SYSTEM-LEVEL BARRIERS TO END-OF-LIFE CARE INTEGRATION IN CRITICAL CARE UNITS: A CROSS-SECTIONAL STUDY INFORMING ANAESTHESIA-LED INTERVENTIONS

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ABSTRACT

Introduction: *End-of-Life Care (EOLC) is given to patients until their final days and hours of life. Nurses' knowledge and attitudes play an essential role in delivering successful and efficient EOLC. Framed within intensive care contexts, this study uses nurse-level knowledge and attitude as proxy indicators of organisational readiness and system-level barriers to integrating EOLC in intensive care units (ICUs) and high-dependency units (HDUs), with implications for anaesthesia-led interventions.*

Methods: *In July 2024, a cross-sectional study was carried out among 124 nurses selected via non-probability proportionate quota sampling from Bir Hospital and National Trauma Center. A self-administered structured questionnaire assessed knowledge and attitude towards end-of-life care. Chi-square tests examined associations of knowledge and attitude with selected variables, and Spearman's rank correlation assessed the correlation between knowledge and attitude.*

Results: *The highest proportion (37.9%) of participants had a moderate level of knowledge, and most (88.7%) had a positive attitude regarding end-of-life care, with mean scores of 24.47 ± 7.487 and 106.14 ± 17.788, respectively. Knowledge showed associations with working experience, hospital, and training; attitude showed an association with ethnicity. Knowledge and attitude were weakly correlated (r = 0.274, p = 0.002). Taken together, limited formal training and institution-related differences indicate system-level barriers to consistent EOLC integration in critical care units.*

Conclusion: *While most nurses demonstrated positive attitudes, the predominance of only moderate knowledge and the dependence of knowledge on training and institutional context point to organisational gaps that impede EOLC integration. The study highlights the need to integrate EOLC into curricula and to conduct educational interventions and training enabling nurses to deliver EOLC effectively. These results provide actionable, system-level insights for anaesthesia-led strategies, such as ICU protocol development, interdisciplinary training, and workflow integration, to embed EOLC within critical care.*

Keywords: *End of life care; Knowledge; Attitude; Hospital; Nurses; Anesthesia; Anesthesiology; Critical care*

INTRODUCTION

End-of-life care (EOLC) comprises the physical, psychosocial, and spiritual support provided to people in their final days and hours, with the goals of comfort, dignity, and alignment with patient and family preferences (Nacak & Erden, 2022). In critical care settings, intensive care units (ICUs) and high-dependency units (HDUs), care trajectories frequently pivot from curative intent to comfort-focused goals, making EOLC integration a system responsibility rather than an individual task. Within this system, anaesthesiologists, who commonly lead ICU services, manage analgesia and sedation, and guide ventilator support and withdrawal, are well-positioned to champion structured, standardised EOLC and to align teams around shared goals of care (Bloomer & Butler, 2022).

The scale of need is substantial. Globally, the crude death rate is approximately 7 per 1,000 population, and a sizeable proportion of deaths occur in or after ICU care, underscoring the ICU as a crucial environment for improving EOLC (Nelson et al., 2006). In Nepal, the 2022 death rate was 6.7 per 1,000 population (World Data Atlas, 2022). Estimates suggest tens of millions require EOLC annually, yet only a fraction receive it (Harmer & Huffman, 2024). Cross-country comparisons of EOLC quality demonstrate large variation. Advance care planning, which supports people in articulating values and preferences, is increasingly recognised as a means to uphold autonomy and dignity near the end of life (Liu et al., 2020).

While the demand for EOLC is rising due to population ageing, increasing survivorship from non-communicable disease, and gains in life expectancy, persistent gaps in workforce preparation and institutional readiness impede high-quality EOLC. Studies describe unsatisfactory EOLC quality, inadequate knowledge, and discomfort with communication among health professionals, including ICU nurses (Agrawal et al., 2019; Ali et al., 2022; Hamdan et al., 2023; Lasater, 2020). Reported barriers include deficits in training and skills, emotionally challenging care, and misalignment between clinician attitudes and public expectations. Position statements emphasise that delivering high-quality EOLC in adult critical care requires clear policies, inter-professional education, and team coordination (Bloomer & Butler, 2022). International experiences (e.g., post-strategy improvements in the United Kingdom) further suggest that system-level levers can strengthen documentation, communication, and service delivery (Alshammari et al., 2022).

Nurses provide continuous bedside care and often are first to detect changes that warrant re-goal setting, making their knowledge and attitudes both determinants and reflections of organisational capacity (Nacak & Erden, 2022). In the South Asian context, including Nepal, formal training opportunities remain limited and institutional policies heterogeneous, which may produce variability in symptom control, communication, and family support at the end of life (Gurung & Timalsina, 2018; Parajuli et al., 2022).

Translating EOLC principles into ICU workflows, therefore, depends on organisational readiness: explicit triggers for palliative involvement, standardised assessment and

documentation, reliable access to essential medications, protected time and skills for communication, and professional education (Bloomer & Butler, 2022). Where these features are weak or absent, nurses' knowledge and attitudes can serve as practical proxies for system performance and culture. Patterns in these measures, and their associations with experience, unit type, training exposure, and institution, can reveal system-level barriers that anesthesiology-led services are uniquely able to address through governance, training, and protocol development.

Accordingly, this cross-sectional study assesses the knowledge and attitudes toward EOLC among nurses working in ICUs and HDUs of two tertiary centres in Nepal and examines their associations with selected demographic and work-related variables. By interpreting nurse-reported outcomes as indicators of organisational readiness, we aim to (i) characterise system-level barriers to EOLC integration within critical care units and (ii) generate actionable recommendations for anaesthesia-led strategies, such as ICU EOLC pathways, escalation/de-escalation checklists, advance care planning prompts, symptom-control bundles, and simulation-based communication training, to embed EOLC into routine ICU practice.

METHODS

Study design

We conducted a hospital-based cross-sectional study to assess nurse-level end-of-life care (EOLC) knowledge and attitudes in critical care and to interpret these measures as system-readiness proxies for anaesthesia-led integration. Reporting follows STROBE guidance.

Setting

The study took place at two tertiary, public hospitals in Kathmandu, Nepal: Bir Hospital (ICU-I, Respiratory ICU/HDU, Surgical ICU/HDU, JICA ICU, Gastro ICU, Neuro ICU, Cardiology ICU, Medical ICU) and the National Trauma Center (Trauma ICU/HDU). Nepal's first ICU was established at Bir Hospital.

Population and eligibility

The target population comprised registered nurses posted to ICUs/HDUs during data collection. Ward in-charges were eligible; nurses on study or maternity leave were excluded. Unit rosters supplied by nursing administration formed the sampling frame (Bir, n=115; National Trauma Center, n=46; total N=161).

Sample size

We estimated the sample using Cochran's formula $n = z^2pq/d^2$ with z=1.96 (95% confidence), p=0.385, q=0.615, and d=0.05, yielding n=363.83 (Cochran, 1963). Applying a finite population correction for N=161 produced n′=112; adding 10% for non-response gave a final target of 124.

Sampling strategy

Sampling used double stratification with proportional allocation by hospital (Bir, n=89; National Trauma Center, n=35) and then by unit within each hospital to preserve

representation. Within unit-level quotas, participants were recruited by convenience (first-available eligible staff) until quotas were met.

Measures

Primary outcomes were (1) knowledge of EOLC, assessed by a researcher-developed, self-administered 15-item questionnaire (total score=39; correct=1, incorrect=0; multi-response items scored per correct option) categorized as Low (≤50%), Moderate (50–<80%), or High (≥80%), and (2) attitudes toward EOLC, measured using the 30-item Frommelt Attitudes Toward Care of the Dying (FATCOD) scale (5-point Likert; reverse scoring for negative items; total 30–150) categorized as Negative (<50%) or Positive (≥50%) of the maximum (Frommelt, 1991). Prespecified explanatory variables included age, ethnicity, education, years of experience, hospital, unit, prior EOLC training, academic coursework, recent bereavement exposure, and sources of information.

Instrument validity and reliability

Content and face validity for the knowledge tool were established by expert review and alignment with study aims; forward translation to Nepali and back-translation ensured semantic equivalence. FATCOD has demonstrated strong psychometrics (CVI≈0.98; test-retest r≈.94; ICC≈0.87; Cronbach's α≈.81-.83) and good practicability (Mastroianni et al., 2015; Frommelt, 1991).

Pretesting

The full instrument was pretested with 13 ICU nurses (~10% of the final sample) in a comparable unit (CTVS ICU, Bir Hospital). No substantive revisions were required; pretest participants were excluded from the main study.

Data collection

Following administrative approvals, data were collected 2080/03/17–2080/03/31 (Nepali calendar) via self-administered English questionnaires during break or shift-overlap periods to minimise service disruption. Investigators obtained written informed consent, maintained seating separation to reduce contamination, remained available for procedural clarifications, and checked completeness at collection. Average completion time was 20–30 minutes.

Data management and statistical analysis

Data were edited, coded, and double-entered into SPSS v20 with range checks. Descriptive statistics (frequencies, percentages, means, SD) summarised variables. Chi-square tests examined associations between outcome categories (knowledge, attitude) and explanatory variables. Spearman's rho assessed the correlation between continuous knowledge and attitude scores. Two-sided $p < .05$ denoted statistical significance. Results are presented in text and tables.

Ethics

Approvals were obtained from Bir Hospital Nursing Campus and the administrations of Bir Hospital and the National Trauma Center. Participation was voluntary with written informed consent, the right to withdraw, and assurances of confidentiality through de-

identification and secure data handling. No incentives were provided, and no harm was anticipated.

RESULTS

Participant characteristics

A total of 124 ICU/HDU nurses participated (mean age 29.0 ± 6.19 years; range 20–54). Over half were 26–35 years (55.6%). Most identified as Brahmin/Chhetri (56.5%), followed by Janajati (34.7%). Educationally, 67.7% held a Bachelor's in nursing, 25.8% a PCL diploma, and 6.5% a Master's degree (Table 1).

Table 1. Socio-demographic characteristics (n=124)

Variable	Frequency	%
Age (years)		
20–25	44	35.5
26–35	69	55.6
36–45	7	5.6
46–55	4	3.2
Mean ± SD	*29.0 ± 6.193*	
Range	*20–54*	
Ethnicity		
Dalit	4	3.2
Janajati	43	34.7
Madheshi	5	4.0
Muslim	1	0.8
Brahmin/Chhetri	70	56.5
Others	1	0.8
Education		
PCL Nursing	32	25.8
Bachelor's in Nursing	84	67.7
Master's in Nursing	8	6.5

Work context and EOLC exposure

Mean total work experience was 6.0 ± 6.53 years; 37.9% had 1–5 years, and 24.2% had <1 year. Most respondents were from Bir Hospital (71.8%) vs National Trauma Center (28.2%). Marked training gaps were evident: 94.4% reported no prior EOLC training, and 55.6% had no coursework on EOLC. Recent bereavement exposure (past 2 years) was reported by 43.5%. Primary information sources included curriculum (72.6%) and health professionals (70.2%) (Table 2).

Table 2. Work-related and other variables (n=124)

Variable	Frequency	%
Experience (years)		
<1	30	24.2
1–5	47	37.9
5–10	26	21.0
10–15	12	9.7
15–20	4	3.2

>20	5	4.0
Mean ± SD	*6.0 ± 6.525*	
Hospital		
Bir Hospital	89	71.8
National Trauma Center	35	28.2
Prior EOLC training		
Yes	7	5.6
No	117	94.4
Course/classes on EOLC		
Yes	55	44.4
No	69	55.6
Bereavement in the past 2 years		
Yes	54	43.5
No	70	56.5
Sources of information*		
Curriculum	90	72.6
Health professionals	87	70.2
Mass media	69	55.6
Peers	66	53.2
Family	38	30.6

*Multiple response.

Knowledge about EOLC

Conceptual knowledge showed strengths in identifying quality domains (e.g., pain/symptom management, 93.5%), but limited understanding of advanced care planning timing (4.8% correct). Only 21.0% selected the precise definition of EOLC, and 34.7% recognised the EOLC–palliative care relationship. Most identified physicians/nurses (91.1%) and family (86.3%) as responsible groups (Table 3).

Table 3. Knowledge on EOLC concepts (n=124)

Item (correct options)	Frequency	%
Meaning of EOLC	26	21.0
EOLC-palliative care relationship	43	34.7
Domains of quality EOLC*		
Pain & symptom management	116	93.5
Strengthening relationships	90	72.6
Avoid prolongation of dying	79	63.7
Relieve the burden on others	73	58.9
Sense of control	57	46.0

"Good death" criteria*

Free of avoidable distress (patient)	104	83.9
Clinical/cultural/ethical standards	69	55.6
Free of avoidable distress (family)	68	54.8
In accordance with patient/ family wishes	49	39.5
Advance care planning timing	6	4.8

Groups responsible for EOLC*

Physicians & nurses	113	91.1
Family members	107	86.3
Social workers/spiritual counsellors	83	66.9
Pharmacists/rehab therapists	77	62.1

*Multiple response.

Recognition of signs and care during the dying phase was mixed. Most identified unresponsiveness (83.9%), drowsiness (71.8%), and the need to prioritise comfort measures (91.1%). Knowledge gaps included the meaning of "death rattle" (56.5% correct) and dyspnea management with morphine (19.4%). Most endorsed opioids for pain control (86.3%) (Table 4).

Table 4. Knowledge on signs/symptoms and care at the end of life (n=124)

Item (correct options)	Frequency	%
Signs of imminent death*		
Unresponsiveness	104	83.9
Drowsiness	89	71.8
Decreased appetite	87	70.2
Noisy respiration	87	70.2
Terminal delirium	79	63.7
Increased sleeping	60	48.4
"Death rattle" = terminal secretions	70	56.5
Noisy respiration: correct statements*		
Suction can remove trapped secretions	98	79.0

Turn the head to the side assists drainage	92	74.2
Patient cannot clear secretions	89	71.8
May indicate approaching death	46	37.1
Integral for pain management: opioids	107	86.3
Focus near death: are comfort measures	113	91.1
Dyspnea is commonly managed with morphine	24	19.4
Areas of need addressed (full set)	46	37.1
Spiritual needs: selected actions*		
Family/friends talk about the relationship	102	82.3
Be present/listen	90	72.6
Provide touch	81	65.3
Social worker/counsellor visit	75	60.5

*Multiple response.

Aggregated knowledge levels showed Moderate in 37.9%, Low in 35.5%, and High in 26.6% (mean 24.47 ± 7.49, range 8–36) (Table 5).

Table 5. Overall knowledge level (n=124)

Level	Frequency	%
Low	44	35.5
Moderate	47	37.9
High	33	26.6
Mean ± SD	*24.47 ± 7.487*	
Range	*8–36*	

Attitudes toward EOLC

Most nurses demonstrated a Positive overall attitude on FATCOD (88.7%; mean 106.14 ± 17.79, range 54–128) (Table 6).

Table 6. Overall attitude level (FATCOD) (n=124)

Level	Frequency	%
Positive	110	88.7
Negative	14	11.3
Mean ± SD	*106.14 ± 17.788*	
Range	*54–128*	

Subscales indicated Fair attitudes toward patients (64.5%; mean 68.52 ± 10.75) and Good attitudes toward families (58.1%; mean 37.62 ± 8.03) (Table 7).

Table 7. Attitude subscales: patient and family (n=124)

Subscale & level	Frequency	%
Toward patient		
Poor	12	9.7
Fair	80	64.5
Good	32	25.8
Mean ± SD (20–100)	*68.52 ± 10.747*	
Range	*37–84*	
Toward family		
Poor	14	11.3
Fair	38	30.6
Good	72	58.1
Mean ± SD (10–50)	*37.62 ± 8.032*	
Range	*15–50*	

Associations between knowledge and attitude

Knowledge level was significantly associated with working experience (χ^2=16.556, p=0.011), hospital (Bir vs NTC; χ^2=8.137, p=0.017), and prior EOLC training (χ^2=7.388, p=0.025). No significant associations were observed for age, ethnicity, education, coursework exposure, or recent bereavement (Table 8).

Table 8. Association between knowledge level and selected variables (n=124)

Variable	χ^2	p
Age (≤30 vs >30)	0.068	0.966
Ethnicity	4.560	0.335
Education (PCL vs ≥Bachelor)	1.336	0.513
Working experience	16.556	0.011*
Hospital (Bir vs NTC)	8.137	0.017*
Prior EOLC training (Yes/No)	7.388	0.025*
Coursework on EOLC (Yes/No)	4.964	0.084
Bereavement in the past 2 years (Yes/No)	1.289	0.525

*p<.05.

Attitude level was significantly associated with ethnicity (χ^2=7.591, p=0.022); other variables, including hospital, experience, and training/coursework, were not significant (Table 9).

Table 9. Association between attitude level and selected variables (n=124)

Variable	χ^2	p
Age (≤30 vs >30)	0.342	0.559
Ethnicity	7.591	0.022*

Education (PCL vs ≥Bachelor)	1.094	0.296
Working experience	2.957	0.398
Hospital (Bir vs NTC)	0.001	0.976
Prior EOLC training (Yes/No)	0.066	0.797
Coursework on EOLC (Yes/No)	3.361	0.067
Bereavement in the past 2 years (Yes/No)	0.394	0.530

*p<.05.

Correlation between knowledge and attitude

Knowledge and attitude scores were positively correlated (Spearman's ρ=0.274, p=0.002), indicating that higher knowledge modestly aligned with more positive attitudes (Table 10).

Table 10. Correlation between knowledge and attitude (n=124)

Variable	Knowledge	Attitude
Knowledge	1	0.274
Attitude	0.274	1

*p<.01 (two-tailed).

DISCUSSION

Among ICU/HDU nurses in two tertiary hospitals, overall knowledge of end-of-life care (EOLC) clustered at a *moderate* level (37.9%), while attitudes were predominantly *positive* (88.7%). Knowledge varied by working experience, institution, and prior EOLC training, and attitudes varied by ethnicity. Knowledge and attitude demonstrated a weak but significant positive correlation (ρ=0.274, p=.002). Content-specific gaps were evident in advance care planning (ACP) timing and dyspnea management with morphine, despite generally accurate recognition of quality domains and comfort-focused care priorities.

Comparison with prior literature

The knowledge profile aligns with findings from Jordan, where nurses exhibited moderate EOLC knowledge (Subih et al., 2021). Higher knowledge levels reported in Malaysia and Nigeria (Ingwu et al., 2016; Subramanian & Chinna, 2024) underscore contextual differences such as curricula, training access, and local protocols, which may explain variability. Consistent with international evidence, our results reinforce the need for in-service education as a frequently cited professional requirement for improving EOLC competence.

Item-level patterns were mixed. Only one-fifth correctly identified a core definition of EOLC, and just 4.8% selected appropriate ACP timing, consistent with reports that nurses often lack clarity about ACP (Punia et al., 2024). Conversely, most respondents identified opioids for end-of-life pain control and prioritised comfort measures near death, paralleling observations from India that clinicians recognise broad team roles in EOLC

(Bharathy et al., 2017).

Attitudes in our cohort mirror favourable or fair attitudes reported in Nepal and Ethiopia (Gurung & Timalsina, 2018; Parajuli et al., 2022), yet exceed mean FATCOD scores reported in Turkey and contrast with unfavourable attitudes found in Egypt (Ali et al., 2022; Hamdan et al., 2023). Such heterogeneity likely reflects differences in education, specialist training, and work environments across settings.

Determinants and system-level interpretation

Associations between knowledge and experience/training observed here concur with Ethiopian and Jordanian studies linking tenure and EOLC education to stronger knowledge (Subih et al., 2021). The institutional effect (Bir vs. National Trauma Center) suggests that organisational resources and routines influence knowledge acquisition, echoing syntheses identifying environment, resources, and training as modifiable supports for EOLC (Xia & Kongsuwan, 2020). The ethnicity-attitude association may reflect how cultural frameworks shape beliefs and behaviours around dying and care. Notably, other studies report mixed or null associations between attitudes and demographics (Ali et al., 2022; Bharathy et al., 2018; Hamdan et al., 2023), highlighting context-specific drivers.

The weak knowledge–attitude correlation indicates that favourable attitudes alone may not translate into complete competence without structured education, practice supports, and standardised processes. This supports a shift from solely individual-focused training to system-level integration.

Implications for anaesthesia-led integration

Given leadership of anaesthesiologists in ICU sedation/analgesia, ventilator support, and care transitions, the findings point to pragmatic anaesthesia-led levers: (i) institute unit protocols embedding ACP triggers (e.g., at ICU admission or early de-escalation), (ii) deliver simulation-based communication training integrated with FATCOD-informed reflection, (iii) standardise symptom-control bundles (opioids for dyspnea/pain, secretion management, non-pharmacologic comfort), and (iv) operationalise inter-professional huddles and documentation checklists. Such measures address identified gaps (ACP timing, dyspnea management) while converting positive attitudes into reliable practice.

Family-centred dispositions observed here (e.g., support for bereavement and involvement in care) align with evidence that family education and support reduce distress and enhance care quality (Hudson et al., 2018) and can be scaffolded through anaesthesia-led pathways (e.g., flexible visitation guidance, structured family meetings).

Strengths and limitations

Strengths include coverage of multiple ICU/HDU types across two tertiary institutions and a sample design that ensured unit-level representation. Limitations include the cross-sectional design, potential self-report bias in attitudes (Peters et al., 2013), convenience sampling, and restriction to two hospitals, which may limit generalizability. The study did not directly observe behaviours; thus, translating attitudes to practice should be inferred cautiously.

CONCLUSION

This cross-sectional study of nurses in intensive and high-dependency care units indicates that integration of end-of-life care (EOLC) within critical care is constrained by system-level factors. Nurse knowledge generally fell at a moderate level, while attitudes toward EOLC were predominantly positive. Knowledge varied meaningfully by professional experience, institutional context, and prior training exposure, and attitudes differed across cultural groupings. A weak positive association between knowledge and attitude suggests that goodwill and receptivity alone are insufficient to ensure competent, consistent practice without structured supports.

Interpreting nurse knowledge and attitudes as indicators of organisational readiness, the findings highlight actionable levers for anaesthesia-led integration of EOLC. Standardised unit protocols, particularly early triggers for advance care planning, symptom-control bundles, and simulation-based, inter-professional communication training, can translate positive attitudes into reliable bedside care. Prioritising units with limited training opportunities and tailoring implementation to the institutional context may accelerate system-level adoption and embed EOLC within routine ICU workflows.

CONFLICT OF INTEREST

The authors declared no conflict of interest.

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REFERENCES

Agrawal, K., Garg, R., & Bhatnagar, S. (2019). Knowledge and Awareness of End-of-life Care among Doctors Working in Intensive Care Units at a Tertiary Care Center: A Questionnaire-based Study. *Indian journal of critical care medicine: peer-reviewed, official publication of Indian Society of Critical Care Medicine*, *23*(12), 568–573. https://doi.org/10.5005/jp-journals-10071-23293

Ali, Ahmad Mohamed. A., S Abdelbaky, A., Ali Mohamed, A., & M Abdelbaky, M. (2022). Effect of Online Education on Critical Care Nurses' Knowledge and Attitude about End-of-Life Care for COVID-19 Elderly Patients. *Egyptian Journal of Health Care*, *13*(3), 849-858.

Alshammari, F., Sim, J., Lapkin, S., & Stephens, M. (2022). Registered nurses' knowledge, attitudes and beliefs about end-of-life care in non-specialist palliative care settings: A mixed studies review. *Nurse education in practice*, *59*, 103294. https://doi.org/10.1016/j.nepr.2022.103294

Bloomer, M. J., Ranse, K., Butler, A., & Brooks, L. (2022). A national Position Statement on adult end-of-life care in critical care. *Australian critical care: official journal of the Confederation of Australian Critical Care Nurses*, *35*(4), 480–487. https://doi.org/10.1016/j.aucc.2021.06.006

Frommelt, K. H. M. (1991). The effects of death education on nurses' attitudes toward caring for terminally ill persons and their families. *American Journal of Hospice and Palliative Medicine®, 8(5),* 37-43. https://doi.org/10.1177/1049909191008005 09

Gurung, M., & Timalsina, R. (2018). Attitudes of Nepalese hospital nurses towards care of dying people. *Journal of Ageing Studies and Therapy, 1*(1). https://doi.org/10.16966/jast.101

Hamdan, K. M., Al-Bashaireh, A. M., Al-Dalahmeh, M., Saifan, A. R., Albqoor, M. A., & Shaheen, A. M. (2023). Palliative care knowledge and attitudes toward end-of-life care among intensive care unit nurses in Jordan. *Acute and Critical Care*, *38*(4), 469.

Hudson, P., Hall, C., Boughey, A., & Roulston, A. (2018). Bereavement support standards and bereavement

care pathway for quality palliative care. *Palliative & Supportive Care, 16*(4), 375–387. https://doi.org/10.1017/S1478951517000451

Huffman, J. L., & Harmer, B. (2023). End-of-Life Care. In *StatPearls*. StatPearls Publishers

Ingwu, J. A., Nwaiku, L., & Ohaeri, B. (2016). Knowledge and practice of end-of-life care among nurses in a teaching hospital in Nigeria. *International Journal of Palliative Nursing, 22*(4), 194–199. https://doi.org/10.12968/ijpn.2016.22.4.194

Lasater, K. B., Sloane, D. M., McHugh, M. D., & Aiken, L. H. (2019). Quality of End-of-Life Care and Its Association with Nurse Practice Environments in U.S. Hospitals. *Journal of the American Geriatrics Society*, *67*(2), 302–308. https://doi.org/10.1111/jgs.15671

Liu, L., Daum, C., Neubauer, N., Cruz, A., & Ríos-Rincón, A. M. (2022). Advance care planning.(pp. 51-60). https://doi.org/10.1007/978-3-031-03764-1_5

Mastroianni, C., Piredda, M., Taboga, C., Mirabella, F., Marfoli, E., Casale, G., Matarese, M., Frommelt, K., & De Marinis, M. G. (2015). Frommelt Attitudes Toward Care of the Dying Scale Form B. *OMEGA - Journal of Death and Dying, 70*(3), 227-250. https://doi.org/10.1177/0030222815568944

Nacak, U. A., & Erden, Y. (2022). End-of-life care and nurses' roles. *Eurasian Journal of Medicine, 54*(Suppl. 1), S141-S144.

Parajuli, S., Phuyal, S., Shrestha, E., & Mehta, R. S. (2021). Perspective towards end-of-life care among nurses working in BPKIHS: A cross-sectional study. *Journal of BP Koirala Institute of Health Sciences, 4*(2), 29-34. https://doi.org/10.3126/jbpkihs.v4i2.41974

Peters, L., Cant, R., Payne, S., O'Connor, M., McDermott, F., Hood, K., Morphet, J., & Shimoinaba, K. (2013). How death anxiety impacts nurses' caring for patients at the end of life: A review of literature. *The Open Nursing Journal, 7*, 14–21. https://doi.org/10.2174/1874434601307010014

Punia, H., Kaasalainen, S., Ploeg, J., Strachan, P., & Sussman, T. (2024). Exploring the role of nurses in advanced care planning within long-term care homes: A qualitative study. *SAGE Open Nursing, 10.* https://doi.org/10.1177/23779608241249335

Ranse, K., Yates, P., & Coyer, F. (2015). Factors influencing the provision of end-of-life care in critical care settings: development and testing of a survey instrument. *Journal of advanced nursing*, *71*(3), 697–709. https://doi.org/10.1111/jan.12576

Shrestha, S. (2022), *Nursing Research for Evidence-Based Practice* (1st ed.), Akshav Publication, Kathmandu.

Subramanian, P., & Chinna, K. (2013). Knowledge and perception on end-of-life care, death and dying among palliative nurses. *BMJ Supportive & Palliative Care, 3*(3), 287-288. https://doi.org/10.1136/bmjspcare-2013-000491.162

Subih, M., Al-Amer, R., Alomari, D., Randall, D., Darwish, R., & Mosleh, S. (2021). Knowledge of nurses about the end-of-life care towards terminal illnesses: A cross-sectional design. *Research Square*. https://doi.org/10.21203/rs.3.rs-211220/v1

World Data Atlas (2022). *World and regional statistics, national data, maps, and rankings*. Knoema. https://knoema.com/atlas

Xia, L., & Kongsuwan, W. (2020). Factors relating to nurses' end-of-life care. *Journal of Biosciences and Medicines, 8*(6), 189-200. https://doi.org/10.4236/jbm.2020.86018