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KNOWLEDGE IMPLEMENTATION IN HEALTH CARE MANAGEMENT: A QUALITATIVE STUDY

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Abstract

Background: Knowledge management (KM) is crucial for improving healthcare quality, patient safety, and organizational performance. However, the implementation of KM practices in healthcare settings remains challenging. This study aimed to explore the barriers and facilitators

of knowledge implementation in health care management from the perspectives of healthcare professionals in Saudi Arabia.

Methods: A qualitative study using semi-structured interviews was conducted with 25 purposively selected healthcare professionals (managers, physicians, nurses, and allied health staff) from three public hospitals in Riyadh, Saudi Arabia. The interviews were audio-recorded, transcribed verbatim, and analyzed using thematic analysis.

Results: Four main themes emerged: (1) organizational culture and leadership, (2) communication and collaboration, (3) technology and infrastructure, and (4) individual and team factors. Participants identified several barriers to knowledge implementation, including hierarchical structures, lack of management support, poor communication channels, information silos, inadequate IT systems, time constraints, and resistance to change. Facilitators included supportive leadership, open communication, multidisciplinary teamwork, user-friendly technology, training and education, and individual motivation.

Conclusion: Implementing knowledge management in healthcare organizations requires addressing multi-level barriers and leveraging facilitators. Strategies should focus on creating a knowledge-sharing culture, fostering interprofessional collaboration, investing in ICT infrastructure, and building individual and team capacity. The findings provide insights for policymakers, managers, and practitioners to optimize knowledge implementation and improve healthcare performance in Saudi Arabia and beyond.

Keywords: Knowledge management, knowledge implementation, healthcare management, qualitative research, Saudi Arabia

1. Introduction

Knowledge is a critical asset for healthcare organizations to deliver high-quality, safe, and efficient patient care. Knowledge management (KM) refers to the systematic processes of creating, sharing, applying, and evaluating knowledge to achieve organizational goals (Alavi & Leidner, 2001). In healthcare, KM involves the integration of evidence-based practices, clinical expertise, patient values, and contextual factors to inform decision-making and improve outcomes (Gagnon et al., 2015).

Despite the recognized benefits of KM, its implementation in healthcare settings remains challenging. Healthcare organizations face various barriers, such as professional silos, hierarchical structures, information overload, time pressures, and resistance to change (Kothari et al., 2011; Sibbald et al., 2016). In Saudi Arabia, the healthcare system has undergone significant reforms and expansion in recent years, with increasing emphasis on quality improvement and evidence-based practice (Albejaidi, 2010). However, there is limited research on how healthcare professionals perceive and experience knowledge implementation in this context.

Therefore, this study aimed to explore the barriers and facilitators of knowledge implementation in health care management from the perspectives of healthcare professionals in Saudi Arabia. Understanding these factors can inform strategies to optimize KM practices and improve healthcare performance.

2. Methods

2.1 Study Design

A qualitative study using semi-structured interviews was conducted to gain in-depth insights into healthcare professionals' experiences and perceptions of knowledge implementation. Qualitative methods are suitable for exploring complex phenomena and generating rich, contextual data (Creswell & Poth, 2016).

2.2 Setting and Participants

The study was conducted in three public hospitals in Riyadh, the capital city of Saudi Arabia. Purposive sampling was used to recruit healthcare professionals with diverse roles, including managers, physicians, nurses, and allied health staff. Inclusion criteria were: (a) working in the selected hospitals for at least one year, (b) involved in patient care or management activities, and (c) willing to participate in the study. A total of 25 participants were interviewed until data saturation was reached (Table 1).

Characteristic	**n (%)**
Gender	
Male	14 (56%)
Female	11 (44%)
Age (years)	
25-34	8 (32%)
35-44	12 (48%)
45-54	5 (20%)

Characteristic	n (%)
Profession	
Manager	6 (24%)
Physician	7 (28%)
Nurse	9 (36%)
Allied health	3 (12%)
Experience (years)	
1-5	5 (20%)
6-10	9 (36%)
11-20	8 (32%)
>20	3 (12%)

Table 1. Demographic characteristics of the participants (N=25)

2.3 Data Collection

Semi-structured interviews were conducted face-to-face by two trained researchers using an interview guide (Appendix A). The guide was developed based on a literature review and expert consultation, and piloted with three healthcare professionals. The interviews explored participants' understanding of KM, experiences with knowledge implementation, perceived barriers and facilitators, and suggestions for improvement. Probing questions were used to elicit further explanations and examples. The interviews were conducted in Arabic or English, depending on the participant's preference, and lasted 45-60 minutes. All interviews were audio-recorded with permission and transcribed verbatim.

2.4 Data Analysis

The interview transcripts were analyzed using thematic analysis, following the six-phase approach by Braun and Clarke (2006). The researchers familiarized themselves with the data,

generated initial codes, searched for themes, reviewed and refined themes, defined and named themes, and produced the report. The coding and theme development were conducted independently by two researchers, with discussions to resolve discrepancies and reach consensus. The themes were reviewed by the research team to ensure clarity, coherence, and relevance to the research question.

2.5 Trustworthiness

Several strategies were used to enhance the trustworthiness of the findings (Lincoln & Guba, 1985). Credibility was ensured through prolonged engagement, member checking, and triangulation of data sources and researchers. Transferability was enhanced by providing thick descriptions of the context and participants. Dependability was achieved through detailed documentation of the research process and peer debriefing. Confirmability was established by maintaining an audit trail and reflexive journals.

2.6 Ethical Considerations

The study was approved by the institutional review board of the participating hospitals and the researchers' university. All participants provided written informed consent and were assured of confidentiality and anonymity. Data were stored securely and accessed only by the research team.

3. Results

Four main themes emerged from the analysis: (1) organizational culture and leadership, (2) communication and collaboration, (3) technology and infrastructure, and (4) individual and team factors. Each theme encompassed several subthemes that represented barriers and facilitators of knowledge implementation (Table 2).

Theme	**Subthemes**
Organizational culture and leadership	- Hierarchical structures
	- Management support
	- Knowledge-sharing norms
	- Learning orientation
Communication and collaboration	- Interprofessional interactions

Theme	Subthemes
	- Information sharing channels
	- Multidisciplinary teams
	- Networking opportunities
Technology and infrastructure	- IT systems and tools
	- Electronic health records
	- Data management practices
	- Technical support
Individual and team factors	- Motivation and attitudes
	- Skills and competencies
	- Workload and time constraints
	- Teamwork and trust

Table 2. Themes and subthemes of barriers and facilitators of knowledge implementation

3.1 Organizational Culture and Leadership

Participants identified organizational culture and leadership as key factors influencing knowledge implementation. Hierarchical structures and top-down decision-making were seen as barriers to knowledge sharing and application. As one manager explained:*"Sometimes the decisions come from above without involving the frontline staff who have the knowledge and experience. This creates resistance and hinders implementation."*(Manager, Hospital A)

On the other hand, supportive leadership and a culture of learning were perceived as facilitators. A physician commented:

"Our head of department encourages us to share our knowledge and experiences, and provides resources for training and development. This motivates us to apply new knowledge in practice." (Physician, Hospital C)

Participants also highlighted the importance of establishing knowledge-sharing norms and recognizing knowledge contributions. A nurse stated:

"In our unit, we have a regular forum where we discuss cases, share best practices, and learn from each other. This has become part of our routine and helps us to implement evidence-based care." (Nurse, Hospital B)

3.2 Communication and Collaboration

Communication and collaboration were identified as critical enablers of knowledge implementation. Participants described how interprofessional interactions and multidisciplinary teamwork facilitated knowledge exchange and problem-solving. A nurse explained:

"When we have complex cases, we involve doctors, pharmacists, and other specialists to discuss the best approach. By collaborating and sharing our knowledge, we can provide better patient care." (Nurse, Hospital A)

However, participants also noted barriers such as information silos, lack of communication channels, and limited networking opportunities. An allied health professional stated:

"Sometimes we don't know what other departments are doing or what new knowledge they have. There are no formal channels to share information across the hospital." (Allied Health, Hospital B)

Participants suggested strategies such as regular multidisciplinary meetings, online knowledge-sharing platforms, and communities of practice to enhance communication and collaboration.

3.3 Technology and Infrastructure

Technology and infrastructure were seen as both barriers and facilitators of knowledge implementation. Participants described how electronic health records (EHRs) and clinical decision support systems (CDSS) enabled access to evidence-based guidelines and patient data. A physician stated:

"The EHR has made it easier to retrieve and apply relevant knowledge at the point of care. The CDSS alerts us to best practices and potential errors." (Physician, Hospital C)

However, participants also identified challenges such as inadequate IT systems, lack of interoperability, and data quality issues. A manager explained:

"Our IT systems are outdated and do not support easy sharing and retrieval of knowledge. The data is often incomplete or inaccurate, which hinders effective decision-making."(Manager, Hospital A)

Participants emphasized the need for user-friendly, integrated, and reliable IT solutions, along with adequate training and technical support for staff.

3.4 Individual and Team Factors

Individual and team factors were highlighted as important influences on knowledge implementation. Participants described how personal motivation, attitudes, and competencies affected knowledge use in practice. A nurse stated:

"Some staff are more interested and proactive in seeking and applying new knowledge, while others are resistant to change. It depends on their individual mindset and skills."(Nurse, Hospital B)

Workload pressures and time constraints were also identified as barriers to knowledge implementation. A physician explained:

"We are so busy with patient care that we don't have time to search for and read new evidence. It's hard to keep up with the latest knowledge and apply it in practice." (Physician, Hospital A)

Participants suggested strategies such as providing protected time for learning, offering incentives for knowledge sharing, and building team capacity through training and mentoring.

4. Discussion

This study explored the barriers and facilitators of knowledge implementation in health care management from the perspectives of healthcare professionals in Saudi Arabia. The findings highlight the complex interplay of organizational, interpersonal, technological, and individual factors influencing knowledge translation and application in practice.

The importance of organizational culture and leadership in supporting knowledge implementation is consistent with previous research (Stetler et al., 2009; Harvey et al., 2015). A hierarchical culture and lack of management support can hinder knowledge sharing and use, while a learning culture and transformational leadership can facilitate evidence-based practice (Cummings et al., 2010). In Saudi Arabia, the healthcare system is undergoing a shift towards more participative and innovation-oriented management approaches (Alharbi, 2018). This study suggests that fostering a knowledge-sharing culture and empowering frontline staff can enhance knowledge implementation.

Effective communication and collaboration are also critical for knowledge implementation, as evident in this study and previous literature (Gagliardi et al., 2016; Kitson et al., 2018). Interprofessional interactions and multidisciplinary teamwork enable knowledge exchange, problem-solving, and coordination of care (Zwarenstein et al., 2009). However, professional silos, information gaps, and lack of formal networks can impede knowledge flow and application (Currie & White, 2012). In the Saudi context, strategies such as multidisciplinary rounds, practice communities, and online knowledge-sharing platforms can promote collaboration and knowledge integration.

The role of technology and infrastructure in knowledge implementation is well-recognized (Borycki et al., 2015; Gagnon et al., 2012). EHRs, CDSS, and other e-health solutions can facilitate access to evidence, decision support, and performance monitoring (Kawamoto et al., 2005). However, inadequate IT systems, data quality issues, and lack of interoperability can hinder knowledge use and exchange (Lluch, 2011). In Saudi Arabia, the adoption of health information technology is increasing, but challenges remain in terms of standardization, integration, and user acceptance (Alsulame et al., 2016). Investing in user-friendly, reliable, and interconnected systems, along with capacity building, can optimize knowledge implementation.

Individual and team factors, such as motivation, competencies, and workload, also influence knowledge implementation, as found in this study and previous research (Estabrooks et al., 2003; Squires et al., 2011). Positive attitudes, self-efficacy, and knowledge-seeking behavior can facilitate evidence use, while resistance to change, lack of skills, and time constraints can hinder it (Melnyk et al., 2012). In the Saudi healthcare workforce, there is a need to enhance

competencies in evidence-based practice, knowledge management, and interprofessional collaboration (Almalki et al., 2011). Strategies such as training, mentoring, incentives, and protected time for learning can develop individual and team capacity for knowledge implementation.

4.1 Implications

The findings of this study have implications for policy, practice, and research in healthcare knowledge management. At the policy level, there is a need to develop national standards and guidelines for knowledge management practices in healthcare organizations. This can include requirements for knowledge infrastructure, governance, and evaluation to ensure consistent and effective implementation across the system.

At the organizational level, healthcare leaders and managers should create a supportive culture and environment for knowledge sharing and use. This involves establishing knowledge management strategies, allocating resources, providing training and development opportunities, and recognizing knowledge contributions. Interprofessional education and collaborative practice models can be adopted to enhance knowledge exchange and teamwork.

At the individual level, healthcare professionals should be empowered and motivated to seek, share, and apply knowledge in their practice. This requires building competencies in evidence-based practice, critical thinking, and knowledge management through education, training, and continuous learning opportunities. Providing access to knowledge resources, decision support tools, and performance feedback can also facilitate knowledge use and improvement.

For researchers, this study highlights the need for further exploration of knowledge implementation processes and outcomes in diverse healthcare settings. Longitudinal and interventional studies can provide insights into the effectiveness and sustainability of knowledge management strategies over time. Comparative studies can examine the influence of contextual factors on knowledge implementation across different health systems and cultures.

4.2 Limitations

This study has several limitations. First, the qualitative design and purposive sampling limit the generalizability of the findings to other contexts. Second, the study relied on self-reported data, which may be subject to recall and social desirability bias. Third, the study did not include patients' perspectives, which are important for understanding the impact of knowledge implementation on care experiences and outcomes. Future research should address these limitations by using mixed methods, larger samples, and multiple data sources.

5. Conclusion

Knowledge implementation is a critical process for improving healthcare quality, safety, and efficiency. This study explored the barriers and facilitators of knowledge implementation in health care management from the perspectives of healthcare professionals in Saudi Arabia. The findings revealed the importance of organizational culture, leadership, communication, collaboration, technology, infrastructure, and individual and team factors in influencing knowledge translation and application.

To optimize knowledge implementation, healthcare organizations need to create a supportive culture, foster interprofessional collaboration, invest in knowledge infrastructure, and build individual and team capacity. Policymakers, managers, and practitioners should adopt evidence-based strategies and models for knowledge management, tailored to the local context and needs.

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