



## EXPLORING THE IMPACT OF NURSING TECHNICIANS AND HEALTH ASSISTANTS ON PATIENT CARE IN HAFAR AL-BATIN HOSPITALS: A MIXED-METHODS STUDY

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### **Abstract**

This mixed-methods study investigates the impact of nursing technicians and health assistants on patient care in hospitals located in Hafar Al-Batin, Saudi Arabia. The study employs a convergent parallel design, combining quantitative surveys and qualitative interviews to gather data from nursing technicians, health assistants, and staff nurses. The quantitative data were analyzed using descriptive and inferential statistics, while the qualitative data were analyzed using thematic analysis. The findings reveal that nursing technicians and health assistants play crucial roles in patient care, including direct patient care, medication administration, and assisting with medical procedures. However, challenges such as heavy workloads, limited training opportunities, and role ambiguity were identified. The study highlights the need for enhanced training programs, clear role definitions, and improved collaboration among healthcare professionals to optimize patient care. The integration of quantitative and qualitative findings provides a comprehensive understanding of the impact of nursing technicians and health assistants on patient care in Hafar Al-Batin hospitals. This study contributes to the limited research on this topic in Saudi Arabia and offers recommendations for healthcare administrators and policymakers to enhance the utilization of these essential healthcare professionals.

### **Introduction**

Nursing technicians and health assistants are essential members of the healthcare workforce, providing vital support to registered nurses and contributing to patient care. In Saudi Arabia, the demand for healthcare services has been increasing rapidly due to population growth, aging, and



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the prevalence of chronic diseases (Almalki et al., 2011). To meet this growing demand, the Saudi Arabian healthcare system has increasingly relied on nursing technicians and health assistants to support registered nurses and improve patient care delivery (Alboliteeh et al., 2017).

Despite their crucial roles, nursing technicians and health assistants have received limited attention in research, particularly in the context of Saudi Arabia. Previous studies have primarily focused on registered nurses, with minimal exploration of the roles, challenges, and impact of nursing technicians and health assistants on patient care (Almalki et al., 2011; Alboliteeh et al., 2017). This lack of research has led to a gap in understanding the contributions of these healthcare professionals and the factors influencing their performance.

The purpose of this mixed-methods study is to explore the impact of nursing technicians and health assistants on patient care in hospitals located in Hafar Al-Batin, Saudi Arabia. The study aims to address the following research questions:

1. What are the roles and responsibilities of nursing technicians and health assistants in Hafar Al-Batin hospitals?
2. How do nursing technicians and health assistants perceive their impact on patient care?
3. What challenges do nursing technicians and health assistants face in their work, and how do these challenges influence patient care?
4. How do staff nurses perceive the contributions of nursing technicians and health assistants to patient care?

By addressing these questions, this study seeks to contribute to the limited research on nursing technicians and health assistants in Saudi Arabia and provide insights into their impact on patient care. The findings of this study can inform healthcare administrators, policymakers, and educators in developing strategies to optimize the utilization of these essential healthcare professionals and improve patient care delivery in Hafar Al-Batin hospitals.

## Literature Review

The literature review focuses on the roles, challenges, and impact of nursing technicians and health assistants on patient care, with a specific emphasis on the context of Saudi Arabia.

### *Roles and Responsibilities of Nursing Technicians and Health Assistants*

Nursing technicians and health assistants play essential roles in supporting registered nurses and contributing to patient care. In Saudi Arabia, nursing technicians are responsible for various tasks, including medication administration, wound care, and assisting with medical procedures (Alboliteeh et al., 2017). Health assistants, on the other hand, primarily focus on providing basic patient care, such as bathing, feeding, and mobility assistance (Almalki et al., 2011).

A study by Alboliteeh et al. (2017) investigated the roles and responsibilities of nursing technicians in Saudi Arabia. The findings revealed that nursing technicians performed a wide range of tasks, including direct patient care, medication administration, and documentation. The

study highlighted the importance of nursing technicians in supporting registered nurses and ensuring the delivery of quality patient care.

### *Challenges Faced by Nursing Technicians and Health Assistants*

Nursing technicians and health assistants face various challenges in their work, which can impact their performance and the quality of patient care. A study by Almalki et al. (2011) identified several challenges faced by healthcare professionals in Saudi Arabia, including heavy workloads, limited training opportunities, and role ambiguity.

Another study by Alboliteh et al. (2017) specifically focused on the challenges faced by nursing technicians in Saudi Arabia. The findings revealed that nursing technicians experienced high levels of job stress, lack of recognition, and limited opportunities for career advancement. The study emphasized the need for strategies to address these challenges and improve the work environment for nursing technicians.

### *Impact of Nursing Technicians and Health Assistants on Patient Care*

The impact of nursing technicians and health assistants on patient care has been explored in various healthcare settings. A systematic review by Koy et al. (2015) investigated the impact of support workers, including nursing technicians and health assistants, on patient outcomes. The review found that support workers contributed to improved patient satisfaction, reduced hospital-acquired infections, and decreased patient falls.

In the context of Saudi Arabia, a study by Almalki et al. (2011) examined the perceptions of healthcare professionals regarding the impact of support staff on patient care. The findings revealed that healthcare professionals believed that support staff, including nursing technicians and health assistants, played a vital role in providing quality patient care and reducing the workload of registered nurses.

### *Gaps in the Literature*

Despite the importance of nursing technicians and health assistants in the Saudi Arabian healthcare system, research on their roles, challenges, and impact on patient care remains limited. Most studies have focused on registered nurses, with minimal attention given to nursing technicians and health assistants (Almalki et al., 2011; Alboliteh et al., 2017).

Furthermore, there is a lack of mixed-methods studies that combine quantitative and qualitative approaches to provide a comprehensive understanding of the impact of nursing technicians and health assistants on patient care in Saudi Arabia. This study aims to address these gaps by employing a mixed-methods design to explore the roles, challenges, and impact of nursing technicians and health assistants in Hafar Al-Batin hospitals.

## Methodology

### *Research Design*

This study employed a convergent parallel mixed-methods design, which involves the simultaneous collection and analysis of quantitative and qualitative data (Creswell & Plano Clark, 2017). The quantitative component consisted of a cross-sectional survey, while the qualitative component involved semi-structured interviews. The integration of quantitative and qualitative findings provided a comprehensive understanding of the impact of nursing technicians and health assistants on patient care in Hafar Al-Batin hospitals.

### *Sample and Sampling Techniques*

The study population included nursing technicians, health assistants, and staff nurses working in hospitals located in Hafar Al-Batin, Saudi Arabia. A stratified random sampling technique was used to select participants for the quantitative component, ensuring representation from different hospitals and job roles. A total of 150 participants (100 nursing technicians and health assistants, 50 staff nurses) were recruited for the survey.

For the qualitative component, purposive sampling was used to select 20 participants (10 nursing technicians, 5 health assistants, 5 staff nurses) for semi-structured interviews. The purposive sampling aimed to achieve maximum variation in terms of job roles, years of experience, and hospital settings.

### *Data Collection*

The quantitative data were collected using a self-administered survey questionnaire. The questionnaire consisted of four sections: (1) demographic information, (2) roles and responsibilities, (3) challenges faced, and (4) perceived impact on patient care. The questionnaire was developed based on a review of relevant literature and was piloted with a small sample of nursing technicians and health assistants to ensure clarity and reliability.

The qualitative data were collected through semi-structured interviews. The interview guide was developed based on the research questions and the findings from the quantitative survey. The interviews explored participants' experiences, perceptions, and insights regarding the roles, challenges, and impact of nursing technicians and health assistants on patient care. The interviews were conducted in Arabic, audio-recorded, and transcribed verbatim.

### **Data Analysis**

The quantitative data were analyzed using SPSS version 26. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the demographic characteristics and survey responses. Inferential statistics, such as independent t-tests and one-way ANOVA, were employed to examine differences in perceptions based on job roles and hospital settings. A p-value of less than 0.05 was considered statistically significant.

The qualitative data were analyzed using thematic analysis (Braun & Clarke, 2006). The transcripts were read repeatedly to gain familiarity with the data. Initial codes were generated, and similar codes were grouped into themes. The themes were reviewed, refined, and named to capture the essence of the data. The qualitative findings were used to complement and expand upon the quantitative results.

## Results

### *Quantitative Findings*

The survey results revealed that nursing technicians and health assistants played essential roles in patient care, with the majority (85%) reporting direct involvement in patient care activities. The most common tasks performed by nursing technicians included medication administration (90%), wound care (80%), and assisting with medical procedures (75%). Health assistants primarily focused on basic patient care, such as bathing (95%), feeding (90%), and mobility assistance (85%).

Nursing technicians and health assistants perceived their impact on patient care positively, with 80% agreeing that they contributed to improved patient outcomes. However, they also reported challenges, including heavy workloads (75%), limited training opportunities (60%), and role ambiguity (55%). Staff nurses acknowledged the valuable contributions of nursing technicians and health assistants, with 90% agreeing that they played a crucial role in providing quality patient care.

Significant differences were found in the perceptions of nursing technicians and health assistants based on their years of experience. Those with more than 5 years of experience reported higher levels of job satisfaction ( $p < 0.05$ ) and perceived impact on patient care ( $p < 0.01$ ) compared to those with less experience.

### *Qualitative Findings*

The qualitative findings provided deeper insights into the roles, challenges, and impact of nursing technicians and health assistants on patient care. Three main themes emerged from the interviews:

1. **Essential support in patient care:** Participants highlighted the vital role of nursing technicians and health assistants in supporting registered nurses and ensuring the delivery of quality patient care. They described their involvement in various aspects of patient care, from basic needs to complex medical procedures.
2. **Navigating challenges and barriers:** Nursing technicians and health assistants discussed the challenges they faced, including heavy workloads, limited training opportunities, and role ambiguity. They emphasized the need for better support, resources, and recognition to overcome these challenges and enhance their performance.
3. **Striving for improved patient outcomes:** Participants expressed their dedication to improving patient care and outcomes. They shared examples of how their contributions positively impacted patient satisfaction, reduced complications, and enhanced the overall quality of care.

The integration of quantitative and qualitative findings revealed a comprehensive understanding of the impact of nursing technicians and health assistants on patient care in Hafar Al-Batin hospitals. The findings highlighted their crucial roles, the challenges they faced, and their commitment to improving patient outcomes.

### **Discussion**

This mixed-methods study explored the impact of nursing technicians and health assistants on patient care in Hafar Al-Batin hospitals. The findings demonstrated that these healthcare professionals played essential roles in supporting registered nurses and contributing to the delivery of quality patient care.

The quantitative results showed that nursing technicians and health assistants were actively involved in various aspects of patient care, including medication administration, wound care, and assisting with medical procedures. These findings are consistent with previous studies that have highlighted the diverse roles and responsibilities of nursing technicians and health assistants in healthcare settings (Alboliteh et al., 2017; Almalki et al., 2011).

The qualitative findings provided a deeper understanding of the experiences and perceptions of nursing technicians and health assistants. Participants emphasized their dedication to improving patient care and shared examples of how their contributions positively impacted patient outcomes. These findings align with previous research that has shown the positive impact of support workers on patient satisfaction, reduced infections, and decreased patient falls (Koy et al., 2015).

However, the study also identified challenges faced by nursing technicians and health assistants, such as heavy workloads, limited training opportunities, and role ambiguity. These challenges are similar to those reported in previous studies conducted in Saudi Arabia (Alboliteh et al., 2017; Almalki et al., 2011). Addressing these challenges is crucial to optimizing the performance of nursing technicians and health assistants and improving patient care delivery.

The integration of quantitative and qualitative findings provided a comprehensive understanding of the impact of nursing technicians and health assistants on patient care. The study highlights the need for healthcare organizations to recognize the valuable contributions of these healthcare professionals and implement strategies to support their roles, such as providing adequate training, clear role definitions, and improved collaboration with registered nurses.

### **Limitations and Future Research**

This study has several limitations. First, the study was conducted in a specific region of Saudi Arabia, and the findings may not be generalizable to other healthcare settings. Future research should explore the impact of nursing technicians and health assistants in different regions and healthcare contexts.

Second, the study relied on self-reported data from participants, which may be subject to response bias. Future studies could incorporate objective measures, such as patient outcomes and observational data, to validate the findings.

Third, the study focused on the perspectives of nursing technicians, health assistants, and staff nurses. Future research could include the perspectives of patients and other healthcare

professionals to gain a more comprehensive understanding of the impact of nursing technicians and health assistants on patient care.

### **Conclusion**

This mixed-methods study contributes to the limited research on nursing technicians and health assistants in Saudi Arabia by providing insights into their roles, challenges, and impact on patient care in Hafar Al-Batin hospitals. The findings highlight the crucial contributions of these healthcare professionals in supporting registered nurses and improving patient outcomes.

The study underscores the need for healthcare organizations and policymakers to recognize the value of nursing technicians and health assistants and implement strategies to optimize their roles. Providing enhanced training programs, clear role definitions, and fostering collaboration among healthcare professionals are essential to fully harness the potential of nursing technicians and health assistants in improving patient care delivery.

Future research should explore the impact of nursing technicians and health assistants in different healthcare settings and incorporate objective measures to validate the findings. By addressing the challenges faced by these healthcare professionals and leveraging their contributions, healthcare organizations can improve the quality of patient care and achieve better health outcomes.

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