



## Knowledge, attitudes toward palliative care and related factors among nursing students at Can Tho University of Medicine and Pharmacy

Truong Thi Hong Nhi<sup>1</sup>, Nguyen Thong Nhat<sup>1</sup>, Tran Quoc Thang<sup>1</sup>,  
Nguyen Hong Thuy<sup>1</sup>, Nguyen Thi Thanh Truc<sup>1</sup>, Doan Kim Thin<sup>1</sup>  
<sup>1</sup>Can Tho University of Medicine and Pharmacy

### ABSTRACT

**Objectives:** To assess the knowledge and attitudes toward palliative care of nursing students and explore associated factors. **Methods:** A cross-sectional study was conducted among 102 nursing students at Can Tho University of Medicine and Pharmacy in 2025. Knowledge of palliative care was measured using the Palliative Care Knowledge Test (PCKT), and attitudes were assessed using the Frommelt Attitudes Toward Care of the Dying Scale Form B (FATCOD-B). **Results:** The average knowledge score on palliative care was  $10.89 \pm 2.43$  (ranging from 4 to 17), and the average attitude score was  $104.10 \pm 7.36$  (ranging from 90 to 121). There was a statistically significant positive correlation between nursing students' knowledge and attitudes toward palliative care and the following factors such as age, prior palliative care education, and previous experience in providing palliative care. **Conclusion:** The findings highlight the importance of developing a comprehensive and effective palliative care education program to enhance nursing students' knowledge and foster positive attitudes, thereby improving the quality of palliative care services for patients and their families.

**Keywords:** Palliative care, knowledge, attitude, nursing students

### INTRODUCTION

Palliative care (PC) is a comprehensive approach aimed at improving the quality of life for patients and their families facing life-threatening illnesses <sup>1</sup>. As the future healthcare workforce, nursing students (NSs) need to be adequately equipped with knowledge and develop appropriate attitudes toward PC to ensure holistic and compassionate care delivery. Many studies have shown that NSs often have limited or only average knowledge of PC-

particularly in the psychological, social, and spiritual support domains-although their overall attitude toward PC is generally positive <sup>2,3</sup>. Factors such as age, academic year, experience in caring for terminally ill patients, and prior PC education have been found to positively influence nursing students' knowledge and attitudes <sup>3,4</sup>. However, most PC studies in Vietnam have focused mainly on practicing nurses, with limited research on nursing students.

At Can Tho University of Medicine and Pharmacy, the PC course is currently offered only as an elective rather than as a compulsory component of the nursing curriculum. This may result in NSs being insufficiently prepared in terms of knowledge and attitude to provide appropriate PC services in their future professional practice. Therefore, it is necessary to assess the current status of knowledge, attitudes, and related factors concerning PC among nursing students to provide scientific evidence for improving training content and methods, thereby enhancing PC service quality. This study was conducted to examine the knowledge and attitudes regarding PC and to identify factors associated with PC-related knowledge and attitudes among nursing students at Can Tho University of Medicine and Pharmacy.

## SUBJECTS AND METHODS

**Study subjects:** Nursing students enrolled in the 4-year formal training program at Can Tho University of Medicine and Pharmacy.

**Inclusion criteria:** Third- and fourth-year nursing students.

**Exclusion criteria:** Students absent during data collection.

**Study design:** Descriptive cross-sectional study.

**Sample size and sampling method:** All third- and fourth-year nursing students currently enrolled at Can Tho University of Medicine and Pharmacy were invited to participate. A total of 102 out of 117 eligible students completed the questionnaire, yielding a response rate of 87.2%.

**Data collection method:** A self-administered questionnaire was used. Participants were informed about the study

objectives and instructions for completing the questionnaire. Participation was voluntary, and written consent was obtained prior to participation.

### **Instruments and evaluation criteria:**

The self-administered questionnaire consisted of three sections:

+ **Section 1:** General information including gender, age, academic year, prior PC education, and prior experience providing PC.

+ **Section 2:** Knowledge about PC was assessed using the Palliative Care Knowledge Test (PCKT) developed by Nakazawa (2009) <sup>5</sup>, translated and adapted into Vietnamese by Vu Thi Thanh Huyen (2019) <sup>6</sup>, containing 22 items. Each item had three response options (true, false, don't know). Correct answers scored 1 point; incorrect or "don't know" responses scored 0 points. The total score ranged from 0 to 22, with higher scores indicating better knowledge. In this study, the scale demonstrated high reliability (KR-20 = 0.89) after being tested on 30 nursing students. Knowledge levels were classified as follows: poor knowledge ( $\leq 11$  points), good knowledge (11.2–16.5 points), and very good knowledge ( $> 16.5$  points) <sup>6</sup>.

+ **Section 3:** *Attitude toward PC* was assessed using the *Frommelt Attitudes Toward Care of the Dying Scale – Form B (FATCOD-B)* developed by Frommelt (2003) <sup>7</sup> and translated into Vietnamese by Nguyen Thuy Ly (2014) <sup>8</sup>. The tool contains 30 items rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Negatively worded items were reverse scored. The total score ranged from 30 to 150, with higher scores indicating a more positive attitude. In this study, reliability testing on 30 nursing students yielded a

Cronbach's alpha of 0.93. Attitude levels were classified as: positive ( $\geq 97.5$  points), neutral ( $> 75 - < 97.5$  points), and negative ( $\leq 75$  points) <sup>9</sup>.

**Data analysis:** Data were analyzed using SPSS version 26.0. Descriptive statistics (frequency, percentage, mean, standard deviation) were used to describe participants' general characteristics, knowledge, and attitudes toward PC. Inferential statistics (t-test, ANOVA, Pearson correlation) were

used to examine associations between demographic factors and PC knowledge and attitudes, with statistical significance set at  $p < 0.05$ .

**Ethical considerations:** The study was approved by the Institutional Ethics Committee under Decision No. 24.078. SV/PCT-HØÐÐ dated November 9, 2024. Participants were informed about the study's purpose and confidentiality, and data were used solely for research purposes.

## RESULTS

The study included 102 third- and fourth-year nursing students, with a mean age of  $21.58 \pm 0.64$  years. Female students accounted for 84.3%. Third-year students represented 60.8%, and fourth-year students 39.2%. Regarding academic performance, 48.0% were classified as "good," 36.3% as "excellent," and 15.7% as "average." More than half (56.9%) had received prior education about PC, but only 29.4% had direct experience providing PC to patients.

**Table 1. Knowledge and attitudes toward palliative care among nursing students (n=102)**

| Variable                        | Mean  | Standard Deviation | Minimum | Maximum |
|---------------------------------|-------|--------------------|---------|---------|
| Knowledge about palliative care | 10.89 | 2.43               | 4       | 17      |
| Attitude toward palliative care | 104.1 | 7.36               | 90      | 121     |

Table 1 shows that nursing students had an average knowledge score of  $10.89 \pm 2.43$  (out of 22 points). The highest score was 17, and the lowest was 4. The mean attitude score toward palliative care (PC) was  $104.10 \pm 7.36$  (out of 150 points), with a maximum of 121 and a minimum of 90.

**Table 2. Factors related to nursing students' knowledge of palliative care (n = 102)**

| Characteristics | Statistical test |                  | p-value |       |
|-----------------|------------------|------------------|---------|-------|
|                 | Mean $\pm$ SD    | t/r/F            |         |       |
| Age             | $21.58 \pm 0.64$ | 0.047            | 0.637   |       |
| Gender          | Male             | $11.38 \pm 2.55$ | 0.866   | 0.388 |
|                 | Female           | $10.80 \pm 2.41$ |         |       |
| Academic year   | Third year       | $10.69 \pm 2.62$ | -1.030  | 0.305 |
|                 | Fourth year      | $11.20 \pm 2.08$ |         |       |

| Characteristics                  |                     | Statistical test |       | p-value |
|----------------------------------|---------------------|------------------|-------|---------|
|                                  |                     | Mean ± SD        | t/r/F |         |
| Academic performance             | Excellent or higher | 10.97 ± 2.31     |       | 0.840   |
|                                  | Good                | 10.94 ± 2.00     | 0.175 |         |
|                                  | Average             | 10.56 ± 3.71     |       |         |
| Previously received PC education | Yes                 | 11.43 ± 2.27     | 2.653 | 0.009   |
|                                  | No                  | 10.18 ± 2.46     |       |         |
| Previous experience providing PC | Yes                 | 11.30 ± 2.81     | 1.098 | 0.275   |
|                                  | No                  | 10.72 ± 2.45     |       |         |

*Note:* r = Pearson's correlation coefficient; t = t-test statistic; F = ANOVA statistic; Mean ± SD = Mean ± Standard Deviation.

As shown in Table 3, there was a statistically significant relationship between nursing students' knowledge of PC and whether they had been taught about PC ( $t = 2.653$ ,  $p < 0.05$ ).

**Table 3. Factors related to nursing students' attitudes toward palliative care (n = 102)**

| Characteristics                  |                    | Statistical test |        | p-value |
|----------------------------------|--------------------|------------------|--------|---------|
|                                  |                    | Mean ± SD        | t/r/F  |         |
| Age                              |                    | 2121.58 ± 0.64   | 0.223  | 0.025   |
| Gender                           | Male               | 106.69 ± 6.09    | 1.544  | 0.126   |
|                                  | Female             | 103.62 ± 7.50    |        |         |
| Academic year                    | Third year         | 103.11 ± 7.31    | -1.700 | 0.092   |
|                                  | Fourth year        | 105.63 ± 7.25    |        |         |
| Academic performance             | Excellent or igher | 103.57 ± 7.52    | 0.641  | 0.529   |
|                                  | Good               | 104.92 ± 6.38    |        |         |
|                                  | Average            | 102.81 ± 9.68    |        |         |
| Previously received PC education | Yes                | 105.03 ± 7.48    | 1.485  | 0.141   |
|                                  | No                 | 102.86 ± 7.09    |        |         |
| Previous experience providing PC | Yes                | 106.83 ± 7.33    | 2.455  | 0.017   |
|                                  | No                 | 102.96 ± 7.11    |        |         |

*Note:* r = Pearson's correlation coefficient; t = t-test statistic; F = ANOVA statistic; Mean ± SD = Mean ± Standard Deviation.

As shown in Table 4, there were statistically significant correlations between students' attitudes toward PC and age ( $r = 0.223$ ,  $p < 0.05$ ) as well as prior experience providing PC ( $t = 2.455$ ,  $p < 0.05$ ).

## DISCUSSION

### **Knowledge and attitude toward palliative care among nursing students:**

The findings of this study revealed that nursing students' knowledge of PC was limited, with a mean score of  $10.89 \pm 2.43$  out of 22 points. This result is lower than that reported in a study conducted in Canada (12.9/20)<sup>10</sup> but higher than two studies from Saudi Arabia, where nursing students' average knowledge scores were 6.02/20 and 5.23/20, respectively<sup>2,11</sup>. These discrepancies may be due to differences in participant characteristics across studies. Most international studies included students from all academic years, whereas the present study focused on third- and fourth-year students who were more likely to have been exposed to nursing specialty courses. Moreover, differences in PC curricula between countries may also play a key role. In Canada, PC has been officially integrated into the nursing curriculum, allowing systematic learning, while in Vietnam and many other countries, PC remains an elective topic, and the percentage of students receiving formal training in PC is still low.

In this study, nursing students demonstrated a generally positive attitude toward PC, with a mean score of  $104.10 \pm 7.36$  out of 150 points. This result is consistent with Ho Thi My Yen (2022), who reported a mean score of 103.7/150<sup>12</sup>, but lower than studies conducted in Spain (118.0/150)<sup>13</sup> and Switzerland (117.7/150)<sup>14</sup>. Conversely, it is higher than findings from Jordan (98.1/150)<sup>15</sup> and China (89.99/150)<sup>3</sup>. Such differences suggest that cultural factors play an important role in shaping nursing students' attitudes toward PC and end-of-life care<sup>16,17</sup>. In Western countries, where discussions about death are more open and PC has long been established, students may

be more emotionally and professionally prepared<sup>13,14</sup>. In contrast, in cultures where death is considered a sensitive or taboo topic, students tend to avoid or feel uncomfortable providing end-of-life care.

### **Factors associated with knowledge and attitudes toward palliative care:**

This study found a significant relationship between students' knowledge of PC and prior PC education. Nursing students who had received formal PC instruction scored higher, consistent with previous studies<sup>3,18</sup>. Educational content related to PC plays a crucial role in providing foundational knowledge and developing skills in symptom management, pain control, and psychosocial support for terminally ill patients<sup>19</sup>. However, no statistically significant differences were found in knowledge based on age, gender, academic performance, or prior experience providing PC. This finding aligns with the study by Tran Trinh Quoc Viet (2024)<sup>20</sup>, suggesting that knowledge acquisition depends on multiple factors beyond demographics or academic performance.

The results also indicated a positive correlation between age and attitude toward PC, consistent with previous studies showing that older students often have more positive attitudes toward PC<sup>14,21</sup>. Age may contribute to more mature perspectives and caregiving experiences. However, some studies found no significant association between age and attitudes<sup>18,22</sup>, possibly due to the influence of other factors such as cultural beliefs, PC education, and prior care experiences.

Furthermore, prior experience providing PC was significantly associated with students' attitudes toward PC, consistent with prior studies<sup>18,22</sup>. Nonetheless, other

studies reported no significant relationship between PC experience and attitudes toward end-of-life care<sup>23, 24</sup>. The inconsistency may stem from students' insufficient theoretical or formal training, leading to less positive attitudes despite limited exposure. Experience alone may not be enough to shape attitudes unless combined with structured learning and supervised clinical practice. Integrating PC into formal curricula and clinical training may further foster positive attitudes toward end-of-life care<sup>21</sup>.

This study has some limitations: a relatively small sample size, data collected from a single institution, and a cross-sectional design that can only establish associations, not causality. Although the instruments showed good reliability, they have not yet been widely standardized in Vietnam. Future research should include larger, multi-institutional samples, employ longitudinal or interventional designs, and work toward validating standardized Vietnamese versions of PC measurement tools for more comprehensive understanding.

## CONCLUSION

The study found that nursing students' mean scores for knowledge and attitude toward PC were  $10.89 \pm 2.43$  (out of 22) and  $104.10 \pm 7.36$  (out of 150), respectively. Prior PC education was significantly associated with knowledge, while age and prior experience providing PC were significantly associated with attitudes ( $p < 0.05$ ). These findings provide scientific evidence to guide curriculum design and educational interventions aimed at improving nursing students' knowledge and fostering positive attitudes toward PC, thereby contributing to enhanced PC service quality for patients.

## REFERENCES

1. World Health Organization (WHO). Assessing the development of palliative care worldwide: a set of actionable indicators. 2021. 9240033351.
2. Aboshaiqah AE. Predictors of palliative care knowledge among nursing students in Saudi Arabia: A cross-sectional study. *Journal of Nursing Research*. 2020;28(1):e60. doi:10.1097/jnr.0000000000000301
3. Xue B, Cheng Q, Yue S-W, et al. Attitudes and knowledge of palliative care of Chinese undergraduate nursing students: A multicenter cross-sectional study. *Nurse Education Today*. 2023;122:105720. doi: <https://doi.org/10.1016/j.nedt.2023.105720>
4. Mastroianni C, Marchetti A, D'Angelo D, et al. Italian nursing students' attitudes towards care of the dying patient: a multi-center descriptive study. *Nurse Education Today*. 2021;104:104991. doi: 10.1016/j.nedt.2021.104991.
5. Nakazawa Y, Miyashita M, Morita T, Umeda M, Oyagi Y, Ogasawara T. The palliative care knowledge test: reliability and validity of an instrument to measure palliative care knowledge among health professionals. *Palliative Medicine*. 2009;23(8):754-766. doi:<https://doi.org/10.1177/0269216309106871>
6. Vu HTT, Nguyen HL, Nguyen XT, et al. Knowledge and attitude toward geriatric palliative care among health professionals in Vietnam. *International Journal of Environmental Research and Public Health*. 2019;16(15):2656. doi: <https://doi.org/10.3390/ijerph16152656>
7. Frommelt KHM. Attitudes toward care of the terminally ill: an educational intervention. *American Journal of Hospice*

and Palliative Medicine®. 2003;20(1):13-22. doi: 10.1177/104990910302000108.

8. Nguyen LT, Yates P, Osborne Y. Palliative care knowledge, attitudes and perceived self-competence of nurses working in Vietnam. *International journal of palliative nursing*. 2014;20(9):448-456. doi:https://doi.org/10.12968/ijpn.2014.20.9.448

9. Ali WGM, Ayoub NS. Nurses' attitudes toward caring for dying patient in Mansoura university hospitals. *Journal of Medicine and Biomedical Sciences*. 2010;1(1):16-23.

10. Brajtman S, Fothergill-Bourbonnais F, Casey A, Alain D, Fiset V. Providing direction for change: assessing Canadian nursing students learning needs. *International journal of palliative nursing*. 2007;13(5):213-221. doi: 10.12968/ijpn.2007.13.5.23491.

11. Hafiz AHB. Enhancing the competence of undergraduate nursing students to care for dying children in Saudi Arabia. *Queensland University of Technology*; 2017.

12. Ho Thi My Yen NTTTT. Attitudes of nursing students toward end-of-life patient care and related factors. *Journal of Medicine and Pharmacy – Hue University of Medicine and Pharmacy*. 2022;6(12). DOI: 10.34071/jmp.2022.6.13.

13. Gómez-Martínez L, Abajas-Bustillo R, Ruiz-Pellón N, Mencía-Seco V, Ortego-Maté C. End-of-life Education: Nurse Students Knowledge and Attitudes. A Descriptive and Cross-sectional Survey. 2021;

14. Laporte P, Juvet T, Desbiens J-F, Tapp D, Pasquier J, Bornet M-A. Factors affecting attitudes towards caring for

terminally ill patients among nursing students in Switzerland: a cross-sectional study. *BMJ open*. 2020;10(9):e037553. doi: 10.1136/bmjopen-2020-037553.

15. Zahran Z, Hamdan KM, Hamdan-Mansour AM, Allari RS, Alzayyat AA, Shaheen AM. Nursing students' attitudes towards death and caring for dying patients. *Nursing Open*. 2022;9(1):614-623. doi: 10.1002/nop2.1107.

16. MaxE, MacKenzie MA. Justin KASE: Evaluating nursing students' knowledge, attitudes, and self-efficacy toward care for the dying patients. *Journal of Hospice & Palliative Nursing*. 2017;19(4):356-362. doi:10.1097/NJH.0000000000000356

17. Jiang Q, Lu Y, Ying Y, Zhao H. Attitudes and knowledge of undergraduate nursing students about palliative care: An analysis of influencing factors. *Nurse Education Today*. 2019;80:15-21. doi: 10.1016/j.nedt.2019.05.040.

18. Alwawi AA, Abu-Odah H, Bayuo J. Palliative care Knowledge and Attitudes towards End-of-Life Care among Undergraduate Nursing Students at Al-Quds University: Implications for Palestinian Education. *International Journal of Environmental Research and Public Health*. 2022;19(15):9563. doi: https://doi.org/10.3390/ijerph19159563

19. Kirkpatrick AJ, Cantrell MA, Smeltzer SC. Relationships among nursing student palliative care knowledge, experience, self-awareness, and performance: An end-of-life simulation study. *Nurse education today*. 2019;73:23-30. doi: https://doi.org/10.1016/j.nedt.2018.11.003

20. Tran Trinh Quoc Viet, Vu Thu Uyen. Knowledge about palliative care for end-of-life patients of final-year nursing students at

Ho Chi Minh City University of Medicine and Pharmacy. Ho Chi Minh City Journal of Medical. 2024;27(4):148-155. doi: <https://doi.org/10.32895/hcjm.m.2024.04.20>

21. Dimoula M, Kotronoulas G, Katsaragakis S, Christou M, Sgourou S, Patiraki E. Undergraduate nursing students' knowledge about palliative care and attitudes towards end-of-life care: A three-cohort, cross-sectional survey. Nurse Education Today. 2019;74:7-14. doi: <https://doi.org/10.1016/j.nedt.2018.11.025>

22. Salameh B, Ayed A, Fashafsheh I, Alrazeeni DM, Batran A, Ahmed F. Nursing Students' Understanding of Palliative

Care in Palestine. Critical Care Nursing Quarterly. 2023;46(2):203-216. doi: <https://doi.org/10.1097/CNQ.0000000000000453>

23. Lo Iacono C, Amodio E, Vella G, et al. Self-Perceived Competencies and Attitudes on Palliative Care in Undergraduate Nursing Students: A Multicenter Descriptive Study. Nursing Reports. 2024;14(3):2550-2564. doi: [10.3390/nursrep14030188](https://doi.org/10.3390/nursrep14030188).

24. Yaqoob M, Nasaif H, Kadhom H. Undergraduate final year nursing students' attitudes toward caring for dying patients: Bahrain's experience. Clinical nursing studies. 2018;6(4):53-58. <https://doi.org/10.5430/cns.v6n4p53>