17 items); and self-recognition (2 items). Participants provide ratings for all items using a 5-point Likert scale, where 'always' corresponds to a score of 5 and 'never' corresponds to a score of 1. The total score range possible is from 32 to 160. A score of 118 or above signifies excellent professional proficiency in spiritual care, while scores ranging from 74 to 117 and 73 or less are classified as moderate and not enough competence, respectively. The reliability and validity of the SANCSC were checked by Adib-Hajbaghery et al. According to their research, the scale showed a reliability ranging from 0.75 to 0.93 for the total scale and all subscales, as measured by Cronbach's alpha coefficient [29]. In the current study, the reliability of the SANCSC, as measured by Cronbach's alpha coefficient, was found to be 0.953.

The Wong and Law Emotional Intelligence Scale (WLEIS) was used to check students' EI. This questionnaire was designed and built by Wong & Law [30]. In the present study, the Persian version of the WLEIS, translated and psychometrically validated by Ali Babaei et al. [31], was employed. The questionnaire consists of four subscales: self-emotion perception (4 items), emotion perception of others (4 items), emotion usage (4 items), and emotion regulation (4 items). Students' answers were checked using a 5-point Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree). The total score of the WLEIS falls between 16 and 80, with a higher score suggesting a higher level of EI in nursing students. The score is divided into three categories: low EI (16–31.99), moderate EI (32–47.99), and high EI (48-80). In Wong's study, the questionnaire's reliability was documented as 0.89 [30]. The reliability

and validity of this questionnaire were checked by Ali Babaei et al. [31]. In the present research, the WLEIS showed satisfactory reliability with a Cronbach's alpha coefficient of 0.90. The SWB of nursing students was measured using the Spiritual Well-Being Scale (SWBS). The scale was made by Paloutzian and Ellison in 1991 and includes 20 items divided into two categories: Religious Wellbeing (RWB) with 10 items, and Existential Wellbeing (EWB) with 10 items. Students rate their responses on a 6-point Likert scale from 1 (strongly disagree) to 6 (strongly agree). The total score can range from 20 to 120, with a higher score reflecting greater SWB [32]. The scale's score is divided into three tiers: low (20-40), moderate (41-99), and high level (100-120) of SWB. The validity and reliability of the Persian version of the SWBS have been checked by Biglari Abhari et al [33]. In this research, the scale's reliability was deemed acceptable with a Cronbach's alpha coefficient of 0.85.

Data collection methods

To collect data, the questionnaire links accompanied by an informed consent form outlining the study's objectives, procedures, and participants' rights were distributed via a Google survey through official university channels and class groups hosted on social media platforms such as WhatsApp, Eita, and Telegram. Faculty members directly disseminated the survey to student groups through these platforms. To ensure data quality, the questionnaire was designed to prevent incomplete submissions. Importantly, to check that third-semester nursing students had completed their clinical coursework and were familiar with basic care concepts, the survey link was distributed electronically at the end of the semester. This timing ensured that participants had already gone through the needed clinical training prior to completing the questionnaire, thereby making better the relevance and reliability of their responses.

Data analysis

The data was analyzed using SPSS version 22 software. The normality of the primary continuous variables was checked using the Kolmogorov-Smirnov test, given a sample size of 215 participants. The results showed that the SWB variable had a p-value of 0.09, suggesting a normal distribution. In contrast, the p-values for spiritual care competence and EI were both 0.05, which is at the threshold of significance. Considering the large sample size and the visual inspection of histograms and Q–Q plots, the distributions were deemed about normal. As a

result, parametric statistical tests were employed in the analysis. Specifically, independent samples t-tests and one-way Analysis Of Variance (ANOVA) were employed to compare the mean scores of spiritual care competence, SWB, and EI across various demographic subgroups. The correlation between these variables was looked at using a correlation matrix with Pearson correlation coefficients. Also, stepwise-selection multiple linear regression analyses were carried out to determine predictors of spiritual care competence among nursing students, with a significance level set at $P < 0.05$ for entry.

Results

The study included 215 nursing students with a mean age of 22.94 years. Most participants were female (62.8%), 38.1% had prior clinical experience, and 34.4% had received training in giving spiritual care (**Table 1**).

Table 1. Demographic variables of nursing students and their relationship with EI, SWB, and CSC

Variable	Number (%)	EI (M±SD)	SWB (M±SD)	CSC (M±SD)
Age				
19–22	129 (60)	61.20 ± 9.99	86.65 ± 17.18	118.75 ± 23.16
>23	86 (40)	61.54 ± 8.24	86.75 ± 17.73	112.13 ± 23.40
Sig.		t = -0.043	t = -0.266	t = 2.044
		p = 0.966	p = 0.791	p = 0.042
Sex				
Male	80 (37.20)	63.83 ± 9.56	87.62 ± 17.09	120.46 ± 22.78
Female	135 (62.80)	59.85 ± 8.86	86.14 ± 17.09	113.53 ± 23.50
Sig.		t = 3.087	t = 0.605	t = 2.113
		p = 0.002	p = 0.546	p = 0.036
Marital status				
Single	196 (91.16)	61.48 ± 9.32	86.75 ± 17.11	117.30 ± 22.97
Married	19 (8.84)	59.78 ± 9.24	86.10 ± 20.32	103.78 ± 25.18
Sig.		t = 0.759	t = 0.154	t = 2.428
		p = 0.449	p = 0.878	p = 0.016
Academic year				
Second year	64 (29.76)	61.70 ± 8.43	90.70 ± 14.09	119.96 ± 20.99
Third year	97 (45.12)	61.77 ± 10.52	84.23 ± 17.81	113.81 ± 24.32
Fourth year	54 (25.12)	60.12 ± 7.93	86.35 ± 19.39	115.66 ± 24.35
Sig.		F = 0.607	F = 2.730	F = 1.347
		p = 0.546	p = 0.067	p = 0.262
History of clinical practice				
Yes	82 (38.14)	60.81 ± 8.57	89.42 ± 14.63	116.28 ± 23.24
No	133 (61.86)	61.66 ± 9.75	85.00 ± 18.70	116.00 ± 23.63
Sig.		t = -0.645	t = 1.822	t = 0.083
		p = 0.520	p = 0.070	p = 0.934
History of training in spiritual care				
Yes	74 (34.42)	60.25 ± 10.32	86.35 ± 17.57	117.55 ± 24.43
No	141 (65.58)	61.90 ± 8.71	87.87 ± 17.31	115.35 ± 22.93
Sig.		t = -1.237	t = -0.209	t = 0.653
		p = 0.218	p = 0.835	p = 0.514
Interest in major				
Yes	167 (77.67)	60.76 ± 9.29	87.28 ± 17.57	115.79 ± 22.97
No	48 (22.33)	63.35 ± 9.17	84.64 ± 16.63	117.22 ± 25.16
Sig.		t = -1.708	t = 0.926	t = -0.374
		p = 0.089	p = 0.355	p = 0.709

Note: T-test and one-way ANOVA were used to compare participants based on quantitative demographic variables (n = 215).
Abbreviations: SD, standard deviation; %, percentage; p, probability-value; n, number of participants; CSC, competence in spiritual care; EI, emotional intelligence; SWB, spiritual well-being.

The distribution of EI, SWB, and CSC levels is presented in **Table 2**. The majority of students (94.9%) showed high EI, while 91.2% reported moderate SWB and 8.8% high SWB. Regarding CSC, 51.2% of students reported favorable competence, 45.6% moderate, and only 3.3% poor competence. According to **Table 1**, significant differences in CSC scores were seen based on age, gender, and marital status ($p < 0.05$). Also, EI scores differed significantly by gender (p = 0.002). Students with prior clinical experience scored significantly higher in the RWB dimension of SWB (p = 0.008), and those with greater interest in their major showed higher scores in the emotional perception of others (a subscale of EI) (p = 0.03).

Table 2. Descriptive data for outcome variables, including CSC, EI, and SWB in nursing students (n = 215)

Outcome variables	Mean ± SD	Range in the scales
Total CSC	116.11 ± 23.43	32–160
Knowledge	12.93 ± 4.27	4–20
Assessment and implementation of spiritual health	59.33 ± 15.07	17–85
Human Value	24.60 ± 3.23	6–30
Attitudes	11.56 ± 3.05	3–15
Self-recognition	7.67 ± 1.65	2–10
Total EI	61.33 ± 9.31	16–80
Self-emotion perception	15.66 ± 2.64	4–20
Emotion perception of others	15.15 ± 3.12	4–20
Emotion usage	16.25 ± 2.75	4–20
Emotion regulation	14.26 ± 3.46	4–20
Total SWB	86.69 ± 17.36	20–120
RWB	44.45 ± 10.22	10–60
EWB	42.24 ± 9.55	10–60

Abbreviations: SD, standard deviation; CSC, competence in spiritual care; EI, emotional intelligence; SWB, spiritual well-being; RWB, religious well-being; EWB, existential well-being.

A correlation matrix revealed strong positive relationships between CSC and both EI and SWB, including all subcomponents (**Table 3**). Hierarchical multiple regression analysis identified EI as the strongest predictor of CSC ($\beta = 0.540$, $p < 0.001$), next by SWB ($\beta = 0.307$, $p < 0.001$). Age ($\beta = -0.147$, $p = 0.007$) and marital status ($\beta = -0.117$, $p = 0.032$) were negatively associated with CSC. The final model explained 39.3% of the variance in CSC ($F = 35.638$, $p < 0.001$) (**Table 4**).

Table 3. Correlation matrix between CSC, EI, and SWB in nursing students

Variables	Total CSC	Total EI	Total SWB
Total CSC	1		
Total EI	0.540**	1	
Total SWB	0.479**	0.419**	1

Note: Pearson correlation coefficients were used to assess relationships between variables. *$p < 0.05$; **$p < 0.001$.
Abbreviations: CSC, competence in spiritual care; EI, emotional intelligence; SWB, spiritual well-being; RWB, religious well-being; EWB, existential well-being.

Table 4. Stepwise multiple linear regression models for predictors of CSC in nursing students

Model	Independent variables	B	SE	β	t	p	F	R²	AdjR²	R
1	Constant	32.736	9.001	–	3.637	< 0.001	87.777	0.292	0.289	0.540
	EI	1.359	0.145	0.540	9.369	< 0.001	–	–	–	–
2	Constant	16.671	9.075	–	1.837	0.068	62.121	0.370	0.364	0.608
	EI	1.036	0.151	0.412	6.855	< 0.001	–	–	–	–
	SWB	0.414	0.081	0.307	5.110	< 0.001	–	–	–	–
3	Constant	26.134	9.583	–	2.727	0.007	45.186	0.391	0.382	0.625
	EI	1.043	0.149	0.415	7.010	< 0.001	–	–	–	–
	SWB	0.413	0.080	0.306	5.174	< 0.001	–	–	–	–
	Age	-7.023	2.564	-0.147	-2.739	0.007	–	–	–	–
4	Constant	36.105	10.567	–	3.417	0.001	35.638	0.404	0.393	0.636
	EI	1.025	0.148	0.408	6.936	< 0.001	–	–	–	–
	SWB	0.415	0.079	0.308	5.247	< 0.001	–	–	–	–
	Age	-6.009	2.585	-0.126	-2.325	0.021	–	–	–	–
	Marital status (Single as reference)	-9.632	4.467	-0.117	-2.156	0.032	–	–	–	–

Abbreviations: R², R square; AdjR², adjusted R square; SE, standard error; B, unstandardized coefficient; β, standardized coefficient; p, probability value; CSC, competence in spiritual care; EI, emotional intelligence; SWB, spiritual well-being.

Discussion

This study looked at the spiritual care competence of nursing students and its association with their SWB and EI. The present study revealed that nursing students showed moderate to high levels of clinical spiritual care competence (CSC), which aligns with previous research carried out in similar educational settings [17, 34, 35]. In contrast, studies involving practicing nurses have reported lower levels of competence [8, 9, 36], likely due to factors such as workload, time constraints, and occupational stress.

Nursing students, by comparison, may perceive themselves as more competent due to reduced clinical

responsibilities and greater for reflection during supervised training. The recent inclusion of spiritual care concepts in nursing ethics curricula may have contributed to students' awareness and preparedness in this domain. Also, the cultural significance of spirituality in Iranian society—rooted in religious traditions and ethical norms—appears to enhance students' sensitivity to patients' spiritual needs. The integration of Islamic ethics into both academic and clinical training likely reinforces these values, shaping students' perceptions and self-reported competence in delivering spiritual care. Still, the potential for self-report bias should be acknowledged when explaining these findings. The study found that younger nursing students reported higher levels of spiritual care competence, which is consistent with findings from Yang et al. [11], who watched similar trends among younger nurses. This association may reflect lower levels of academic burnout [20, 28] and greater emotional engagement among students at earlier stages of professional growth [37]. But, due to the limited age range in the current sample, caution is warranted when generalizing these results. Also, unmarried students reported higher CSC scores compared to their married peers. This may be attributed to fewer external responsibilities, such as family obligations, allowing for greater focus on holistic care [23]. Conversely, the dual demands of marital and academic roles may limit the capacity for such involvement among married students [38]. Although age and marital status emerged as significant predictors in the regression analysis, these associations are likely affected by complicated personal and environmental factors. Previous studies have reported inconsistent findings regarding demographic variables, maybe due to differences in research settings, sampling strategies, and cultural contexts [17, 34, 35]. Further research is needed to look for the mechanisms underlying these relationships. The present study found no significant differences in CSC scores based on academic year, clinical experience, or prior spiritual care education. This finding is consistent with Ahmadi et al. [35], but contrasts with Guo et al. [17], who reported higher competence among students who had received formal spiritual care training. The discrepancy may be due to differences in sample size, curriculum quality, or instructional ways. These findings stress the importance of not only giving spiritual care education but also ensuring its quality and effective implementation. Including experiential learning, mentorship, and simulation-based training may help bridge the gap between theoretical knowledge and clinical practice in this area.

The present study revealed a positive and significant correlation between nursing students' spiritual care competence, EI, and SWB. Also, the regression analysis revealed that EI was the strongest predictor of CSC among nursing students, next by SWB. This finding stresses the pivotal role of emotional awareness, regulation, and interpersonal sensitivity in delivering holistic and compassionate care. The positive association between SWB and CSC further suggests that students with deeper spiritual engagement and inner peace may be more attuned to patients' spiritual needs. These results are consistent with previous studies that stress the affect of emotional and spiritual capacities on nursing competence [18, 23, 39, 40]. Our findings also align with Zhang et al.'s research, which showed the mediating role of EI in the relationship between spiritual care competence and core nursing competencies among interns in China [39].

Multiple studies have showed a positive association between nurses' SWB and their competence in giving spiritual care. For instance, nurses with higher SWB tend to show more favorable attitudes toward spiritual care [41] and show greater professional commitment [11]. Wang et al. also reported a strong correlation between SWB and perceived competence among Chinese nurses [42]. Also, SWB appears to make better nurses' sensitivity and responsiveness to patients' spiritual needs through empathetic and value-driven interactions [37, 43]. These findings back up the results of the present study, suggesting that SWB may contribute to better performance and a higher quality of holistic nursing care. As a multidimensional construct including beliefs, values, and emotional experiences, spirituality can shape a nurse's approach to care and increase engagement with patients' spiritual concerns [44, 45]. But, some studies have reported inconsistent findings regarding the relationship between SWB and the competence to give spiritual care. For instance, Jalali et al. found no significant association between SWB and clinical competence among ICU nurses, suggesting that SWB alone may not be a enough predictor of professional performance [46]. These discrepancies stress the importance of clinical experience and targeted education, highlighting the need for further research to look for the multifaceted factors that affect competence in spiritual care.

Given the strong predictive power of EI and SWB, combining these constructs into nursing education

should be considered a pedagogical priority. Structured interventions—such as reflective journaling, empathy-based communication exercises, and simulated spiritual care scenarios—can make better students' emotional responsiveness and spiritual sensitivity.

Embedding EI and SWB growth across both theoretical and clinical components of the curriculum may foster holistic competencies that align with patient-centered care models. These strategies are backed up by prior research advocating for emotional intelligence training to make better nursing performance and caregiving behaviors [18, 24, 26, 28, 40].

This study is significant as one of the few to look into the relationship between EI and spiritual care competence among nursing students. But, this study has several limitations that should be considered when explaining the findings.

Although a census sampling approach was employed by distributing the questionnaire to all eligible nursing students, the final sample size was limited to 215 respondents, and no data were available on the characteristics of non-respondents.

The study was carried out at a single university within a specific cultural and religious context in Iran, which may limit the generalizability of the findings to other educational or cultural settings.

Also, the reliance on self-reported data may introduce response bias, particularly in checking competencies and emotional traits. Future research employing mixed-way approaches—joining self-reports with direct observations and evaluations from clinical educators—is recommended to make better the accuracy of the findings. Also, as a cross-sectional study, it cannot set up causal relationships between emotional intelligence, spiritual well-being, and spiritual care competence. Longitudinal studies across diverse institutions and cultural backgrounds are needed to check and expand upon these results.

Conclusion

This study revealed that EI and SWB are significant predictors of nursing students' competence in giving spiritual care. Students with higher levels of EI and SWB reported greater readiness to address patients' spiritual needs, stressing the importance of building these attributes during nursing education. The findings also showed that younger and unmarried students showed higher levels of spiritual care competence, suggesting that personal characteristics may affect students' perceptions and performance in this area.

These results stress the necessity for nursing curricula to include emotional and spiritual growth into clinical training.

By fostering empathy, emotional regulation, and spiritual sensitivity, educators can more effectively prepare nursing students to give holistic care that addresses both the physical and spiritual needs of patients. This study contributes to the expanding body of evidence that backs up the importance of emotional and spiritual competencies in nursing education and stresses the value of targeted interventions aimed at making better students' caregiving abilities.

Ethical considerations

This research has been approved by the ethics committee of Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran (Ethical Code: IR.AJUMS.REC.1402.062). Ethical considerations, including getting permission from the appropriate authorities, clearly telling the study's objectives to participants, ensuring the confidentiality of data, and obtaining verbal consent from participants, were followed.

Artificial intelligence utilization for article writing

We acknowledge the use of WORDVICE.AI (https://wordvice.ai/proofreading/6c21e242-4286-4ed0-93c7-ea479dd98f86) to proofread some sentences of our work.

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Conflict of interest statement

The authors declared no possible conflicts of interest with respect to the research, authorship, and/or publication of this article.

Author contributions

MA and SRP contributed to the study's conception and design. Material preparation, data collection,

and analysis were performed by MA, SRP, and AD. The first draft of the manuscript was written by MA and SRP. All authors commented on previous versions of the manuscript. All authors read and approved the final manuscript. MA as a principal investigator, supervised the project.

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Data availability statement

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request. For access to more data, please reach out to the corresponding author.

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