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CROSS-SECTIONAL STUDY ON PALLIATIVE CARE KNOWLEDGE AND ATTITUDES TOWARDS END-OF-LIFE CARE AMONG NURSES IN ACUTE MEDICAL AND CRITICAL WARD

Original Research

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ABSTRACT

Background: Palliative care aims to relieve suffering and improve the quality of life for patients with serious illnesses through a holistic, multidisciplinary approach. Nurses play a pivotal role in delivering end-of-life care, yet their knowledge and attitudes significantly impact the effectiveness of these services. Despite the growing need for palliative care worldwide, disparities in training and exposure remain a concern, particularly in acute medical and critical care settings. Understanding nurses' perspectives can help address educational gaps and enhance palliative care delivery.

Objective: This study aimed to assess the knowledge and attitudes of nurses toward palliative care in acute medical and critical care settings and examine the association between demographic characteristics and their perceptions.

Methods: A cross-sectional study was conducted in three major public hospitals in Khyber Pakhtunkhwa, Pakistan, from August 2023 to November 2024. A sample of 236 nurses was selected using Slovin's formula. Data collection was performed using the Palliative Care Quiz for Nursing (PCQN) to assess knowledge and the Ferrell and McCaffery (2008) scale to evaluate attitudes. The PCQN scores ranged from 0 to 20, categorizing knowledge into low (0-6), moderate (7-13), and high (14-20) levels. Attitudes were classified into negative (32-72) and positive (73-128) perceptions. Descriptive and inferential statistics, including the Chi-Square test, were applied using SPSS to examine associations between demographic variables and study outcomes.

Results: Among nurses, 29.66% (70) had low knowledge, 44.91% (106) demonstrated moderate knowledge, and 25.43% (60) exhibited high knowledge. Attitude analysis showed that 62.9% (141) of nurses had a positive perception, while 37.1% (83) had a negative attitude toward palliative care. The mean perception score was 65.17, placing the majority in the "satisfied" category. Statistically significant associations were found between attitude and marital status ($p = 0.027$), educational level ($p = 0.002$), workplace ($p < 0.001$), and job position ($p = 0.002$). Knowledge was significantly influenced by educational level ($p = 0.005$), workplace ($p < 0.001$), and job position ($p = 0.002$), whereas gender, prior palliative care experience, and exposure to terminally ill patients showed no significant impact.

Conclusion: Nurses demonstrated a generally positive attitude toward palliative care, yet knowledge gaps persisted, particularly among those with lower education levels and less exposure to structured training. The findings emphasize the need for standardized palliative care education and ongoing professional development to improve competency in end-of-life care. Strengthening institutional policies and integrating palliative care into nursing curricula will enhance patient-centered care and improve overall healthcare delivery.

Keywords: Attitude of Health Personnel, Cross-Sectional Studies, Education, Nursing, Knowledge, Palliative Care, Terminal Care.

INTRODUCTION

Palliative care involves proactive measures to anticipate, manage, and alleviate suffering, ultimately improving the quality of life for individuals with serious illnesses and their families. This multidisciplinary approach addresses physical, psychological, emotional, and spiritual needs, ensuring comprehensive support throughout the illness trajectory (1). The primary aim is to relieve pain, enhance symptom management, and provide holistic care that aligns with the biopsychosocial and spiritual needs of patients. Effective palliative care necessitates a collaborative environment where leadership, communication, and mutual respect strengthen the healthcare team's efficiency in addressing complex patient needs (2). Given the multifaceted nature of palliative care, an integrated, multidisciplinary approach is essential to ensure the provision of optimal care. This involves incorporating diverse data sources, patient and family perspectives, and available healthcare resources to tailor interventions that align with disease progression and individual circumstances (3).

Globally, the burden of serious health-related suffering is expected to rise significantly. Projections estimate that by 2060, approximately 48 million individuals will experience severe suffering at the end of life, marking an 87% increase from 2016 figures. Notably, 83% of these deaths will occur in low- and middle-income countries, with the highest proportional increase in suffering observed in low-income regions (4). Cancer remains a leading cause of serious illness, with approximately 20 million new cases and 10 million deaths recorded globally in 2022. By 2050, the global cancer burden is projected to rise by 77%, reaching 35 million new cases annually, further escalating the demand for palliative care (5). The benefits of palliative care extend beyond symptom management. It has been shown to improve patient and caregiver well-being, reduce hospital admissions and healthcare costs, and facilitate shared decision-making, ultimately enhancing the quality of life for patients with life-limiting illnesses (6).

Nurses play a central role in palliative and end-of-life care, as they are often the primary caregivers, establishing close connections with patients and families during critical phases of illness. Their responsibilities extend beyond clinical symptom management to providing emotional support, facilitating communication among patients, families, and healthcare teams, and ensuring that care aligns with patients' values and preferences (7). Nursing care in palliative settings is inherently holistic, addressing not only physical discomfort but also psychological and spiritual distress as patients approach the end of life (8). In critical care environments, nurses frequently encounter patient deaths and must be well-equipped to provide high-quality palliative care, ensuring that end-of-life experiences are as dignified and comfortable as possible (9). Despite the increasing global recognition of palliative care's significance, research indicates gaps in nurses' knowledge and attitudes toward end-of-life care, highlighting the need for enhanced training and support (10).

The demand for palliative care is growing, with an estimated 56.8 million individuals requiring such services annually, most of whom reside in low- and middle-income countries (11). These regions face significant challenges, including insufficient palliative care integration into national health systems, inadequate training for healthcare providers, and limited access to essential medications, particularly opioids for pain relief (12). According to a 2019 WHO survey of 194 countries, only 68% of nations allocated government funding for palliative care, underscoring the urgent need for policy advancements (13). In this context, examining nurses' knowledge and attitudes toward palliative and end-of-life care is crucial for improving healthcare delivery in acute medical and critical care settings. Understanding the barriers they face can inform targeted interventions to enhance patient care, bridge knowledge gaps, and strengthen palliative care implementation in diverse healthcare environments. This study aims to assess nurses' understanding and perceptions of palliative care, ultimately contributing to evidence-based strategies that optimize end-of-life care quality.

METHODS

A cross-sectional study design was utilized to assess nurses' knowledge and attitudes toward palliative care in acute medical and critical care settings. The study was conducted in three major public hospitals in Khyber Pakhtunkhwa, Pakistan: Khyber Teaching Hospital, Hayatabad Medical Complex, and Lady Reading Hospital. These hospitals were selected due to their significance as key healthcare facilities in the region, ensuring a diverse and representative sample population. The data collection period spanned from August 2023 to November 2024. A total of approximately 580 nurses were employed in these hospitals during the study period. The sample size was determined using Slovin's formula:

$n = N / (1 + N (e^2))$, where
n = required sample size,
N = total population (580),
e = margin of error (0.05).

Substituting the values, the calculated sample size was 236 participants.

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The inclusion criteria encompassed nurses working in acute medical and critical care wards who were directly involved in patient care and willing to participate. Exclusion criteria included nurses working in non-acute settings such as outpatient clinics or long-term care facilities, those unwilling to participate, nurses with specialized training in palliative care, and those in managerial positions.

Data collection involved the use of validated instruments. The Palliative Care Quiz for Nursing (PCQN) scale developed by Ross et al. was employed to assess knowledge. This scale consists of 20 questions with three response options: true, false, or "don't know." The total score ranges from 0 to 20, with higher scores reflecting greater knowledge of palliative care. The PCQN assesses three domains: pain and symptom management, philosophy and principles of palliative care, and psychosocial and spiritual care. The instrument demonstrated an internal consistency reliability of 0.78. Attitudes toward palliative care were measured using the Ferrell and McCaffery (2008) scale, which comprises 32 items. The overall attitude score ranges from 0 to 128, with respondents categorized as "Dissatisfied" (0–43), "Satisfied" (44–86), or "Highly Satisfied" (87–128). This scale demonstrated a Cronbach's alpha coefficient of 0.75, indicating satisfactory internal consistency. Permission to use the assessment tools was obtained from the corresponding authors.

Ethical approval was secured from relevant ethical and administrative authorities before data collection commenced. The primary researcher collected data through structured questionnaires. Incomplete or insufficiently completed questionnaires were excluded from analysis. Data were analyzed using SPSS. Descriptive statistics were applied to summarize the data, while inferential statistics were used to assess associations between variables.

RESULTS

To calculate an overall score that reflects the nurses' satisfaction with palliative care. This overall score will be used to categorize their perception as either "Dissatisfied," "Satisfied," or "Highly Satisfied" based on the overall score of 128 from 32 questions. I categorize which is Dissatisfied: 0 to 43, Satisfied: 44 to 86 while Highly Satisfied: 87 to 128 based on the Ferrell and McCaffery (2008) scale. The overall perception score was 65.1674 by summation of all means. This score falls within the "Satisfied" range on the scale, suggesting that, on average, the nurses are reasonably content with the palliative care practices covered in the survey. This result reflects a generally positive view among the participants regarding their experiences and perspectives on palliative care, though it does not reach the "Highly Satisfied" category.

Table 1. Chi Square test (Demographic variables) Relationship Between Demographic data and Knowledge of nurses towards palliative care

Socio Demographic data	Chi- Square Tests (p value)
Gender of the participants	0.953
Marital status of the Participants	0.311
Educational level of the participants	0.005
Place of work	<0.001
Job position	0.002
Palliative care experience if any	0.845
How many terminally sick cancer patients have you ever taken care of?	0.978
Participation in palliative care education initiatives	0.978
Does your organization have a doctor who specializes in palliative care?	0.978

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The p-value for the participants' gender is 0.953, which is significantly greater than the conventional significance limit of 0.05. This suggests that differences in gender do not affect the outcome in this setting, as there is no statistically significant correlation found between gender and knowledge or attitude toward palliative care. The p-value for the participants' marital status is 0.311, meaning that there is no statistically significant correlation between marital status and attitudes and knowledge about palliative care. This implies that the outcome is not much impacted by the individuals' marital status. Educational Level of Participants: A statistically significant correlation between participant educational level and nurses' knowledge and attitudes is indicated by the p-value of 0.005. This indicates that a major influence on the result comes from the participants' educational backgrounds. Place of employment: The knowledge and attitude of the participants regarding palliative care were significantly correlated with their place of employment (p-value less than 0.001). This implies that a significant factor influencing the result is the workplace of the participants. Employment Status: A statistically significant correlation between employment status and attitude and knowledge is shown by the p-value of 0.002. This indicates that there is a substantial relationship between participant employment positions and the outcome. Any Experience in Palliative Care: According to the p-value of 0.845, there isn't a statistically significant relationship between the dependent variable and having prior palliative care experience. This suggests that previous palliative care experience has little bearing on the result. Number of Terminally Ill Cancer Patients Ever Cared for: There is no statistically significant correlation between the number of cancer patients who have received care and their understanding of and attitudes toward palliative care (p-value = 0.978). This implies that the quantity of patients receiving care has no bearing on the result. Engaging in Palliative Care-relevant Educational Activities: According to the p-value of 0.845, there isn't a statistically significant relationship between knowledge and attitudes regarding palliative care and engaging in educational activities relevant to the topic. This suggests that the presence of a palliative care physician does not significantly influence the outcome. Significant Factors: Educational level, place of work, and job position are statistically significant factors influencing the dependent variable.

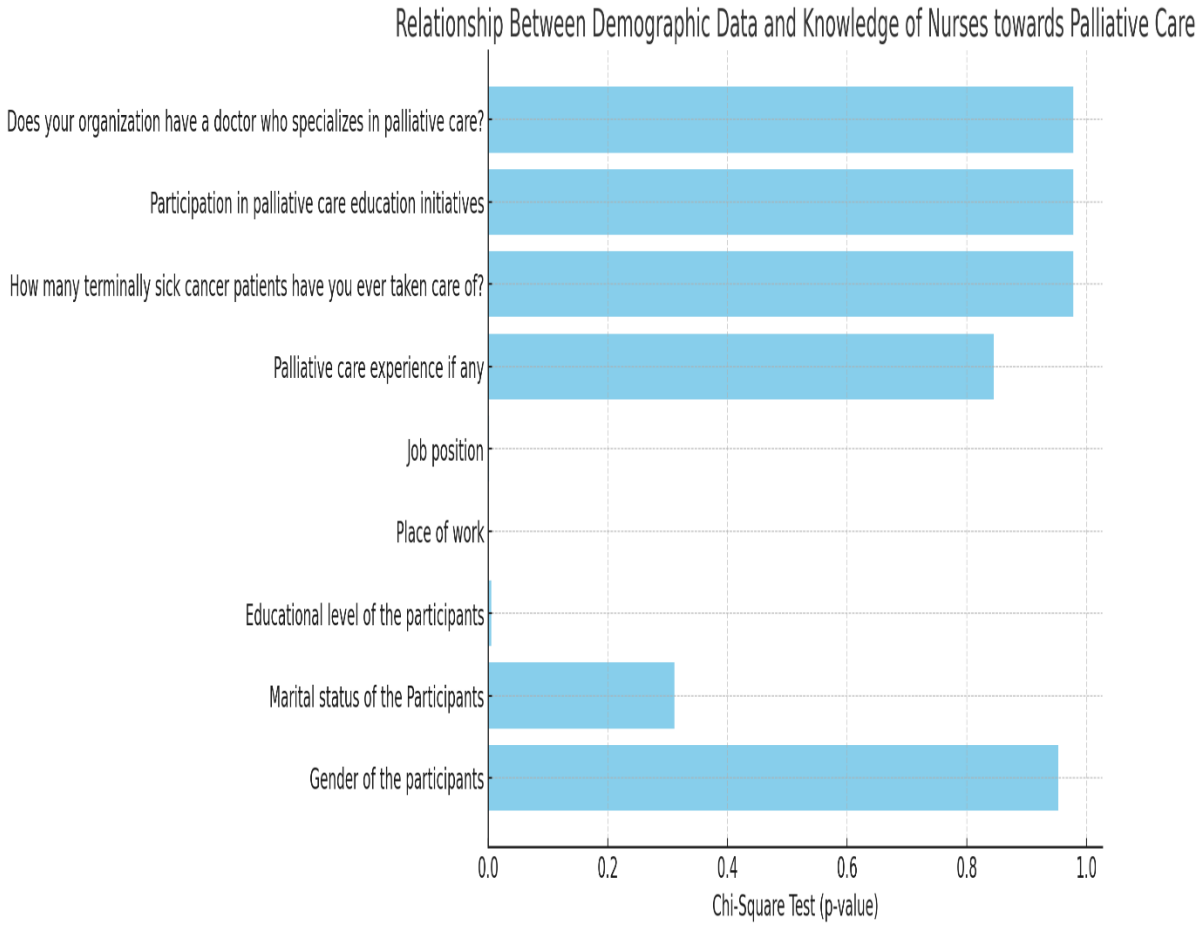

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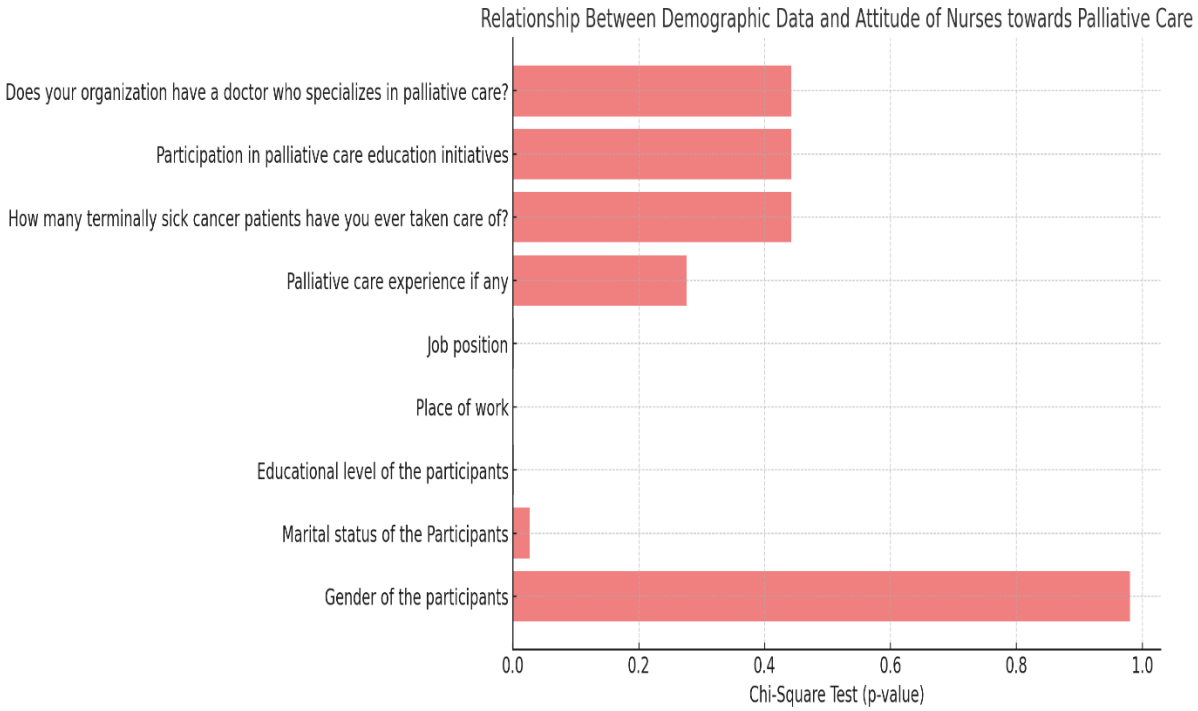
Table 2. Chi Square test (Demographic variables) Relationship Between Demographic data and attitude of nurses towards palliative care

Socio Demographic data	Chi- Square Tests (p value)
Gender of the participants	0.980
Marital status of the Participants	0.027
Educational level of the participants	0.002
Place of work	<0.001
Job position	0.002
Palliative care experience if any	0.276
How many terminally sick cancer patients have you ever taken care of?	0.442
Participation in palliative care education initiatives	0.442
Does your organization have a doctor who specializes in palliative care?	0.442

Table 2 presents the results of the Chi-Square test assessing the relationship between demographic variables and nurses' attitudes toward palliative care. Statistically significant associations were found with marital status ($p = 0.027$), educational level ($p = 0.002$), place of work ($p < 0.001$), and job position ($p = 0.002$), indicating that these factors influence nurses' attitudes toward palliative care. In contrast, gender ($p = 0.980$), prior palliative care experience ($p = 0.276$), number of terminally ill cancer patients cared for ($p = 0.442$), participation in palliative care education initiatives ($p = 0.442$), and the presence of a palliative care specialist in the organization ($p = 0.442$) did not show significant associations. These findings highlight the impact of formal education, workplace environment, and job roles on nurses' perceptions of palliative care, while personal exposure and organizational factors demonstrated no significant influence.



To analyses the final attitude result of nurses, the questionnaire contains 32 questions with marking of 0 to 4 having lowest range is 32 and highest is 128 and categorized the overall scores into two categories of Negative Perception score 32 to 72, while Positive Perception is from 73 to 128.

Table 3. Result, attitude of nurses towards palliative care

Attitude of nurses towards palliative care				
Frequency		Percentage	Mean	Standard Deviation
Negative Perception (Attitude)	83	37.1		
Positive Perception (Attitude)	141	62.9		
			1.629	0.484
Total	224	100		

Overall attitude score shows larger group of nurses 62.9% (141), had a positive perception, shows that the majority of the nurses viewed palliative care in a favorable light. While 37.1% (83) of the nurses held a negative attitude towards palliative care that shows a little over one- third of the participants did not view palliative care favorably. The mean score of 1.629 suggests that, the nurses leaned more towards a positive attitude, as the mean is closer to the value representing positive perception. However, the standard deviation of 0.484 shows that there is a moderate spread of opinions around this mean, meaning there is some variability in how strongly nurses feel about palliative care.

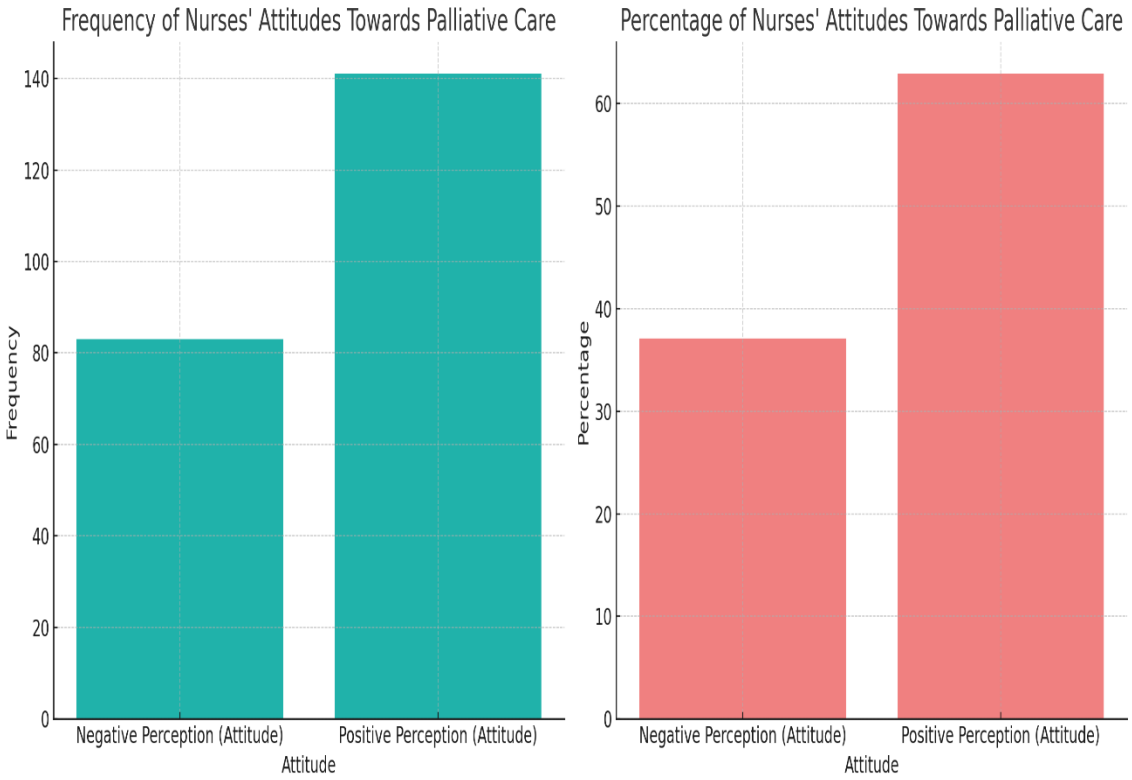


Table 4: Distribution of nurses' knowledge levels

Knowledge Level	Frequency	Percentage
Low Knowledge (0-6)	70	29.66
Moderate Knowledge (7-13)	106	44.91
High Knowledge (14-20)	60	25.43

Table 4 presents the distribution of nurses' knowledge levels regarding palliative care based on the Palliative Care Quiz for Nursing (PCQN) scale (0-20). The majority of nurses, 44.91% (106), demonstrated moderate knowledge (scores 7-13), indicating a reasonable understanding of palliative care concepts. Low knowledge levels (scores 0-6) were observed in 29.66% (70) of participants, highlighting a significant proportion of nurses with limited familiarity with palliative care principles. Meanwhile, only 25.43% (60) of nurses exhibited high knowledge (scores 14-20), suggesting that a smaller segment of the sample possessed strong competency in this area. These findings emphasize the need for targeted educational interventions to enhance palliative care knowledge among nurses, particularly those with low and moderate understanding.

DISCUSSION

The findings of this study highlighted significant associations between nurses' demographic characteristics and their knowledge and attitudes toward palliative care in acute medical and critical care settings. The results indicated that educational level, workplace environment, and job position had a profound influence on both knowledge and attitudes. Nurses with higher educational backgrounds exhibited greater knowledge scores, which is consistent with previous studies emphasizing the role of formal education in enhancing palliative care competency (11). The workplace environment played a crucial role, as nurses working in tertiary care hospitals demonstrated better knowledge and more positive attitudes compared to those in peripheral or less specialized institutions (12). This underscores the impact of exposure to multidisciplinary teams, specialized training, and structured palliative care protocols (13). Additionally, job position significantly influenced both knowledge and attitudes, with nurses in senior clinical roles demonstrating a stronger grasp of palliative principles (14). However, factors such as gender, marital status, prior experience with terminally ill patients,

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and participation in educational initiatives did not show significant associations with knowledge levels, suggesting that knowledge acquisition in palliative care is more dependent on structured education rather than personal experiences (15).

Attitudes toward palliative care were predominantly positive, with a majority of nurses exhibiting satisfaction with the principles and practices of palliative care (16). However, a notable proportion demonstrated negative attitudes, reflecting persistent gaps in training, awareness, and institutional support (17). The mean attitude score suggested an overall inclination towards positive perception, but the standard deviation highlighted variability in responses, indicating that while many nurses held favorable views, some remained apprehensive or uninformed about palliative care practices (18). This variation in attitude can be attributed to disparities in clinical exposure, mentorship, and organizational policies (19). Although palliative care training programs exist, their accessibility, quality, and integration into standard nursing curricula remain inconsistent (20). Nurses who lacked structured training or formal exposure to palliative care were less confident in their approach, which aligns with global trends where palliative care education is not universally emphasized within nursing programs (21). Additionally, organizational support, including the presence of palliative care specialists, did not significantly influence nurses' attitudes, suggesting that institutional policies and interprofessional collaboration may require further reinforcement to create a supportive environment for palliative care delivery (22).

The findings underscore the critical need for structured educational interventions to enhance nurses' competencies in palliative care (11). While the study demonstrated that knowledge was associated with education level, a significant proportion of nurses still fell within the low-to-moderate knowledge category, reflecting gaps in training and exposure (12). The existing curriculum may not sufficiently address palliative care principles, symptom management, and ethical considerations, resulting in varying levels of competency among nurses (13). Additionally, continuing education programs, on-the-job training, and multidisciplinary workshops have not been systematically implemented, limiting opportunities for skill development (14). Given the increasing burden of terminal illnesses globally, integrating palliative care education into undergraduate and postgraduate nursing programs is essential for strengthening nurses' capabilities (15). The study also highlighted the importance of workplace dynamics in shaping knowledge and attitudes, emphasizing the need for policies that promote interprofessional collaboration, mentorship, and hands-on training (16). Hospitals and healthcare institutions must prioritize embedding palliative care within routine nursing responsibilities, ensuring that nurses are equipped with the necessary skills to provide holistic, patient-centered care (17).

The strengths of this study lie in its structured approach, utilizing validated tools to assess knowledge and attitudes while ensuring a representative sample from multiple healthcare institutions (18). The use of the Palliative Care Quiz for Nursing (PCQN) and the Ferrell and McCaffery attitude scale allowed for an objective assessment of nurses' competencies and perceptions, ensuring the reliability of findings (19). Additionally, the inclusion of a diverse sample from three major hospitals strengthened the generalizability of results to similar healthcare settings (20). However, certain limitations must be acknowledged (21). The study relied on self-reported data, which may have introduced response bias, as participants might have provided socially desirable answers rather than reflecting their true knowledge and attitudes (22). Furthermore, the cross-sectional design limited the ability to establish causality between variables, meaning that while associations were observed, definitive conclusions regarding the impact of specific demographic factors on knowledge and attitudes cannot be drawn (11). Additionally, the study did not assess the quality of palliative care services within the institutions, which could have provided further context to the findings (12). Future research should consider longitudinal designs to track changes in knowledge and attitudes over time, incorporating interventions to evaluate their effectiveness in improving palliative care competency among nurses (13).

The study contributes to the growing body of evidence emphasizing the importance of palliative care training in nursing education. As the global demand for palliative care continues to rise, ensuring that nurses possess adequate knowledge and hold positive attitudes toward end-of-life care is imperative for delivering high-quality, compassionate care. Educational institutions, policymakers, and healthcare administrators must work collaboratively to integrate standardized palliative care training into nursing curricula, promote continuous professional development, and establish policies that support nurses in their roles (16, 22). Addressing the identified gaps in knowledge and attitudes through targeted interventions will enhance nurses' ability to provide holistic, culturally competent, and ethically sound palliative care.

CONCLUSION

This study highlighted the crucial role of education, workplace environment, and job position in shaping nurses' attitudes and knowledge of palliative care. While a generally positive perception was observed, gaps in knowledge and training emphasize the need for structured educational initiatives and institutional support to enhance palliative care competency. The findings reinforce the importance of integrating palliative care into nursing curricula and providing continuous professional development opportunities to ensure nurses are well-equipped to deliver holistic, compassionate care. Addressing these gaps through targeted interventions will not only improve the quality of palliative care but also foster a healthcare environment where end-of-life care is approached with confidence, empathy, and a patient-centered focus.

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Author	Contribution
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Maryam Abbas	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
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Khushbakht	Substantial Contribution to study design and Data Analysis Has given Final Approval of the version to be published
Asra Shaikh	Contributed to study concept and Data collection Has given Final Approval of the version to be published

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