Iran J Public Health, Vol. 54, No.9, Sep 2025, pp.1870-1882

Review Article

Identifying Dimensions of Organizational Health Literacy in Hospitals: A Scoping Review

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(Received 10 Apr 2025; accepted 22 Jun 2025)

Abstract

Background: Organizational health literacy (OHL) plays a crucial role in improving patients' understanding and engagement in hospital care. Despite its importance, little is known about the comprehensive dimensions of OHL from a managerial perspective. This study aimed to identify key dimensions that can influence OHL in hospital settings to enhance patient care.

Methods: A scoping review was conducted to examine studies published from 2012-2024 regarding OHL in hospitals. Relevant studies were identified using a structured search strategy across multiple databases, including PubMed, Scopus, and Web of Science. Overall, 39 articles were selected after screening, and content analysis was performed using MAXQDA-10. The review adhered to the PRISMA guidelines for scoping reviews.

Results: The analysis identified six core dimensions of OHL: (i) leadership and management, (ii) policy and strategy formulation, (iii) human resources, (iv) organizational resources (including financial, physical, and informational), (v) processes, products, and services, and (vi) results. These dimensions were further categorized into 21 subcategories. Each dimension outlines essential components for improving hospital OHL, such as leadership support, staff training, communication strategies, and resource allocation. Additionally, the study highlights the role of technology, including electronic health literacy, in improving organizational performance.

Conclusion: By addressing the key dimensions that influence organizational health literacy in hospitals, hospital administrators can enhance patient understanding of healthcare services, improve safety and satisfaction levels, and foster a culture of health literacy. The provided framework offers a valuable management approach for integrating OHL into hospital operations, potentially leading to more informed and health-literate patient communities.

Keywords: Organizational health literacy; Hospitals; Health literacy management; Scoping review; Patient safety; Electronic health literacy

Introduction

A robust healthcare system is critical to the well-being of a nation's population. By prioritizing public education and awareness of health-related issues, a country can effectively promote and maintain the overall health of its citizens (1). In this context, Brach et al. introduced the concept of Health Literate Healthcare Organizations (HLHOs) or Organizational Health Literacy (OHL) to enhance individuals' understanding and use of health-related information and services. This approach aims to improve health literacy at the organizational level, which can lead to better health outcomes for individuals and communities (2).

Improving processes in organizations with high health literacy can result in positive health outcomes and increased patient satisfaction (3-6). Therefore, assessing the organizational health literacy status is essential for enhancing health literacy outcomes in healthcare facilities, which can ensure equitable social services and contribute to achieving sustainable development goals (7).

Over the past two decades, significant efforts have been made to evaluate and promote organizational health literacy in hospitals. These efforts have led to the development of a 10-item questionnaire for assessing organizational health literacy in hospitals (8-11). Researchers have also explored various aspects of transforming hospitals into health-literate organizations, including identifying barriers and facilitators of health literacy, designing interventions and conceptual models, and investigating accountability criteria and tools to strengthen organizational health literacy (7, 12-16). Additionally, studies have examined the experiences and design ideas of service recipients for hospital waiting areas that are responsive to health literacy (17). Recent research has focused on defining and exploring the dimensions of hospital health literacy (18). However, there is still no consensus on the factors that assess and describe healthcare organizations in terms of health literacy (13, 19-21).

Despite its importance, health systems have not adequately addressed the issue of low health literacy (13). Hospitals, as critical components of the healthcare system, play a vital role in providing patient care and have the potential to enhance public health and promote health education initiatives (1). Improving OHL in hospitals can lead to better patient education, reduced healthcare disparities, and improved health outcomes. For example, hospitals with high OHL can effectively communicate health information; ensuring patients understand their conditions and treatments. They can also address barriers faced by vulnerable populations, promoting equitable access to healthcare services (22-24).

Given the lack of systematic studies with a management-oriented approach to this topic, the researchers conducted a scoping review to investigate the dimensions of organizational health literacy in hospitals. This review differs from prior work by focusing on how hospitals can operationalize OHL principles in their structures, processes, and outcomes. By identifying key dimensions of OHL, this study provides a comprehensive framework for understanding and improving health literacy in hospital settings.

Materials and Methods

Our study followed the five-stage scoping review framework created by Arksey and O'Malley (22), further improved with the JBI (Joanna Briggs Institute) methodology (23) and the Preferred Reporting Items for Systematic Reviews and Meta-analysis Extension for Scoping Reviews (PRISMA-ScR) (24). The process involved formulating research questions, identifying related studies, data screening, data extraction, and summarizing the findings. A detailed description of the methods can be found in a published protocol.

Formulating research questions

The objective of the research was to identifying dimensions of organizational health literacy at hospital with a managerial approach. The focus of the study was on several aspects, including (i) leadership and management, (ii) policies and strategies, (iii) human resources, (iv) organizational resources and (v) results.

Identifying related studies

Eligibility criteria

The study included all types of study designs, such as quantitative, qualitative and mixed-methods designs, to ensure that the full breadth of literature was captured. However, studies conducted outside of the hospital setting were excluded, and only studies in the English language were considered. Studies conducted outside of the hospital setting were excluded because the focus of this review was specifically on identifying dimensions of organizational health literacy within hospitals, as these settings have unique structures and challenges that may not be generalizable to other healthcare environments.

Search strategy

To identify relevant studies, a search strategy was developed for PubMed, Web of Science, Scopus and Googlescholar for articles published from Jan 2012 to Jun 2024. This involved selecting groups of keywords and combining them using truncations and Boolean operators for four sets of keywords: "Health Literate Health Care Organizations (HLHOs)", "Health Literate Organization (HLO)" "Organizational Health Literacy (OHL)", "Health Literacy at Hospital". In addition, manual search strategies were employed. Here is the search strategy (Table 1), including the search strings and filters applied for each database:

Table 1: Search Strategy for Each Database

Database	Search String	Filters
PubMed	("organizational health literacy"[MeSH Terms] OR "organizational health literacy"[Title/Abstract]) AND ("hospital"[MeSH Terms] OR "hospital"[Title/Abstract]) AND ("dimensions"[MeSH Terms] OR "dimensions"[Title/Abstract] OR "assessment"[MeSH Terms] OR "assessment"[Title/Abstract])	Language: English; Year: 2012–2024
Scopus	TITLE-ABS-KEY ("organizational health literacy") AND TITLE-ABS-KEY("hospital") AND TITLE-ABS-KEY ("dimensions" OR "assessment")	Language: English; Year: 2012–2024
Web of Science	TS= ("organizational health literacy") AND TS=("hospital") AND TS= ("dimensions" OR "assessment")	Language: English; Year: 2012–2024
Google Scholar	"Organizational health literacy" AND "hospital" AND ("dimensions" OR "assessment")	Language: English; Year: 2012–2024

Data screening (Selecting appropriate studies)

A three-stage screening process was implemented to determine the relevance of the records. The first stage involved screening the titles and abstracts and removing duplicates. The remaining titles and abstracts were assessed by two pairs of researchers, with a third researcher consulted in cases of disagreement. In the second stage, full-text screening was carried out by two pairs of researchers, with the third researcher consulted in cases of disagreement. Lastly, the reference lists of the identified full-text publications were examined to identify other relevant sources of information through snowballing. The PRISMA flow diagram guidance was used to display the studies identified by the database search that met the inclusion and exclusion criteria (Fig. 1).

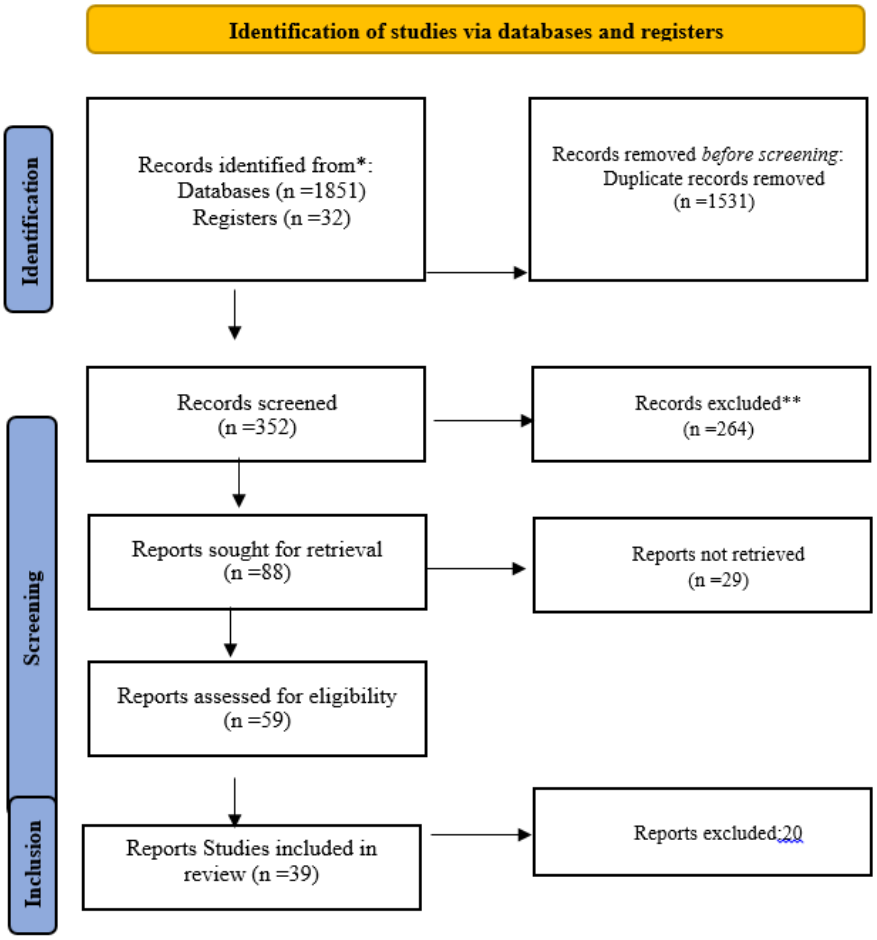

Fig. 1: Study selection process, PRISMA flowchart

Data extraction

To address the research questions, we developed an Excel data charting form that includes the following components: Author(s) names, title, publication year, study design, study objectives, findings and outcome measures (refer to the Appendix). We examined the records based on OHL dimentions and related terms to answer the primary research question. To simplify the process of clustering categories, we only used the lowest list level when dealing with multilevel lists of dimentions. Furthermore, we avoided extracting the same criteria multiple times when different publications referred to them. For example, a group of publications mentioned the "Ten Attributes of Health Literate Health Care Organizations" and we only extracted them once. Data extraction was performed independently by two researchers using a standardized Excel charting form. In cases of disagreement, a third researcher was consulted to reach consensus. This approach ensured the accuracy and reliability of the extracted data.

Summarizing the findings

The extracted findings were systematically classified into main and subcategories, providing a descriptive and narrative synthesis of OHL dimentions. Additionally, the included records were screened to summarize how OHL is understood within the context of OHL dimentions, and the extracted terminologies were assigned to conceptual clusters.

Limitations

The restriction to English-language studies may have excluded relevant research published in other languages, potentially limiting the generalizability of the findings. Future reviews could consider including non-English studies to capture a more comprehensive picture of organizational health literacy in hospitals.

Ethics considerations

In addition, the research was approved by the Ethics Committee of the Khomein University of Medical Sciences (Ethics code: IR.KHOMEIN.REC.1402.015).

Results

Search and Screening Procedure

Overall, 1883 publications were found through a database search and other sources. After removing duplicates and screening titles, abstracts, and full texts, 39 publications were included for data extraction and synthesis (Fig. 1).

Characteristics of included studies

Publication date: The 39 studies included were published between 2012 and 2024.

Studies setting: Studies have been carried out in different countries such as India, Indonesia, Japan, Iran, Turkey, Italy, Australia, Denmark, Netherlands, lrand, Taiwan, Yemen, Colombia, Canada, Germany, and USA. In particular, the studies conducted in the USA make up the majority with a total of twelve, followed by five studies in Germany, three in Canada, two each in Iran, Turkey, Italy, Australia, Denmark and the Netherlands, and one each in India, Indonesia, Japan, Taiwan, Yemen and Colombia.

Studies design: The review included a variety of studies such as analytical, cross-sectional, observational, and descriptive studies, as well as scoping reviews, systematic reviews, overviews, mixed method, phenomenological approach and grounded theory. There were sixteen cross-sectional and descriptive studies, eight descriptive studies, five Scoping review, two systematic reviews, two overviews, two observational cross-sectional studies, one analytical and cross-sectional study, one mixed method (Qualitative and quantitative method), one phenomenological approach, and one grounded theory.

Studies Population: The studies that were reviewed had a diverse population, with 27 of them having a research population. The key respondents included inpatients, such as surgical, cardiovascular, and breast cancer patients, with 10 studies focusing on them. One study included outpatients. Furthermore, healthcare managers participated in three studies, healthcare providers were included in six studies, staff were participants in one study, and one study involved national experts.

Data collection methods: Various methods were used to collect information from respondents in multiple studies. Seven studies utilized interviews, while 14 studies used questionnaires to gather data from participants. Two studies utilized a combination of interviews and questionnaires. Additionally, two studies used a combination of workshop, focus group discussion, and interview for data collection. Lastly, two studies were conducted using document analysis.

Aims of Studies: In five studies, the domains/ concepts/ criteria/ attributes of health literacy in hospital/ healthcare organizations were investigated. Four studies focused on interventions/ strategies to strengthen health literacy. Three studies explored the barriers, facilitators and feasibility of implementing organizational health literacy. Additionally, three studies examined instruments, and tools related to health literacy. Four studies aimed to determine the relationships between health literacy levels and patient demographics/ patient satisfaction/ patient characteristics/ health information access/ health behavior/ and health status. The HLHO-10 questionnaire was investigated in three studies, while two studies focused on electronic health literacy. One study evaluated the organizational health literacy responsiveness in hospitals. Furthermore, five studies assessed the health literacy levels of patients, and one study investigated staff's perception of the hospital's performance in meeting the health literacy needs of

patients. Lastly, two studies explored shared decision-making/patient engagement in health literacy, and one study examined resource allocation for health literacy.

Outcomes

The study's important details were classified into six dimensions: 1. Leadership and Management; 2. Policy and Strategy Formulation; 3. Human Resources; 4. Organizational Resources (Financial/ Physical/ Informational); 5. Processes, Products, and Services; 6. Results. These six main categories were further divided into 21 subcategories (Table 2).

Table 2: Dimensions of organizational health literacy

Dimensions	attributes	References
Leadership and Management	Support the hospital's leadership and management team of health literacy	(3, 12-15, 25, 26)
	Ensure that health literacy is included in the hospital's mission/vision/ values/ strategies/ plans	(3, 9, 12, 13, 15, 16)
	Establish a quality management system that continually improves health literacy	(3, 11, 13, 15, 25, 27)
	Identify stakeholders and engage with them to promote health literacy	(28)
	Foster a culture of health literacy through collaboration with human resources.	(3, 12, 13, 16)
Policy and Strategy formulation	Enhancing Health Literacy through Policy-making: - Identifying obstacles that hinder access to health literacy and factors that promote it, such as the educational setting, content, and delivery method. - Recognizing demographic and contextual factors that are linked to health literacy, such as age, gender, socioeconomic status, education, physical condition, emotional state, and disease state preferences. - Compilation interventions, guidelines, and plans to enhance health literacy	(1, 3, 13, 14, 17, 26, 29-37)
	Compilation/revision of health literacy strategies, implementing them, and evaluating their efficacy.	(3, 13, 25, 32-34, 38, 39)
Human resources	Establish an organizationl structure for health literacy	(3, 25, 31)

Table 2: Continued…

	Improve the health literacy awareness, knowledge, and skills of employees	(3, 12-16, 18, 25, 26, 29, 40)
	Encourage employees to take an active role in promoting health literacy	(11-13, 25, 31, 40)
	Ensure effective communication by employees to promote health literacy	(8, 14, 15, 18, 29, 32, 36, 41)
	Offer sufficient compensation, recognition, and support to employees for their services.	(12, 15)
Organizational resources (financial/physical/informational)	Allocate budget and manage financial resources to support the development of health literacy	(11-13, 25)
	Manage information technology and innovation in relation to health literacy (electronic health literacy)	(3, 11, 14, 18, 25, 42, 43)
	Information and knowledge management of health literacy	(1, 9, 12, 18, 25, 32)
Processes, products, and service	Managing health literacy processes in a systematic manner	(11, 13, 28)
	Improving and developing health literacy processes	(3, 13, 28, 41)
	Design and development of health literacy tools and products	(1, 9, 10, 13-17, 27, 32, 39, 44, 45)
	Patient training at various stages such as admission, hospitalization, discharge, and follow-up	(8, 9, 12, 13, 18, 32, 34, 36, 40, 46)
	Patient Relationship Management	(3, 9, 13, 15, 16, 18, 31, 40)
Results	Patient results Staff results Performance results	(7, 10-12, 14, 25, 28, 33, 36, 38, 40, 47, 48)

Quantitative Synthesis

To provide a clearer understanding of the distribution of studies across OHL dimensions, we conducted a quantitative synthesis. Table 3 summarizes the number of studies that addressed each dimension and subcategory. Key findings include: Leadership and Management was the most frequently studied dimension, with 22 studies (56.4%) focusing on this area; Policy and Strategy Formulation was addressed in 15 studies (38.5%); Human Resources and Organizational Resources were each explored in 12 studies (30.8%); Processes, Products, and Services were examined in 10 studies (25.6%); Results was the least studied dimension, with only 8 studies (20.5%) focusing on outcomes related to OHL.

Analysis of Patterns and Trends

Our analysis revealed several patterns and trends in the literature:1. Geographic Bias: The majority

of studies were conducted in high-income countries, particularly the USA (12 studies) and Germany (5 studies). This limits the generalizability of findings to low- and middle-income countries (LMICs), where healthcare systems and resources may differ significantly. 2. Study Design Limitations: Most studies were cross-sectional or descriptive (24 studies), which restricts the ability to establish causal relationships between OHL dimensions and health outcomes. 3. Contradictions in Findings: While some studies emphasized the importance of leadership commitment in improving OHL, others highlighted the role of staff training and patient engagement. These contradictions suggest the need for further research to identify best practices. 4. Understudied Dimensions: Dimensions such as Results and Organizational Resources were less frequently studied, indicating gaps in the literature that future research should address (Table 3).

Table 3: Distribution of studies across OHL dimensions

OHL Dimension	Number of Studies	Percentage
Leadership and Management	22	56.4
Policy and Strategy Formulation	15	38.5
Human Resources	12	30.8
Organizational Resources	12	30.8
Processes, Products, and Services	10	25.6
Results	8	20.5

Discussion

This research focused on identifying dimensions of organizational health literacy (OHL) in hospitals by analyzing 39 relevant studies. It identified six key dimensions: leadership, policy and strategy formulation, human resources, organizational resources, processes, and results, further divided into 21 subcategories. Bremer et al. identified six categories for improving health literacy in healthcare organizations: effective communication, easy access, integration of OHL, assessments, user engagement, and staff qualification, along with 17 evaluation tools (15). Sørensen et al. proposed eight action areas to enhance health literacy systems, including workforce development, governance, user engagement, and cross-sector partnerships (25). Zanobini et al. outlined three intervention categories aimed at supporting patient access to health information, assisting staff, and improving system management (14). Farmanova et al. identified 13 barriers to health literacy, categorized into organizational culture, intervention design, and human resources (13). Brach et al. highlighted ten attributes contributing to OHL capacity, such as leadership, user involvement, and transparency (49).

Leadership and Management

Leadership Support: Hospital leadership is crucial for transforming hospitals into health-literate organizations. Integrating health literacy into the hospital's mission, vision, and strategies is essential. The US Department of Health and Human Services has included health literacy in its Healthy People 2030 framework (3, 9, 12, 13, 15, 16, 25); Quality Management: Establishing a quality management system that continuously improves health literacy fosters a culture that values it (3, 11, 13, 15, 16, 25); Stakeholder Engagement: Effective OHL relies on intersectoral collaboration and stakeholder empowerment. Co-creation enhances responsiveness and addresses patient safety concerns (3, 13, 25); and Cultural Framework: Collaboration with human resources is vital to foster a culture of health literacy, promoting innovation and quality improvement (13).

Policy and Strategy Formulation: Policy-making: Hospitals must identify barriers and enablers affecting health literacy, considering demographic and educational factors. Effective interventions and guidelines can enhance health literacy (1, 3, 14, 17, 26, 29-37) and Strategy Implementation: Organizations should establish, implement, and regularly assess health literacy strategies. Communication strategies, such as face-to-face methods and written/online approaches, are recommended. Capacity development strategies include workforce development and user interaction (3, 13, 25, 32, 34, 38, 39).

Human Resources

Organizational Structure**:** A clear framework is essential for promoting health literacy, focusing on institutional capacity and program delivery (3, 25, 31); Employee Training: Training healthcare professionals in effective communication and health literacy skills improves interactions with patients and outcomes (3, 11, 13-16, 25, 26, 29, 40); Employee Engagement: Tools like the Vienna Health Literacy Organizations Tool (V-HLO-I) can enhance employee involvement in promoting health literacy (11-13, 25, 31, 40); Effective Communication**:** Human resources play a key role in fostering collaboration between patients and providers, emphasizing shared decision-making (8, 14, 15, 18, 25, 29, 32, 36) and Compensation and Support: Adequate compensation and recognition can address employee resistance to change and foster a positive attitude (12, 15).

Organizational Resources

Budget Allocation**:** Limited budgets often hinder health literacy programs. Strategic investments are essential for the capacity of the health literacy system. Payment reforms in the US, such as value-based payments under the ACA law, incentivize organizations to prioritize health literacy (3, 12, 13, 25); Information Technology**:** E-health literacy can be improved through technology and innovation. Integrating digital health tools and social media platforms enhances access to health information (3, 11, 14, 18, 25, 42, 43); Knowledge Management**:** Effective health literacy analytics provide insights to improve policies, operational efficiency, and user experience (1, 9, 12, 18, 25, 32).

Processes, Products, and Services

Systematic Management**:** A systematic approach to health literacy is lacking. Organizational commitment to health literacy needs strengthening (13); Process Improvement**:** Enhancing care procedures, coordination between departments, and reducing waiting times are essential. Studies show the link between health literacy and safety/quality improvement (13, 41); Tool Development**:** Health literacy tools, such as the HLHO-10 questionnaire introduced by Brach (2012), help patients navigate hospitals effectively. Other tools like CAHPS and PEMAT assess and improve health literacy (9, 10, 15); Patient Training**:** Training patients during admission, hospitalization, discharge, and follow-up ensures proper care and understanding (8, 9, 12, 13, 18, 32, 34, 36, 40); and Patient Relationship Management**:** Effective communication and customer relationship management enhance health literacy (3, 9, 13, 15, 16, 18, 31, 40).

Results

Patient Outcomes**:** Monitoring patient safety, satisfaction, and trust levels is crucial for evaluating health literacy (10, 11, 14, 36, 47, 48); Staff Outcomes**:** Employee participation, satisfaction, and recognition are critical indicators (14, 47); and Performance Indicators**:** The organization's interaction with society and adherence to social responsibilities must be assessed (12, 25, 28, 40, 47, 50). Key performance indicators should be integrated into healthcare information systems (14, 33, 36, 38, 47).

Critical Analysis of Emphasized Dimensions

Leadership and management have received the most attention in the literature, likely due to their central role in driving organizational change. However, this focus may reflect a bias, as most studies are from high-income countries with

stronger management structures. Low- and middle-income countries (LMICs) face challenges like limited budgets and under-trained workforces, hindering OHL implementation. Future research should explore OHL in diverse settings to understand contextual influences.

Environmental Influences on OHL Implementation

OHL implementation is influenced by environmental factors, such as a country's income level and healthcare system structure. High-income countries have greater resources to support OHL programs, while LMICs face challenges like limited budgets and weak infrastructure. Strategies for OHL implementation must be tailored to each country's context.

Practical Recommendations for Healthcare Organizations

Establish Strong Leadership: Appoint leaders committed to advancing OHL and integrate it into the organization's mission and strategic plans. Allocate Resources: Dedicate a budget for OHL programs and provide staff training in communication and health literacy skills. Develop Assessment Tools: Use validated tools like the HLHO-10 to evaluate and improve OHL. Engage Stakeholders: Involve patients, families, and communities in designing and implementing OHL programs. Integrate Technology: Leverage digital technologies to improve access to health information and facilitate communication.

Conclusion

This scoping review aimed to explore and outline the various dimensions of organizational health literacy within a hospital setting using a management approach. Despite the importance of this topic, there has been little attention given to it in the existing literature, making this review a valuable contribution to the field. Hospitals have the opportunity to enhance their organizational health literacy by evaluating various dimensions, as identified in this study. These dimensions encompass leadership and management, policy and strategy development, human resources, organizational resources (including financial, physical, and informational), processes, products, and services, as well as results. Through these evaluations, hospitals can improve patients' understanding of the care and services they receive, resulting in higher levels of patient safety and satisfaction.

Journalism Ethics considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

Consent for publication

Not applicable.

Acknowledgements

This study was supported financially by Khomein University of Medical Sciences [Grant number: 402000005]. Hereby, we extend our gratitude to the Research Deputy of Khomein University of Medical Sciences.

Conflict of interest

The authors declare that they have no competing interests.

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