

Original Article

Assess Nurses' Knowledge and Practices Towards Palliative Care

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Received: 08 September 2025, Accepted: 09 February 2026, Published: 12 February 2026.

Abstract

Background: Palliative care provides a holistic approach to managing serious illness by addressing the physical, psychological, social, and spiritual needs of patients and their families to improve their quality of life and relieve suffering. Nurses play a vital role in this process by delivering direct patient care, managing symptoms, and serving as an important resource for families. This study examined the palliative care knowledge and practices of Jeddah's King Fahad Armed Forces Hospital (KFAFH) inpatient nurses.

Methods: A descriptive cross-sectional design was adopted, and the study was conducted between April and May 2024. Convenience sampling was used to recruit 236 inpatient nurses from various hospital departments. Data were obtained using a standardized, self-administered questionnaire that included sociodemographic items, the Palliative Care Quiz for Nursing (PCQN), and an 11-item practice assessment. Knowledge ratings were good, moderate, and poor, while practice scores were favorable or unfavorable. Population, knowledge, and practice were summarized by descriptive statistics. The chi-square test was used to determine the association between categorical variables.

Results: Most participants were female (n=229, 97.0%) and under 35 years old, with less than five years of clinical experience. The understanding ratings indicated a low level of palliative care knowledge, particularly regarding pain management, opioid use, and psychosocial factors. Most nurses reported early palliative conversations, family engagement in decision-making, and holistic cultural and spiritual care. Demographic factors did not significantly affect knowledge or practice scores.

Conclusion: Findings indicate a marked gap between nurses' knowledge and their reported practices in palliative care. Comprehensive in-service training, focused educational interventions, and the integration of palliative care into nursing curricula are essential to hospital-based care and ensure the delivery of evidence-based practice.

Keywords: *Palliative care, Knowledge, Practice, Nurses, Jeddah, Saudi Arabia*

Introduction

Palliative care is a medical approach focused on improving the quality of life for patients and their families dealing with life-threatening illnesses, including the terminally ill, by alleviating and preventing suffering from physical, psychological, and spiritual problems through timely assessment and treatment (1). According to the World Health Organization, palliative care enhances the assessment and management of pain and other symptoms (2). The philosophy of palliative care prioritizes respect, dignity, and compassion for the patient with terminal illness (3). Recently, palliative care has evolved from a specialist discipline to a global aspect of medical treatment. The evolution shows an increasing awareness of the limitations of curative medical paradigms, which often ignore the complex challenges faced by patients with serious illnesses. Modern models of healthcare recommend integrating it early with active treatment (4). Despite these advantages, the availability of high-quality palliative care is variable worldwide, especially in communities with restricted specialist skills and resources. Comprehensive palliative care increases patient satisfaction, discharge rates, and family support (5).

Nurses specializing in palliative care generally serve as the primary contact for patients with terminal illnesses and their families seeking medical attention; this is because of the requirement for advocacy, communication, emotional support, and the management of symptoms (6). Numerous researchers demonstrate that training in palliative care significantly enhances nurses' confidence, competence, and holistic care. Insufficient education and training have been associated with communication defects, pain management issues, and reduced patient quality of life (7). Measuring the knowledge and behaviors of nurses in this setting enables recognizing limitations, directing training, and improving the outcomes for patients (8).

In Saudi Arabia, there is an increasing need for high-quality palliative care due to demographic changes; however, the current situation reveals large gaps in

access and the distribution of services. Although the Ministry of Health has included palliative services within its national healthcare model, statistical data show a high degree of centralization: about 80% of palliative care physicians and services are found in the Central (Riyadh) and Western regions, with other areas being underserved (9). More specifically, Riyadh contains the largest proportion of specialized centers (approximately 36-46%) while the Jeddah region—an important healthcare center in the West—has about 20% of this specialized workforce available (9, 10). Even though Jeddah has infrastructure such as King Fahad Armed Forces Hospital (KFAFH) with advanced facilities, it still faces challenges regarding workforce capacity since studies have indicated that nurses do not have sufficient training to provide evidence-based end-of-life care (11). In addition, community care and patient outcomes are greatly affected by cultural factors; Saudi norms emphasize family involvement in decision-making, yet nurses often feel unprepared to manage these complex religious and moral obligations (12, 13). Therefore, although Jeddah's infrastructure is growing, there exists a significant gap in empirical data on the specific knowledge and practices of inpatient nurses from this region that would enable policymakers to apply targeted educational interventions (14).

This study investigated the palliative care knowledge and practices of inpatient nurses at KFAFH in Jeddah. Furthermore, it examines nurses' palliative care knowledge, practice, and the impact of demographic factors on competence. Strengths and limitations were identified to drive focused measures to enhance training, professional development, and palliative care services in the KFAFH.

Materials and Methods

Study Design and Setting

This is a quantitative, descriptive, and cross-sectional study that assessed nurses' palliative care knowledge and practices. The study took place at KFAFH in Jeddah, Saudi Arabia, which provides inpatient palliative care in internal medicine,

pediatrics, obstetrics and gynecology, neonatal intensive care, and cardiology as a tertiary referral center for military and civilian patients.

Study Subjects

The study population comprised registered inpatient nurses at KFAFH who were directly engaged in the care of hospitalized patients, including those necessitating palliative measures. These nurses represented several clinical departments where palliative needs are commonly encountered.

Inclusion and Exclusion Criteria

All eligible inpatient nurses at KFAFH ($n = 250$) were invited to participate. Although convenience sampling was applied, the high response rate ensured a broad representation of the target population. The inclusion criteria require nurses who are qualified, registered, and working full-time in palliative care for 6 months or longer to be the direct caregivers for palliative patients. To achieve this, they have to be able to speak and write in English. Exclusion criteria are staff nurses on leave, nurses who do not provide treatment for patients in palliative settings, and staff nurses with less than six months of experience. We eliminated nurses on extended leave and those without direct patient care to guarantee adequate clinical exposure to palliative care.

Sample Size Calculation

The total number of eligible inpatient nurses at the department was 250. The Slovin formula, $n = N/1 + N(e)^2$, was utilized to determine the required sample size. With n indicating the size of the sample, N indicating the size of the population, and $(e)^2$ indicating the acceptable standard deviation (0.05). This study required a minimum sample size of 154 individuals to be considered appropriate for the research. 236 nurses participated, exceeding the calculated requirement, to increase statistical power and account for non-responses.

Data Collection

Structured, self-administered questions were disseminated over secure Google Forms links from April to May 2024. The questionnaire comprised

three parts; the first section included gender, age, clinical department, and years of professional experience. The second section was the validated 20-item Palliative Care Quiz for Nursing (PCQN), which assessed knowledge of philosophy and principles of palliative care (4 items), psychosocial aspects of care (3 items), and management and control of pain and other symptoms (13 items). The answers for each question contained the options of “correct = 1,” “incorrect = 2,” and “unsure = 3.” Incorrect and unsure answers were coded with 0, and correct answers were coded with 1. The results of the scale were calculated against the correct answers, and a total mark (between 0 and 20) was given for each participant. A higher grade indicates a higher knowledge of PC. The total score of the statement was divided into three categories: low (0-7), moderate (8-14), and high (15-20) (15). The third section comprised an 11-item palliative practice scale that evaluated the initiation of palliative care discussions, communication, and cultural considerations. Each item was multiple-choice, and responses reflecting good practice were coded as ‘1,’ while those indicating poor practice were coded as ‘0.’ For minimal missing data, all items were mandatory, and survey restrictions prevented duplicate submissions.

Statistical Analysis

All data analyses were performed using the Statistical Product and Service Solutions (SPSS) version 26 (Armonk, New York, IBM Corporation, USA). Frequency and percentages were reported to summarize categorical demographic variables (gender, age, year of experience, and the department of work), palliative care knowledge, and practice of nurses towards PC-related questions. To evaluate the relationship between nurses’ knowledge of palliative care (low, moderate, or high) and their demographic variables (age, gender, years of experience, and work department), a chi-square test was applied, with results presented as frequencies, percentages, and p-values. Additionally, the chi-square test was used to assess the association between nurses’ knowledge levels and their practices toward palliative care. A p-value < 0.05 was considered statistically significant.

Ethical Considerations

The King Fahad Armed Forces Hospital Jeddah Institutional Review Board approved the study with number of REC 663 and date of 10/March/2024. The participation was entirely voluntary, and before the completion of the survey, informed consent was obtained via electronic means. Data was password-protected and accessible exclusively to researchers. Participants were informed of their right to withdraw at any stage before submission, and no identifying information was disclosed in the study findings.

Results

Out of the total sample of 236, the majority of participants were female (n=229; 97.0%), with only a small proportion (n=7; 2.97%) male. In terms of age distribution, the largest group was older than 35 years (n=106; 44.92%), followed by those aged 31–35 years (n=66; 27.97.0%). Almost all participants were from the nursing specialty (n=232; 98.31%), with only 4 (1.69%) from non-nursing fields. Regarding departmental distribution, the highest representation was from the pediatric unit (n=66;27.97%), followed by the medical ward (n=53; 22.46%) and NICU (n=38; 16.1%). With respect to years of experience, most participants had less than 5 years of work experience (n=199; 84.3%), (n=30; 12.71%) had between 5 and 10 years of work experience, while only 7 (3.0%) had more than 15 years (**Table 1**).

The highest proportion of correct responses was observed for the statement that manifestations of chronic pain differ from those of acute pain (83.47%), followed closely by the need for a bowel regimen when taking opioids (82.20%), and that codeine in high doses causes more nausea and vomiting than morphine (77.12%). Similarly, a large majority (73.31%) correctly recognized the importance of adjuvant therapies in pain management. On the other hand, the lowest correct

responses were recorded for statements related to misconceptions about morphine addiction in long-term use (8.47%), the role of disease extent in determining pain treatment (11.86%). Overall, while participants demonstrated strong knowledge in pain management principles and opioid use, significant knowledge gaps persist in understanding certain philosophical and psychosocial aspects of palliative care (**Table 2**).

Table 1: Demographic characteristics of the participants

| Variable | Frequency (%) |
|----------------------------|---------------|
| Gender | |
| Male | 7 (2.97) |
| Female | 229 (97.03) |
| Age (yrs) | |
| less than 25 | 15 (6.36) |
| 26 – 30 | 49 (20.76) |
| 31 – 35 | 66 (27.97) |
| More than 35 | 106 (44.92) |
| Specialty | |
| Nursing | 232 (98.31) |
| Non nursing | 4 (1.69) |
| Department/Unit | |
| Cardiology | 2 (0.85) |
| Labor & delivery (L&D) | 16 (6.78) |
| Medical | 53 (22.46) |
| Midwife | 2 (0.85) |
| NICU | 38 (16.10) |
| Nursery | 1 (0.42) |
| OB GYNE | 19 (8.05) |
| Obstetrics and Gynecology | 29 (12.29) |
| Pediatric | 66 (27.97) |
| VIP | 1 (0.42) |
| WBN | 9 (3.81) |
| Years of Experience | |
| Less than 5 | 199 (84.32) |
| 5 – 15 | 30 (12.71) |
| More than 15 | 7 (2.97) |

Table 2: Frequency distribution of the knowledge on palliative care

| Knowledge's Statements | Correct answer Frequency (%) | Incorrect answer Frequency (%) |
|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------|
| 1. Palliative care is appropriate only in situations where there is evidence of deterioration. | 90 (38.14) | 146 (61.86) |
| 2. Morphine is the standard used to compare the analgesic effect of other opioids. | 160 (67.80) | 76 (32.20) |
| 3. The extent of the disease determines the method of pain treatment. | 28 (11.86) | 208 (88.14) |
| 4. Adjuvant therapies are important in managing pain. | 173 (73.31) | 63 (26.69) |
| 5. It is essential for family members to remain at the bedside until death occurs. | 36 (15.25) | 200 (84.75) |
| 6. During the last days of life, the drowsiness associated with electrolyte imbalance may decrease the need for sedation. | 121 (51.27) | 115 (48.73) |
| 7. Drug addiction is a major problem when morphine is used on a long-term basis for the management of pain. | 20 (8.47) | 216 (91.53) |
| 8. Individuals who are taking opioids should also follow a bowel regime. | 194 (82.20) | 42 (17.80) |
| 9. The provision of palliative care requires emotional detachment. | 76 (32.20) | 160 (67.80) |
| 10. During the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of severe dyspnea. | 109 (46.19) | 127 (53.81) |
| 11. Men generally reconcile their grief more quickly than women. | 74 (31.36) | 162 (68.64) |
| 12. The philosophy of palliative care is compatible with that of aggressive treatment. | 92 (38.98) | 144 (61.02) |
| 13. The use of placebos is appropriate in the treatment of some types of pain. | 51 (21.61) | 185 (78.39) |
| 14. In high doses, codeine causes more nausea and vomiting than morphine. | 182 (77.12) | 54 (22.88) |
| 15. Suffering and physical pain are synonymous. | 67 (28.39) | 169 (71.61) |
| 16. Demerol is not an effective analgesic in the control of chronic pain | 105 (44.49) | 131 (55.51) |
| 17. The accumulation of losses renders burnout unavoidable for those who seek work in palliative care. | 41 (17.37) | 195 (82.63) |
| 18. Manifestations of chronic pain are different from those of acute pain. | 197 (83.47) | 39 (16.53) |
| 19. The loss of a distant or quarrelsome relationship is easier to resolve than the loss of one that is close or intimate. | 153 (64.83) | 83 (35.17) |
| 20. The pain threshold is lowered by anxiety or fatigue. | 123 (52.12) | 113 (47.88) |

The results show generally positive palliative care practices among participants. A majority reported initiating palliative care discussions (78.81%) and informing terminally ill patients about their diagnosis (69.92%). Nearly all respondents emphasized a holistic approach, with 94.92% considering medical, spiritual, and cultural factors together when dealing with terminally ill patients. Similarly, most participants addressed spiritual issues (97.88%), psychological concerns (98.13%), and involved family members in decision-making (98.73%). Communication practices were also

strong, with 92.37% acknowledging patients' concerns and 97.92% tailoring communication with families appropriately. In terms of pain management, 82.63% reported using appropriate medications for severe pain, and (94.1%) assessed pain using all parameters (intensity, location, quality, and facial grading). Overall, these findings indicate that a substantial proportion demonstrated good practice in holistic, patient- and family-centered palliative care; improvement is required in consistently initiating discussions and informing patients about their diagnosis (**Table 3**).

Table 3: Frequency distribution of the palliative care practice

| Palliative Care Practice's Statements | Good practice | |
|------------------------------------------------------------------------|---------------|-------------|
| | Yes n (%) | No n (%) |
| 1. Initiate palliative care discussion | 186 (78.81) | 50 (21.19) |
| 2. Do you inform terminally ill patients about their diagnosis? | 165 (69.92) | 71 (30.08) |
| 3. Factors considered when dealing with a terminally ill patient | | |
| Spiritual | 6 (2.54) | 230 (97.46) |
| Medical situation | 5 (2.12) | 231 (97.88) |
| Cultural | 1 (0.42) | 235 (99.58) |
| All of the above | 224 (94.92) | 12 (5.08) |
| 4. How do you address the patient's spiritual issues? | 231(97.88) | 5 (2.12) |
| 5. What should Cultural assessment during patient care include? | 214(90.68) | 22 (9.32) |
| 6. How do you address the patient's psychological issue | 210 (98.13) | 4 (1.87) |
| 7. Whom do you involve in decision-making? | 233 (98.73) | 3 (1.27) |
| 8. How do you perceive terminally ill patient concern or question? | 218 (92.37) | 18 (7.63) |
| 9. Communication to the family of a terminally ill patient depends on: | 231 (97.88) | 5 (2.12) |
| 10. Commonly use medication in your practice for severe pain? | 195 (82.63) | 41(17.37) |
| 11. How do you assess patient pain? | | |
| Grade with face | 8 (3.39) | 228 (96.61) |
| Intensity | 1 (0.42) | 235 (99.58) |
| Location | 4 (1.69) | 232 (98.31) |
| Quality | 1 (0.42) | 235 (99.58) |
| All of the above | 222 (94.1) | 14 (5.9) |

The analysis revealed that among the demographic variables, only age was significantly associated with knowledge levels of palliative care ($p = 0.012$). Specifically, nurses aged less than 25 years showed a higher proportion of low knowledge (16.1%), whereas those older than 35 years were more likely to demonstrate moderate to high knowledge, with

the only participant in the high knowledge category belonging to this group. In contrast, no statistically significant associations were found between knowledge levels and other demographic factors such as gender ($p = 0.688$), specialty ($p = 0.297$), department/unit of work ($p = 0.364$), or years of experience ($p = 0.203$) (**Table 4**).

Table 4: The relationship between nurses' knowledge of Palliative Care and their demographic data

| Demographic variables | Knowledge levels | | | p-value |
|----------------------------|------------------|----------------|------------|---------|
| | Low n (%) | Moderate n (%) | High n (%) | |
| Gender | | | | |
| Male | 1 (1.61) | 6 (3.47) | 0 (0.00) | 0.688 |
| Female | 61 (98.39) | 167 (96.53) | 1 (100) | |
| Age (yrs) | | | | |
| less than 25 | 10 (16.13) | 5 (2.89) | 0 (0.0) | 0.012* |
| 26 – 30 | 10 (16.13) | 39 (22.54) | 0(0.0) | |
| 31 – 35 | 17 (27.42) | 49 (28.32) | 0 (0.0) | |
| More than 35 | 25 (40.32) | 80 (46.24) | 1 (100) | |
| Specialty | | | | |
| Nursing | 60 (96.77) | 171 (98.84) | 1 (100.00) | 0.297 |
| Non-nursing | 2 (3.23) | 2 (1.16) | 0 (0.00) | |
| Department | | | | |
| Cardiology | 0 (0.00) | 2 (1.16) | 0 (0.00) | 0.364 |
| Labor & delivery (L&D) | 2 (3.23) | 14 (8.09) | 0 (0.00) | |
| Medical | 12 (19.35) | 41 (23.70) | 0 (0.00) | |
| Midwife | 0 (0.00) | 2 (1.16) | 0 (0.00) | |
| NICU | 12 (19.35) | 26 (15.03) | 0 (0.00) | |
| Nursery | 1 (1.61) | 0 (0.00) | 0 (0.00) | |
| OB GYNE | 5 (8.06) | 14 (8.09) | 0 (0.00) | |
| Obstetrics | 6 (9.68) | 22 (12.72) | 1 (100.00) | |
| Pediatric | 19 (30.65) | 47 (27.17) | 0 (0.00) | |
| VIP | 0 (0.00) | 1 (0.58) | 0 (0.00) | |
| WBN | 5 (8.06) | 4 (2.31) | 0 (0.00) | |
| Years of experience | | | | |
| Less than 5 | 51 (82.26) | 148 (85.55) | 0 (0.00) | 0.203 |
| 5 – 15 | 9 (14.52) | 20 (11.56) | 1 (100.00) | |
| More than 15 | 2 (3.23) | 5 (2.89) | 0 (0.00) | |

*Significant p-value

The analysis showed no statistically significant association between nurses' knowledge levels and their palliative care practices across all assessed domains (all $p > 0.05$). Regardless of whether nurses had low, moderate, or high knowledge, the majority consistently demonstrated good practice in holistic,

patient- and family-centered palliative care, including initiating discussions, addressing psychological and spiritual concerns, involving families in decision-making, and assessing pain comprehensively (**Table 5**).

Table 5: The relationship between nurses' knowledge and practice towards palliative care

| Palliative care practice | Knowledge levels | | | p-value |
|-------------------------------------------------------------------------------|------------------|-------------------|---------------|---------|
| | Low n (%) | Moderate n (%) | High n (%) | |
| 1. Initiate palliative care discussion | | | | |
| Good practice | 46 (74.19) | 139 (80.35) | 1 (100.00) | 0.500 |
| Not good practice | 16 (25.81) | 34 (19.65) | 0 (0.00) | |
| 2. Do you inform terminally ill patients about their diagnosis? | | | | |
| Good practice | 45 (72.58) | 120 (69.36) | 0 (0.00) | 0.363 |
| Not good practice | 17 (27.42) | 53 (30.64) | 1 (100.00) | |
| 3. Factors considered when dealing with a terminally ill patient | | | | |
| Spiritual | | | | |
| Good practice | 2 (3.23) | 4 (2.31) | 0 (0.00) | 0.664 |
| Not good practice | 60 (96.77) | 169 (97.69) | 1 (100.00) | |
| Medical situation | | | | |
| Good practice | 1 (1.61) | 4 (2.31) | 0 (0.00) | 1.000 |
| Not good practice | 61 (98.39) | 169 (97.69) | 1 (100.00) | |
| Cultural | | | | |
| Good practice | 1 (1.61) | 0 (0.00) | 0 (0.00) | 0.267 |
| Not good practice | 61 (98.39) | 173 (100.00) | 1 (100.00) | |
| All of the above | | | | |
| Good practice | 58 (93.55) | 165 (95.38) | 1 (100.00) | 0.546 |
| Not good practice | 4 (6.45) | 8 (4.62) | 0 (0.00) | |
| 4. How do you address the patient's spiritual issues? | | | | |
| Good practice | 60 (96.77) | 170 (98.27) | 1 (100.00) | 0.618 |
| Not good practice | 2 (3.23) | 3 (1.73) | 0 (0.00) | |
| 5. What should Cultural assessment during patient care include? | | | | |
| Good practice | 57 (91.94) | 157 (90.75) | 0 (0.00) | 0.111 |
| Not good practice | 5 (8.06) | 16 (9.25) | 1 (100) | |
| 6. How do you address the patient's psychological issue | | | | |
| Good practice | 51 (98.08) | 158 (98.14) | 1 (100.00) | 1.000 |
| Not good practice | 1 (1.92) | 3 (1.86) | 0 (0.00) | |
| 7. Whom do you involve in decision-making? | | | | |
| Good practice | 62 (100.00) | 170 (98.27) | 1 (100.00) | 0.574 |
| Not good practice | 0 (0.00) | 3 (1.73) | 0 (0.00) | |
| 8. How do you perceive terminally ill patient concern or question? | | | | |
| Good practice | 55 (88.71) | 162 (93.64) | 1 (100.00) | 0.320 |
| Not good practice | 7 (11.29) | 11 (6.36) | 0 (0.00) | |
| 9. Communication to the family of a terminally ill patient depends on: | | | | |
| Good practice | 60 (96.77) | 170 (98.27) | 1 (100.00) | 0.618 |
| Not good practice | 2 (3.23) | 3 (1.73) | 0 (0.00) | |
| 10. Commonly use medication in your practice for severe pain? | | | | |
| Good practice | 49 (79.03) | 145 (83.82) | 1 (100.00) | 0.534 |
| Not good practice | 13 (20.97) | 28 (16.18) | 0 (0.00) | |
| 11. How do you assess patient pain? | | | | |
| Grade with face | | | | |
| Good practice | 61 (98.39) | 166 (95.95) | 1 (100) | 0.695 |
| Not good practice | 1 (1.61) | 7 (4.05) | 0 (0.00) | |
| Intensity | | | | |
| Good practice | 62 (100.00) | 172 (99.42) | 1 (100.00) | 1.000 |
| Not good practice | 0 (0.00) | 1 (0.58) | 0 (0.00) | |
| Location | | | | |
| Good practice | 2 (3.23) | 2 (1.16) | 0 (0.00) | 0.297 |
| Not good practice | 60 (96.77) | 171 (98.84) | 1 (100.00) | |
| Quality | | | | |
| Good practice | 0 (0.00) | 1 (0.58) | 0 (0.00) | 1.000 |
| Not good practice | 62 (100.00) | 172 (99.42) | 1 (100.00) | |

Discussion

This study examined palliative care knowledge and practices for KFAFH inpatient nurses in Jeddah. Although nurses performed effectively in some pain management cases, they had insufficient knowledge about psychosocial care, ethical principles, and opioid consumption. The practices of palliative care were consistently favorable, with early care discussions, substantial family involvement, and holistic psychological and spiritual care. Only age was associated with knowledge, but years of experience and department were not associated, and no association was identified between knowledge scores and stated practices.

This study's knowledge level complements Middle Eastern and Asian research, where nurses have basic symptom control understanding; however, they struggle with psychological and ethical concepts. SE Khatib et al. (2022) conducted a cross-sectional exploratory pilot study in Lebanon using the palliative care knowledge test (PCKT), in which nurses showed insufficient knowledge, notably in psychosocial dimensions (16). And Iranmanesh et al. (2014) conducted a study on 155 oncology and ICU nurses in three hospitals supervised by Kerman University of Medical Sciences in Iran during April–June 2013 and found that Iranian nurses lacked symptom control and palliative care ethics knowledge (17). Furthermore, nurses in Jordan were found to have insufficient knowledge and misconceptions about palliative care in a cross-sectional survey conducted on 190 Jordanian registered nurses working in 5 Jordanian government hospitals by Al Qadire et al. (2014) (18). This study demonstrates a relative strength in pain management concepts that was comparable to studies in Turkey, such as the descriptive cross-sectional study conducted by Yava et al. (2013) to assess Turkish nurses' knowledge and attitudes about pain, which found that nurses have acceptable performance on various routine pain tasks, although they struggle with major misconceptions in complex decisions such as addiction, dosing, and placebo use (19). This pattern reflects systemic difficulties, including educational program shortcomings and insufficient clinical palliative care exposure

throughout training. Additionally, Saudi Arabia's undergraduate nursing programs lack sufficient content on palliative care, and there is notably limited comprehensive postgraduate training available. This evidence supports global data, such as the data obtained from the research conducted by SZ Pantilat et al. (2017), that countries with well-established palliative care curricula, such as the United States, had higher PCQN scores (20).

Senior nurses had higher knowledge scores, which suggests that clinical maturity and prolonged exposure improve their understanding. As in the descriptive cross-sectional study that was conducted in Saudi Arabia on 92 undergraduate nursing interns who have completed the five-year nursing education by Aboshaiqah et al. (2018), who found that experiential learning improves competency (21). In contrast, years of experience did not substantially connect with knowledge in our study; however, most participants had less than five years of clinical experience, which may explain sample homogeneity.

One significant consideration was the finding that there was no association between knowledge and practice. Although nurses suffered from a lack of theoretical comprehension, nursing practices were consistently effective and holistic. According to a descriptive cross-sectional survey carried out in Jordan on 200 nurses who were conveniently selected from three hospitals by S. Omran et al. (2014), higher knowledge scores were predictive of improved palliative care delivery (22). Additionally, this study finding aligns with another study conducted in Saudi Arabia by ZA Mani et al. (2024), in which practices were mostly influenced by institutional requirements and cultural norms (23). However, these findings contrast with the results of our study. Through the implementation of a framework encompassing institutional protocols and the involvement of interdisciplinary teams, nurses can deliver sufficient care despite a lack of extensive theoretical knowledge. This is because the framework comprises the necessary components (24). Middle Eastern healthcare emphasizes family-centered and holistic treatment, which encourages patients to participate in family-beneficial activities

regardless of their understanding (25). Furthermore, cultural influences significantly influence Middle Eastern healthcare, which prioritizes family-centered and holistic treatment, hence endorsing beneficial practices regardless of knowledge levels (26).

Numerous misunderstandings concerning opioid use, pain assessment, and ethics were widespread. Only 8.47% of nurses correctly answered the morphine use question, showing persisting opioid stigma across the Middle East, according to the data collected by searching PubMed, Medline, and EMBASE by Z Alam-mehrjerdi et al. (2016) (27). Additionally, societal discomfort with talking about death affects attitudes, and Iranian nurses overestimated the importance of family members during patient deaths, according to the descriptive study conducted by M Zali et al. (2017) (28). These deficiencies necessitate misunderstanding and ethical communication education.

Nurses showed robust clinical practices, including early palliative care conversations, family involvement in decision-making, and attention to psychological and spiritual needs, despite insufficient information. According to regional research in Jordan, such practices reflect cultural and religious beliefs that value community care and family involvement SH Malkawi et al., 2020) (29). Holistic care indicates that nurses may integrate empathy, communication, and cultural norms even without professional training. This encourages future, more advanced training programs.

These findings highlight the necessity for systematic educational change. Thus, incorporating structured palliative care modules into the undergraduate nursing curriculum and implementing simulation-based training could address knowledge deficiencies. X Chen et al. (2022) and MJ Tatterton et al. (2025) show that effective and concentrated training boosts PCQN scores and clinical performance (30, 31). In addition, Aboshaiqah et al. (2020) recommended mandatory continuing nursing education, with a focus on pain management and end-of-life communication. Their recommendation was based

on a descriptive cross-sectional study of 409 nursing students from one public and one private academic institution in Saudi Arabia, conducted between November and December 2017. (32)

Policymakers should establish institutional rules for care delivery to ensure consistency across knowledge levels.

Strengths and Limitations

The substantial sample size (n=236) of this study is considered a significant aspect, representing inpatient nurses from several hospital departments. The validated PCQN scale improves reliability, and the study's knowledge and practice assessment provides a thorough overview of palliative care competence. Several limitations are present, including the cross-sectional methodology and single-tertiary hospital emphasis, which limit causal inference and generalizability. Practice data were self-reported, which may introduce social desirability bias. Furthermore, demographic homogeneity, characterized by a majority of young, female nurses with low experience, restricted the investigation of demographic associations. Further research should include varied samples and multiple healthcare institutes.

Future Directions

Future research should use longitudinal designs to track knowledge and practice improvements and evaluate targeted educational interventions. Randomized controlled trials or quasi-experimental research testing training modules, workshops, or e-learning platforms are necessary to identify knowledge gap strategies. Additionally, qualitative research is needed to examine cultural implications on nurse-patient communication, particularly regarding terminal illness and mortality. This research could inform culturally sensitive communication approaches to support evidence-based clinical care.

Conclusion

This discussion integrates evidence from regional and international studies to interpret findings in context. It highlights that while cultural and institutional elements support beneficial nursing

practices, sustained palliative care delivery requires systematic education, uniform policies, and more research. Undergraduate nursing education may include palliative care modules and simulations to address these gaps. Institutes must support improvements with palliative care policies and resources. Enhanced practices will ensure comprehensive and evidence-based treatment for patients and their families.

Declarations

Availability of data and material

The data generated and analyzed will be available upon reasonable request from the corresponding author.

Funding sources

None.

Declaration of competing interest

None.

Acknowledgments

We would like to acknowledge our hospital and study participants.

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