

Exploring the Accountability and Perception on Artificial Intelligence Among Nurses in Selected Hospitals in Bulacan

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ABSTRACT

The rapid integration of Artificial Intelligence (AI) in healthcare necessitates an examination of how nurses navigate accountability and perception toward these technologies. This qualitative-phenomenological study explored the lived experiences of nine (9) staff nurses from selected hospitals in Bulacan, Philippines, regarding AI accountability and perception. Semi-structured interviews were conducted and analyzed through thematic analysis. Findings revealed two overarching dimensions: (1) Accountability, encompassing ethics, potential incorrect judgments, man-over-machine autonomy, effects on public dignity, public confidence, and inherent biases in testing; and (2) Perceptions, including perceived usefulness, perceived ease of use, social influence, facilitating conditions, and self-efficacy. Results indicated that nurses affirmed human primacy in clinical decision-making, expressed heightened concern for data privacy and patient dignity, and recognized AI's potential to enhance efficiency while cautioning against overdependence. Accountability gaps, particularly the inability to hold AI responsible for errors, were consistently highlighted. Institutional support, structured training, and robust data governance emerged as critical facilitating factors for responsible AI adoption. Anchored in Rogers' Diffusion of Innovations Theory, this study underscores the need for an integrated approach balancing technological advancement with ethical governance and human-centered nursing care in the Philippine healthcare context.

Keywords: Artificial intelligence, accountability, perception, nurses, healthcare, Philippines, qualitative

INTRODUCTION

Artificial Intelligence (AI) is increasingly reshaping nursing practice, raising important questions about accountability and professional perception that warrant focused inquiry.

Statement of the Problem

This study specifically aimed to explore the lived experiences of staff nurses regarding:

1. accountability dimensions, including ethics, potential incorrect judgments, man-over-machine autonomy, effects on public dignity, public confidence, and inherent biases in AI testing; and
2. perception dimensions, including perceived usefulness, perceived ease of use, social influence, facilitating conditions, and self-efficacy.

Scope and Delimitations

This section aims to supply the scope and delimitations of the study, including the selected hospitals in Bulacan, Philippines, the nurses as primary participants, the use of a qualitative approach within a limited timeframe, and the focus on perceptions, attitudes, and accountability in AI use. It also outlines the aspects excluded, such as other healthcare regions, broader facility representation, and extended data collection, acknowledging constraints in sample size, resources, and potential bias in participant responses.

Review of Related Literature

Artificial Intelligence (AI) is rapidly transforming healthcare delivery worldwide, with the global AI in patient engagement market projected to grow at a compound annual growth rate of 21.2% between 2024 and 2030 (Grand View Research, 2023). As of 2025, approximately 22% of healthcare organizations have implemented domain-specific AI tools, reflecting accelerating trust in the technology (Menlo Ventures, 2025). In the Philippine context, however, AI adoption faces significant barriers, including inadequate ICT infrastructure, digital divide issues, and a national AI readiness ranking of 65th globally—trailing ASEAN neighbors (PIDS, 2025; Navigating ASEAN AI Governance, 2025).

Nurses, as frontline healthcare professionals, occupy a pivotal role in AI integration within clinical settings. Their accountability for patient outcomes and their direct interface with AI-assisted tools make their perceptions and attitudes toward AI critically important. Despite growing global literature on healthcare AI adoption, few studies have examined the lived experiences of Filipino nurses—particularly in provincial healthcare settings such as Bulacan. This gap underscores the relevance of an in-depth, qualitative inquiry into how nurses experience AI accountability and perceive its integration in everyday clinical practice.

Theoretical Framework

Anchored on Rogers' (2003) Diffusion of Innovations (DOI) Theory, this study examined how accountability factors and perceptions interact to shape nurses' behavioral intention toward AI adoption. The DOI framework provides a robust lens for understanding why and at what rate AI innovations are embraced or resisted within healthcare organizations, accounting for relative advantage, compatibility, complexity, trialability, and observability as determinants of adoption.

METHODOLOGY

This section presents the research design, procedures, and analytical approach employed in this study.

Research Design

The study used a qualitative-phenomenological design to explore nurses' lived experiences regarding AI accountability and perception, allowing for a deeper understanding of subjective insights.

Research Steps

Data collection began with ethical clearance and coordination with hospitals, followed by purposive sampling of nurses. Semi-structured interviews were conducted, recorded, transcribed, validated through member-checking, and analyzed thematically.

Data Collection and Sample Selection

Nine staff nurses from selected hospitals in Bulacan were chosen through purposive sampling, with identities kept confidential using codes. Interviews were conducted in person or online, recorded, transcribed, and validated for accuracy.

Data Analysis Methods

Thematic analysis based on Braun and Clarke's framework was used, involving coding, theme development, and categorization. Peer debriefing ensured the study's rigor and reliability.

Research Hypotheses and Validation

As a qualitative study, no statistical hypotheses were tested. Instead, findings were validated through member-checking and adviser review to ensure accuracy and credibility.

Study Limitations and Ethical Considerations

Informed consent and confidentiality were maintained throughout the study. Data were securely stored and accessed only by the researcher. The small sample size from one province limits generalizability, highlighting the need for further research.

RESULTS AND DISCUSSION

Thematic analysis identified two overarching dimensions—Accountability and Perceptions—each comprising six and five thematic domains, respectively.

Accountability Dimension

Under Ethics, nurses recognized that AI can be used in clinical care but emphasized that empathy and nurse-patient interaction remain irreplaceable. They stressed that AI should support, not replace, human expertise, and must be reliable and validated before use.

Regarding Potential Incorrect Judgments, nurses emphasized that human judgment should always override AI decisions. They also raised concerns about unclear accountability when AI makes errors, highlighting the need for clear liability frameworks.

On Man-over-Machine Autonomy, nurses affirmed that decision-making should remain with healthcare professionals. AI is viewed as a supportive tool that requires critical thinking and verification, not as an independent decision-maker.

Concerning Effects on Public Dignity, data privacy and patient confidentiality were major concerns. Reports of data breaches and system errors highlighted the need for strong cybersecurity and transparent data governance.

On Public Confidence, trust in AI depends on outcomes and proper use. Overreliance may reduce professional credibility, while training and proven accuracy help build trust. For Inherent Biases in Testing, nurses stressed the importance of thorough validation, pilot testing, and regular system checks. They emphasized that AI must meet high safety standards before implementation.

Perception Dimension

Perceived Usefulness was widely recognized, with AI seen as helping reduce workload, improve time management, and increase accuracy. However, concerns about overdependence and possible skill decline were also noted, emphasizing the need for continuous professional development.

Perceived Ease of Use improved with experience, as nurses highlighted the importance of user-friendly systems. Initial challenges decrease over time, but continuous training for all age groups remains essential.

Social Influence was shaped by training, peers, social media, and seminars. Platforms like Facebook and Messenger played a key role in increasing awareness and shaping perceptions of AI.

Facilitating Conditions such as administrative support, government backing, infrastructure, and budget were seen as crucial for AI adoption. Limited funding, especially in government hospitals, was identified as a major challenge.

Self-Efficacy improved through training and hands-on experience, with younger nurses adapting more quickly. Nurses emphasized the importance of maintaining human oversight of AI, supporting its role as a tool for augmented intelligence.

SUMMARY

This study explored how nurses in Bulacan hospitals view accountability and perception issues in AI use. They emphasized human judgment, raised concerns about liability and data governance, and recognized AI's benefits in improving efficiency and accuracy. Adoption depends on usability, support, and training, highlighting the need for ethical governance and human-centered care.

CONCLUSIONS

AI integration in Bulacan healthcare is shaped by accountability and perception issues. Nurses see AI as a support tool, not a replacement for clinical judgment. Key needs include data privacy, clear accountability, system validation, and training, supported by ethical and human-centered implementation.

RECOMMENDATIONS

Future research should examine AI adoption in various healthcare settings and include patient perspectives. Healthcare professionals should use AI as a support tool while

maintaining clinical judgment and continuous training. Institutions must ensure proper training, data privacy, and clear guidelines, while government agencies should establish regulatory frameworks and data policies. AI developers and academic institutions should promote transparent systems and continuous learning, and patients should be informed to support trust and responsible AI use.

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AI DECLARATION STATEMENT

AI-supported tools helped with grammar and structure in creating this article. No AI tools were used to collect, analyze, or interpret data; all authors are credited for their academic contributions.

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