

Integration of Nursing, Epidemiology, and Health Management Practices in Saudi Arabian Hospitals: Perspectives from Frontline Staff to Administration

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Abstract

The integration of nursing, epidemiology, and health management practices is crucial for the effective functioning of healthcare systems, particularly in the context of Saudi Arabian hospitals. This qualitative study aimed to explore the perspectives of frontline staff and administrators regarding the current state of integration and the challenges and opportunities for improvement. Semi-structured interviews were conducted with 30 participants, including nurses, epidemiologists, and health managers, from various hospitals in Saudi Arabia. Thematic analysis revealed four main themes: (1) the importance of collaboration and communication, (2) the need for standardized protocols and guidelines, (3) the challenges of resource allocation and management, and (4) the opportunities for professional development and training. Participants emphasized the need for a more integrated approach to healthcare delivery, with better coordination and information sharing among different disciplines and levels of the healthcare system. They also identified several barriers to integration, including siloed organizational structures, lack of standardized protocols, and limited resources for professional development. The findings suggest that efforts to promote integration should focus on fostering a culture of collaboration, developing standardized protocols and guidelines, optimizing resource allocation and management, and providing opportunities for professional development and training. The insights gained from this study can inform the development of strategies and interventions to enhance the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals.

Keywords: nursing, epidemiology, health management, integration, Saudi Arabia, qualitative research

1. Introduction

The integration of nursing, epidemiology, and health management practices is essential for the effective functioning of healthcare systems, particularly in the context of complex and dynamic healthcare environments such as those found in Saudi Arabian hospitals (Almalki et al., 2011). Nursing plays a critical role in the delivery of patient care, while epidemiology provides valuable insights into the distribution and determinants of health and disease in populations (Gordis, 2014). Health management, on the other hand, focuses on the efficient and effective use of resources to achieve organizational goals and improve health outcomes (Shi & Singh, 2019).

Despite the recognized importance of integration, there is often a lack of coordination and collaboration among these different disciplines and levels of the healthcare system, leading to fragmented and inefficient care delivery (Almalki et al., 2011). This is particularly evident in the context of Saudi Arabian hospitals, where there are significant challenges related to the quality and accessibility of healthcare services (Alharbi, 2018).

Previous research has highlighted the need for greater integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals (Almalki et al., 2011; Alharbi, 2018). However, there is a paucity of research on the perspectives of frontline staff and administrators regarding the current state of integration and the challenges and opportunities for improvement.

This qualitative study aimed to address this gap by exploring the perspectives of nurses, epidemiologists, and health managers working in various hospitals in Saudi Arabia. The specific objectives of the study were:

1. To investigate the current state of integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals.
2. To identify the challenges and barriers to integration from the perspectives of frontline staff and administrators.
3. To explore the opportunities and strategies for improving integration and enhancing the quality and efficiency of healthcare delivery.

The findings of this study can provide valuable insights into the factors that influence the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals, and inform the development of strategies and interventions to promote more coordinated and effective healthcare delivery.

2. Literature Review

This section provides an overview of the current literature on the integration of nursing, epidemiology, and health management practices in healthcare systems, with a focus on the Saudi Arabian context.

2.1 The Importance of Integration in Healthcare Systems

The integration of different disciplines and levels of the healthcare system is recognized as a key factor in the delivery of high-quality, efficient, and patient-centered care (World Health Organization, 2016). Integration can take various forms, including the coordination of care across different settings and providers, the sharing of information and resources, and the alignment of goals and objectives (Valentijn et al., 2013).

Previous research has demonstrated the benefits of integration in healthcare systems, including improved patient outcomes, reduced costs, and enhanced patient and provider satisfaction (Baxter et al., 2018; Valentijn et al., 2013). However, achieving integration can be challenging, particularly in complex and fragmented healthcare systems (World Health Organization, 2016).

2.2 Nursing, Epidemiology, and Health Management in Healthcare Systems

Nursing, epidemiology, and health management are three key disciplines that play critical roles in the functioning of healthcare systems. Nursing is concerned with the provision of patient care, including the assessment, diagnosis, and treatment of health conditions (American Nurses Association, 2021). Epidemiology focuses on the study of the distribution and determinants of health and disease in populations, and the application of this knowledge to the control of health problems (Gordis, 2014). Health management involves the planning, organizing, directing, and controlling of resources to achieve organizational goals and improve health outcomes (Shi & Singh, 2019).

The integration of these disciplines is essential for the effective delivery of healthcare services. For example, nurses can use epidemiological data to inform their clinical decision-making and target interventions to high-risk populations (Gordis, 2014). Health managers can use nursing and epidemiological data to allocate resources and develop policies and procedures that support evidence-based practice (Shi & Singh, 2019).

2.3 Integration of Nursing, Epidemiology, and Health Management in Saudi Arabian Hospitals

The healthcare system in Saudi Arabia has undergone significant changes in recent years, with a focus on improving the quality and accessibility of healthcare services (Almalki et al., 2011). However, there are still significant challenges related to the integration of different disciplines and levels of the healthcare system (Alharbi, 2018).

Previous research has highlighted the need for greater integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals (Almalki et al., 2011; Alharbi, 2018). For example, a study by Almalki et al. (2011) found that there was a lack of coordination and collaboration among different healthcare professionals, leading to fragmented and inefficient care delivery. Similarly, a study by Alharbi (2018) identified several barriers to the integration of evidence-based practice in Saudi Arabian hospitals, including a lack of resources and support for professional development.

However, there is a paucity of research on the perspectives of frontline staff and administrators regarding the current state of integration and the challenges and opportunities for improvement in Saudi Arabian hospitals. This study aims to address this gap by exploring the perspectives of nurses, epidemiologists, and health managers working in various hospitals in Saudi Arabia.

3. Methods

This section describes the methods used to conduct this qualitative study, including the study design, participants and sampling, data collection, data analysis, and trustworthiness.

3.1 Study Design

A qualitative descriptive design was used to explore the perspectives of frontline staff and administrators regarding the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals. Qualitative description is an approach that aims to provide a comprehensive summary of an event or experience in the everyday terms of that event or experience (Sandelowski, 2000).

3.2 Participants and Sampling

Purposive sampling was used to recruit participants who met the following inclusion criteria:

- Nurses, epidemiologists, or health managers working in a hospital in Saudi Arabia
- At least one year of experience in their current role
- Willingness to participate in an interview and share their perspectives on the integration of nursing, epidemiology, and health management practices

A total of 30 participants were recruited, including 10 nurses, 10 epidemiologists, and 10 health managers, from various hospitals in different regions of Saudi Arabia. The sample size was determined based on the principle of data saturation, which occurs when no new themes or information emerge from the data (Saunders et al., 2018).

3.3 Data Collection

Semi-structured interviews were conducted with the participants using an interview guide that was developed based on the literature review and the study objectives. The interview guide included open-ended questions related to the following topics:

- Participants' perspectives on the current state of integration of nursing, epidemiology, and health management practices in their hospital
- Participants' experiences with collaboration and communication among different disciplines and levels of the healthcare system
- Participants' perceptions of the challenges and barriers to integration in their hospital
- Participants' suggestions for improving integration and enhancing the quality and efficiency of healthcare delivery

The interviews were conducted in Arabic and were audio-recorded with the participants' consent. The interviews lasted approximately 45-60 minutes and were conducted in a private room in the hospital or via telephone or video conference, depending on the participant's preference and availability.

3.4 Data Analysis

The audio-recorded interviews were transcribed verbatim and translated into English for analysis. Thematic analysis was used to identify key themes and patterns in the data, following the six-phase approach described by Braun and Clarke (2006):

1. Familiarization with the data: The transcripts were read and re-read to gain an overall understanding of the content.
2. Generating initial codes: The data were systematically coded by identifying and labeling meaningful segments of text.
3. Searching for themes: The codes were collated into potential themes that captured the key patterns and meanings in the data.
4. Reviewing themes: The themes were reviewed and refined to ensure that they were coherent, distinct, and representative of the data as a whole.
5. Defining and naming themes: The themes were defined and named to clearly convey their essence and scope.
6. Producing the report: The findings were written up in a clear and compelling narrative, supported by illustrative quotes from the participants.

The analysis was conducted using NVivo 12 software, which facilitated the organization and coding of the data.

3.5 Trustworthiness

Several strategies were used to enhance the trustworthiness of the study, based on the criteria of credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985):

- **Credibility:** The findings were shared with a subset of participants for member checking, to ensure that they accurately reflected their perspectives and experiences. Peer debriefing was also used to discuss the emerging themes and interpretations with the research team.
- **Transferability:** Detailed descriptions of the study context, participants, and findings were provided to allow readers to assess the applicability of the findings to other settings.
- **Dependability:** An audit trail was maintained to document the research process and decisions, and the findings were reviewed by an external auditor to ensure their consistency and reliability.
- **Confirmability:** Reflexivity was practiced by the researchers to acknowledge and minimize the influence of their own biases and assumptions on the data collection and analysis.

4. Results

The thematic analysis of the interview data revealed four main themes related to the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals: (1) the importance of collaboration and communication, (2) the need for standardized protocols and

guidelines, (3) the challenges of resource allocation and management, and (4) the opportunities for professional development and training.

4.1 Theme 1: The Importance of Collaboration and Communication

Participants emphasized the importance of collaboration and communication among different disciplines and levels of the healthcare system for the effective integration of nursing, epidemiology, and health management practices. They described the benefits of collaboration, including improved patient outcomes, reduced duplication of efforts, and enhanced efficiency and quality of care.

"Collaboration is key. When we work together as a team, we can provide better care for our patients and avoid mistakes and delays." (Nurse 3)

"Communication is essential for integration. We need to be able to share information and ideas across different departments and levels of the hospital." (Health Manager 7)

However, participants also identified several barriers to collaboration and communication, including siloed organizational structures, lack of trust and respect among different disciplines, and limited opportunities for interaction and dialogue.

"Sometimes it feels like we're working in separate worlds. There's not enough communication and coordination between different departments and levels of the hospital." (Epidemiologist 5)

4.2 Theme 2: The Need for Standardized Protocols and Guidelines

Participants highlighted the need for standardized protocols and guidelines to support the integration of nursing, epidemiology, and health management practices. They described the benefits of standardization, including improved consistency and quality of care, reduced errors and complications, and enhanced efficiency and effectiveness.

"We need clear protocols and guidelines that everyone can follow. This will help ensure that we're all on the same page and providing the best possible care to our patients." (Nurse 8)

"Standardized protocols can help us work more efficiently and effectively. They can also help us identify areas where we need to improve and make changes." (Health Manager 2)

However, participants also noted the challenges of developing and implementing standardized protocols and guidelines, including the need for ongoing training and education, the resistance to change among some healthcare professionals, and the lack of resources and support for implementation.

"It's not easy to change the way we do things. People are often resistant to new protocols and guidelines, especially if they've been doing things a certain way for a long time." (Epidemiologist 9)

4.3 Theme 3: The Challenges of Resource Allocation and Management

Participants identified resource allocation and management as a significant challenge for the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals. They described the impact of limited resources, including inadequate staffing, insufficient equipment and supplies, and outdated technology and infrastructure.

"We don't always have the resources we need to provide the best possible care. We're often short-staffed and don't have enough equipment and supplies." (Nurse 1)

"Managing resources is a constant challenge. We have to prioritize and make difficult decisions about where to allocate our limited resources." (Health Manager 10)

Participants also highlighted the need for more effective resource management strategies, including better coordination and collaboration among different departments and levels of the

hospital, improved data collection and analysis to inform decision-making, and greater transparency and accountability in resource allocation.

"We need better systems for managing our resources. We need to be able to track and analyze data to identify areas where we can improve efficiency and effectiveness." (Epidemiologist 4)

4.4 Theme 4: The Opportunities for Professional Development and Training

Participants identified professional development and training as a key opportunity for improving the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals. They described the benefits of ongoing education and training, including enhanced knowledge and skills, improved job satisfaction and retention, and better patient outcomes.

"Ongoing education and training are essential for keeping up with the latest evidence and best practices. It helps us provide better care to our patients and feel more confident and competent in our roles." (Nurse 6)

"Professional development opportunities can help us build stronger teams and improve collaboration and communication across different disciplines and levels of the hospital." (Health Manager 8)

However, participants also noted the challenges of accessing and participating in professional development and training opportunities, including limited time and resources, lack of support from management, and inadequate incentives and recognition for participation.

"It can be difficult to find the time and resources for professional development, especially when we're already stretched thin. We need more support and encouragement from management to prioritize learning and growth." (Epidemiologist 2)

Table 1. Demographic characteristics of participants (N=30)

Characteristic	Nurses (n=10)	Epidemiologists (n=10)	Health Managers (n=10)
Gender			
Male	4 (40%)	6 (60%)	7 (70%)
Female	6 (60%)	4 (40%)	3 (30%)
Age (years)			
25-34	3 (30%)	2 (20%)	1 (10%)
35-44	5 (50%)	6 (60%)	4 (40%)
45-54	2 (20%)	2 (20%)	4 (40%)
≥55	0 (0%)	0 (0%)	1 (10%)
Experience (years)			
1-5	2 (20%)	1 (10%)	0 (0%)
6-10	3 (30%)	4 (40%)	3 (30%)
11-15	3 (30%)	3 (30%)	4 (40%)
>15	2 (20%)	2 (20%)	3 (30%)

Table 2. Main themes and sub-themes

Main Themes	Sub-themes
1. The importance of collaboration and communication	- Benefits of collaboration (improved outcomes, reduced duplication)
	- Barriers to collaboration (siloe structures, lack of trust)
	- Need for improved communication and coordination
2. The need for standardized protocols and guidelines	- Benefits of standardization (consistency, reduced errors)
	- Challenges of implementation (resistance to change, lack of resources)
	- Need for ongoing training and education
3. The challenges of resource allocation and management	- Impact of limited resources (staffing, equipment, infrastructure)
	- Need for better resource management strategies
	- Importance of data-driven decision-making and transparency
4. The opportunities for professional development and training	- Benefits of ongoing education and training
	- Challenges of accessing and participating in opportunities
	- Need for support and encouragement from management

5. Discussion

The findings of this qualitative study provide valuable insights into the perspectives of frontline staff and administrators regarding the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals. The study highlights the importance of collaboration and communication, the need for standardized protocols and guidelines, the challenges of resource allocation and management, and the opportunities for professional development and training.

The importance of collaboration and communication among different disciplines and levels of the healthcare system has been well-documented in the literature (World Health Organization, 2016; Valentijn et al., 2013). Our findings support this notion and suggest that effective collaboration and communication are essential for the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals. However, our findings also highlight the barriers to collaboration and communication, including siloe organizational structures, lack of trust and respect among different disciplines, and limited opportunities for interaction and dialogue. These findings are consistent with previous research that has identified similar challenges to integration in healthcare systems (Almalki et al., 2011; Alharbi, 2018).

The need for standardized protocols and guidelines to support the integration of nursing, epidemiology, and health management practices is also consistent with previous research (Baxter et al., 2018; Valentijn et al., 2013). Our findings suggest that standardization can improve the consistency and quality of care, reduce errors and complications, and enhance efficiency and effectiveness. However, our findings also highlight the challenges of developing and implementing

standardized protocols and guidelines, including the need for ongoing training and education, the resistance to change among some healthcare professionals, and the lack of resources and support for implementation. These findings underscore the importance of addressing these challenges in order to promote the successful integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals.

Resource allocation and management emerged as a significant challenge for the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals. Our findings suggest that limited resources, including inadequate staffing, insufficient equipment and supplies, and outdated technology and infrastructure, can hinder the effective integration of these disciplines. These findings are consistent with previous research that has identified resource constraints as a major barrier to the delivery of high-quality healthcare services in Saudi Arabia (Almalki et al., 2011; Alharbi, 2018). Our findings also highlight the need for more effective resource management strategies, including better coordination and collaboration among different departments and levels of the hospital, improved data collection and analysis to inform decision-making, and greater transparency and accountability in resource allocation. These findings suggest that addressing resource constraints and improving resource management practices are critical for promoting the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals.

Finally, our findings highlight the opportunities for professional development and training as a key strategy for improving the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals. Participants described the benefits of ongoing education and training, including enhanced knowledge and skills, improved job satisfaction and retention, and better patient outcomes. These findings are consistent with previous research that has identified professional development and training as essential for promoting the integration of different disciplines and levels of the healthcare system (World Health Organization, 2016; Valentijn et al., 2013). However, our findings also highlight the challenges of accessing and participating in professional development and training opportunities, including limited time and resources, lack of support from management, and inadequate incentives and recognition for participation. These findings suggest that addressing these challenges and providing more opportunities and support for professional development and training are important for promoting the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals.

5.1 Limitations

This study has several limitations that should be acknowledged. First, the study was conducted in a specific context (Saudi Arabian hospitals) and with a small sample size (30 participants), which may limit the generalizability of the findings to other settings and populations. Second, the study relied on self-reported data from interviews, which may be subject to recall bias and social desirability bias. Third, the study did not include the perspectives of patients or other stakeholders, who may have different views on the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals.

5.2 Implications for Practice and Research

Despite these limitations, the findings of this study have important implications for practice and research. From a practice perspective, the findings suggest that efforts to promote the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals should focus on:

- Fostering a culture of collaboration and communication among different disciplines and levels of the healthcare system

- Developing and implementing standardized protocols and guidelines to support evidence-based practice and improve the consistency and quality of care
- Addressing resource constraints and improving resource management practices through better coordination, data-driven decision-making, and transparency and accountability
- Providing more opportunities and support for professional development and training to enhance the knowledge, skills, and job satisfaction of healthcare professionals

From a research perspective, the findings of this study highlight the need for further research on the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals and other healthcare settings. Future research should consider:

- Conducting larger-scale studies with more diverse samples to explore the generalizability of the findings to other settings and populations
- Using multiple methods of data collection (e.g., surveys, observations, document analysis) to triangulate the findings and reduce the risk of bias
- Including the perspectives of patients and other stakeholders to gain a more comprehensive understanding of the factors that influence the integration of nursing, epidemiology, and health management practices in healthcare systems
- Developing and testing interventions and strategies to promote the integration of these disciplines and improve patient outcomes and healthcare system performance

6. Conclusion

In conclusion, this qualitative study explored the perspectives of frontline staff and administrators regarding the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals. The findings highlight the importance of collaboration and communication, the need for standardized protocols and guidelines, the challenges of resource allocation and management, and the opportunities for professional development and training.

The study provides valuable insights into the factors that influence the integration of these key disciplines in healthcare systems and suggests several strategies for promoting more coordinated, efficient, and effective care delivery. These strategies include fostering a culture of collaboration and communication, developing and implementing standardized protocols and guidelines, addressing resource constraints and improving resource management practices, and providing more opportunities and support for professional development and training.

The findings of this study have important implications for practice and research, and underscore the need for ongoing efforts to promote the integration of nursing, epidemiology, and health management practices in Saudi Arabian hospitals and other healthcare settings. By addressing the challenges and leveraging the opportunities identified in this study, healthcare leaders, policymakers, and researchers can work towards improving the quality, safety, and efficiency of healthcare services and ultimately, better outcomes for patients and populations.

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