Golestan University of Medical Sciences
Journal of Research Development in Nursing and Midwifery
(J Res Dev Nurs Midw)
Online ISSN: 2588-3038

Bridging the gap in palliative care nursing training: The emerging role of virtual and innovative learning models in Middle Eastern countries

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Abstract

Palliative care is a critical component of Universal Health Coverage and a key approach for reducing serious health-related suffering; however, major educational gaps persist among nurses across the Eastern Mediterranean Region. Although nurses deliver palliative care in hospitals, communities, and homes, many report insufficient knowledge, skills, and confidence, especially in end-of-life communication, complex symptom management, and psychosocial–spiritual support. These gaps are driven by limited curricular integration, shortages of trained faculty, resource constraints, and scarce post-graduation training. Digital and virtual education models (e.g., Project ECHO, web-based modules, and virtual simulation/VR) offer scalable solutions by improving access, reducing time and cost barriers, and strengthening competence and self-efficacy. These models need to fit local health-system capacities and the cultural and religious norms of Middle Eastern communities, especially around family-centered decisions and sensitive conversations. Continued investment in faculty training, technology, and mentorship is essential for bringing culturally responsive virtual palliative care education into nursing programs.

Article Type: Perspective

Article History

Received: 7 February 2026
Received in revised form: 1 March 2026
Accepted: 5 March 2026
Available online: 20 March 2026
DOI: 10.29252/jgbfnm.23.1.1

Keywords

Palliative care
Nursing
Nursing education
Learning

Perspective

Palliative care is a key part of Universal Health Coverage (UHC). It reduces serious health-related suffering (SHS) and improves the quality of life of people with life-limiting conditions and their family caregivers. In the Eastern Mediterranean Region, an estimated 3.2 million individuals experience SHS each year and are in need of palliative care services (1). Palliative care is a core part of nursing practice and is provided in many settings, including hospitals, specialized units, community health centers, patients' homes, long-term care facilities, and hospices. Palliative care is not limited to specialist or senior nurses. All nurses need the basic knowledge and skills to provide safe, effective, and compassionate care (2).

Nurses play a central role in palliative care across many settings and spend much of their practice caring for people with advanced or life-limiting conditions. They therefore need adequate knowledge and clinical skills to provide high-quality palliative care (3). However, nurses with limited palliative care training often struggle to assess complex needs, communicate effectively, and respond to the physical, psychological, social, and spiritual challenges of serious illness (4). Although timely and appropriate palliative care is considered a basic right for patients and their families, evidence shows that most nurses do not feel adequately prepared to provide it (5,6). Nurses in the region also show a strong interest in palliative care training. About 86% report wanting to improve their knowledge and skills, compared with 46% of nurses in rural hospitals in the United States (7).

Marked disparities remain in palliative care education across nursing programs in the Middle East (8) Limited access to post-graduation clinical training makes these gaps even wider (9-12). The literature shows that palliative care nursing education in many countries in the region is still fragmented and lacks standardization. Unmet educational needs remain a major barrier to the development of palliative care services (13). Several factors contribute to this problem: limited integration of palliative care into national health systems, weak institutional support, financial constraints, a shortage of trained educators, limited clinical training, poor emphasis on communication skills, low professional awareness, and the concentration of resources in major academic centers rather than underserved areas. In addition, political instability and ongoing humanitarian crises in parts of the region further undermine educational capacity. Together, these factors are major barriers to sustainable workforce development and to the expansion of palliative care education programs (14,15).

Although nurses and nursing students differ in experience and responsibility, both need education that prepares them for independent practice, emotional demands, and effective communication across professional, organizational, and cultural settings (16). Theoretical teaching alone is not enough. Without simulation or case-based learning, students are often not ready for real clinical practice, especially in end-of-life care. Evidence suggests that purely theoretical instruction, when not complemented by experiential learning strategies such as clinical simulation or authentic case-based learning, leads to insufficient preparedness for real-world clinical practice, particularly in end-of-life care contexts. In areas such as end-of-life communication, pain and symptom management, and family support, classroom learning alone is not enough to build clinical competence. Simulation-based education is a useful way to bridge the gap between theory and practice and to improve learners' confidence and competence (17).

The rapid expansion of digital health interventions has created new opportunities to address these longstanding educational challenges. The COVID-19 pandemic accelerated the use of online, simulation-based, and blended learning, showing the value of digital approaches for flexible and scalable education (18,19). Virtual palliative care education has recently emerged as an effective way to improve the knowledge and skills of students and healthcare providers. It is commonly grouped into three broad models. The Project ECHO model employs videoconferencing, case-based discussions, and structured mentorship between specialists and frontline providers, thereby fostering communities of practice and facilitating experiential knowledge exchange. This model has demonstrated positive effects on clinical confidence and competence, even in geographically remote or resource-limited settings (20). Digital and web-based education includes online modules, e-learning courses, and multimedia resources. These tools support flexible, self-directed learning while also reducing costs and time demands (21). Virtual reality and simulation-based models give learners a safe, realistic setting to build practical skills and clinical reasoning. They can improve readiness for complex care situations (22).

Across these models, common benefits include better access to training, fewer cost and time barriers, stronger practical and communication skills, and more supportive professional networks. Used together, these approaches can create a more complete learning experience and support capacity building in palliative care. More broadly, digital interventions have been shown to improve engagement, accessibility, and learning outcomes across health professions education (23). In palliative care, technology-enhanced education has been linked to better communication confidence, symptom management, and ethical decision-making, three of the most difficult areas of practice (24). Digital palliative care education has also improved nursing students' learning outcomes, especially knowledge, self-efficacy, reflective thinking, and acceptability. Collectively, these findings support the integration of digital education as a valuable strategy for complementing and strengthening traditional palliative care training (21).

Despite these advantages, virtual education in resource-limited settings also has challenges. These include less face-to-face interaction, limited hands-on practice, and the need to fit local health-system realities (25,26). Importantly, adaptation should go beyond content. It must also include how virtual learning is designed and delivered. Religious values and community support structures often play a decisive role in shaping palliative care practices across the region (7). Importantly, such adaptations extend beyond content localization and must also encompass the design and delivery modalities of virtual educational environments (27). In many Middle Eastern societies, cultural and religious norms influence educator–learner interactions, levels of verbal participation, camera use, group discussions, and the feasibility of role play or simulation-based activities (28-30). Virtual teaching strategies, including webinars, mentoring, case discussions, breakout sessions, and digital simulations, should encourage engagement while respecting cultural and religious sensitivities. In most countries within the region, Islam or other religious belief systems provide a central framework for understanding illness, death, and dying. This suggests that core palliative care skills, such as end-of-life communication, ethical decision-making, and family engagement, may be better taught through carefully chosen teaching formats. These may include the use of de-identified clinical cases, facilitated small-group discussions, or staged simulation activities that minimize direct confrontation with sensitive topics while fostering psychological safety (22,31,32). In family-oriented cultural contexts, team-based learning approaches and family-centered scenarios may further enhance the effectiveness of virtual education by aligning with prevailing decision-making and caregiving practices (33,34). For example, in Iran, beliefs related to divine destiny, the centrality of the family, and cultural perspectives on the end of life strongly influence care delivery and treatment decisions. Even in models such as Project ECHO or web-based education, interaction should fit the local context. It should allow respectful dialogue, gradual participation, and family or team involvement. Because these perspectives differ from the more individualistic values often seen in Western palliative care models, educational programs should reflect regional views to improve relevance and practical use (35-37).

In developing palliative care educational initiatives for healthcare providers in the Middle East, priority areas should include psychosocial care and communication strategies, with particular emphasis on end-of-life communication (7). Religious teachings and values such as destiny, submission to divine will, and forgiveness should also be included in discussions of clinical ethics and end-of-life care. Unlike many Western contexts, family involvement in medical and end-of-life decision-making is highly prominent in the Middle East, where decisions are often made collectively and extended families play a central emotional and practical role (35,38). Virtual palliative care education should reflect the role of the family in decision-making. It should also train learners to communicate with large families and share information with empathy. Virtual palliative care education can use integrated modules that combine ethical principles with Shi'a and Sunni teachings. These modules may include videos, podcasts, group discussions, role-play, and educational games based on family life, mourning, and end-of-life care. Thus, the effectiveness of virtual palliative care education in the Middle East depends not only on the use of culturally adapted content but also on the adoption of a contextually responsive instructional design.

This means choosing the right delivery format, media, interaction style, experiential activities, and mentoring approach. All should be designed with cultural sensitivity so that learning can translate into practice.

Conclusion

The demand for palliative care across the region continues to increase due to the growing prevalence of chronic and life-limiting conditions. Although nurses play a pivotal role in the delivery of palliative care, many report insufficient confidence, knowledge, and skills, resulting in persistent gaps in both clinical and psychosocial aspects of patient care. While existing studies highlight the importance of palliative care education and training, particularly in communication, symptom management, and continuing professional development, innovative educational models such as virtual and blended learning offer promising solutions for expanding access, especially in underserved settings. Ongoing education through mentorship and continuous professional development remains essential to ensure that healthcare providers maintain competence and clinical currency. Comprehensive, relationship centered, and integrated palliative care education-particularly when delivered through virtual modalities-should therefore be regarded as an essential component of nursing education. The successful integration of virtual palliative care education into nursing curricula requires substantial investment from higher education institutions and faculties, including educator preparation, technological infrastructure, and protected time for reflection, discussion, and critical analysis.

Acknowledgement

H.A: Conceptualization, Methodology, Data collection, Writing - Original and Revised draft preparation. Salem Said Al Touby: Formal analysis, Writing - Revised draft preparation, Data curation. M.R: Conceptualization, Methodology, Data curation, Formal analysis, Writing. Axel Wolf: Methodology, Writing - Original draft preparation.

Funding Sources

This study received no external funding.

Ethical Statement

Not required.

Conflicts of Interest

The authors declare no conflict of interest.

Use of Artificial Intelligence

No AI tools/services were used during the preparation of this work.

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Cite this article as:
Ashrafizadeh H, Al Touby SS, Rassouli M. Bridging the gap in palliative care nursing training: The emerging role of virtual and innovative learning models in Middle Eastern countries. *J Res Dev Nurs Midw*. 2026;23(1):1-4. http://dx.doi.org/10.29252/jgbfnm.23.1.1