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END-OF-LIFE CARE IN SAUDI ARABIA: A SYSTEMATIC LITERATURE REVIEW OF CLINICAL MANAGEMENT, COMMUNICATION, ETHICAL CHALLENGES, AND CULTURAL CONSIDERATIONS

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Abstract:
Background:*End-of-life care in Saudi Arabia operates within a unique cultural and religious context that significantly influences clinical practice, communication patterns, and ethical decision-making. Despite growing recognition of palliative care needs, substantial gaps remain in understanding how Islamic principles, cultural norms, and healthcare system factors shape end-of-life care delivery. This systematic review synthesizes current evidence on clinical management practices, communication approaches, ethical challenges, cultural and religious considerations, and barriers and facilitators affecting end-of-life care in Saudi Arabian healthcare settings.*
Methods:*A comprehensive systematic literature review was conducted following PRISMA guidelines. Two databases (Google Scholar and PubMed) were searched using structured queries combining terms related to end-of-life care, palliative care, Saudi Arabia, clinical management, communication, ethical challenges, and cultural considerations. After deduplication, 93 unique records underwent two-stage screening: abstract screening (threshold ≥4.0) and full-text screening (threshold ≥4.5) against five inclusion criteria covering the Saudi Arabian population and setting, end-of-life and palliative management, communication and decision-making, socio-cultural and ethical factors, and systemic barriers and facilitators. Data extraction focused on six domains: study design and methods, key findings on clinical management, communication and decision-making findings, ethical challenges identified, cultural and religious considerations, and barriers and facilitators.*
Results:*From 122 initially identified records, 37 studies were included in the final synthesis after removing 29 duplicates, excluding 54 at abstract screening, and excluding 2 at full-text screening. The included studies revealed significant knowledge gaps among healthcare professionals regarding do-not-resuscitate orders and advance care planning, with substantial confusion between DNR and euthanasia. Communication challenges were pervasive, characterized by family-centered decision-making that often excluded patient autonomy, limited truth-telling practices, and inadequate training in communication skills. Ethical tensions emerged between Western biomedical principles and Islamic values, particularly regarding treatment withdrawal, informed consent, and patient autonomy. Cultural and religious considerations profoundly shaped care delivery, with Islamic principles emphasizing sanctity of life, family involvement, and spiritual care. Major barriers included insufficient palliative care training, resource limitations, lack of standardized policies, and organizational constraints, while facilitators included specialized palliative care services, interdisciplinary collaboration, and culturally adapted care models.*
Conclusions:*End-of-life care in Saudi Arabia requires culturally sensitive approaches that integrate Islamic principles with evidence-based palliative care practices. Significant improvements are needed in healthcare professional education, development of unified national policies, enhancement of communication training, and expansion of palliative care services. Future research should focus on patient and family perspectives, effectiveness of culturally adapted interventions, and implementation of advance care planning frameworks that respect both patient autonomy and family involvement within the Saudi cultural context.*

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INTRODUCTION:

End-of-life care represents a critical dimension of healthcare quality that profoundly affects patients, families, and healthcare systems. In Saudi Arabia, the delivery of end-of-life care occurs within a distinctive cultural, religious, and healthcare context that shapes clinical practices, communication patterns, and ethical decision-making in ways that differ substantially from Western healthcare models. The Kingdom of Saudi Arabia, as the birthplace of Islam and home to its two holiest sites, operates within a healthcare framework deeply influenced by Islamic principles and values. These religious foundations emphasize the sanctity of life, the importance of family involvement in medical decisions, and specific spiritual practices surrounding death and dying. Islamic teachings guide treatment decisions, withdrawal of life-sustaining interventions, and the balance between prolonging life and accepting natural death. This religious context creates both opportunities and challenges for healthcare professionals seeking to provide high-quality, patient-centered end-of-life care.

Cultural norms in Saudi Arabia significantly influence the delivery of end-of-life care. The traditional family structure places significant emphasis on collective decision-making, with family members often serving as primary decision-makers rather than individual patients. Truth-telling practices differ from Western models of full disclosure, with families frequently requesting that terminal diagnoses be withheld from patients to protect them from psychological distress. These cultural patterns reflect deeply held values about family responsibility, protection of loved ones, and respect for authority. Still, they also create tensions with contemporary biomedical ethics principles such as patient autonomy and informed consent.

The Saudi healthcare system has undergone rapid expansion and modernization in recent decades, with substantial investments in medical infrastructure, technology, and workforce development. However, palliative care and end-of-life care services remain relatively underdeveloped compared to acute care capabilities. Many healthcare professionals receive limited training in palliative care principles, communication skills for end-of-life discussions, and management of ethical dilemmas. The absence of standardized national policies and guidelines for end-of-life care contributes to practice variation and uncertainty among clinicians.

Several factors make this systematic review particularly timely and important. First, Saudi Arabia's population is aging, with increasing numbers of patients living with chronic, life-limiting illnesses that require palliative care approaches. Second, the country's Vision 2030 initiative emphasizes healthcare quality improvement and patient-centered care, creating momentum for enhancing end-of-life care services. Third, the COVID-19 pandemic highlighted critical gaps in end-of-life care capacity and communication, particularly in intensive care settings. Fourth, there is growing recognition among Saudi healthcare leaders and policymakers of the need to develop culturally appropriate palliative care models that integrate Islamic values with evidence-based practices.

Despite increasing attention to end-of-life care in Saudi Arabia, the existing evidence base remains fragmented across multiple disciplines and healthcare settings. No comprehensive synthesis has examined the full spectrum of clinical management practices, communication approaches, ethical challenges, cultural and religious considerations, and systemic barriers and facilitators. Such a synthesis is essential for identifying knowledge gaps, informing policy development, guiding educational initiatives, and establishing research priorities.

This systematic literature review aims to comprehensively synthesize the current evidence on end-of-life care in Saudi Arabia by examining clinical management practices, patient-clinician communication, ethical challenges, cultural and

religious considerations, and the barriers and facilitators influencing palliative care delivery. Specifically, the review evaluates how clinical management practices compare with international palliative care standards and their association with quality end-of-life outcomes; how patient-clinician communication approaches influence patient and family satisfaction, understanding, and decision-making; how ethical issues, including treatment withdrawal, informed consent, and patient autonomy, affect clinical decision-making and care quality; how cultural and religious values shape palliative care practices and end-of-life decision-making in comparison with secular healthcare approaches; and how healthcare system factors, such as resource limitations, workforce training, and organizational structures, act as barriers or facilitators to the delivery and accessibility of quality palliative care. By addressing these interrelated domains, the review aims to generate a comprehensive evidence base to inform clinical practice, healthcare policy, educational initiatives, and future research on end-of-life care in Saudi Arabia.

METHODS:

A systematic literature review was conducted to synthesize evidence on end-of-life care in Saudi Arabia. Comprehensive searches were performed in PubMed and Google Scholar to identify studies addressing clinical management, patient-clinician communication, ethical challenges, cultural and religious considerations, and barriers and facilitators to palliative and end-of-life care. Search strategies combined keywords related to end-of-life and palliative care, and Saudi Arabia. No publication date restrictions were applied to ensure comprehensive coverage, and searches were completed during 2024–2025. A total of 122 records were identified, including 58 from Google Scholar and 64 from PubMed.

Studies were selected according to predefined eligibility criteria. Eligible studies focused on the Saudi Arabian healthcare context. They examined at least one of the following areas: clinical management of terminally ill patients, communication and decision-making, ethical issues, cultural or religious influences, or healthcare system barriers and facilitators. Studies conducted outside Saudi Arabia without relevant comparison and non-human or preclinical research were excluded.

A three-stage screening process was undertaken. After removing 29 duplicate records, 93 unique studies underwent title and abstract screening using structured eligibility criteria. Fifty-four records were excluded, primarily because they lacked a Saudi Arabian focus, did not address end-of-life care, or failed to examine communication, ethical, or system-related factors. Thirty-nine articles were subsequently assessed in full, with two further studies excluded due to insufficient relevance, resulting in 37 studies included in the qualitative synthesis.

Data were extracted using a standardized framework that captured study characteristics, methodology, participant demographics, and findings related to clinical management, communication, ethical challenges, cultural and religious influences, and barriers and facilitators to end-of-life care. Extracted data were systematically organized to enable thematic synthesis and comparison across studies, while missing or unavailable information was documented to ensure transparency and reproducibility.

RESULTS:

The systematic search and screening process is summarized in the PRISMA flow diagram below (Figure 1).

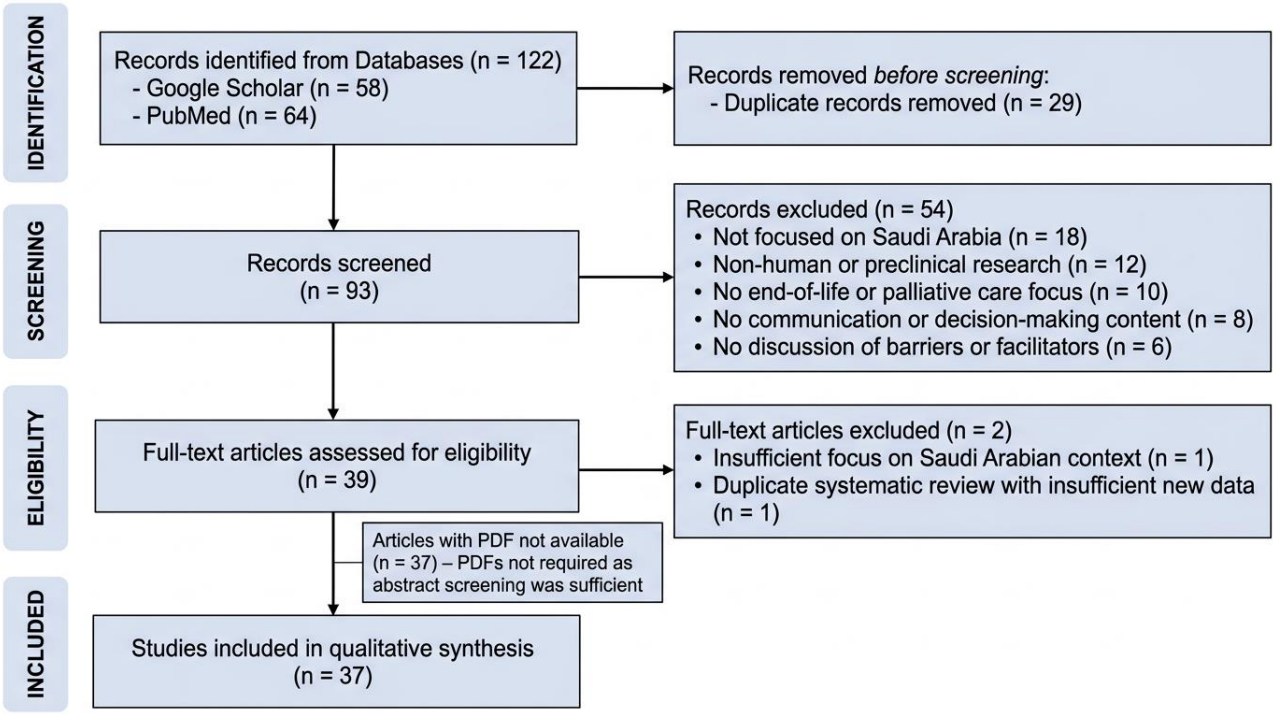

Figure 1. PRISMA 2020 Flow Diagram for Systematic Review of End-of-Life Care in Saudi Arabia

Study Designs:

The included studies utilized a range of research designs:

- **Cross-sectional surveys** (n≈15): Quantitative studies assessing knowledge, attitudes, and practices among healthcare professionals, medical students, and the general population regarding DNR orders, advance directives, palliative care, and end-of-life decision-making [1-10].
- **Qualitative studies** (n≈10): Interview and focus group studies exploring experiences, perspectives, and challenges of healthcare professionals caring for dying patients [9,11-15].
- **Systematic reviews** (n=4): Comprehensive reviews synthesizing evidence on end-of-life care in Middle Eastern countries and Saudi Arabia specifically [16-19].
- **Mixed methods studies** (n≈3): Studies combining quantitative and qualitative approaches [16,20,21]
- **Retrospective analyses** (n≈3): Medical record reviews examining advance directives, goals of care discussions, and intensity of end-of-life care [22-24]
- **Other designs**: Protocol papers, case analyses, and expert panel discussions [25-27]

Healthcare Settings:

Studies were conducted across diverse healthcare environments:

- **Intensive care units (ICUs)**: Multiple studies focused specifically on end-of-life care challenges in adult and pediatric ICUs [5,11,13,14,16,19,24,28]
- **Palliative care services**: Studies examining specialized palliative care programs and bereavement services [1,25,26,29,30]
- **Emergency departments**: Research on end-of-life care for advanced heart failure patients in emergency settings [20,21,31]
- **Academic medical centers and tertiary hospitals**: Large-scale surveys and analyses conducted at major Saudi healthcare institutions [4,22,23,32]
- **Multiple settings**: Studies examining end-of-life care across various healthcare contexts [3,17,33,34]

Study Populations:

The included studies examined perspectives and practices of diverse stakeholder groups:

- **Physicians**: Studies assessing knowledge, attitudes, and practices of physicians across specialties, including family medicine residents, oncologists, intensivists, and general practitioners [1,2,4,7,8].
- **Nurses**: Research examining nurses' experiences, beliefs, competencies, and

roles in end-of-life care, including ICU nurses, oncology nurses, and registered nurses [5,9,13-15,28,33,35]
- **Medical students**: Studies evaluating medical students' understanding of DNR orders and end-of-life care concepts [6].
- **International healthcare professionals**: Research exploring experiences of international charge nurses and clinicians working in Saudi Arabia [12,19].
- **Families and patients**: Studies examining family satisfaction with end-of-life discussions, bereavement services, and family perceptions [10,23,29,32].
- **General population**: Survey research assessing public perspectives on DNR orders [10].
- **Multiple professional groups**: Studies including interdisciplinary healthcare teams[3,7,25].

Geographic Distribution:
While all studies focused on Saudi Arabia, they were conducted in various regions and cities:
- **Riyadh**: Multiple studies conducted in the capital city [22,29,32].
- **Jeddah and Western Region**: Studies in major western cities
- **Eastern Province**: Research in Khobar and Dammam [4].
- **Taif**: Studies in this western city [2].
- **Aljouf**: Northern region research [7].
- **National scope**: Studies examining end-of-life care across multiple regions or at the national level [3,17,18,33].

Temporal Distribution:
The included studies were published between 2021 and 2026, with the majority published in 2022-2024, reflecting growing research attention to end-of-life care in Saudi Arabia during this period. Several systematic reviews published in 2024-2025 synthesized earlier evidence. [16,17,19].

Discussion:
Do-Not-Resuscitate (DNR) Orders and Advance Directives:
A central theme across multiple studies was the significant knowledge gaps and practice variations regarding DNR orders and advance directives. Approximately 29% of physicians in one large academic medical center considered DNR orders equivalent to euthanasia, reflecting fundamental misunderstandings about the ethical and clinical distinctions between withholding futile interventions and actively ending life [4]. This confusion was not limited to physicians; oncology nurses also demonstrated varied understanding of DNR orders, with some viewing them as abandoning patient care rather than as a component of comprehensive end-of-life care [35].

Medical students showed limited understanding of DNR orders, with knowledge gaps regarding the legal, ethical, and clinical aspects of DNR decision-making [6]. Healthcare workers in the Aljouf region demonstrated heterogeneous knowledge, attitudes, and practices regarding "Do Not Attempt Resuscitation" (DNAR) orders, with significant variations in how these orders were understood and implemented [7].

The use of advance directives and written living wills remained limited in Saudi intensive care units. Trainees identified a need to optimize advance medical directives, noting that current practices were insufficient to guide end-of-life decision-making [8]. A retrospective analysis of goals of care discussions at a tertiary center revealed that while some advance care planning occurred, it was not systematically implemented or documented [22].

Palliative Care Service Delivery:
Several studies examined the delivery of specialized palliative care services. Family perceptions of bereavement services in palliative care medicine at King Fahad Medical City in Riyadh provided insights into the coordination role that facilitates communication between different care environments [29]. However, access to palliative care services remained limited, particularly for older adults, with significant implications for nursing practice and care quality [30].

The integration of palliative care principles in intensive care settings faced substantial challenges. ICU nurses reported limited education, practice experience, and competence in palliative and end-of-life care, despite the frequency with which they encountered dying patients [5,28]. Healthcare professionals in ICU settings described tensions between curative and palliative care approaches, with organizational structures often prioritizing life-sustaining interventions over comfort-focused care [11].

Intensity of End-of-Life Care:
A single-center analysis of pediatric end-of-life care revealed high intensity of interventions near death, with implications for advance care planning [24]. This finding suggests that aggressive, potentially burdensome treatments often continued until death, rather than transitioning to comfort-focused care.

Emergency departments faced particular challenges in providing appropriate end-of-life care for patients with advanced heart failure. ED staff identified multiple barriers to delivering quality end-of-life care, including time pressures, lack of private spaces

for family discussions, limited access to palliative care consultation, and organizational cultures focused on acute resuscitation rather than comfort care [20,21,31].

Clinical Management Challenges:
Systematic reviews of end-of-life care in Middle Eastern ICUs identified multiple clinical management challenges, including misunderstanding of end-of-life care concepts, confusion about terminology (e.g., "no resuscitation" versus "comfort care"), and lack of clear guidelines for limiting therapy for dying patients [16,19]. The concept of limiting therapy for dying patients in intensive care was described as relatively new with no legal definition, contributing to practice uncertainty [16].

Physicians identified numerous challenges in palliative care delivery, including inadequate training, insufficient resources, lack of standardized protocols, and difficulties navigating ethical dilemmas [1,16]. These challenges directly impacted the quality and consistency of clinical management practices across Saudi healthcare settings [31].

Communication and Decision-Making
Family-Centered Decision-Making:
A dominant pattern across multiple studies was the prevalence of family-centered decision-making that often excluded or minimized patient autonomy. Nurses described their roles in supporting family end-of-life decision-making in ICUs, noting that families typically served as primary decision-makers rather than patients themselves [13]. This pattern reflected deeply embedded cultural norms about family responsibility and collective decision-making.

International charge nurses working in Saudi Arabia identified significant cultural gaps in end-of-life care, particularly regarding decision-making processes. They described tensions between Western models emphasizing patient autonomy and Saudi cultural practices prioritizing family involvement [12]. These cultural differences created challenges for international healthcare professionals seeking to provide patient-centered care while respecting local cultural norms.

Truth-Telling and Disclosure Practices:
Truth-telling practices emerged as a significant area of ethical and cultural tension. A study specifically examining truth-telling and devastating disclosures described the navigation of tensions between ethical obligations (such as informed consent and patient autonomy) and cultural obligations (such as family protection and collective decision-making) [36]. Healthcare professionals frequently faced requests from families to withhold terminal diagnoses or poor prognoses from patients, creating ethical dilemmas about honesty, transparency, and respect for patient autonomy.

Communication Barriers:
Multiple studies identified communication as a major barrier to quality end-of-life care. Systematic reviews highlighted communication about end-of-life care as one of five main themes regarding challenges in Middle Eastern ICUs [16,19]. Problematic interactions with families, difficulties discussing prognosis and treatment options, and lack of communication skills training were consistently reported [19].

Emergency department staff described communication challenges specific to their setting, including time constraints, lack of established relationships with patients and families, difficulty accessing patient medical histories, and absence of private spaces for sensitive discussions [20,21]. These environmental and organizational factors significantly impeded effective communication about end-of-life care preferences and goals.

Advance Care Planning Discussions:
Advance care planning discussions occurred inconsistently and were often delayed until late in the disease trajectory. Family satisfaction with end-of-life discussions and resuscitation orders for patients with severe COVID-19 varied, suggesting that the quality and timing of these conversations were not standardized [23]. Goals of care discussions, when they occurred, were not always well-documented or systematically followed [22]. Stakeholders' perspectives on implementing interprofessional shared decision-making education in palliative care highlighted the need for structured approaches to improve communication and decision-making processes[25]. However, actual implementation of such approaches remained limited in practice.

Communication Training Needs:
Healthcare professionals across disciplines demonstrated limited training in communication skills for end-of-life discussions. ICU clinicians required training on communication skills, cultural sensitivity, and family involvement strategies to enhance end-of-life care [19]. Family medicine residents showed variable knowledge and attitudes about end-of-life care, with educational gaps in communication approaches [6].

Registered nurses' beliefs about end-of-life care revealed that while many recognized the importance of communication, they experienced significant barriers including lack of training, time constraints, and uncertainty about how to navigate difficult

conversations with patients and families[9].

Ethical Challenges

Treatment Withdrawal and Withholding:

Ethical debates surrounding the acceptability of withholding and withdrawing life-sustaining treatments emerged as a central challenge across multiple studies [19]. The concept of limiting therapy for dying patients was described as relatively new in the Middle Eastern context, with no clear legal definition to guide practice [16]. This ambiguity created significant uncertainty for healthcare professionals making end-of-life decisions.

Physicians demonstrated heterogeneous acceptance regarding end-of-life medical care interventions and DNR decisions, reflecting a lack of consensus on ethical frameworks for treatment limitation [4]. Some healthcare professionals viewed treatment withdrawal as ethically problematic or potentially equivalent to euthanasia, while others recognized it as an appropriate component of end-of-life care [4,35].

Patient Autonomy Versus Family-Centered Decision-Making:

A fundamental ethical tension involved the conflict between Western bioethical principles emphasizing patient autonomy and Saudi cultural norms prioritizing family-centered decision-making. Healthcare professionals frequently navigated situations where family members made decisions on behalf of patients without fully involving the patients themselves [12,13,36].

This tension was particularly acute when patients' preferences might differ from family wishes, or when families requested that information be withheld from patients. Healthcare professionals described ethical distress when they believed patient autonomy was being compromised, yet felt obligated to respect cultural norms and family requests [12,16].

Informed Consent Challenges:

Cultural practices of family-centered decision-making and limited truth-telling often complicated informed consent processes for end-of-life decisions. Healthcare professionals faced ethical dilemmas about how to obtain truly informed consent when patients were not fully informed about their diagnoses or prognoses [36]. The question of who should provide consent—the patient or the family—remained ethically contested.

Assessment of knowledge and attitudes toward palliative care and end-of-life decision-making revealed that many healthcare professionals lacked a clear understanding of informed consent principles in the end-of-life context [3]. This knowledge gap contributed to inconsistent practices and ethical uncertainty.

DNR Order Ethical Controversies:

DNR orders generated substantial ethical controversy and confusion. The misconception that DNR orders were equivalent to euthanasia reflected fundamental misunderstandings about the ethical distinction between allowing natural death and actively causing death [4,35]. This confusion had significant implications for DNR decision-making and implementation.

The general population's perspective toward DNR orders revealed varied understanding and acceptance, with some viewing DNR orders as ethically acceptable and others expressing concerns about abandoning patients or hastening death [10]. These diverse perspectives complicated efforts to implement consistent DNR policies.

Ethical Frameworks and Guidelines:

A systematic review of ethical challenges in Saudi Arabia identified the need for comprehensive ethical frameworks and guidelines to guide end-of-life decision-making [18]. The absence of unified national policies created ethical uncertainty and practice variation. Healthcare professionals called for clear ethical guidelines that integrated Islamic principles with contemporary bioethical frameworks [1,33].

Ethical and legal challenges in caring for older adults with multimorbidities highlighted the complexity of end-of-life decision-making for vulnerable populations, with nurses requiring guidance on best practices that balanced ethical principles with cultural sensitivity [34].

Cultural and Religious Considerations

Islamic Principles and End-of-Life Care:

Islamic religious principles profoundly shaped end-of-life care practices and decision-making in Saudi Arabia. Spirituality and religious practices for the dying were identified as both challenges and facilitators of end-of-life care in Middle Eastern ICUs [16]. Islamic teachings emphasizing the sanctity of life, acceptance of divine will, and specific spiritual practices surrounding death influenced how healthcare professionals, patients, and families approached end-of-life decisions.

The cultural context of Middle East and North Africa countries, with Islam as the predominant religion, created special challenges and opportunities for end-of-life care [16]. Healthcare professionals needed to integrate Islamic values and practices into care delivery while also applying evidence-based palliative care principles.

Fasting and Spiritual Practices:
Specific religious practices created unique considerations in end-of-life care. A study exploring fasting at life's end examined the spiritual and medical tensions in palliative care, highlighting how religious obligations such as Ramadan fasting intersected with medical management of dying patients [37]. Healthcare professionals needed to navigate these tensions sensitively, respecting religious commitments while ensuring patient comfort and safety.

Cultural Norms and Family Roles:
Cultural norms regarding family roles and responsibilities significantly influenced end-of-life care delivery. The traditional Saudi family structure emphasized collective decision-making, family protection of vulnerable members, and respect for elder authority [12,13,36]. These cultural patterns shaped who participated in end-of-life discussions, how information was shared, and how decisions were made.

International healthcare professionals working in Saudi Arabia described the need to bridge cultural gaps in end-of-life care, adapting their practices to align with local cultural expectations while maintaining professional standards [12]. This cultural adaptation required understanding and respecting Saudi values while also advocating for patient-centered care.

Cultural Sensitivity and Competence:
Multiple studies emphasized the need for cultural sensitivity and competence in end-of-life care delivery. ICU clinicians required training on cultural sensitivity to effectively navigate the unique cultural and ethical landscape of end-of-life care in Saudi Arabia [19]. Healthcare professionals who lacked cultural understanding sometimes experienced conflicts with families or provided care that was not culturally appropriate.

The cultural and ethical issues impacting end-of-life care delivery in Middle Eastern ICUs required healthcare systems to develop culturally adapted care models that integrated local values with evidence-based practices [19]. This integration represented an ongoing challenge requiring attention to both cultural respect and quality improvement.

Cultural Differences Among Healthcare Professionals:
The presence of international healthcare professionals from diverse cultural backgrounds created additional complexity. International nurses and physicians brought different cultural assumptions about patient autonomy, truth-telling, and family involvement, sometimes leading to misunderstandings or conflicts with Saudi colleagues, patients, and families [12]. Healthcare organizations needed to provide cultural orientation and ongoing support to help international staff understand and adapt to Saudi cultural norms.

Barriers and Facilitators
Knowledge and Training Barriers:
Knowledge gaps and inadequate training emerged as major barriers across multiple studies. Physicians demonstrated limited knowledge about palliative care principles, end-of-life communication, and ethical frameworks for treatment limitation [1,2,4]. ICU nurses reported insufficient education and training in palliative and end-of-life care, despite frequently caring for dying patients [5,28].

Family medicine residents showed variable knowledge and attitudes about end-of-life care, with educational gaps that needed to be addressed in training programs [2]. Medical students' limited understanding of DNR orders suggested that end-of-life care education needed to be strengthened in medical school curricula [6].

Novice nurses identified lack of education and training as significant barriers to working with dying patients [15]. The absence of systematic palliative care education in nursing and medical training programs contributed to ongoing knowledge deficits and practice uncertainties.

Resource and Service Limitations:
Resource limitations and insufficient palliative care services represented major systemic barriers. Access to palliative care remained limited, particularly for older adults and patients in non-tertiary healthcare settings [30]. Emergency departments lacked access to palliative care consultation services, private spaces for family discussions, and time to conduct thorough end-of-life care planning [20,21,31].

Challenges associated with end-of-life care in Saudi Arabia included insufficient specialized palliative care programs, limited availability of hospice services, and inadequate integration of palliative care principles into mainstream healthcare delivery [33]. These resource constraints directly impacted the quality and accessibility of end-of-life care.

Policy and Guideline Gaps:
The absence of unified national policies and standardized guidelines created significant barriers to consistent, high-quality end-of-life care. Healthcare professionals called for comprehensive end-of-life care guidelines that provided clear direction for clinical decision-making [19]. The need to update and unify DNR policies at the national level was specifically identified, with emphasis on considering patients' rights to be informed and actively involved in decision-making

[1].

Advanced medical directives and written living wills were not systematically implemented, with trainees identifying a need to optimize these tools [8]. The lack of legal frameworks and institutional policies for advance care planning contributed to practice variation and missed opportunities for patient-centered care.

Organizational and Environmental Barriers:
Organizational structures and management practices sometimes hindered effective end-of-life care. ICU environments prioritized life-sustaining interventions and acute care, creating tensions when transitioning to comfort-focused care [11,16]. Emergency departments' fast-paced, high-acuity environments were not conducive to the time-intensive communication and care planning required for quality end-of-life care [20,21,31].

The impact of the ICU environment on end-of-life care included physical space limitations, lack of privacy, high noise levels, and organizational cultures that did not adequately support palliative approaches [16]. These environmental factors created barriers to providing dignified, peaceful end-of-life care.

Communication Barriers:
Communication challenges represented a cross-cutting barrier affecting multiple aspects of end-of-life care. Healthcare professionals lacked training in communication skills for difficult conversations about prognosis, treatment options, and goals of care [19]. Language barriers sometimes complicated communication, particularly when international healthcare professionals cared for Arabic-speaking patients and families [12].

Problematic interactions with families, difficulties navigating cultural expectations about information sharing, and time constraints all contributed to communication barriers [19]. The absence of structured communication protocols and tools further impeded effective end-of-life discussions.

Facilitators: Specialized Services and Programs:
Despite numerous barriers, several facilitators of quality end-of-life care were identified. Specialized palliative care services, when available, improved care quality and family satisfaction [29,30]. Bereavement services provided important support to families after patient death [29].

The development of palliative care programs in major medical centers represented progress toward improving end-of-life care [25,26,29]. These programs provided expertise, consultation services, and models for integrating palliative care principles into broader healthcare delivery.

Facilitators: Interdisciplinary Collaboration:
Interdisciplinary collaboration and team-based approaches facilitated better end-of-life care. Stakeholders emphasized the value of interprofessional shared decision-making in palliative care, with multiple disciplines contributing their expertise to comprehensive care planning [25]. Nurses played crucial roles in supporting family decision-making and coordinating care across settings [13].

Facilitators: Education and Training Initiatives:
Educational initiatives and training programs represented important facilitators. When healthcare professionals received education in palliative care principles, communication skills, and cultural sensitivity, their confidence and competence in providing end-of-life care improved [19]. The need for systematic end-of-life care education in medical and nursing training programs was widely recognized [2,5,28].

Innovative approaches such as using ChatGPT-4 for enhancing expert panel discussions in pediatric palliative care demonstrated potential for leveraging technology to support education and knowledge sharing [26].

Facilitators: Organizational Support:
Organizational support for end-of-life care, including clear policies, adequate staffing, access to consultation services, and leadership commitment, facilitated quality care delivery [19]. Healthcare organizations that prioritized palliative care and provided resources for end-of-life care enabled healthcare professionals to deliver better care.

Facilitators: Cultural Adaptation:
Culturally adapted care models that integrated Islamic principles with evidence-based palliative care practices represented important facilitators [16,19]. When end-of-life care approaches respected cultural and religious values while also applying contemporary palliative care principles, they were more acceptable to patients, families, and healthcare professionals.

4. DISCUSSION:

Clinical Management Practices:
Significant knowledge gaps, practice variations, and limited integration of palliative care principles characterize clinical management of dying patients in Saudi Arabia. The widespread confusion between DNR orders and euthanasia reflects fundamental misunderstandings about the ethical and clinical foundations of end-of-life care [1,4,5]. This confusion has serious implications for patient care, potentially leading to inappropriate continuation of

futile interventions or, conversely, premature withdrawal of beneficial treatments.

The limited use of advance directives and advance care planning represents a missed opportunity for patient-centered care [2,8]. While cultural factors contribute to this limitation, the absence of systematic processes and policies also plays a significant role. The high intensity of care near death, particularly in pediatric populations, suggests that transitions from curative to comfort-focused care often occur too late or not at all [24].

Palliative care services remain underdeveloped and unevenly distributed across Saudi healthcare settings. While specialized palliative care programs exist in some major medical centers, access remains limited for many patients, particularly in non-tertiary settings and for specific populations such as older adults [30]. The integration of palliative care principles into mainstream healthcare delivery, particularly in intensive care units and emergency departments, faces substantial barriers [5,11,20,21,31].

Communication and Decision-Making

Communication about end-of-life care emerges as a critical challenge across all healthcare settings. The predominance of family-centered decision-making, while culturally appropriate in many respects, often occurs at the expense of patient autonomy and informed consent [12,13,36]. Healthcare professionals navigate complex tensions between respecting cultural norms and upholding ethical principles of patient autonomy and truth-telling.

Limited truth-telling practices create ethical dilemmas and may compromise informed consent [36]. When patients are not fully informed about their diagnoses or prognoses, their ability to participate meaningfully in treatment decisions is constrained. This pattern reflects cultural values about family protection and collective decision-making, but it also raises questions about how to balance cultural sensitivity with respect for individual patient rights.

Healthcare professionals across disciplines demonstrate limited training in communication skills for end-of-life discussions [2,9,19]. This training gap contributes to communication barriers, missed opportunities for advance care planning, and family dissatisfaction with end-of-life care. The absence of structured communication protocols and tools further impedes effective communication.

Ethical Challenges:

Ethical challenges in end-of-life care reflect tensions between Western bioethical principles and Islamic values, as well as gaps in ethical frameworks and guidelines. The ethical debates surrounding treatment withdrawal and withholding reflect both religious considerations about the sanctity of life and practical uncertainties about when limitation of therapy is appropriate [16,19].

The conflict between patient autonomy and family-centered decision-making represents a fundamental ethical tension that healthcare professionals navigate daily [12,13,36]. While Western bioethics emphasizes individual autonomy, Saudi cultural and religious traditions prioritize family involvement and collective decision-making. Finding an appropriate balance between these competing values requires nuanced ethical frameworks that respect both individual rights and cultural norms.

The absence of unified national policies and clear ethical guidelines creates practice variation and ethical uncertainty [4,18]. Healthcare professionals call for comprehensive frameworks that integrate Islamic principles with contemporary bioethical standards, providing clear guidance for complex end-of-life decisions [1,33].

Cultural and Religious Considerations:

Islamic principles and Saudi cultural norms profoundly shape end-of-life care in ways that differ substantially from Western healthcare models. The emphasis on sanctity of life, acceptance of divine will, family responsibility, and specific spiritual practices creates a unique context for end-of-life care delivery [16,25].

Cultural sensitivity and competence emerge as essential competencies for healthcare professionals working in Saudi Arabia. International healthcare professionals, in particular, require cultural orientation and ongoing support to understand and adapt to Saudi cultural norms [12]. The presence of diverse cultural perspectives among healthcare professionals creates both challenges and opportunities for cross-cultural learning and adaptation.

The integration of Islamic values with evidence-based palliative care practices represents an ongoing challenge and opportunity. Culturally adapted care models that respect religious and cultural values while applying contemporary palliative care principles are more acceptable and effective [16,19]. Developing such models requires collaboration between healthcare professionals, religious scholars, ethicists, and community members.

Barriers and Facilitators:

Multiple barriers impede quality end-of-life care, including knowledge gaps, inadequate training, resource limitations, policy gaps, organizational constraints, and communication challenges [1,5,20,21,28,30,31,33]. These barriers operate at

individual, organizational, and systemic levels, requiring multi-faceted interventions to address them effectively.

Knowledge and training deficits among healthcare professionals represent modifiable barriers that can be addressed through educational interventions. The limited integration of palliative care education in medical and nursing training programs suggests a need for curriculum reform [2,5,6,28]. Continuing education programs for practicing healthcare professionals can help bridge existing knowledge gaps.

Resource limitations and insufficient palliative care services require systemic investments in service development and expansion. The uneven distribution of palliative care services creates inequities in access, with patients in tertiary centers having better access than those in community settings [30]. Expanding palliative care services and integrating palliative care principles across all healthcare settings would improve access and quality.

Policy and guideline gaps represent opportunities for health system improvement. Developing unified national policies for DNR orders, advance directives, and end-of-life care would reduce practice variation and provide clear guidance for healthcare professionals [1,4,8]. Such policies should be developed through inclusive processes that engage healthcare professionals, ethicists, religious scholars, patients, and families.

Facilitators of quality end-of-life care include specialized palliative care services, interdisciplinary collaboration, education and training initiatives, organizational support, and culturally adapted care models [13,19,25,26,29]. Strengthening these facilitators through targeted interventions and investments would enhance end-of-life care quality and accessibility.

Implications for Practice and Policy:

The findings of this review have several important implications for clinical practice and health policy in Saudi Arabia:

1. **Education and Training:** Comprehensive palliative care education should be integrated into medical and nursing curricula, with emphasis on communication skills, ethical frameworks, and cultural sensitivity. Continuing education programs should be developed for practicing healthcare professionals.
2. **Policy Development:** Unified national policies and guidelines for DNR orders, advance directives, and end-of-life care should be developed through inclusive, culturally sensitive processes. These policies should integrate Islamic principles with evidence-based palliative care standards.
3. **Service Expansion:** Palliative care services should be expanded and made more accessible across all healthcare settings and regions. Integration of palliative care principles into mainstream healthcare delivery, particularly in ICUs and emergency departments, should be prioritized.
4. **Communication Enhancement:** Structured communication protocols and tools should be developed and implemented to support end-of-life discussions. Healthcare professionals should receive training in communication skills for difficult conversations.
5. **Cultural Adaptation:** Care models should be developed that integrate Islamic values and Saudi cultural norms with evidence-based palliative care practices. These models should balance respect for cultural traditions with contemporary ethical principles.
6. **Research Priorities:** Future research should focus on patient and family perspectives, effectiveness of culturally adapted interventions, implementation of advance care planning frameworks, and evaluation of policy and service innovations.

Limitations

This systematic review has several limitations that should be considered when interpreting the findings. The included studies varied in methodological quality and rigor. While systematic reviews and well-designed primary studies provided robust evidence, some included studies had methodological limitations such as small sample sizes, convenience sampling, single-center designs, and limited generalizability. The predominance of cross-sectional surveys limits the ability to draw causal inferences about relationships between variables.

Many studies focused on healthcare professionals' perspectives, with limited representation of patient and family perspectives. This gap is significant because patients and families are the primary stakeholders in end-of-life care, and their experiences and preferences should be central to understanding care quality. The limited patient and family voice in the literature represents an important knowledge gap.

The studies were conducted across diverse healthcare settings and regions within Saudi Arabia, but some areas and settings were underrepresented. Rural and community healthcare settings, in

particular, received limited attention compared to tertiary academic medical centers. This geographic and setting bias may limit the generalizability of findings to all Saudi healthcare contexts.

Temporal Limitations:
The included studies were published between 2021 and 2026, reflecting relatively recent research. While this temporal focus ensures that findings reflect current practices, it may not capture historical trends or longer-term changes in end-of-life care. The Saudi healthcare system is evolving rapidly, and practices may change more quickly than the research literature can document.

The COVID-19 pandemic occurred during the period covered by this review and may have influenced end-of-life care practices and research priorities. Some studies specifically examined end-of-life care during COVID-19 [23], but the pandemic's broader impacts on end-of-life care may not be fully captured.

Knowledge Gaps:
Despite the comprehensive scope of this review, several important knowledge gaps remain:

- Limited evidence on patient and family experiences, preferences, and satisfaction with end-of-life care
- Insufficient research on specific clinical outcomes associated with different end-of-life care approaches
- Limited evaluation of interventions to improve end-of-life care quality
- Inadequate understanding of cost-effectiveness and resource implications of palliative care services
- Insufficient research on specific populations such as pediatric patients, older adults, and patients with specific diseases
- Limited longitudinal research examining changes in end-of-life care practices over time

These knowledge gaps represent important priorities for future research.

CONCLUSIONS:

End-of-life care in Saudi Arabia is characterized by significant knowledge gaps among healthcare professionals, particularly regarding DNR orders, advance directives, and palliative care principles. The widespread confusion between DNR orders and euthanasia reflects fundamental misunderstandings that require urgent attention through education and policy clarification [4-7].

Communication about end-of-life care represents a critical challenge across all healthcare settings. The predominance of family-centered decision-making, while culturally appropriate, often occurs at the expense of patient autonomy and informed consent [12,13,36]. Limited truth-telling practices and inadequate communication skills training among healthcare professionals contribute to communication barriers and family dissatisfaction [2,9,19,36]

Ethical challenges reflect tensions between Western bioethical principles emphasizing patient autonomy and Islamic values prioritizing family involvement and sanctity of life [16,19,36]. The absence of unified national policies and clear ethical guidelines creates practice variation and ethical uncertainty [4,18]. Developing comprehensive ethical frameworks that integrate Islamic principles with contemporary bioethical standards is essential.

Cultural and religious considerations profoundly shape end-of-life care delivery in Saudi Arabia. Islamic principles emphasizing sanctity of life, acceptance of divine will, family responsibility, and specific spiritual practices create a unique context that differs substantially from Western healthcare models [16,25]. Culturally adapted care models that integrate Islamic values with evidence-based palliative care practices are more acceptable and effective [16,19]

Multiple barriers impede quality end-of-life care, including knowledge gaps, inadequate training, resource limitations, policy gaps, organizational constraints, and communication challenges [1,5,20,21,28,30,31,33]. These barriers operate at individual, organizational, and systemic levels, requiring multi-faceted interventions. Facilitators include specialized palliative care services, interdisciplinary collaboration, education initiatives, organizational support, and culturally adapted care models [13,19,25,26,29].

Implications for Practice:
Healthcare professionals require comprehensive education and training in palliative care principles, communication skills for end-of-life discussions, ethical frameworks for complex decisions, and cultural sensitivity. Medical and nursing curricula should integrate palliative care education systematically, and continuing education programs should address knowledge gaps among practicing professionals [2,5,6,19,28].

Structured communication protocols and tools should be developed and implemented to support end-of-life discussions with patients and families. These protocols should balance respect for cultural norms about family involvement with ethical principles of patient autonomy and informed consent [13,19,36]

Healthcare organizations should prioritize integration of palliative care principles across all settings, particularly in intensive care units and emergency departments where dying patients frequently receive care [5,11,16,19-21,31]. Interdisciplinary collaboration and team-based approaches should be strengthened to provide comprehensive end-of-life care [13,25].

Implications for Policy:
Unified national policies and guidelines for DNR orders, advance directives, and end-of-life care should be developed through inclusive processes engaging healthcare professionals, ethicists, religious scholars, patients, and families. These policies should integrate Islamic principles with evidence-based palliative care standards and provide clear guidance for clinical decision-making [4,8,18]. Palliative care services should be expanded and made more accessible across all healthcare settings and regions. Investment in specialized palliative care programs, training of palliative care specialists, and integration of palliative care into mainstream healthcare delivery are essential to improve access and quality [19,30]

Legal frameworks for advance care planning should be developed that respect both patient autonomy and family involvement, reflecting Saudi cultural values while protecting patient rights. These frameworks should clarify the legal status of advance directives and guide surrogate decision-making [8].

Future Research Directions:
Future research should prioritize patient and family perspectives on end-of-life care, including their experiences, preferences, values, and satisfaction. The current evidence base is heavily weighted toward healthcare professional perspectives, creating a significant knowledge gap about the primary stakeholders' views.

Intervention research is needed to evaluate the effectiveness of educational programs, communication protocols, policy innovations, and service delivery models. Rigorous evaluation of culturally adapted interventions would provide evidence to guide practice and policy improvements. Implementation research should examine how to effectively translate evidence-based palliative care practices into the Saudi healthcare context, addressing barriers and leveraging facilitators identified in this review. Understanding implementation processes and outcomes would support quality improvement efforts.

Longitudinal research examining changes in end-of-life care practices, outcomes, and quality over time would provide valuable insights into the impact of educational, policy, and service innovations. Such research would support continuous quality improvement and accountability.

Research on specific populations, including pediatric patients, older adults, patients with specific diseases, and underserved populations, would address current knowledge gaps and support development of population-specific care approaches.

Final Remarks:
End-of-life care in Saudi Arabia stands at a critical juncture. Growing recognition of palliative care needs, increasing attention to quality of care, and momentum from Vision 2030 healthcare reforms create opportunities for significant improvements. However, realizing these improvements requires sustained commitment to education, policy development, service expansion, and research.

The unique cultural and religious context of Saudi Arabia necessitates culturally sensitive approaches that integrate Islamic principles with evidence-based palliative care practices. Rather than simply importing Western models, Saudi Arabia has the opportunity to develop innovative care models that respect cultural and religious values while achieving high-quality, patient-centered end-of-life care.

Success will require collaboration among healthcare professionals, educators, policymakers, religious scholars, ethicists, patients, families, and communities. By working together to address the challenges identified in this review and build on existing facilitators, Saudi Arabia can develop end-of-life care systems that honor the dignity of dying patients, support their families, and reflect the values of Saudi society.

The evidence synthesized in this systematic review provides a foundation for action. The path forward is clear: invest in education and training, develop unified policies and guidelines, expand palliative care services, enhance communication practices, and conduct research to improve care quality continuously. By taking these steps, Saudi Arabia can ensure that all patients receive compassionate, high-quality end-of-life care that respects their values, relieves their suffering, and supports their families during life's final journey.

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