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Knowledge, Attitudes, and Determinants of Palliative Care Among Nurses: A Descriptive Study

Kalkidan Girma[1], Gebremedhin Desta[1*], Saba Tsegaye[2], Melkamu Tesfaye[2]

[1]*Department of Nursing, College of Medicine and Health Sciences, Debre Tabour University, Debre Tabour, Ethiopia.*

[2] *Department of Nursing, College of Medicine and Health Sciences, Injibara University, Injibara, Ethiopia.*

Abstract

Palliative care focuses on alleviating suffering and improving quality of life for patients experiencing serious illness. Nurses are key providers of this care, making their knowledge and attitudes critical for effective delivery. This study aimed to evaluate nurses' understanding and perceptions of palliative care, along with factors influencing these outcomes. A descriptive cross-sectional study was conducted among 370 nurses randomly selected from Shahid Beheshti Hospital in Kashan, Iran, between February and May 2023. Participants completed a self-administered questionnaire covering demographic and professional information, knowledge of palliative care, and attitudes toward supportive care. Data were analyzed using descriptive statistics, independent t-tests, and univariate regression analyses. Nurses' mean knowledge score was 10.16 ± 2.16, while the mean attitude score was 55.32 ± 10.56. Higher knowledge scores were associated with nurses who had experience caring for terminally ill patients ($p = 0.002$), job satisfaction ($p = 0.02$), and registered nurse status ($p = 0.02$). Nurses who attended palliative care training had higher attitude scores ($p = 0.03$). Predictors of knowledge included age, bachelor's degree, experience with dying patients, head nurse role, and job satisfaction ($R^2 = 0.062$, Adjusted $R^2 = 0.055$). Predictors of attitude included total work experience, exposure to seriously ill patients, prior training, and perceived need for additional education ($R^2 = 0.129$, Adjusted $R^2 = 0.110$). Structured training programs and strategies addressing barriers to care are essential to enhance nurses' knowledge and attitudes toward palliative care. Tailored educational interventions may improve the quality of care provided to terminally ill patients.

Keywords: Palliative care, Nurse knowledge, Attitudes, Palliative care nursing, Terminal illness

Introduction

Palliative care (PC) is an approach aimed at alleviating pain and enhancing the quality of life for individuals facing life-limiting illnesses [1]. The World Health Organization (WHO) defines PC as a form of nursing care that supports patients and their families in coping with serious illnesses by addressing and minimizing suffering, identifying its underlying causes, and managing physical, psychological, spiritual, and social challenges alongside standard medical treatments [2].The concept of palliative care emerged in the early 1980s [3] and has been shown to reduce suffering in patients with chronic and severe conditions [4]. PC encompasses advanced care planning, emotional and physical support, social and grief counseling, and spiritual care. Beyond alleviating pain, it also aims to prepare patients psychologically for the end of life. Traditionally, PC has been associated with care for patients approaching death [5]. By 2060, it is projected that approximately 48 million people will die annually due to serious illnesses [6]. Cancer remains a major global health challenge [7] and is the third leading cause of death in Iran, after cardiovascular disease and traffic accidents [8].

Corresponding author: Gebremedhin Desta
Address: Department of Nursing, College of Medicine and Health Sciences, Debre Tabour University, Debre Tabour, Ethiopia.
E-mail: ✉ gebremedhin.desta88@yahoo.com
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WHO recognizes PC as an effective approach to improving quality of life for patients with refractory illnesses and their families. However, while 34% of patients needing PC are cancer patients, only 14% actually receive such care, with around 78% residing in low- and middle-income countries [9]. Comprehensive care from diagnosis to end-of-life is critical for cancer patients, emphasizing the need for effective PC [10]. In Iran, PC for cancer patients remains fragmented, posing significant challenges for the healthcare system [8].

PC is also relevant for patients with conditions such as dementia, chronic kidney disease, multiple sclerosis, Parkinson's disease, rheumatoid arthritis, neurological disorders, congenital abnormalities, and drug-resistant tuberculosis [11]. Increasing numbers of chronic patients, limited healthcare personnel and intensive care beds, frequent hospitalizations of terminal patients, and rising end-of-life care costs have heightened the importance of PC [12].

Nurses, being at the forefront of patient care, play a central role in delivering palliative and end-of-life services [13]. They serve as the primary liaison between patients, families, and the healthcare team. Thus, adequate knowledge and competence in PC are essential. Lack of sufficient understanding among nurses has been identified as a key barrier to providing effective PC [14].

Both knowledge and attitude are critical for nurses in implementing PC effectively. Nurses need to be well-informed and maintain a positive, motivated approach to care [15]. Attitudes reflect an individual's beliefs, feelings, and opinions and are shaped by emotions [16]. Positive attitudes among nurses are vital for the success of PC programs. Nurses' attitudes are influenced by factors such as personal motivation, socio-cultural context, beliefs, family background, prior experiences, and economic circumstances, which vary across communities and clinical settings [3].

Research indicates that personal factors—including age, professional experience, education on end-of-life care, academic level, and direct experience with dying patients—are linked to greater knowledge and more favorable attitudes toward end-of-life care [17]. In Iran, studies have reported that nurses generally have positive attitudes but only moderate knowledge and skills in pain management [16]. International studies show similar trends; for instance, in Northern Ireland, only 20% of nurses had accurate knowledge of PC, with many incorrectly believing it is limited to the final six months of life [18]. Other studies found that while nurses' knowledge of PC is limited, their attitudes remain positive [13], including in neonatal intensive care units [3].

Implementation of PC is hindered by insufficient resources, limited technology use, workforce shortages, cultural and religious differences, lack of knowledge among caregivers, and the absence of dedicated PC teams [1, 19]. In Iran, PC services are limited to isolated centers, home-based care is largely unavailable, and many patients with incurable illnesses do not receive timely or appropriate care [8, 10, 20, 21]. Traditional practices among healthcare staff, unclear guidelines protecting staff from unnecessary interventions, and socio-cultural barriers further restrict PC development [21]. Currently, Iran lacks systematic structures for delivering PC [10, 22], and nursing education has not adequately addressed this topic [8].

Most Iranian studies have focused on nurses' knowledge and attitudes regarding pain management or end-of-life care, a subset of PC, rather than examining broader palliative care knowledge. Consequently, there is a gap in understanding nurses' overall knowledge and attitudes toward PC in Iran. Assessing these factors is essential for planning and implementing effective healthcare strategies, given the critical role of nurses in patient care.

Study aim

This study aimed to assess nurses' knowledge and attitudes toward palliative care (PC) and identify factors associated with these outcomes.

Materials and Methods

Study design and setting

A descriptive cross-sectional design was employed. The study was conducted at Shahid Beheshti Hospital in Kashan, Iran, from February to May 2023. A systematic random sampling approach was used to select 370 nurses from a total of 700 clinical staff.

Inclusion and exclusion criteria

Participants were included if they held at least a bachelor's degree in nursing, had a minimum of one year of clinical experience, and provided informed consent. Questionnaires with incomplete responses were excluded from the analysis.

Data collection instrument

Data were collected via a self-administered, researcher-developed questionnaire. It included:

1. Demographic and professional information: age, gender, education level, shift work, years of experience, job position, job satisfaction, experience in hospice/PC settings, experience caring for terminally ill or dying patients, prior formal PC training, and perceived need for PC training.

2. Knowledge assessment: 15 items evaluating nurses' knowledge of PC, scored 0–15, with higher scores indicating greater knowledge. Items were drawn from nursing textbooks and literature, using true/false and multiple-choice formats [19, 23–28]. Face validity was confirmed by an expert panel of six specialists (two physicians, two oncology clinical nurse specialists, two professors), and items scoring below the threshold were removed. Test-retest reliability over two weeks yielded an intraclass correlation of 0.91.
3. Attitude assessment: 25 Likert-scale items (1 = strongly disagree, 5 = strongly agree), with total scores ranging from 25–125. Higher scores reflected a more positive attitude toward PC. Items were adapted from existing literature [16, 23–26]. Face and content validity were confirmed by 10 PC experts, and quantitative measures showed CVR = 0.83, CVI = 0.87. Internal consistency was acceptable (Cronbach's alpha = 0.79).

Recruitment and data collection
After obtaining approval from the university and hospital authorities, a list of nurses from clinical departments was obtained. Selected nurses were approached in their workplace, informed about the study, and given consent forms. Those who agreed completed the questionnaires outside their work shifts, with the researcher available to provide guidance.

Data analysis
Data were analyzed using SPSS v22. Normality was tested with the Kolmogorov-Smirnov test. Descriptive statistics summarized participant characteristics. Differences in knowledge and attitude scores were assessed using independent-sample t-tests, and univariate regression identified factors associated with these outcomes. Statistical significance was set at $p < 0.05$.

Results and Discussion

Among the 370 nurses, 71.6% were female, 89.5% worked rotational shifts, 95.7% were staff nurses, and 82.2% held a bachelor's degree. The average work experience was 9.75 ± 6.75 years. Formal PC training had been received by 20.8% of nurses, 55.9% had cared for a terminally ill patient, and 84.9% had experience caring for a dying patient **(Table 1)**.

Table 1. Characteristics of participants ($N = 370$)

Variable		*N* (%)	Knowledge mean ± Sd	*P	Attitude mean ± Sd	*P
Gender	Female	265(71.6)	10.20 ± 2.17	0.52	55.44 ± 10.62	0.72
	Male	105(28.4)	10.03 ± 2.27		55.00 ± 10.44	
level of educational	Bachelor	309(83.5)	10.32 ± 3.14	0.88	55.21 ± 10.55	0.30
	Master	61(16.5)	10.26 ± 2.50		56.75 ± 11.60	
Shift work	Constant	39(10.5)	10.64 ± 2.60	0.21	55.51 ± 10.76	0.90
	Rotation	331(89.5)	10.09 ± 2.14		55.29 ± 10.76	
Job position	Nurse	354(95.7)	11.37 ± 2.41	0.02	55.42 ± 10.69	0.17
	Head nurse	16(4.3)	10.09 ± 2.17		52.93 ± 6.73	
Formal training in palliative care	Yes	77(20.8)	10.22 ± 2.28	0.75	55.87 ± 10.40	0.60
	No	293(79.2)	10.13 ± 2.17		55.17 ± 10.61	
Experience of caring for terminally ill	Yes	207(55.9)	10.26 ± 2.22	0.26	55.98 ± 10.07	0.17
	No	163(44.1)	10.01 ± 2.15		54.48 ± 11.12	
Experience of caring for dying patient	Yes	314(84.9)	10.30 ± 2.10	0.002	55.14 ± 10.32	0.44
	No	56(15.1)	9.31 ± 2.53		56.29 ± 11.08	
Needs for palliative care training	Yes	200(54.1)	10.26 ± 2.12	0.27	56.58 ± 9.93	0.03
	No	170(45.9)	10.01 ± 2.28		54.25 ± 10.97	
Job satisfactory	Yes	240(64.9)	10.34 ± 2.12	0.02	55.14 ± 10.68	0.65
	no	130(35.1)	9.80 ± 2.29		55.65 ± 10.36	
		mean ± Sd				
Age		34.8 ± 7.14	-	-	-	-
Work experience(year)		9.75 ± 6.75	-	-	-	-
Work experience in hospice(year)		0.35 ± 0.83	-	-	-	-
Total score ($n = 370$)		-	10.15 ± 2.91	-	-	-
Total score($n = 370$)		-	-	-	55.32 ± 10.56	-

*independent sample t-test

The study findings showed that nurses' overall understanding of palliative care scored an average of 10.15 (SD = 2.91). Knowledge levels differed significantly depending on the nurses' role within the hospital, their previous experience providing care to dying patients, and their satisfaction with their job, with notable differences observed for job position (p = 0.02), experience with end-of-life care (p = 0.002), and work satisfaction (p = 0.02).

Regarding attitudes toward palliative care, participants demonstrated a mean score of 55.32 (SD = 10.56), indicating a moderate attitude overall. Nurses who had participated in formal palliative care training demonstrated significantly more positive attitudes than those who had not (p = 0.03), highlighting the importance of structured educational interventions.

Univariate regression analysis identified several predictors of knowledge scores. Older age was associated with slightly higher knowledge levels (B = 0.08, p = 0.045), whereas lower educational attainment corresponded with reduced knowledge (B = -2.58, p =0.009). Experience with terminally ill patients (B = 0.87, p = 0.004), certain job positions (B = -1.11, p= 0.04), and greater job satisfaction (B = 0.51, p = 0.02) were also significant contributors. Together, these variables accounted for 6.2% of the variance in knowledge scores (R^2 = 0.062, Adjusted R^2 = 0.055) **(Table 2)**.

Table 2. Result of univariate regression between demographic and professional characteristics and total score of knowledge

Parameter	B	Std. Error	95% Wald Confidence Interval		*p*-value*	
			Lower	Upper		
Age	0.080	0.040	0.002	0.158	0.045	$R = 250$ $R^2 = 0.062$ Adjusted $R = 0.055$
level of education(bachelor)	-2.586	0.9868	-4.520	− 0.652	0.009	
Experience of caring for dying patient(yes)	0.879	0.3088	0.274	1.484	0.004	
Job position (head nurse)	-1.113	0.5425	-2.176	− 0.050	0.040	
Job satisfaction(yes)	0.516	0.2303	0.065	0.968	0.025	

*Statistically significant at p-value ≤ 0.05, dependent variable: knowledge

A backward stepwise univariate regression analysis was performed to examine the predictors of nurses' attitudes toward palliative care. All demographic and professional variables were initially included in the model, and non-significant factors were sequentially removed until the final model was achieved. The analysis revealed that total work experience (B = -0.42, p = 0.03), prior experience caring for terminally ill patients (B = 2.60, p = 0.02), completion of formal palliative care training (B = -2.68, p = 0.01), and the perceived need for additional training (B = -4.45, p < 0.001) were significant determinants of the average attitude score. These variables collectively explained 12.9% of the variance in attitudes (R^2 = 0.129, Adjusted R^2 = 0.110) **(Table 3)**.

Table 3. Result of univariate regression between demographic and professional characteristics and total score of attitude

Parameter	B	Std. Error	95% Wald Confidence Interval		*p*-value*	
			Lower	Upper		
Work experience	− 0.426	0.204	− 0.827	− 0.026	0.03	$R = 359$ $R^2 = 0.129$ Adjusted $R = 0.110$
Experience caring for terminally ill patients (yes)	2.600	1.1218	0.401	4.799	0.02	
Formal training in palliative care (yes)	-2.686	1.1030	-4.848	− 0.524	0.01	
Needs for palliative care training (yes)	-4.455	1.0675	-6.547	-2.362	0.0001	

*Statistically significant at p-value ≤ 0.05, dependent variable: attitude

This study explored nurses' knowledge and attitudes regarding palliative care (PC) in a hospital setting. The participating nurses demonstrated above-average knowledge levels. Similar findings have been reported in Iran, where nurses exhibited moderate knowledge of PC [29-32], as well as in studies from other countries [4,15,33-37]. Research suggests that nurses working in critical care units tend to have higher knowledge levels related to PC [38], which aligns with the results of the present study. Conversely, some studies in Iran, such as those by Alipoor *et al.* [39] and Dehghannezhad *et al.* [19], found that nurses' knowledge of PC was limited. These variations may be influenced by differences in participants' demographics, study contexts, sample sizes, research tools, or prior exposure to formal PC training. In particular, gaps in knowledge could stem from deficiencies in both academic curricula and in-service training programs. Given that PC is a relatively new approach in Iran, the insufficient knowledge and awareness among healthcare providers—especially nurses and physicians—pose significant barriers to delivering effective PC services [24].

The analysis also revealed a positive and significant association between nurses' age, experience caring for dying patients, and knowledge scores, suggesting that knowledge of PC tends to improve with age and clinical experience. This is consistent with prior research in Iran, which reported similar trends [24]. Several studies have highlighted that direct experience with patients requiring PC positively influences caregivers' knowledge and attitudes [24,25,40]. Additionally, longer professional experience has been linked to higher levels of PC

knowledge [41], a finding corroborated by Abudari *et al.* [42]. One possible explanation is that older nurses are more likely to have participated in in-service training programs and have had more opportunities to interact with terminally ill patients. Increased age is often associated with enhanced cognitive capacity, maturity, and critical thinking skills, all of which contribute to knowledge acquisition and practical application.

Interestingly, a negative relationship was observed between education level (bachelor's degree) and knowledge scores, indicating that nurses with a bachelor's degree scored lower than those with a master's degree. Similar results in Iran suggest that higher educational attainment is associated with greater PC knowledge [24]. This may reflect the fact that the nursing bachelor's curriculum provides limited content on PC, whereas master's programs include more comprehensive instruction. Differences in educational level can directly influence both knowledge and the quality of care provided [41,43].

Job satisfaction also emerged as a significant factor affecting knowledge acquisition. Nurses who reported higher levels of satisfaction were more motivated to seek additional knowledge and enhance their professional competencies [44]. Additionally, ward-based nurses demonstrated higher knowledge levels compared to head nurses, likely because head nurses are more engaged in administrative duties and have less direct patient contact. Prior studies have similarly shown that factors such as PC training history, age, clinical experience, and self-directed study are closely associated with higher PC knowledge [16,31,32]. These findings underscore the importance of ongoing in-service training and hands-on experience for improving nurses' competence in PC.

The findings of this study indicate that nurses in the sample demonstrated a relatively low attitude toward palliative care (PC) at the end of life. This aligns with previous studies, such as those by Dehghannezhad *et al.* [19] and Azami-Agdash *et al.* [45], which reported low attitude scores among nurses toward hospice and palliative care. Similarly, research in Jordan revealed a generally low attitude toward PC among nurses [23], and Masharipova *et al.* found that 93% of nurses expressed neutral or negative attitudes toward caring for dying patients [46]. Conversely, some studies in Iran have reported moderate attitudes among nurses toward PC [3,32,47], highlighting variability across contexts. These discrepancies may reflect the influence of factors beyond knowledge, such as the physical work environment, staffing levels, and available resources. Additionally, demographic characteristics, workplace conditions, and prior experiences can all impact attitudes toward PC [36]. Such findings underscore the need for targeted theoretical and practical training programs to foster positive attitudes among nurses. Cultural and regional differences may also contribute to variations in attitudes and warrant further investigation.

The present study also identified significant associations between nurses' attitudes and work experience, experience caring for terminally ill patients, and participation in formal PC training. Nurses with greater exposure to terminally ill patients or who had completed formal PC training demonstrated more positive attitudes. These findings are consistent with previous studies, including those by Ashrafzadeh *et al.* [32], Dehghannezhad *et al.* [19], and Hojjati *et al.* [26], which highlighted the positive influence of experience and training on nurses' attitudes. Similar associations were reported by Etafa *et al.* [37], Younis *et al.* [49], and Kassa *et al.* [4], confirming the role of demographic characteristics, professional experience, and training in shaping attitudes. Frequent interactions with dying patients appear to improve nurses' comfort and confidence, fostering more positive attitudes over time. Experience in clinical settings allows nurses to develop skills, judgment, and the ability to apply appropriate interventions, emphasizing the cumulative effect of practice on professional attitudes [41].

Limitations of this study include its single-center design, which may limit the generalizability of findings. Additionally, factors such as nurses' emotional and mental states during questionnaire completion were beyond the researchers' control and may have influenced responses. Differences in departmental contexts within the hospital may also have affected knowledge and attitudes, an aspect not fully explored in this study. Future research should examine the impact of structured training programs on nurses' knowledge and attitudes toward PC to evaluate whether formal education can improve both.

Conclusion

while nurses demonstrated an acceptable level of knowledge about PC, their attitudes toward implementing these practices were generally low. This highlights the need for comprehensive training programs addressing both knowledge and attitudes. Evidence suggests that PC education in Iran is often inadequate across medical disciplines, with limited formal instruction on its principles in undergraduate nursing and medical programs [24]. Improving awareness and understanding of PC, while addressing factors influencing attitudes, is essential for enhancing care quality and overcoming existing barriers to implementation.

Implications for research, practice, and policy include integrating PC education into early medical and nursing curricula to ensure competency upon graduation. Additionally, ongoing professional development through clinical training, workshops, webinars, conferences, and research initiatives is crucial to foster PC as a priority area among healthcare professionals.

Abbreviations

PC: Palliative care
B: Beta

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