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Exploring Hemodialysis Nurses Experiences and Perspectives on Infection and Prevention and Control: A Qualitative Study

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ABSTRACT

Patients undergoing hemodialysis are at increased risk of healthcare-associated infections, making infection prevention and control (IPC) essential for patient safety. This qualitative descriptive study explored the experiences and perspectives of nine hemodialysis nurses regarding IPC practices in a selected private hospital in Marikina City, Philippines. Data were collected through semi-structured interviews and analyzed using Braun and Clarke's thematic analysis. Six themes emerged: professional responsibility, evidence-based IPC practices, organizational support, patient education, implementation challenges, and professional growth. The findings highlight that effective IPC depends on nurses' commitment, organizational support, patient participation, and continuous education. Strengthening institutional policies, competency-based training, and standardized patient education may enhance IPC compliance and improve patient safety in hemodialysis units.

Keywords: *Hemodialysis, Infection Prevention and Control, patient safety, nursing practice*

INTRODUCTION

Patients undergoing hemodialysis are highly susceptible to healthcare-associated infections because of repeated vascular access and frequent invasive procedures. Infection prevention and control (IPC) is therefore essential to ensure patient safety and quality care. Effective IPC practices, including hand hygiene, aseptic technique, environmental cleaning, and proper vascular access management, help reduce infection risks and improve patient outcomes. However, adherence to these practices is influenced by nurses' competence, organizational support, resource availability, and patient cooperation. While IPC guidelines are well established, limited qualitative studies have explored the experiences of Filipino hemodialysis nurses in implementing these practices. This study aimed to explore the experiences and perspectives of hemodialysis nurses regarding infection prevention and control to provide insights for improving nursing practice, institutional policies, and patient safety.

Statement of the Problem

This study aimed to explore the experiences and perspectives of hemodialysis nurses regarding infection prevention and control (IPC) practices in a selected private hospital in Marikina City. Specifically, it sought to answer the following research question:

How do hemodialysis nurses describe their experiences and perspectives in understanding, implementing, and maintaining infection prevention and control practices in the hemodialysis unit?

Scope and Delimitations

This study explored the experiences and perspectives of nine registered hemodialysis nurses regarding infection prevention and control (IPC) practices in a selected private hospital in Marikina City, Philippines. Using a qualitative descriptive research design, data were collected through semi-structured interviews and analyzed using thematic analysis. The study was limited to nurses working in a single hemodialysis unit and relied on participants' self-reported experiences. Consequently, the findings provide an in-depth understanding of IPC practices within the study setting but are not intended to be generalized to all hemodialysis units or healthcare institutions.

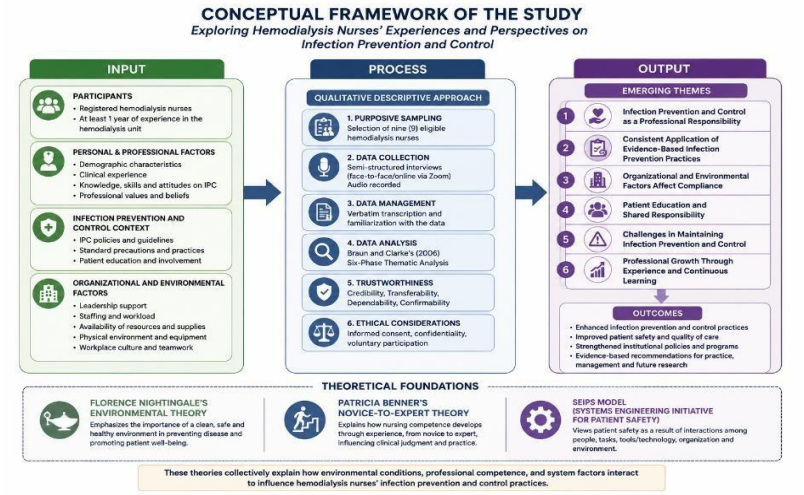
Review of Related Literatures

The World Health Organization (2024) and the Centers for Disease Control and Prevention (2024) identify infection prevention and control (IPC) as essential for reducing healthcare-associated infections in hemodialysis units through hand hygiene, aseptic technique, environmental cleaning, and vascular access care. Mohammed Aldawaha et al. (2022) and Mohamed et al. (2021) reported that nurses' IPC compliance is strengthened by continuous education, organizational support, and adequate resources. However, limited qualitative studies have explored the experiences of Filipino hemodialysis nurses, highlighting the need for this study.

Theoretical Framework

This study was guided by Florence Nightingale's Environmental Theory, Patricia Benner's Novice-to-Expert Theory, and the Systems Engineering Initiative for Patient Safety (SEIPS) Model. These frameworks explain that effective infection prevention and control (IPC) is influenced by a safe healthcare environment, nurses' clinical competence developed through experience, and organizational systems that support evidence-based practice and patient safety.

Conceptual Framework



METHODOLOGY

This study employed a qualitative descriptive research design to explore the experiences and perspectives of nine purposively selected hemodialysis nurses regarding infection prevention and control (IPC) practices. Data were gathered through semi-structured interviews and analyzed using Braun and Clarke's six-phase thematic analysis to identify recurring patterns and themes. Ethical principles were strictly observed by obtaining ethics approval and informed consent while ensuring participants' confidentiality, anonymity, voluntary participation, and secure handling of all research data.

Research Design

This study employed a qualitative descriptive design to explore the experiences and perspectives of hemodialysis nurses regarding infection prevention and control (IPC) practices in a selected private hospital in Marikina City, Philippines. Data were collected through semi-structured interviews and analyzed using Braun and Clarke's (2006) thematic analysis. Trustworthiness was established using Lincoln and Guba's criteria.

Research Steps

Ethical approval and institutional permission were obtained before data collection. Nine purposively selected hemodialysis nurses participated in semi-structured interviews, which were audio-recorded, transcribed verbatim, and analyzed using Braun and Clarke's (2006) thematic analysis. Trustworthiness was ensured through Lincoln and Guba's criteria, including member checking.

Data Collection and Sample Selection

Nine registered hemodialysis nurses were purposively selected based on the study's inclusion criteria. Data were collected through 30–45-minute semi-structured Zoom interviews, which were audio-recorded, transcribed verbatim, and continued until data saturation was achieved.

Data Analysis Methods

Interview transcripts were analyzed using Braun and Clarke's (2006) six-phase thematic analysis, which involved familiarization with the data, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report. This systematic process enabled the identification of meaningful patterns and themes that reflected the experiences and perspectives of hemodialysis nurses regarding infection prevention and control (IPC) practices. The trustworthiness of the findings was ensured through the application of Lincoln and Guba's criteria of credibility, transferability, dependability, and confirmability.

Research Hypotheses and Validation

As a qualitative descriptive study, this research did not formulate or test a research hypothesis. Instead, it was guided by a central research question that explored the experiences and perspectives of hemodialysis nurses regarding infection prevention and control (IPC) practices. The semi-structured interview guide underwent expert validation to ensure its relevance, clarity, and alignment with the study objectives. Minor revisions were incorporated based on the experts' recommendations before data collection commenced.

Study Limitations and ethical considerations

The study was limited to nine registered nurses from a single private hospital; therefore, the findings may not be generalizable to other settings. Ethical approval, institutional permission, and written informed consent were obtained prior to data collection. Participants' confidentiality, anonymity, voluntary participation, and right to withdraw were ensured throughout the study.

RESULTS AND DISCUSSION

Analysis of interviews with nine hemodialysis nurses identified six themes: professional responsibility, evidence-based IPC practices, organizational support, patient education, implementation challenges, and professional growth. The findings indicate that effective infection prevention and control depends on nurses' competence, organizational support, patient engagement, and continuous learning, underscoring the need for a comprehensive approach to ensure safe, high-quality hemodialysis care.

SUMMARY

This study explored the experiences and perspectives of nine hemodialysis nurses regarding infection prevention and control (IPC) using a qualitative descriptive approach. Thematic analysis identified six themes highlighting the roles of professional responsibility, evidence-based practice, organizational support, patient education, implementation challenges, and professional growth in promoting effective IPC. These findings provide insights for strengthening infection prevention practices and improving patient safety in hemodialysis units.

CONCLUSIONS

The findings of this study demonstrate that effective infection prevention and control (IPC) in hemodialysis units extends beyond adherence to established protocols. It is shaped by nurses' professional responsibility, consistent application of evidence based practices, organizational support, patient participation, and continuous professional development. Despite challenges such as workload and resource limitations, hemodialysis nurses remained committed to providing safe, high-quality care. Strengthening institutional support, ongoing education, and patient-centered IPC initiatives can further enhance infection prevention practices and improve patient safety and quality of care in hemodialysis settings.

RECOMMENDATIONS

Based on the findings, healthcare institutions should strengthen infection prevention and control (IPC) programs by providing regular competency-based training, ensuring adequate resources and staffing, and reinforcing compliance with evidence-based guidelines. Standardized patient education materials should be developed to enhance patient participation in infection prevention. Hospital administrators should continue supporting a culture of safety through continuous monitoring, policy implementation, and professional development opportunities for hemodialysis nurses. Future research may include multiple dialysis centers and larger, more diverse samples to further validate and expand the findings on IPC practices in hemodialysis settings.

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AI DECLARATION STATEMENT

ChatGPT (OpenAI) was used for language editing, paraphrasing, formatting, grammar correction, and generating images for presentation purposes. All research design, data collection, data analysis, interpretation of findings, and conclusions were conducted and verified by the researchers, who take full responsibility for the accuracy and integrity of the work.

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