Original Article

Exploring the Factors Related to Knowledge of Palliative Care for Patients with Terminal Cancer Among Nursing Students: A Cross-Sectional Study

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Abstract

Introduction: The inadequate knowledge is the main obstacle of provision of palliative care. This study attempted to examine the association between related factors and knowledge about palliative care for patients with terminal cancer among nursing students in Bangkok, Thailand.

Methods: This study was cross-sectional, conducted on 7th June 2024 at Saint Louis College, Bangkok, Thailand. Data were collected through self-administered questionnaires measuring sociodemographic characteristics. We employed the Palliative Care Quiz for Nursing (PCQN) and the Frommelt Attitude Toward Care of the Dying (FATCOD), form B. Descriptive statistics and multiple linear regression were selected to use for analysis.

Results: The participants were 111 third-year nursing students. The mean score of knowledge about palliative care for patients with terminal cancer was 8.52 (SD = 1.84). The significant predictors of knowledge about palliative care for patient with terminal cancer were experience of losing close relatives or beloved ones from cancer within 1 year ($\beta = 1.083$, $p < 0.05$), and attitude toward dying ($\beta = 0.041$, $p < 0.05$).

Conclusion: This study highlights that nursing students had insufficient palliative care knowledge for patient with end-stage cancer. These findings implies that better attitude toward caring for end-of-life patient associated with improved palliative care knowledge. Therefore, to develop educational program of palliative care for nursing students with psychological and spiritual care training should be embedded in the program for optimum palliative care for patients with terminal cancer.

Keywords: Palliative care, Nursing students, Knowledge, Attitude toward dying

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Introduction

Cancer is one of the most important global health issues. In 2022, new cancer cases were estimated to be around 20 million worldwide, with 9.7 million deaths, and the numbers are increasing annually.[1] In Thailand, there were an estimated 139,000 cancer cases from 2016 to 2018.[2] Although innovative cancer treatments are progressing, many cancer patients, especially those in the terminal, endure significant physical and psychological distress. Some studies have indicated that administering chemotherapy to patients at the end-of-life (EOL) with unclear benefits causes adverse toxicities, delays hospice referral, and does not improve survival rates.[3-5]Thus, palliative care is recommended for cancer patients. Palliative care (PC) focuses on alleviating suffering from pain and related distress, addressing physical, psychosocial, and spiritual problems. It aims to enhance the quality of life for patients and their families dealing with life-limiting and advanced illnesses through coordination with an interdisciplinary care team.[6]A recent study indicated that early integration of specialty PC improves patient satisfaction, mood, quality of life, healthcare utilization, and overall survival.[7] Hence, it is necessary for all healthcare professionals to integrate knowledge, skills, and favorable attitudes toward PC.[8, 9]

Nurses have important responsibility to provides PC for patient and their families. Their roles include educating patients about the dying process, symptom management, and making PC and hospice referrals.[10-12] Palliative care nursing can improve symptom outcomes, fulfill patient wishes, increase coping abilities, and reduce hospitalization and healthcare costs.[13] Learning about PC should be integrated in the basic education for nursing students. Previous studies presented that nurses who receive PC and EOL education have higher levels of PC knowledge. Moreover, knowledge was found to be positively correlated with attitude toward PC which has impact on self-efficacy of providing PC for patients.[14]

Nursing students, who are future healthcare professionals, should be prepared to provide quality PC for cancer patients. However, nursing students who have insufficient knowledge may feel stressed and unprepared, potentially leading to negative attitudes towards care for EOL patients.[15] Additionally, nursing students often experience negative feelings towards death, such as uncertainty, fear, sadness, anxiety, and a low ability to confront with the death, all of which can influence the quality of PC.[16-20] It is important to plan proper PC education programs and promote positive attitudes toward PC among nursing students caring for patients with terminal cancer.

Therefore, this study's objective is to examine the relationship between related factors and knowledge about PC for patients with terminal cancer among nursing students in Bangkok, Thailand. The outcomes of this research will be applied to develop PC education programs for nursing students and graduated nurses in both clinical and community settings.

Materials and Methods

Participants and Setting

This research, a cross-sectional study, was carried out at the Faculty of Nursing, Saint Louis College, Bangkok, Thailand, on 7th June 2024. Data were collected from 111 third-year nursing students based on purposive sampling technique via self-administered questionnaires. Patients were eligible if they were: 1) the third-year nursing students who enrolled in the Bachelor Degree of Nursing Science program of Saint Louis College, 2) aged 18 years or older, 3) willing to participate. However, those found to be diagnosed of severe related psychological problems due to losing closed relatives or beloved ones within 1 year or having severe related physical distress and had difficulty participating in the study were excluded. Ethical approval was granted by the Research Ethics Committee of Saint Louis College (E.008/2567). All participants were given information about the aims, method of the study prior to their decision to sign the informed consent. All participants have the right to deny or quit participation at any given time without being blamed, charged a fine or forced to re-participate in the study. This research adhered to the Declaration of Helsinki and the Belmont Report's ethical principles.

Measurements

Sociodemographic Variables

This study incorporated a range of sociodemographic variables to explore the characteristics of the participants. The variables included age, gender, religion, GPAX, personal income status, family income status, patient care working experiences, PC training experience, palliative patient caring experience, experience of losing family members or beloved person.

The Palliative Care Quiz for Nursing (PCQN)

PCQN was used to evaluate knowledge of palliative care. This tool consists of 20 items. An answer of each item is True ("1 score"), False and Don't know ("0 score").An overall score is the sum number of all correct answer, which range from 0 to 20. Higher scores are determined as more sufficient palliative care knowledge.[21] The internal consistency using the measurement of the Kuder-Richardson Formula 20 (KR-20) was 0.78.[14]

The Frommelt Attitude Toward Care of the Dying (FATCOD), form B

The FATCOD, Form B, was utilized to evaluate attitudes toward EOL patient care. This tool employs a 5-point Likert scale to rate participants' attitudes toward PC, with negative items scored in reverse. The overall score ranges from 30 to 150, where higher scores denote more positive attitudes toward EOL care.[23] In this study, the Cronbach's alpha for internal consistency was 0.76.

Statistical analysis

Data analysis was conducted using SPSS 23.0. Descriptive statistics (frequencies, percentages, means, and standard deviations) were employed to summarize demographic characteristics, palliative care (PC) knowledge scores, and attitudes toward care for dying patients. Multiple linear regression analysis was utilized to identify significant predictors of PC knowledge among nursing students, with a p-value of less than 0.05 considered statistically significant.

Results

Demographic Characteristics

Table 1 showed that among 111 participants, most participants were female (94.6%), Buddhism (82.9%), had personal income between 5,001-10,000 THB per month (55.9%), family income between 20,001-40,000 THB per month (48.6%), no experience of patient care working (79.3%), no experience of palliative care education or training (77.5%), no experience of caring for the palliative patient (55.0%), and no experience of losing close relatives or beloved ones from cancer within 1 year (80.2%). The mean score for age and GPAX was with 22.64±2.86 and 2.90 ± 0.27respectively.

Table 1: Demographic Characteristics (n = 111)

Individual characteristics	Frequency (n)	Percentages (%)
Age (years)		
Mean ± SD	22.64 ± 2.86	
Gender		
Female	105	94.6
Male	6	5.4
Family income (Baht/ month)		
≤ 20,000	32	28.8
20,001 - 40,000	54	48.6
≥ 40,001	25	22.5
Personal income (Baht/month)		
≤ 5,000	24	21.6
5,0001 - 10,000	62	55.9
≥ 10,001	25	22.5
GPAX		
Mean ± SD	2.90 ± 0.27	
Religion		
Buddhism	92	82.9
Other	19	17.1
Having experience of patient care working		
Yes	23	20.7
No	88	79.3
Having experience of palliative care education or training		

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Yes	25	22.5
No	86	77.5
Having experience of caring for the palliative patient		
Yes	50	45.0
No	61	55.0
Having experience of losing close relatives or beloved ones from cancer within 1 year		
Yes	22	19.8
No	89	80.2

Knowledge of palliative care

Table 2 showed the result of PC knowledge. The mean and SD of total PCQN score was 8.52 ± 1.84. The highest percentage of correct answer were (1) "Manifestation of chronic pain are different from those of acute pain" with 91.9% of participants answered, followed by (2) "Morphine is the standard used to compare the analgesic effect of other opioids" with 91.0% of participants answered. The lowest percentage of correct answer were (1) "The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate" with 8.1% of participants response, followed by (2) "It is crucial for family members to remain at the bedside until death occurs" with 10.8% of participants response.

Table 2: The result of the Palliative Care Quiz for Nursing (PCQN)

No.	Item	Correct n (%)	Incorrect / do not know n(%)
1	Palliative care is appropriate only in situations where there is evidence of a downhill trajectory or deterioration (F)	44 (36.9)	67 (60.4)
2	Morphine is the standard used to compare the analgesic effect of other opioids (T)	101 (91.0)	10 (9.0)
3	The extent of the disease determines the method of pain treatment (F)	30 (27.0)	81 (73.0)
4	Adjuvant therapies are important in managing pain (T)	64 (57.7)	47 (42.3)
5	It is crucial for family members to remain at the bedside until death occurs (F)	12 (10.8)	99 (89.2)
6	During the last day of life, the drowsiness associated with electrolyte imbalance may decrease the need for sedation (T)	53 (47.7)	58 (52.3)
7	Drug addiction is a major problem when morphine is used on a long-term basis for the management of pain (F)	18 (16.2)	93 (83.8)
8	Individuals who are taking opioids should also follow a bowel regime (T)	52 (46.8)	59 (53.2)
9	The provision of palliative care requires emotional detachment (F)	96 (86.5)	15 (13.5)
10	During the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of severe dyspnea (T)	29 (26.1)	82 (73.9)
11	Men generally reconcile their grief more quickly than women (F)	41 (36.9)	70 (63.1)
12	The philosophy of palliative care is compatible with that of aggressive treatment (T)	28 (25.2)	83 (74.8)
13	The use of placebos is appropriate in the treatment of some type of pain (F)	21 (18.9)	90 (81.1)

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14	In high doses, codeine causes more nausea and vomiting than morphine (T)	64 (57.7)	47 (42.3)
15	Suffering and physical pain are synonymous (F)	40 (36.0)	71 (64.0)
16	Pethidine is not an effective analgesic in the control of chronic pain (T)	70 (63.1)	41 (36.9)
17	The accumulation of losses renders burnout inevitable for those who seek work in palliative care (F)	26 (23.4)	85 (76.6)
18	Manifestation of chronic pain are different from those of acute pain (T)	102 (91.9)	9 (8.1)
19	The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate (F)	9 (8.1)	102 (91.9)
20	The pain threshold is lowered by anxiety or fatigue (T)	92 (82.9)	19 (17.1)
	Total scores of PCQN		
	Mean ± SD	8.52 ± 1.84	

Association between PC knowledge in nursing students and related factors

Multiple linear regression analysis was used to evaluate the significant predicted factors of PC knowledge in nursing students. Having experience of losing close relatives or beloved ones from cancer within 1 year, with B = 1.083 ($p < 0.05$). This finding indicated that, when the score of having experience of losing close relatives or beloved ones from cancer within 1 year increase by 1, the score of PC knowledge in nursing students will increase by 1.083. In addition, it was found that attitude toward EOL patient care positively affected PC knowledge in nursing students, with B = 0.041 ($p < 0.05$). This finding presented that, when the score of attitudes toward care of EOL patient increases by 1, the score of PC knowledge in nursing students will increase by 0.041 (Table 3).

Table 3: Association between PC knowledge in nursing students and related factors

Variables	B	SE	Beta	t	95%(CI)		p
					Lower	Upper	
GPAX	0.220	0.117	0.180	1.880	-0.012	0.451	0.063
Palliative care training experience	0.112	0.430	0.026	0.261	-0.740	0.965	0.795
Having experience of caring for the palliative patient	0.397	0.340	0.108	1.169	-0.277	1.071	0.245
Having experience of patient care working	-0.614	0.457	-0.136	-1.344	-1.520	0.292	0.182
Having experience of losing close relatives or beloved ones from cancer within 1 year	1.083	0.465	0.235	2.330	0.161	2.005	0.022*
Attitude toward care of the dying	0.041	0.020	0.190	2.017	0.001	0.081	0.046*

*$p < 0.05$

Discussion

This study aimed to examine the relationship between related factors and knowledge of palliative care for patients with terminal cancer among nursing students in Bangkok, Thailand. The findings indicated that the third-year nursing students in this study had insufficient PC knowledge. Notably, we found significant associations between experienced

of losing close relatives or beloved ones from cancer within 1 year, attitude toward dying patients and PC knowledge.

The mean score for PCQN in this study was similar to the previous studies.[14, 22] Nursing students had insufficient of PC knowledge, indicating they were lacking PC knowledge. Participants had the highest scores on questions related to pain and symptom management, though obtaining lowest scores on questions about psychological and spiritual care corresponding with the previous studie.[14] It can be concluded that the third-year nursing students possessed sufficient knowledge related to pains and symptoms management owing due to studying physical care in various basic nursing subjects, which they can apply to the care of patients with cancer.

Previous study reported that the insufficient of PC knowledge happens because of the absence of PC courses quality in undergraduate nursing programs.[22] In this study, PC knowledge is integrated into geriatric nursing care education, which is only mentioned for 2 hours in the entire course. There is no dedicated nursing care for cancer education program. Moreover, psychological and spiritual care are not emphasized. To improve PC knowledge in nursing students, a special course on psychological and spiritual care in PC should be added to the nursing curriculum.

Regarding to the attitude toward care for patient with EOL in this study, the mean score was 116.53, with a mean percentage of the total score at 77.69. This finding was consistent with the prior study.[22] Previous study has shown that nursing students mostly had favorable attitudes towards caring for EOL patient. Similarly, our results also suggested that nursing students possessed positive attitude toward PC for dying patient. The highest mean scores for attitudes were on questions attributed to the participation of family members in the care of patient with terminal cancer. The lowest mean scores for attitudes reflected that nursing students were uncomfortable directly caring for or discussing death and emotional issues with patients facing impending death.[25]

A possible explanation is that due to the Thai culture, the relationship among family members is intimate. Several hospitals in Thailand permit family members to contribute in the physical and psychological care of patients, especially stay closer to dying patients. Nursing students often have experiences to participate with them during their training in hospitals. However, some of nursing students still have negative attitudes toward dying patients. This may be due to the belief that, death is often considered an unsuitable topic for discussion in Thai culture as it might bring badness or curses to the family.

Moreover, our finding demonstrated that having experience of losing close relatives or beloved ones from cancer within 1 year significantly associated with higher PC knowledge. It is not surprise that experienced of losing family members or loved ones is also a predictor of PC knowledge.[26-28] A possible explanation is that nursing students who have experienced of losing family members, especially those with terminal cancer, may have observed the progression of the disease and how to provide proper symptom management. Additionally, these students may see death as a natural phenomenon that happens to everyone. Helping dying patients with compassion to relieve suffering is based on Buddhist principles.

These factors could improve their positive attitudes and be applied in their basic nursing training, thereby improving their PC knowledge as well. It is vital that nursing students should be prepared for communication about death and emotional reactions to dying patients. In consequences, PC education programs should be developed by incorporating cultural aspects including psychological and spiritual care embedded into the curriculum for nursing students.

This study has some limitations. Firstly, the participant number is limited, and purposive sampling was employed to recruit students from a single nursing college. Consequently, the data may not be representative of all nursing students in Thailand. Second, the questionnaires were used in this study, for instance PCQN and FATCOD Form B, were slightly modified to explore nursing students' PC knowledge and attitudes toward caring for patients with terminal cancer. Some medical terms, such as medication names, were changed for better understanding of Thai nursing students. Therefore, future studies should carefully consider the medical terms used in the questionnaire.

Conclusions

The aim of this study was performed to investigate the association of related factors and PC knowledge for patients with terminal cancer among nursing students in Bangkok, Thailand. The results of this research indicated that the overall PC knowledge of nursing students was insufficient. However, their experienced of losing close relatives or beloved ones from cancer within 1 year and attitude toward dying patients was positive significant to PC knowledge. Therefore, to develop effective PC education programs for nursing students, psychological and spiritual care training should be integrated in the curriculum for optimal outcomes.

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Conflict of Interest: All authors disclose no conflict of interest.

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References

1. World Health Organization. Global cancer burden growing, amidst mounting need for services. 2024. Available from: https://www.who.int/news/item/01-02-2024-global-cancer-burden-growing--amidst-mounting-need-for-services. Assessed March 15, 2024.
2. National Cancer Institute. Cancer in Thailand. 2021. Available from: https://www.nci.go.th/e_book/cit_x/index.html. Assessed February 14, 2024.
3. Saito AM, Landrum MB, Neville BA, Ayanian JZ, Earle CC. The effect on survival of continuing chemotherapy to near death. BMC Palliat Care. 2011;10:14.
4. Leong M, Shah M, Smith TJ. How to Avoid Late Chemotherapy. J Oncol Pract. 2016;12(12):1208-1210.
5. Harrington SE, Smith TJ. The role of chemotherapy at the end of life: "when is enough, enough?". JAMA. 2008;299(22):2667-2678.
6. World Health Organization. Palliative care. 2006. Available from: https://www.who.int/health-topics/palliative-care. Assessed January 5, 2024
7. Brumley R, Enguidanos S, Jamison P, Seitz R, Morgenstern N, Saito S, et al. Increased satisfaction with care and lower costs: results of a randomized trial of in-home palliative care. J Am Geriatr Soc. 2007;55(7):993-1000.
8. Achora S, Labrague LJ. An Integrative Review on Knowledge and Attitudes of Nurses Toward Palliative Care: Implications for Practice. J Hosp Palliat Nurs. 2019;21(1):29-37.
9. Sekse RJT, Hunskar I, Ellingsen S. The nurse's role in palliative care: A qualitative meta-synthesis. J Clin Nurs. 2018;27(1-2):e21-e38.
10. Hold JL, Ward EN, Blake BJ. Integrating professional apprentices into an end-of-life course. J Nurs Educ. 2014;53(2):112-115.
11. Jeffers S, Ferry D. Nursing care at the end of life: a service learning course for undergraduate nursing students. Nurse Educ. 2014;39(6):307-310.
12. Pullis BC. Integration of end-of-life education into a community health nursing course. Public Health Nurs. 2013;30(5):463-467.
13. Meghani SH. A concept analysis of palliative care in the United States. J Adv Nurs. 2004;46(2):152-161.
14. Kim JS, Kim J, Gelegjamts D. Knowledge, attitude and self-efficacy towards palliative care among nurses in Mongolia: A cross-sectional descriptive study. PLoS One. 2020;15(7):e0236390.
15. Mutto EM, Errazquin A, Rabhansl MM, Villar MJ. Nursing education: the experience, attitudes, and impact of caring for dying patients by undergraduate Argentinian nursing students. J Palliat Med. 2010;13(12):1445-1450.
16. Cevik B, Kav S. Attitudes and experiences of nurses toward death and caring for dying patients in Turkey. Cancer Nurs. 2013;36(6):E58-65.
17. A'la MZ, Setioputro B, Kurniawan DE. Nursing Students' Attitudes towards Caring for Dying Patients. Nurse Media Journal of Nursing. 2018;8(1):25-34.
18. Abu-El-Noor NI, Abu-El-Noor MK. Attitude of Palestinian Nursing Students Toward Caring for Dying Patients. J Holist Nurs. 2015;34(2):193-199.
19. Chen Y-C, Del Ben KS, Fortson BL, Lewis J. Differential Dimensions of Death Anxiety in Nursing Students with and without Nursing Experience. Death Studies. 2006;30(10):919-929.

20. Xu F, Huang K, Wang Y, Xu Y, Ma L, Cao Y. A Questionnaire Study on the Attitude towards Death of the Nursing Interns in Eight Teaching Hospitals in Jiangsu, China. Biomed Res Int. 2019;2019:1-8.
21. Ross MM, McDonald B, McGuinness J. The palliative care quiz for nursing (PCQN): the development of an instrument to measure nurses' knowledge of palliative care. J Adv Nurs. 1996;23(1):126-137.
22. Frommelt KH. Attitudes toward care of the terminally ill: an educational intervention. Am J Hosp Palliat Care. 2003;20(1):13-22.
23. Frommelt KH. The effects of death education on nurses' attitudes toward caring for terminally ill persons and their families. Am J Hosp Palliat Care. 1991;8(5):37-43.
24. 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 Educ Today. 2019;74:7-14.
25. Zhou Y, Li Q, Zhang W. Undergraduate nursing students' knowledge, attitudes and self-efficacy regarding palliative care in China: A descriptive correlational study. Nurs Open. 2021;8(1):343-353.
26. Grubb C, Arthur A. Student nurses' experience of and attitudes towards care of the dying: A cross-sectional study. Palliat Med. 2016;30(1):83-88.
27. Arslan D, Akca NK, Simsek N, Zorba P. Student nurses' attitudes toward dying patients in central Anatolia. Int J Nurs Knowl. 2014;25(3):183-188.
28. Hagelin CL, Melin-Johansson C, Henoch I, Bergh I, Ek K, Hammarlund K, et al. Factors influencing attitude toward care of dying patients in first-year nursing students. Int J Palliat Nurs. 2016;22(1):28-36.