



Feasibility assessment of adapting intensive care units to religious regulations: A qualitative study

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Abstract

Background: Respecting patients' rights in intensive care units (ICUs) requires a delicate balance between clinical imperatives and religious obligations, including ritual requirements, jurisprudential rulings, ethical norms, and organizational policies. Practical and interdisciplinary evidence on the feasibility of designing and implementing ICUs that systematically integrate these dimensions in accordance with religious regulations remains limited.

Objectives: This study aimed to explore the principles, barriers, and operational strategies for adapting ICUs to religious considerations.

Methods: This qualitative research was conducted using a thematic analysis approach among 29 participants, including specialists in anesthesiology, medical ethics, ICU nursing, hospital management, hospital engineering, and family members of patients, across two university hospitals selected by purposive sampling. Semi-structured interviews were conducted until data saturation was achieved. Data were analyzed using MAXQDA software based on Braun and Clarke's six-phase framework, and the trustworthiness of the findings was ensured according to Lincoln and Guba's criteria.

Results: Data analysis yielded three main themes, 12 categories, 31 subcategories, and 84 codes. Theme 1, Religious Obligations and Patients' Rights: This theme emphasizes ensuring opportunities for worship, maintaining privacy and dignity, providing transparent information, observing end-of-life religious principles, and guaranteeing halal nutrition and medication. Theme 2, Implementation Challenges: This theme highlighted constraints in human and physical resources, alongside the critical condition of patients, as significant barriers to fulfilling religious requirements. Theme 3, Operational Strategies: This theme focused on faith-based technical and managerial design, family involvement, and Islamic financial support as practical pathways for establishing religiously compliant ICUs.

Conclusion: Adapting ICUs to religious regulations requires a multidimensional and phased approach that integrates jurisprudence, engineering, and clinical medicine. Implementing the recommendations of this study may provide a robust foundation for developing a context-specific model of religiously compliant ICUs, along with protocols, monitoring indicators, and ethical-religious policies for hospital design.

Keywords: Patients' rights, Religion and medicine, Pastoral care, Intensive care units, Hospitals.

Introduction

The intensive care unit (ICU) is a vital hospital ward that provides life-saving interventions and continuous monitoring for patients in life-threatening conditions. ICU patients require complex treatments and uninterrupted surveillance, and the combination of

clinical fluctuations and prolonged hospitalization makes the physical environment, organizational structure, and team interactions decisive for both outcomes and patient experience.^[1,2] The growing demand for intensive care, driven by population growth, chronic diseases, and technological advances, has increased the pressure on

ICUs to maintain quality while safeguarding patient rights.^[3,4]

Beyond clinical aspects, attention to religious regulations and spiritual dimensions of patients in the ICU is increasingly recognized as an integral component of comprehensive care. Muslim patients and their families often seek an environment where high-quality treatment is harmonized with religious values. At the organizational level, this expectation has been acknowledged as part of patient rights and healthcare quality.^[5,6] International accreditation bodies have also emphasized respect for patients' spiritual and religious needs, urging hospitals to establish policies and processes that address these requirements.^[4] In Iran, the integration of religious and spiritual values into hospital care has deep historical roots, as documented in studies on early Persian-Islamic hospitals where patient dignity and non-physical needs were emphasized.^[7] Contemporary Iranian research has also highlighted the need for structured spiritual care systems, and has proposed structured spiritual care frameworks for hospitals; however, several modern attempts to implement religiously oriented hospital models, including faith-based hospitals, have encountered managerial, infrastructural, and policy-level challenges, highlighting the gap between vision and feasible implementation, particularly in complex settings such as ICUs.^[8-10] In this study, we use the term "religious regulations" as an umbrella concept that encompasses four interrelated layers. First, it refers to ritual requirements, such as daily prayers, ablution or dry ablution (tayammum), Qibla orientation, and maintaining ritual purity for patients and care environments. Second, it includes jurisprudential rules derived from Islamic law that govern clinical decisions, for example with respect to do-not-resuscitate orders, brain-death and organ donation, the permissibility of medications containing doubtful substances, and gender-concordant care. Third, it covers ethical norms that translate Islamic values into bedside practice, including truth-telling, respect for patients' decisions based on adequate information, preservation of privacy and dignity, and fairness in access to care. Fourth, it involves organizational policies and procedures such as written protocols, architectural standards, and supervisory committees through which these ritual, jurisprudential, and ethical requirements are implemented and monitored at the hospital level.^[4, 11, 12]

The importance of adhering to religious regulations in the ICU is evident in several key areas. At the end-of-life and palliative stages, religious considerations play a central role in sensitive clinical decisions, resuscitation, and

withdrawal of treatment, and the absence of clear guidance may cause confusion for families and staff.^[3, 13] Preserving privacy and ensuring opportunities for worship are also fundamental rights, and neglecting them negatively affects care experiences and satisfaction.^[14, 15] At the same time, adapting ICU environments and processes to religious regulations presents unique engineering, legal, and organizational challenges. Open-plan designs and the need for rapid access to emergency equipment may conflict with requirements for privacy and gender-concordant care. Similarly, ensuring equitable access, maintaining the ritual purity of spaces and medical equipment, and providing accessible prayer areas all demand technical redesigns and revisions of hospital processes.^[15-17]

Although the literature on faith-based hospitals and Shariah-compliant healthcare is expanding, systematic evidence that specifically addresses the feasibility of designing ICUs in accordance with religious regulations remains scarce. Most existing studies fall into three main groups. A first group proposes high-level conceptual or policy frameworks for Shariah-compliant hospitals and medical services.^[12, 17] A second group focuses on spiritual care and patient or family experience in hospital or ICU settings.^[14, 18] A third, smaller group describes minimum Shariah service standards and accreditation indicators for hospitals.^[11, 19] However, this body of work pays relatively little attention to ICU-specific architectural, organizational, and clinical challenges. Recent qualitative studies in Iran have also shown that patients' spiritual needs are deeply shaped by cultural and religious contexts and influence their expectations from hospital care.^[20-22] Despite these insights, a clear gap remains between the documented spiritual needs of patients and the structural or regulatory adaptations implemented in hospital settings, particularly in ICUs. To address this gap, we designed a qualitative study grounded in the perspectives of clinical experts, hospital engineers, and jurisprudential scholars to develop context-sensitive operational strategies for designing and implementing religiously compliant ICUs based on contextual evidence and stakeholder experiences.^[3, 11, 19]

Objectives

The present study was conducted to assess the feasibility of adapting and designing ICUs in line with religious regulations, with the aim of identifying enforceable requirements, engineering standards, barriers, and practical solutions.

Methods

Study Design

This qualitative study employed a thematic analysis approach. The research was conducted in the intensive care units of Shahid Beheshti Hospital, affiliated with Kashan University of Medical Sciences. Purposive maximum-variation sampling was used to recruit participants from different professional roles such as anesthesiologists, medical ethics scholars, ICU nurses, hospital managers, hospital architects and engineers, as well as family members of ICU patients, to capture a broad range of experiences and viewpoints regarding the adaptation of ICUs to religious regulations. Semi-structured interviews were conducted to identify enforceable regulations, engineering standards, barriers, and practical strategies.

Study Population and Sampling

The study population included faculty members and specialists in anesthesiology, Islamic jurisprudence and religious studies experts (clerics), medical ethics, ICU nursing, senior hospital managers, hospital architects and engineers, and family members of ICU patients. Purposive maximum-variation sampling was used as the primary strategy to capture diversity in professional roles, decision-making levels, and workplaces. In addition, snowball sampling (as a complementary purposive strategy) was employed to identify less accessible experts. Of the 29 participants, 21 were recruited through purposive sampling and 8 through snowball sampling. The final sample comprised 3 physicians, 4 ICU nurses, 2 head nurses, 1 matron, 1 hospital director, 2 hospital managers, 4 clerics, 4 hospital engineers (3 hospital design engineers and 1 biomedical equipment engineer), 4 university faculty members, and 4 family members of ICU patients [Table-1]. Data collection and analysis proceeded iteratively and continued until thematic data saturation was reached, that is, when no new codes or themes were identified in subsequent interviews within or across participant subgroups.

Inclusion and Exclusion Criteria

Inclusion criteria were at least three years of relevant professional experience, current employment or collaboration with hospitals in relation to ICUs, willingness to participate, and availability for interviews and validation stages. Exclusion criteria included withdrawal of informed consent or unwillingness to continue participation at any stage of the study.

Data Collection Instrument

The interview guide was developed through a combination of literature review and expert consultation.

Initial questions were derived from the study objectives and a targeted review of literature on religious-compliant hospitals, spiritual care, and ICU design. The guide was then refined by a six-member advisory panel consisting of anesthesiologists, medical ethicists, ICU nursing faculty, a head nurse, a cleric, a hospital manager, and two hospital engineers. The final version was revised after two pilot interviews to ensure clarity and the ability to elicit thematic data. The interview guide was tailored to two main participant groups. For clinical, managerial, jurisprudential, and engineering experts, the interviews were structured around four core questions aligned with the study aims: 1) From your perspective, what ethical and religious rights of ICU patients must be observed? 2) Which medical and nursing practices in the ICU can or should be modified to comply with these religious requirements? 3) What architectural and engineering features, as well as environmental facilities, are needed to safeguard patients' religious rights in the ICU? and 4) What legal, managerial, and organizational barriers or practical solutions have you encountered when attempting to implement such measures? For family members of ICU patients, a shortened and less technical version of the interview guide was used, focusing on their lived experiences rather than normative or organizational details. The questions were structured around three main themes: 1) perceptions and experiences of the patient's religious and spiritual rights in the ICU; 2) perceived challenges and unmet needs in relation to these rights; and 3) suggestions for improving ICU care, the physical environment, and hospital policies to better respect patients' Sharia-based rights. These questions were designed to elicit participants' views across the different layers of religious regulations, including ritual practices, jurisprudential rulings, ethical norms in patient-professional interactions, and organizational policies and procedures in the ICU.

Data Collection Procedure

Data collection was carried out between May and August 2025. Interviews were conducted face-to-face in private and appropriate settings. Each session lasted 30–60 minutes, was audio-recorded with permission, and transcribed verbatim. To enhance interpretive accuracy, a written summary of each interview was returned to participants for member-checking. The interview guide focused on four themes: 1) definitions and examples of patients' religious rights in the ICU, 2) enforceable and feasible regulations, 3) engineering considerations in design and equipment, and 4) medical and organizational challenges and operational strategies.

Data Analysis

Data were analyzed using thematic analysis, following Braun and Clarke's six-phase framework.^[23] After familiarization with the data through repeated readings, two researchers independently generated initial codes that captured both explicit content and underlying meanings. Codes were then compared and collated into subcategories and categories by identifying patterned relationships within and across interviews (for example, recurrent tensions between clinical imperatives and ritual requirements, or between ideal religious standards and resource constraints). In the early stages of coding, segments of data were sensitively mapped onto the four conceptual layers of religious regulations (ritual, jurisprudential, ethical, and organizational), using these layers as sensitizing concepts to guide interpretation rather than as fixed a priori themes, while allowing themes, categories, and subcategories to emerge inductively from participants' accounts. Through iterative team discussions and constant comparison across participant groups, these categories were refined into three overarching, analytically defined themes that captured how participants understood religious obligations, experienced implementation challenges, and articulated practical strategies for ICU design and practice. All transcripts were managed and coded in MAXQDA. Initial coding was performed independently by two researchers, followed by comparison and calibration meetings to develop a final codebook with clear definitions, application criteria, and illustrative examples. Discrepancies were resolved through structured discussion, and inter-coder agreement indices were assessed when necessary. For each theme, we selected illustrative quotations that exemplified the analytic claims and showed the range of views within and across participant subgroups, to ensure transparent linkage between data and interpretation.

Trustworthiness

To ensure the trustworthiness of the data, we applied Lincoln and Guba's criteria of credibility, dependability, confirmability, and transferability.^[24] Credibility was enhanced through maximum-variation sampling to achieve diversity in participants' professional roles and experiences, as well as member-checking, whereby interview summaries and preliminary interpretations were returned to participants to verify that the researchers' understanding accurately reflected their statements. Dependability (reliability) was supported by involving all authors in the iterative processes of coding and theme development; discrepancies were discussed until consensus was reached, and a detailed audit trail

documenting methodological decisions, coding changes, and analytical steps was maintained. Confirmability was strengthened through peer debriefing with three experienced qualitative research experts who were not involved in data collection and who critically reviewed and either confirmed or challenged the emerging categories and subcategories. Finally, transferability was facilitated by providing rich contextual descriptions of the study setting, participants, sampling strategies, and analytic procedures, enabling readers to judge the applicability of the findings to other contexts. Given the interpretive nature of this qualitative study, we also reflected on the research team's positionality. The team consisted of researchers in health sciences and health management and a senior investigator based in a spiritual health research center. All members were familiar with the Iranian hospital context and supportive of integrating spiritual and religious dimensions into healthcare, which may predispose them to view religiously oriented models of care favorably. To limit the influence of these pre-understandings, we held regular reflexive discussions, compared coding and theme development across team members, actively searched for disconfirming cases, and grounded our analytic claims in participants' verbatim accounts and member-checked summaries.

Ethical considerations

Data collection followed ethical guidelines. The study was approved by the Ethics Committee of Qom University of Medical Sciences (Approval No. IR.MUQ.REC.1404.084). Written informed consent was obtained from all participants.

Results

Demographic and professional characteristics of participants

In this qualitative study, 29 participants from diverse professional groups and relevant stakeholders were interviewed through semi-structured interviewing to identify and analyze religious, ethical, and technical considerations in the design and functioning of ICUs [Table-1]. Of the participants, 17 (58.6%) were male and 12 (41.4%) were female. The mean age was 45.2 years (SD=6.8), ranging from 33 to 62 years. The mean professional experience among those in clinical, managerial, or academic roles was 18.8 years (SD=7.9).

Regarding professional roles, participants included three physicians, four nurses, two head nurses, one matron, two hospital managers, one hospital director, four clerics, three hospital design engineers, one biomedical equipment engineer, four university faculty members, and four family

members of ICU patients. In terms of education, nine participants (31%) held a master's degree, eight (28%) held a doctoral degree, and three (10.3%) were medical specialists. The remaining participants had bachelor's or lower-level qualifications. Detailed demographic and professional characteristics of participants are presented in Table-1.

Table-1. Demographic and professional characteristics of participants

Variable	Category	N	%	
Gender	Male	17	58.6	
	Female	12	41.4	
Age (years)	Mean (SD)	45.2 (6.8)	-	
	Range	33-62	-	
Work experience (years)	Mean (SD)	18.8 (7.9)	-	
Professional role	Physician (specialist)	3	10.3	
	Nurse	4	13.8	
	Head nurse	2	6.9	
	Matron	1	3.4	
	Hospital director	1	3.4	
	Hospital manager	2	6.9	
	Cleric	4	13.8	
	Hospital design engineer	3	10.3	
	Biomedical equipment engineers	1	3.4	
	Faculty member	4	13.8	
	Family member of ICU patient	4	13.8	
	Education level	High school diploma	1	3.4
		Associate degree	1	3.4
Bachelor's degree		5	17.2	
Master's degree		9	31.0	
Medical specialty		5	17.2	
Doctoral degree		8	27.6	

Thematic analysis of interdisciplinary interviews with clinical team members, hospital engineers, jurisprudential and medical ethics experts, and family members of ICU patients in two study sites yielded three major themes: 1) religious obligations and fundamental patient rights in the ICU, 2) operational and implementation challenges, and 3) practical strategies and recommendations. These themes were defined at three complementary analytical levels: normative content (what religious rights and

obligations should be observed), contextual barriers (why their full implementation is difficult in current ICUs), and practical strategies (how these rights can be operationalized in practice). Certain concrete elements (e.g., Qibla orientation, access to worship equipment, gender-concordant care) therefore appear across themes, but with different analytic roles as fundamental rights in Theme 1, as barriers in Theme 2, and as proposed solutions in Theme 3 [Table-2].

Theme 1: Religious obligations and fundamental patient rights in the ICU

This theme highlights that participants considered adherence to religious regulations as part of patients' fundamental rights, encompassing both ritual aspects (worship practices) and organizational/technical dimensions (privacy, information transparency, end-of-life considerations, and halal compliance of food and medication).

Category 1.1: Right to worship and perform rituals

Participants emphasized that the ability to practice religious rituals plays a key role in preserving patients' spiritual dignity and reducing anxiety. Given the presence of medical devices, treatment lines, and limited mobility or access to water, low-interference solutions were recommended, such as bedside worship kits, dry ablution stones, Qibla indicators, and audio recitations. A clear protocol was deemed necessary for cases where ablution is not feasible. Family members also regarded practical access and simple mechanisms for worship as part of patients' rights.

"Patients in this ward should be able to perform prayers, even while lying down, and have easy access to tayammum if needed." (P14) "Equipping a bedside worship kit with the Qur'an, prayer stone, tayammum stone, and a small water bottle should be ensured." (P16)

Category 1.2: Right to Privacy and Dignity

Maintaining bodily privacy and gender-concordant care was considered essential by many participants. However, they acknowledged potential conflicts between this expectation and limitations in staffing or the need for clinical expertise in emergencies. Suggested strategies included shift planning to facilitate gender-concordant assignments, use of curtains and movable partitions, and staff training to maintain coverage during procedures.

"Patients should have the right to gender-concordant care, with female nurses for female patients and male nurses for male patients." (P4) "Clinical competence takes precedence over gender." (P1) "Movable curtains and partitions should be used to preserve body coverage, and staff should be trained to expose only essential areas

during procedures.” (P12)

Category 1.3: Transparency and participation in decision-making

Transparency in treatment information and patient or family participation in clinical decisions were strongly emphasized. For sensitive religious issues such as DNR or organ donation, participants recommended developing specific decision-making forms and standardized procedures, with written documentation of decisions to ensure compliance with religious principles and to strengthen family trust.

“Patients should have the right to make their own choices based on full information, with full access to treatment information.” (P3)

Category 1.4: End-of-life and clinical ethics considerations

End-of-life moments were identified as a critical intersection of religious and clinical needs. Participants called for protocols and a combined jurisprudential-medical authority to guide decisions on brain death, organ donation, and do-not-resuscitate. The preferred model was participatory, including decision algorithms, respectful recitation of Shahada by family or clerics, and written documentation of religiously compliant agreements.

“Reciting the Shahada and prayers at the patient’s final moments, including the phrase *La ilaha illa Allah*, is recommended.” (P15) “Brain death should be defined with technical standards and clerical approval.” (P5)

Category 1.5: Compliance of food and medication with religious principles

Ensuring halal food and medication was considered essential for both patient rights and social acceptability. Participants recommended structural policies for halal food preparation, labeling of food and medications, and provision of halal or plant-based alternatives. They also emphasized that, according to jurisprudence, preservation of life takes precedence in emergencies, allowing the use of effective medications even if their origin is uncertain, provided that documentation and disclosure are ensured.

“Only certified halal food should be used, and hospital kitchens must comply with this standard.” (P13) “If a medication is not halal, the pharmacy should provide a list of acceptable religious alternatives.” (P8) “In emergencies where delay threatens life, the use of effective medication is permissible even if its origin is doubtful, provided it is documented and disclosed.” (P2)

Theme 2: Operational and implementation challenges

This theme illustrates the main barriers to implementing religious regulations in ICUs, including shortages of

human and material resources, physical and architectural constraints, and limitations arising from the critical condition of patients.

Category 2.1: Human resource and equipment limitations

A shortage of staff, particularly same-gender nurses—budgetary constraints for equipment such as mechanized beds and partitions, and heavy workloads were reported as major barriers to full implementation of religious compliance in practice. Suggested strategies included prioritizing low-cost, high-impact measures and structured workforce planning.

“In practice, the number of staff is so limited that it is rarely possible to fully comply with these requirements... treatment must remain the priority.” (P10)

Category 2.2: Physical and spatial limitations

Many ICUs operate in open-plan or older layouts with a high number of beds, which makes complete separation impossible and often conflicts with requirements for privacy and gender concordant care. The absence or inadequacy of nearby restrooms and ablution facilities was also identified as a practical barrier.

“Our ICU has an old open-plan design, and it is not possible to separate all areas; we need to find intermediate solutions.” (P18)

Category 2.3: Critical condition of patients and priority of life-saving care

Most ICU patients are unconscious or clinically unstable, which prevents them from performing certain religious practices (such as prayer). In these cases, recitation by family members or clerics, or brief rituals performed by trained staff, were considered practical alternatives. However, participants emphasized that life-saving interventions must always take precedence.

“ICU patients are usually unconscious and unable to recite the Shahada themselves. In such cases, recitation by family or a cleric becomes important.” (P17) “The first priority is saving the patient’s life... clinical care must be delivered optimally before anything else.” (P6)

Theme 3: Practical strategies and recommendations

To safeguard patients’ religious rights, participants proposed a set of short-, medium-, and long-term strategies, ranging from low-cost, immediately applicable measures to architectural and structural modifications.

Category 3.1: Technical and engineering solutions

This category includes measures at the level of physical design, standardization, and equipment to meet patients’ religious needs while maintaining safety and clinical performance. In new hospital projects, protocols should ensure that ICUs are designed with Qibla orientation, a

defined proportion of private beds, and infrastructure for ablution, bathrooms, and restrooms. Adjacent to ICUs, cost-effective but functional spaces such as small prayer rooms, ablution areas, gender-segregated bathrooms, and private meeting rooms should be planned to accommodate families and religious rituals.

For existing ICUs, mechanized beds with adjustable orientation and angle, as well as movable or modular partitions, were recommended to preserve privacy and allow Qibla alignment without disrupting clinical care. Installing Qibla indicators, providing tayammum stones, and equipping simple audio systems for broadcasting the call to prayer were considered effective and low-cost measures.

“From the outset, hospital design should plan ICUs oriented toward the Qibla.” (P20) “Movable partitions or layouts that place male and female patients on opposite sides can help preserve privacy.” (P21) “Mechanized beds with Qibla adjustment capability are very helpful.” (P19)

Category 3.2: Organizational and managerial measures

Technical solutions become sustainable only when integrated into organizational structures. Establishing a jurisprudential–ethical–clinical committee, including a cleric, medical ethicist, physician, nurse, and social worker, was repeatedly emphasized. Developing protocols such as a halal medication formulary (i.e., a list of drugs screened for potentially prohibited ingredients and labeled to indicate halal-compliant options and preferred substitutes), do-not-resuscitate orders, and brain death decision algorithms, along with periodic staff training on spiritual care and related rulings, were considered essential. Participants also noted that, in life-threatening situations where no fully halal alternative is available, the principle of necessity would allow the use of the most effective medication, provided that this is clearly documented and disclosed. Participants also recommended phased implementation: immediate low-cost measures, medium-term structural adjustments, and long-term architectural redesigns, aligned with organizational acceptance and budget constraints.

“There must be an organizational framework, including a patient religious rights committee.” (P24) “Religious and spiritual training sessions should be held every three months.” (P9)

Category 3.3: Family participation

Ensuring patients’ religious rights is not feasible without active family involvement. Communication and support strategies included providing information packages (brochures, guides) at admission to explain religious rights

and available facilities, establishing clear communication channels for updating families on patient status, and creating quiet spaces for clerics or family visits. Guaranteeing the participation of the patient’s guardian or representative in sensitive decisions was also emphasized. Spiritual and psychological support services, such as access to religious counselors or clerics, were seen as reducing family anxiety and facilitating acceptance of clinical decisions.

“If families are clearly informed about the patient’s condition, their anxiety is reduced.” (P29) “A small, accessible space for clerics or family presence during critical moments can help manage care.” (P22) “In Sharia, the patient’s guardian (father, spouse, or adult child) has a role in ICU treatment decisions.” (P23)

Category 3.4: Financial support

Economic constraints and treatment costs may hinder equitable access to services. Proposed solutions included formal collaboration with Islamic charities and financial institutions to mobilize resources such as zakat, endowments, and support funds for needy patients, along with processes for eligibility verification and referral. Cost transparency such as informing families about essential versus non-essential expenses and establishing clear financial pathways was also emphasized to reduce stress and promote fairness in access.

“Islamic financial mechanisms such as zakat and endowments should be considered to support needy patients.” (P27) “In line with Sharia, there must be transparent policies to inform families about the costs of essential and non-essential medical services.” (P7)

Discussion

Safeguarding patients’ religious rights and adapting ICU design to religious regulations imposes a considerable burden on hospital planning, particularly because patients are often incapacitated or in critical condition, necessitating a balance between clinical imperatives and religious obligations. This interdisciplinary qualitative study explored how different stakeholders conceptualize religious regulations in the ICU and what they view as feasible in practice. The analysis yielded three main themes: fundamental religious obligations and patient rights, operational and implementation challenges, and technical and managerial strategies. Across these themes, participants used the term religious regulations in a broad and multidimensional way, covering Sharia-based clinical and ethical rules (such as do-not-resuscitate and brain-death decisions, clear information provision and documentation), requirements related to ritual purity and

worship, environmental and privacy considerations (including Qibla orientation and gender-concordant care where feasible), and policies on nutrition and medications. Overall, our findings suggest that integration of religious requirements with clinical standards is feasible but necessitates phased strategies, prioritization of low-cost and high-impact measures, and organizational acceptance. Furthermore, a systematic, multi-sectoral, and culture-building approach within healthcare organizations is essential to ensure that patients' religious rights are realized in a consistent, safe, and sustainable manner. This emphasis on dignity, privacy and non-physical aspects of

care is consistent with the long Persian–Islamic tradition, in which hospitals were expected to respect patient rights and attend to spiritual needs alongside medical treatment,^[25] and our findings extend this tradition to contemporary ICU settings by clarifying how religious regulations are understood and operationalized by clinicians, managers, and religious experts. In this sense, the present study complements previous work on faith-based healthcare and spiritual care in hospitals while shifting the focus toward ICU-specific engineering and organizational challenges.^[3, 8, 26, 27]

Table-2. Summary of themes, categories, and subcategories identified in the analysis

Theme	Category	Key subcategories (summary)
Religious obligations and fundamental patient rights in the ICU	Right to worship and perform rituals	Ability to perform worship despite limited mobility; access to worship equipment (e.g. Qibla indicator, ablution/tayammum kit, audio recitations).
	Right to privacy and dignity	Gender-concordant care where feasible; maintaining body coverage during procedures with curtains/partitions.
	Right to transparency and active participation	Access to clear treatment information; documented shared decision-making in sensitive issues (e.g. DNR, organ donation).
	End-of-life and clinical ethics considerations	Spiritual support at end of life (Shahada, Qibla positioning); brain-death and organ donation decisions; do-not-resuscitate (DNR) decisions.
	Compliance of food and medication with religious principles	Halal-compliant food and medication; emergency exception policy prioritizing life preservation in life-threatening situations.
Operational and implementation challenges	Resource limitations	Human resource shortages (including same-gender staff); equipment and technology limitations.
	Physical and spatial limitations	Open-plan ICU design; limited capacity for full spatial separation and privacy.
	Critical condition of patients	Unconsciousness and inability to perform rituals; necessity of prioritizing life-saving interventions over full religious observance.
Practical strategies and recommendations	Technical and engineering solutions	Construction and renovation protocols; modular partitions and bed separation; mechanized beds and flexible Qibla orientation; bedside worship facilities; adjacent prayer and ablution spaces.
	Organizational and managerial measures	Patient religious rights committee; continuous staff training in spiritual care and ethics; transparent protocols and monitoring; phased implementation according to resources.
	Family participation	Providing clear information and written guides; psychological and spiritual support; involvement of guardian/representative in key decisions.
	Financial support	Collaboration with Islamic charities and financial institutions (e.g. zakat, endowments); cost transparency and structured pathways for financial support.

Note. This table provides a condensed overview of themes, categories, and subcategories. The full analytic codebook, including all individual codes, is presented in Appendix 1.

Participants emphasized the necessity of transparent communication, shared decision-making and explicitly documented authorization, in sensitive decisions such as do-not-resuscitate orders and organ donation. They highlighted the role of jurisprudential and clerical consultation, along with systematic documentation, in enhancing family acceptance and reducing ambiguity. Our findings therefore portray end-of-life decision-making in the ICU as a negotiated process in which clinical, ethical, and religious considerations must be balanced, rather than as a purely technical judgment. Previous studies have shown that many Muslim physicians hold divergent views regarding the application of do-not-resuscitate orders, underscoring the need for clarity, religious consultation, and well-defined protocols.^[28,29] Certain religious authorities have also outlined specific conditions under which withholding life-sustaining interventions may be permissible.^[28] At the same time, Anderson et al., demonstrated that the establishment of consistent clinical policies and transparent communication with families reduces conflict and increases acceptance.^[30] From an ethical perspective, combining classical medical principles such as autonomy and veracity with local jurisprudential consultation ensures that decisions are not only legally and clinically sound but also socially and culturally acceptable to families and communities. Accordingly, our findings, together with prior evidence, suggest that structured decision-making and documentation procedures aligned with authoritative religious rulings and supported by clear consultation pathways may help reduce ambiguity and conflict in practice.^[11,16] As a potential implication, hospitals could develop multi-stage decision-making protocols for do-not-resuscitate orders and brain death, involving the medical team, ethics/religious committees, and the patient's legal representative. Written documentation and transparent communication should be mandatory, and specialized training programs on end-of-life (EOL) care and communication skills should be implemented on a regular basis.

Providing simple and low-interference bedside facilities appears to enhance the comfort of both patients and families, and clear protocols are needed for situations in which ablution or physical movement is not feasible. Our data indicate that participants favor pragmatic solutions such as tayammum stones, Qibla indicators, and brief recitations by staff or family that respect religious duties without compromising clinical safety. Evidence shows that physical conditions such as the presence of a stoma can affect quality of life and the ability to perform religious rituals, and jurisprudential responses to this issue vary.

However, many religious leaders have accepted the permissibility of worship with a stoma.^[31,32] Studies conducted in Indonesia have also demonstrated that incorporating jurisprudential training for staff and providing worship facilities are directly associated with increased patient and family satisfaction.^[26,27] These findings are consistent with participants' emphasis on combining spiritual reassurance with practical bedside adaptations. Furthermore, training staff to provide brief spiritual guidance and documenting patients' religious preferences at admission can reduce conflicts between clinical and ritual needs. In complex cases such as stoma care, combining medical and jurisprudential consultation should lead to adaptive solutions that balance medical necessity with facilitation of worship.^[26,31] Qualitative studies with Iranian hospitalized, cancer and surgical patients have similarly highlighted divine reliance, supportive bonds, a peaceful and enabling environment, and transcendence beyond suffering as core spiritual needs that should be reflected in hospital organization and bedside care.^[20-22] Our findings extend these insights to the ICU context by showing how such spiritual needs can be translated into concrete environmental and procedural adjustments.

Participants also strongly advocated the development of halal medication formulary, substitution lists, and standardized documentation procedures for emergency exceptions. This emphasis reflects a broader concern with making pharmaceutical decisions transparent and auditable, so that patients and families can trust that religious requirements are taken seriously without delaying life-saving treatment. Experiences from Sharia-based hospitals in Indonesia demonstrate that establishing a halal formulary, labeling, and substitution mechanisms are considered essential indicators, although their implementation faces challenges related to registration and monitoring.^[26,33] From a jurisprudential perspective, the principle of necessity (*darura*) has been widely accepted, permitting the use of medications containing minor prohibited elements in life-threatening situations, provided that disclosure and documentation are ensured.^[3] In light of these concerns and prior experiences, structured processes for identifying problematic substances, developing a halal substitution formulary, and defining transparent and documented procedures for emergency exceptions may help operationalize these principles in hospital pharmacies. Oversight of such processes could be assigned to the hospital pharmacy unit or a dedicated religious/ethics committee. These governance arrangements are important not only from a

jurisprudential standpoint but also for strengthening social trust in healthcare institutions,^[11,34] suggesting that halal medication governance is most effective when embedded within existing quality and safety systems rather than treated as a separate religious add-on.

Physical limitations of ICUs emerged as a major barrier. Participants suggested that redesign efforts should consider Qibla orientation, adjustable mechanized beds, permanent or modular partitions, and bedside worship facilities. These proposals show how participants translate abstract expectations about religiously appropriate care into concrete architectural and engineering specifications for ICU environments. In line with this, studies on Islamic hospital design and emerging care guidelines have shown that single-bed rooms, zoned layouts, and Qibla indicators positively influence patient and family satisfaction while reducing stress.^[6,35,36] Given the current context, where comprehensive reconstruction may be financially burdensome, practical recommendations include installing durable and washable partitions, providing mechanized beds with adjustable orientation, and placing Qibla indicators and tayammum kits at the bedside. In the long term, accreditation standards should incorporate requirements regarding the proportion of single-bed rooms, designated worship spaces, and access to ablution facilities, thereby aligning structural criteria with the religious rights framework identified in this study.

Insufficient specialized training in spiritual care and religious rights, along with inadequate staffing, were reported as barriers to the full implementation of recommendations. Participants emphasized the need for mandatory programs and continuous jurisprudential training for healthcare personnel. Previous studies by Mortell (2018), Melgaard and Neergaard (2020), and Katiman et al. (2022) similarly demonstrated that lack of training and preparation is a key obstacle to providing spiritual and supportive care, and that medical and nursing graduates often receive insufficient education in spiritual and palliative care.^[37-39] Our findings corroborate and extend this literature by showing that, in the ICU context, deficits in training and staffing directly undermine attempts to respect patients' religious rights, even when protocols and facilities are available. To achieve sustainable change, spiritual care training programs and jurisprudential-medical guidelines must be implemented on a mandatory and continuous basis. In addition, improving workplace factors such as adequate staffing and managerial support should be incorporated into strategic policies to enable the integration of faith-based care into routine clinical practice, rather than relying solely on

individual clinicians' motivation or informal initiatives.

Participants further emphasized the necessity of establishing a patient religious rights committee composed of a jurist, physician, nurse, legal expert, and hospital administrator to develop clear strategies, ensure oversight mechanisms, and provide financial support for patients in need. In our data, this committee was seen as the main organizational vehicle for translating abstract religious regulations into enforceable policies and measurable indicators. Experiences from Sharia-based hospitals in Indonesia and Malaysia have shown that the presence of religious supervisory boards, mandatory training, and regular monitoring of indicators are key factors in implementing faith-based policies, although challenges remain in data registration and continuous follow-up.^[26,40,41] In addition, cost transparency and the use of Islamic financial resources have been recommended as practical solutions.^[3] In line with these findings, it is proposed that each hospital establish a managerial framework that includes a religious rights committee with defined authority, mandatory monitoring indicators for critical issues such as do-not-resuscitate orders, brain death, halal formularies, and spiritual care, along with a continuous reporting system to track these indicators and ensure organizational support. These recommendations are consistent with recent Iranian experiences that have proposed or implemented dedicated spiritual care departments as formal organizational structures within hospitals,^[10,42] suggesting that the model proposed in this study is both contextually grounded and compatible with ongoing health system reforms.

Conclusions

Respecting patients' religious rights in the ICU is a multidimensional phenomenon that directly influences quality of care, patient satisfaction, and social trust, and it should be recognized as an integral component of clinical standards. Achieving this goal requires appropriate physical infrastructure, robust managerial structures, continuous training programs to enhance staff's spiritual and communication competencies, and equitable financial mechanisms. In practical terms, hospitals can begin by implementing low-cost, low-interference measures at the bedside, such as Qibla indicators, tayammum kits, flexible beds, privacy partitions, and clear protocols for worship and end-of-life rituals. At the organizational level, establishing a patient religious rights committee, developing a halal medication formulary and transparent procedures for sensitive decisions (e.g. do-not-resuscitate orders and brain death), and integrating regular spiritual

care training into staff development are key strategic steps. At the system level, incorporating indicators of religious rights into quality assurance and accreditation processes, and collaborating with Islamic charitable and financial institutions to support economically vulnerable patients, can help sustain these efforts. Transitioning toward religiously compliant ICUs therefore requires a systematic, multi-phase, and cross-sectoral project supported by strategic managerial commitment, targeted resource allocation, and accountability mechanisms. Such an approach ensures both the preservation of patients' dignity and religious rights and the fulfillment of scientific and clinical safety standards.

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Competing interests

The authors declare that they have no competing interests.

Abbreviations

Intensive care unit: ICU; End-of-life: EOL; Do-not-resuscitate: DNR.

Authors' contributions

All authors read and approved the final manuscript. All authors take responsibility for the integrity of the data and the accuracy of the data analysis.

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Availability of data and materials

The data used in this study are available from the corresponding author on request.

Ethics approval and consent to participate

The study was approved by the Ethics Committee of Qom University of Medical Sciences (Approval No. IR.MUQ.REC.1404.084). Prior to participation, written informed consent was obtained from all participants for participation and audio-recording and documented. Participants were informed about the study purpose, the voluntary nature of participation, their right to withdraw at any time, and the planned use of anonymized quotations in publications. Confidentiality and anonymity were ensured,

and procedures for secure storage and eventual destruction of audio files were implemented in accordance with participants' consent and relevant ethical standards, in line with the Declaration of Helsinki.

Consent for publication

By submitting this document, the authors declare their consent for the final accepted version of the manuscript to be considered for publication.

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Appendix 1**Table 1.** Detailed codebook of themes, categories, subcategories, and codes

Theme	Category	Subcategory	Codes
Religious obligations and fundamental patient rights in the ICU	Right to worship and perform rituals	Ability to perform worship	Prayer, ablution, dry ablution (tayammum)
		Access to worship equipment	Qibla indicator, ablution/tayammum kit
	Right to privacy and dignity	Gender-concordant care	Same-gender nurse, clinical competence priority
		Body coverage during procedures	Body covering, protective curtain
	Right to transparency and active participation	Access to treatment information	Transparent communication
		Participation in decision-making	Documented agreement, shared decision-making
	End-of-life and clinical ethics considerations	Spiritual support at end-of-life	Recitation of Shahada, positioning toward Qibla
		Brain death and organ donation	Documented agreement, religious and legal approval
		Do-not-resuscitate (DNR)	Shared decision-making, Documented agreement
	Compliance of food and medication with religious principles	Halal compliance	Food, medication, halal labeling, substitution list
Emergency exception policy		Emergency exception, priority of life preservation, life-threatening conditions	
Operational and implementation challenges	Resource limitations	Human resource shortages	Staff shortage, gender-concordant care
		Equipment shortages	Lack of equipment, absence of advanced beds
	Physical and spatial limitations	Open-plan design	Privacy concerns, lack of private rooms, overcrowding
		Inability to achieve full separation	Limited rooms, use of curtains
	Critical condition of patients	Unconsciousness and inability to worship	Unconsciousness, incapacity
Priority of life-saving interventions		Critical condition, clinical limitations	
Practical strategies and recommendations	Technical and engineering solutions	Development of construction protocols	Design, construction, standards, requirements
		Modular design and partitioning	Partitioning, bed separation
		Mechanized beds	Adjustable beds, angle modification, Qibla orientation
		Provision of worship and spiritual facilities	Qibla indicator, ablution/tayammum kit, call to prayer broadcast, audio/visual systems, halal compliance
		Design of adjacent spaces	Prayer room, ablution area, bathroom, religious room
	Organizational and managerial measures	Establishment of a patient religious rights committee	Organizational structure, framework, spiritual care unit
		Continuous staff training	Religious education, spiritual care, medical ethics
		Development of transparent protocols	Protocols, regulations, documentation, monitoring
		Phased implementation	Long-term planning, budget, organizational acceptance
	Family participation	Information and transparency	Clear communication, access to guides
		Psychological and spiritual support	Stress relief, access to quiet spaces
		Participation in decision-making	Role of guardian/representative
	Financial support	Collaboration with Islamic financial institutions	Zakat, patient expenses, financial aid
Cost transparency		Pricing, information system	

Note. Some codes (e.g., Qibla orientation, access to worship equipment, gender-concordant care) recur across themes because participants described them simultaneously as fundamental rights, practical challenges, and potential solutions. In this table, they are presented according to their primary analytic function within each theme.