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Evaluation of Knowledge and Attitudes Toward Palliative Care Among Critical Care Nurses in Tertiary Hospitals of Punjab, Pakistan

Saima Mulazim[1], Raffia[2], Muhammad Bilal[3], Suleman[4], Nasir Khan[3], Muhammad Danish[1], Farrukh Jamal[5]

1 Department of Nursing, Shahida Islam Medical Complex, Lodhran, Pakistan
2 The Children's Hospital and University of Child Health Sciences, Lahore, Pakistan
3 Department of Nursing, Fatima Memorial Hospital, Lahore, Pakistan
4 Faculty of Allied Health Sciences, Superior University Raiwind Campus, Lahore, Pakistan
5 Department of Statistics, Faculty of Science, University of Tabuk, Tabuk, Saudi Arabia

Correspondence
✉ Saima Mulazim,
saimamulazim191@gmail.com
✉ Muhammad Danish
hmdanishaltaf2000@gmail.com

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ABSTRACT

Background: *Palliative care (PC) is essential in intensive care, yet nurses' readiness for symptom control, communication, and family engagement varies widely in low- and middle-income settings. Empirical data from Punjab's tertiary ICUs/HDU remain limited.* ***Objective****: To quantify critical care nurses' knowledge and attitudes toward PC in tertiary hospitals of Punjab, Pakistan, and identify priority domains for education.* ***Methods****: A cross-sectional study was conducted from 1 November 2024 to 21 April 2025 among ICU/HDU nurses in public and private tertiary hospitals. Using a structured, expert-reviewed questionnaire, demographics, knowledge, and attitudes were collected on 5-point Likert scales. Knowledge items were polarity-coded and reverse-scored where appropriate; total knowledge and attitude scores were expressed as percentages of scale maxima and categorized a priori (Excellent >80%, Good 65-80%, Average 50-64%, Poor <50%).* ***Results****: Of 151 nurses (97.4% female; 43.7% >30 years; 43.7% >5 years' experience), mean knowledge was 68.8% ("Good") and mean attitude 60.58% ("Average"). High item accuracy was observed for "patient is best judge of pain" (76%) and "chronic vs acute pain differ" (79%). Misconceptions persisted for placebo appropriateness (20% correct) and emotional detachment (33% correct). Attitudes favored family involvement (educating families 77%; extending care to families 78%; family participation in care 73%) but showed discomfort with end-of-life care (change topic when asked about dying 59%; not wanting to care for dying 42%; not wanting to attend a dying patient 40%).* ***Conclusion****: ICU/HDU nurses exhibited solid pain-assessment knowledge but gaps in psychosocial/ethical domains and communication openness. Targeted, simulation-supported education and embedded ICU triggers for early PC consultation are warranted.*

Keywords
Palliative care; Intensive care; Surses; Attitudes; Knowledge; Punjab; Pakistan

INTRODUCTION

Palliative care is integral to high-acuity critical care because it mitigates symptom burden, supports shared decision-making, and preserves dignity for patients with life-limiting illness managed in intensive care units (ICUs) (1). Yet, in many settings, nurses' preparedness for timely palliative integration remains uneven, reflecting gaps in knowledge, confidence, and communication around goals of care (2). Cross-sectional data from ICU contexts have repeatedly demonstrated only moderate proficiency in core domains such as pain assessment, non-pain symptom control, and end-of-life communication, underscoring the need to understand setting-specific determinants of competency (1,2). Beyond single centers, multi-context evidence reports that nurses' attitudes toward caring for dying patients are shaped by training exposure, workload, and institutional culture, with knowledge deficits often coexisting with ambivalence or discomfort in end-of-life encounters (3,4). Attitudinal components including perceptions of family involvement, truth-telling, and emotional coping; are closely intertwined with prior experience and caregiving norms, suggesting that educational and organizational levers are both relevant for improvement (5,6).

In Pakistan, early-stage palliative infrastructure and curricular variability contribute to inconsistent readiness among future and current health professionals (7). Measurement challenges also impede benchmarking and quality improvement; for instance, the development of Urdu-language instruments for palliative outcomes highlights linguistic and cultural barriers to assessment and training (8). Global oncology guidance contextualized for resource-constrained health systems calls for pragmatic integration of palliative care across trajectories, not only in cancer but also in non-malignant critical illness frequently managed in ICUs (9,10). Regionally comparable international findings show similar patterns: nurses in Mongolia, for example, exhibited moderate knowledge and self-efficacy with clear educational needs, reinforcing the generalizability of these gaps across diverse systems (11). Within Pakistan, surveys of caregivers in Karachi and medical students nationally reveal limited practical understanding and confidence regarding palliative principles, implying that deficits may persist from pre-service education into clinical roles (12,13). Provincial data from tertiary hospitals in Peshawar further indicate average knowledge among nurses, while programmatic analyses from Pakistani teaching hospitals demonstrate that structured services can improve processes and highlight the importance of standard operating procedures, referral pathways, and multidisciplinary participation (14,15). Additional Pakistani studies document variability in nurses' knowledge and attitudes and call for continuous professional development aligned to clinical realities (16). Recent national efforts to develop primary-care-oriented clinical practice guidelines and referral pathways provide a policy scaffold; however, their translation into ICU bedside practice and into nurses' day-to-day competencies remains incompletely characterized (17,18). Finally, single-center evidence from Lahore private-sector hospitals and studies of family satisfaction in Pakistani ICUs underline persistent communication and support gaps that are directly pertinent to nurses' roles (19,20).

Against this backdrop, Punjab's tertiary hospitals represent a critical but understudied context. Tertiary ICUs in this region manage substantial volumes of high-acuity cases, yet empirical data describing ICU nurses' palliative care knowledge and attitudes are lacking, limiting the ability of administrators and educators to target interventions. Using a cross-sectional design, this study evaluates the level of knowledge and the profile of attitudes toward palliative care among critical care nurses working in tertiary hospitals of Punjab and benchmarks these estimates against international and national literature to identify priority domains for education and institutional support. The primary objective is to quantify nurses' palliative care knowledge and attitudes; a secondary objective is to contextualize observed domains of strength and deficit relative to published evidence to inform curriculum design and service development

MATERIALS AND METHODS

This cross-sectional observational study evaluated palliative care knowledge and attitudes among critical care nurses working in tertiary-care intensive care units (ICUs) and high-dependency units (HDUs) across Punjab, Pakistan, between 1 November 2024 and 21 April 2025. The rationale for a cross-sectional design was to obtain a contemporaneous snapshot of competency and attitudinal profiles to inform workforce development and service planning in high-acuity settings.

Eligible participants were registered staff nurses assigned to adult ICUs/HDU wards in public or private tertiary hospitals during the study period, providing direct bedside care (≥24 hours/week) for at least the preceding three months. Exclusion criteria were administrative-only roles, exclusively pediatric postings, current leave of absence, or tenure <3 months in ICU/HDU. A non-probability convenience approach was used at the unit level; within participating units all eligible nurses on duty rotations were invited until target numbers were achieved. Written informed consent was obtained prior to survey administration in a private location during or immediately after shifts, with anonymity preserved by using sealed envelopes and de-identified codes.

Data were collected via a structured self-administered questionnaire comprising three sections: demographics (age, sex, sector, years of ICU/HDU experience), a knowledge scale, and an attitudes scale. Knowledge items were adapted from established content domains used internationally in critical-care palliative education (pain assessment and management, non-pain symptom control, timing and philosophy of palliative care, communication, and psychosocial/spiritual support). Items included both positively and negatively keyed statements to reduce acquiescence bias. Attitude items reflected caregivers' comfort with end-of-life care, engagement with patients' emotions, communication transparency, and involvement of family members.

All items used a five-point Likert response format (1=Strongly Disagree to 5=Strongly Agree). For scoring, knowledge statements were pre-classified by polarity; items whose correct stance is "disagree" (e.g., placebo appropriateness, emotional detachment, equating suffering with physical pain only) were reverse-coded prior to analysis. Item-level correctness was defined as endorsement of the correct stance (Agree/Strongly Agree for positively keyed; Disagree/Strongly Disagree for negatively keyed). The total knowledge score was computed as the percentage of correctly endorsed items across the domain set. Attitude scoring used direction-consistent coding such that higher values reflected more constructive/therapeutic attitudes; a total attitude score was expressed as a percentage of the maximum attainable scale sum.

To enhance measurement quality, the instrument underwent expert review by two senior critical-care nurses and one palliative-care educator for content relevance and clarity, followed by a small on-site pilot to verify comprehension and timing. Minor wording refinements were incorporated prior to fielding. During data collection, investigators emphasized that the exercise was non-evaluative and confidential to mitigate social desirability. Surveys with missing responses were checked at hand-in; participants could complete omitted items without any prompting about "right" answers to avoid coaching bias.

The primary outcomes were (i) total knowledge score (%) and (ii) total attitude score (%). A priori interpretive bands were defined for both as: Excellent (>80%), Good (65-80%), Average (50-64%), and Poor (<50%). Secondary outcomes were item-level distributions and domain-specific profiles (e.g., pain assessment vs placebo beliefs). Prespecified covariates included age group, sex, sector (public/private tertiary hospital), and ICU/HDU experience (years). The target sample size was 151 nurses, providing a two-sided 95% confidence interval with a maximum half-width of ~8% around a proportion estimate near 50% (most conservative), ensuring stable estimation of competency prevalence while accommodating non-response. Ultimately, 151 complete responses were analyzed.

Data were double-entered and validated prior to analysis. Continuous variables were summarized as mean±SD or median (IQR) depending on distribution; categorical variables as counts and percentages. Between-group comparisons of knowledge and attitude scores employed t-tests or one-way ANOVA when normality and homoscedasticity assumptions were met and Mann-Whitney U/Kruskal-Wallis otherwise; effect sizes (Cohen's d or η^2) and 95% confidence intervals were reported alongside p-values. Associations between experience (years) and scores were examined using linear regression with robust standard errors, adjusting for age and sector in multivariable models; model diagnostics included residual normality and heteroscedasticity checks.

For item-level correctness proportions, exact (Clopper-Pearson) 95% CIs were calculated. Missing data handling followed a prespecified rule: if ≤10% of items were missing within a scale, prorated totals were computed using the individual's mean for completed items; otherwise, the scale score was set to missing and excluded listwise for that analysis. Internal consistency was evaluated with Cronbach's alpha per scale. Statistical significance was set at $\alpha=0.05$ (two-tailed). Analyses were performed in IBM SPSS Statistics, version 27.0.1.

The study protocol complied with the ethical principles of the Declaration of Helsinki and was approved by an institutional ethics review committee prior to initiation.

Participation was voluntary without incentives; respondents could skip any question or withdraw at any time. No personally identifying information was collected, and de-identified data and analysis syntax were stored on an access-controlled drive with routine backups and audit logs to ensure reproducibility and data integrity.

RESULTS

Among 151 ICU/HDU nurses, the cohort was predominantly female (97.4%) with a mature age profile (43.7% >30 years) and substantial experience (>5 years in 43.7%). The overall knowledge score averaged 68.8%, aligning with the pre-specified "Good" band, whereas the overall attitude score averaged 60.58%, within the "Average" band. Item-level knowledge revealed strong agreement with foundational pain principles; 76% endorsed the patient as the most accurate judge of pain and 79% recognized chronic pain as distinct from acute; yielding the highest corrected item accuracies (76% and 79%, respectively).

Conversely, misconceptions persisted around placebo use (only 20% correctly disagreed that placebos are appropriate), emotional detachment (33% correctly disagreed that palliative care requires detachment), and grief stereotypes (26% correctly disagreed that men reconcile grief faster), indicating targeted educational needs in ethical pain management and psychosocial domains.

Attitudinal profiles showed broad endorsement of family-centered care, with 80% agreeing that care should extend to families and 71% affirming caregivers' responsibility to educate families.

Communication openness was mixed: 59% endorsed changing the topic when directly asked about dying, suggesting discomfort with prognostic disclosure. Avoidance sentiments were non-trivial, with 42% agreeing they would not want to care for dying patients and 45% agreeing they would prefer not to attend a dying patient, pointing to emotional strain and potential training gaps in end-of-life readiness. Categorically, 33.8% exhibited poor overall attitude, 5.5% were uncertain, and 60.9% demonstrated positive orientation, reinforcing the need for structured mentorship and resilience-building alongside technical instruction.

Table 1. Demographic characteristics (N = 151)

Variable	Category	n	%
Age (years)	<20	2	1.3
	21-25	45	29.8
	26-30	38	25.2
	>30	66	43.7
Gender	Female	147	97.4
	Male	4	2.6
Work setting	Hospital (ICU/HDU)	151	100.0
Experience	1 year	15	9.9
	2-3 years	23	15.2
	4-5 years	47	31.2
	>5 years	66	43.7
Study population restricted to tertiary-care ICU/HDU nurses for internal consistency.			

Table 2. Summary of total scale scores

Outcome	Scale range (reported as %)	Mean ± SD	Median (IQR)	Notes
Knowledge	0-100	68.8	;	Overall level categorized as "Good" per a priori 65-80% band
Attitude	0-100	60.58	;	Overall level categorized as "Average" per a priori 50-64% band

Table 3. Knowledge items: response distribution and item-level correctness (N = 151)

#	Item (abridged)	SD %	D %	U %	A %	SA %	Correct stance	Correct %
1	PC only when downhill deterioration	13	21	4	29	33	Disagree	34
2	Preferred IM route for narcotics	11	16	2	42	30	Disagree	27
3	Lack of expression ≠ lack of pain	11	12	8	41	29	Agree	70
4	PC requires emotional detachment	15	18	6	26	35	Disagree	33
5	Men reconcile grief faster	11	15	5	38	31	Disagree	26
6	Patient is best judge of pain	13	8	4	30	46	Agree	76
7	Placebo appropriate for some pain	11	9	7	38	35	Disagree	20
8	Suffering ≡ physical pain	10	14	9	29	38	Disagree	24
9	PC compatible with aggressive Rx	15	16	7	35	27	Agree	62
10	Chronic vs acute pain differ	10	9	3	38	41	Agree	79

Table 4. Attitude items: response distribution (N = 151)

#	Item (abridged)	SD %	D %	U %	A %	SA %
1	Beneficial to verbalize feelings	11	14	5	34	36
2	Dying person should not decide care	13	24	7	22	35
3	Educating families is caregiver's duty	9	10	4	37	40

4	Care should extend to family	9	9	4	40	38
5	I would be upset at patient hopelessness	14	14	6	32	34
6	I would not want to care for the dying	31	25	2	15	27
7	Change topic when asked "am I dying"	11	15	15	30	29
8	Feel like running away when patient dies	26	23	6	17	28
9	Family should aid in physical care	12	14	2	31	42
10	I don't want to attend a dying patient	31	25	4	13	27

Avoidance/withholding-framed items where agreement indicates less constructive attitudes.

Table 5. Attitude level categorization

Category	Definition	n	%
Poor	<50% of scale maximum	51	33.8
Uncertain	Near-neutral pattern reported	8	5.5
Positive	≥50% with pro-palliative orientation	92	60.9

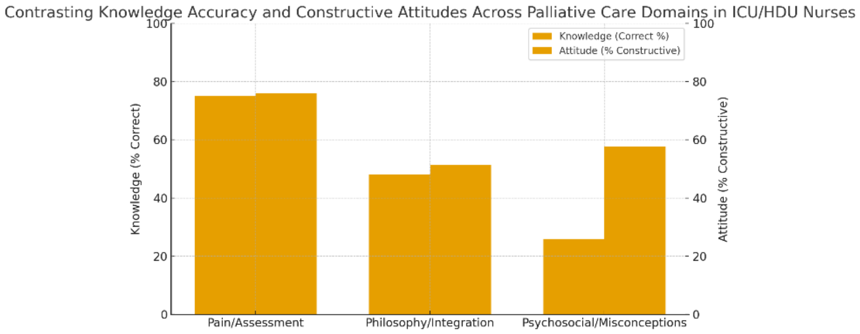

Figure 1 Domain-level contrast of knowledge accuracy vs constructive attitudes in ICU/HDU nurses (N=151).

Across three domains, mean knowledge accuracy (polarity-corrected) was highest for Pain/Assessment at 75.0%, falling to 48.0% for Philosophy/Integration and 25.8% for Psychosocial/Misconceptions, indicating concentrated misconceptions around placebo use, emotional detachment, and conflation of suffering with physical pain. In parallel, domain-aggregated constructive attitudes (higher is better) were 76.0% for Family-Centered Care, 51.3% for Communication Openness (combining supportive disclosure and reverse-coded avoidance of topic-changing/paternalism), and 57.7% for Emotional Readiness (reverse-coded avoidance of caring for or attending dying patients). The divergence between low psychosocial knowledge (25.8%) and moderate emotional readiness (57.7%) suggests that affective willingness does not translate into accurate psychosocial/ethical knowledge, highlighting a curriculum gap where targeted training on ethical analgesia, placebo non-use, and empathic engagement could yield the largest gains.

DISCUSSION

The present findings show a "good" aggregate knowledge level alongside only "average" attitudes among ICU/HDU nurses in tertiary hospitals of Punjab, with sharp domain contrasts: strong pain-assessment fundamentals but marked misconceptions in psychosocial/ethical areas such as placebo use and emotional detachment. This pattern mirrors international ICU literature that repeatedly reports moderate proficiency and uneven readiness for end-of-life communication, suggesting that the observed gaps are not idiosyncratic but align with global ICU realities where workload and technology-centric cultures can delay or dilute timely palliative integration (1,2). The discordance between relatively robust pain-related knowledge and weaker philosophy/psychosocial knowledge resonates with reports from China, Iran, and Ethiopia, in which symptom control concepts are variably understood and attitudinal ambivalence emerges in the absence of structured education and supportive organizational climates (1,3,4). Evidence linking prior exposure and perceptions of caring for the dying to attitude formation further contextualizes our results, indicating that practical experience alone may not remedy misconceptions without explicit curricular framing and reflective supervision (5,6).

Within Pakistan, our estimates sit squarely in a national picture characterized by inconsistent pre-service and in-service exposure to palliative competencies. Studies among students and caregivers have documented limited practical understanding and confidence, suggesting that gaps can persist from training into professional roles unless curricula and clinical mentorship are intentionally aligned with bedside demands (7,12,13). Provincial data from tertiary hospitals in Peshawar described average nurse knowledge, compatible with our "good but not excellent" range, while institutional analyses show that when hospitals implement formal palliative programs; standard operating procedures, referral criteria, and interdisciplinary participation; care processes measurably improve (14,15,16). National guideline initiatives and referral pathways provide a scaffold for scaling such improvements; however, our domain-level profile implies that implementation science must prioritize bedside translation in ICUs; particularly communication openness and family-inclusive practice; rather than assume diffusion from policy to practice (17,18).

Two practice-relevant divergences deserve emphasis. First, psychosocial/ethical knowledge was the weakest domain while emotional readiness was mid-range, implying that willingness to engage does not guarantee accuracy in ethically sound, evidence-based actions. This mismatch risks well-intended but suboptimal decisions (e.g., placebo use) unless curricula explicitly cover analgesic ethics, placebo non-use, and compassionate truth-telling with cultural sensitivity. Second, family-centered attitudes were comparatively strong, consistent with Pakistani ICU studies that highlight families' central role yet report mixed satisfaction with communication and involvement; targeted training could leverage this attitudinal strength to standardize high-quality family conferences and joint care planning (19,20). Together, these observations argue for a competency-based package coupling technical content (WHO analgesic ladder, multimodal symptom control) with skills practice (role-play of prognostic disclosure, structured debriefs) and team processes (trigger criteria for early palliative consultation in ICU).

Interpretation should consider design and measurement safeguards. We corrected polarity and reverse-scored negatively keyed knowledge items, reducing misclassification that commonly inflates apparent knowledge in Likert summaries. Even with this stricter scoring, pain-assessment items remained comparatively high, suggesting genuine strength rather than artifact. Nonetheless, convenience sampling and the absence of unit-level workload metrics may attenuate or mask associations between experience and outcomes; future analyses using multivariable models with staffing ratios, night-shift proportion, or case-mix acuity could clarify predictors of high competence. Incorporating validated, culturally adapted instruments; as advocated in Urdu-language outcomes work; would further strengthen measurement fidelity and comparability across centers and time (8).

Clinically, the data support three immediate actions. First, institute brief, scenario-based ICU modules emphasizing placebo non-use, empathetic disclosure, and alignment of palliative philosophy with ongoing aggressive treatment, countering the false dichotomy that palliative care signals therapeutic abandonment (9,10). Second, standardize family involvement through checklists and scripted prompts embedded in ICU rounds, translating positive attitudes into reliable behaviors (20). Third, embed reflective practice and psychological support; peer debriefs after deaths, access to counseling; to mitigate avoidance responses and compassion fatigue that our attitude distributions suggest remain prevalent despite willingness to help (5,6). At the service level, activating national referral pathways inside ICU workflows (automatic triggers for refractory symptoms, repeated ICU admissions, or high SOFA scores) may operationalize timely consultations and narrow variability between units (17,18).

In summary, Punjab ICU/HDU nurses demonstrate a foundation on which to build: solid pain-assessment knowledge, pro-family orientations, and moderate emotional readiness. The principal vulnerabilities; psychosocial/ethical misconceptions and communication avoidance; are precisely the domains most amenable to targeted, simulation-supported education and protocolized team practices observed to improve processes in comparable tertiary settings. Aligning bedside training with national guidelines and institutionalizing family-centered communication can convert average attitudes into consistently constructive practice, with plausible downstream gains in patient comfort, decisional clarity, and family satisfaction (14-20).

CONCLUSION

Critical care nurses in tertiary ICUs/HDU units of Punjab demonstrate a solid foundation in pain assessment yet only moderate overall attitudes toward palliative care, with the most pronounced gaps in psychosocial/ethical knowledge (e.g., placebo non-use, compassionate truth-telling) and communication openness. These domain-specific deficits; occurring despite generally pro-family orientations and mid-range emotional readiness; indicate that willingness alone does not ensure evidence-based, ethically sound practice. Targeted, competency-based education that couples technical analgesia and symptom-control content with simulation of end-of-life conversations, structured family engagement, and routine reflective support is likely to yield the greatest gains. Embedding ICU triggers for early palliative consultation and aligning bedside workflows with national referral guidance can translate policy into practice, improving patient comfort, decisional clarity, and family satisfaction while strengthening nurses' resilience and professional growth.

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