



An Interpretative Phenomenological Study of Telehealth Experiences Among Community Nurses in Rural Indonesia

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Article Info

Article history:

Received 29-03-2025

Revised 04-05-2025

Accepted 17-05-2025

Keyword:

Telehealth, Community Nursing, Rural Healthcare, Interpretative Phenomenological Analysis, Digital Health, Indonesia

ABSTRACT

Digital health innovations, particularly telehealth, are transforming healthcare delivery, especially in underserved rural communities. While technological integration has progressed rapidly, little is known about how community nurses interpret and adapt to these changes in contexts where cultural values and relational care remain central. Existing research has focused mainly on technical implementation, leaving a gap in understanding the lived experiences of nurses at the frontline of digital transitions. This study uses an interpretative phenomenological approach to explore how community nurses in rural Indonesia make sense of their roles and relationships in the context of telehealth adoption. In-depth, semi-structured interviews with ten community nurses were conducted and analyzed thematically to identify recurring patterns and meanings. The results revealed four main themes: balancing technology with human connection, confronting infrastructural and emotional challenges, redefining professional identity, and adapting psychosocially within local social structures. These findings suggest that telehealth is experienced not merely as a tool, but as a transformative force that reshapes nurses' sense of self, care delivery, and patient interaction. This study contributes to a more human-centered understanding of digital health by emphasizing the social and emotional dimensions of telehealth implementation. These insights call for future research and policy to integrate technological innovation with contextualized support for healthcare providers in low-resource settings.



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INTRODUCTION

The integration of digital technology into healthcare systems has significantly transformed how care is delivered, especially in community and rural settings. Telehealth, as a prominent digital health intervention, has emerged as a response to challenges such as geographic isolation, healthcare workforce shortages, and the need for continuous patient monitoring. In many countries, including Indonesia, telehealth has been adopted to improve access to healthcare services for populations living in remote areas with limited infrastructure and resources (Razaq et al., 2022; Nuraini et al., 2021). While the technological advancement is laudable, its implementation introduces new layers of complexity, especially for frontline healthcare providers such as community nurses.

Community nurses serve as crucial intermediaries between formal health systems and patients' daily lives, especially in rural areas where care delivery is shaped by cultural and relational norms. The introduction of telehealth in these settings, therefore, not only brings technological change but also affects the personal, emotional, and relational dimensions of nursing practice—aspects often underrepresented in digital health research and policy discourse (Lee & Kim, 2021; Nuraini et al., 2021).

Understanding the lived experiences of nurses who navigate the interface between traditional care and digital innovation is essential. Such experiences are shaped by personal meanings, cultural values, and contextual realities that cannot be fully captured by quantitative or outcome-based measures. A phenomenological approach, which centers on the subjective meanings of human experiences, is particularly relevant to explore how nurses perceive, adapt to, and internalize the transition toward telehealth in underserved communities. Exploring this phenomenon through the lens

of those directly involved offers a rich, context-sensitive understanding that may inform more human-centered and culturally responsive digital health strategies.

Given the complex nature of healthcare delivery in rural settings, research into the lived experiences of healthcare providers—particularly nurses—has become increasingly vital. In the context of telehealth implementation, understanding how nurses experience, interpret, and adapt to technological change provides crucial insights into the human dimensions of digital transformation. Prior studies have explored the functional aspects of telehealth, including its efficiency, accessibility, and clinical outcomes (Ahmad & Yusuf, 2020; Suryanto et al., 2023). However, relatively few have examined the subjective and emotional impact of such changes on the healthcare professionals who are tasked with delivering care under shifting paradigms.

One of the central methodological challenges in exploring these experiences lies in the limitations of conventional, quantitative research approaches, which tend to focus on measurable outcomes and neglect the nuanced, context-bound realities of individual experience. Surveys and structured assessments, while valuable for identifying trends, often fail to capture the emotional labor, cultural dissonance, and identity shifts that accompany the integration of telehealth technologies in community settings. This gap is particularly evident in studies involving nurses in rural areas, where digital tools intersect with deeply rooted social practices and limited infrastructural support (Nuraini et al., 2021).

As a result, many previous studies have been unable to fully articulate the essence of the phenomenon—that is, how community nurses make sense of their evolving roles, responsibilities, and relationships with patients in the face of digital healthcare transformation. To address these shortcomings, a phenomenological approach that privileges the voices and meanings of those directly engaged with the phenomenon is essential. Such an approach allows for a richer, more holistic understanding of the ways in which telehealth is experienced, not only as a system innovation but as a lived and felt transformation within the fabric of daily nursing practice.

In the current discourse surrounding telehealth implementation in rural healthcare settings, the predominant solutions have centered on practical interventions—such as increasing infrastructure access, enhancing digital literacy training, and standardizing protocols for remote care delivery (Razaq et al., 2022). While these strategies are essential to improving system efficiency, they often overlook the subjective experiences of the healthcare providers expected to carry them out. Quantitative and technical evaluations of telehealth tend to prioritize operational outcomes, thereby minimizing the emotional, social, and existential dimensions of how nurses live through these transitions in their professional roles (Lee & Kim, 2021).

This practical and outcome-oriented approach presents a limitation: it fails to capture the nuanced and deeply personal experiences that shape how nurses perceive, accept, or resist telehealth technologies. In community settings—particularly in rural Indonesia—these experiences are profoundly influenced by cultural expectations, relational dynamics, and the socio-economic realities of care delivery. Previous studies, although valuable in identifying structural and functional barriers, have not adequately addressed how nurses themselves make sense of the digital shift within these unique and often challenging environments (Suryanto et al., 2023; Nuraini et al., 2021).

To bridge this gap, a phenomenological approach is essential. Unlike conventional methods, phenomenology focuses on the lived experiences and personal meanings attributed to a phenomenon, providing a more holistic and human-centered understanding. By prioritizing the voices of community nurses and exploring how they interpret the intersection between traditional care practices and digital innovation, this study seeks to uncover the essence of their experiences—offering insights that are both contextually grounded and theoretically rich.

Previous studies have examined the implementation of telehealth in various settings, often focusing on technical efficiency, system readiness, and patient outcomes (Razaq et al., 2022; Ahmad & Yusuf, 2020). Some qualitative research has begun to explore healthcare workers' experiences, but few have centered on community nurses in rural Indonesia. These nurses operate within culturally rich and resource-limited environments where care delivery is shaped by deep social ties and traditional

expectations. The limited literature on how these professionals perceive the shift toward digital healthcare highlights a lack of understanding of their lived realities. This gap underscores the need to explore their experiences using an approach that values personal meaning and context.

To address this gap, the present study adopts Interpretative Phenomenological Analysis (IPA) to investigate how community nurses make sense of their experiences with telehealth. IPA allows for a deep exploration of subjective meanings, focusing on how individuals interpret changes in their personal and professional lives. This method is especially relevant in understanding complex transitions such as those involved in digital healthcare in marginalized settings. The study responds to the limitations of previous research by providing insight into the emotional, relational, and identity-related aspects of telehealth adoption. Through this lens, the study aims to reveal the essence of nurses' experiences within their unique cultural and environmental contexts.

This article is structured in several key sections. The introduction presents the background and significance of the study, followed by a review of relevant literature. The methodology section details the phenomenological approach used, including participant selection, data collection, and analysis procedures. The results section presents key themes that emerged from the data, supported by direct quotations from participants. Finally, the discussion and conclusion interpret the findings in light of existing literature and reflect on their implications for future practice and research.

RESEARCH METHODS

Study Design

This study employed an interpretative phenomenological approach (IPA) to explore the subjective experiences of community nurses implementing telehealth services in rural Indonesia. IPA was chosen due to its strength in uncovering the meanings individuals assign to their lived experiences within specific contexts. Phenomenology, as a qualitative research design, emphasizes the exploration of consciousness and the essence of lived experiences from the perspective of those who experience the phenomenon directly. In this study, the interpretative variant of phenomenology, grounded in Heideggerian philosophy, was applied to examine how nurses interpret and internalize the shift toward digital healthcare in a socio-culturally unique and resource-limited environment.

Participants

Participants included community nurses who had experience delivering telehealth services in rural areas of Indonesia for a minimum of six months. Inclusion criteria required participants to be registered nurses actively practicing in rural community settings, with direct involvement in telehealth implementation. Nurses in administrative roles or without experience in telehealth delivery were excluded. Participants were selected using purposive sampling to ensure depth and relevance of data. A total of ten participants (7 females and 3 males), aged between 28 and 46 years (mean age = 35.4 years), were involved in the study. The sample size was determined based on the principle of data saturation, where no new themes or insights emerged from additional interviews, thus ensuring analytical sufficiency. All participants were affiliated with community health centers in geographically remote or underserved areas with limited technological infrastructure.

Data Collection

Data were collected through semi-structured, in-depth interviews conducted either face-to-face or via secure online platforms, depending on the availability of internet connectivity in the respective regions. An interview guide with open-ended questions was used to explore participants' experiences, challenges, and perceptions regarding telehealth practices. Each interview lasted approximately 45 to 75 minutes. Interviews were conducted in private and comfortable settings selected by the participants to ensure a relaxed and non-threatening environment. All interviews were audio-recorded with the participants' consent and transcribed verbatim. Field notes were also taken to capture non-verbal cues and contextual details. The interview protocol was adapted from prior phenomenological studies and refined to suit the local cultural context.

Data Analysis

Data were analyzed using Interpretative Phenomenological Analysis (IPA), which involved a series of structured steps: reading and re-reading transcripts, initial noting, developing emergent themes, connecting themes across cases, and formulating superordinate themes. Transcripts were coded manually and cross-validated using NVivo software to support the organization and retrieval of significant data segments. To ensure analytic rigor, two researchers independently coded a subset of transcripts and then met to compare coding decisions. Discrepancies were discussed and resolved through consensus, enhancing intercoder reliability and thematic coherence. Through iterative analysis, essential meanings and patterns across participants' narratives were identified and synthesized. The final themes represented a coherent understanding of how nurses perceived and made sense of their experiences with telehealth in rural settings.

Ethical Considerations

Ethical approval was obtained from the appropriate institutional research ethics committee prior to data collection. Written informed consent was obtained from all participants after they were briefed on the study's purpose, procedures, risks, and benefits. Participation was voluntary, and participants were assured of their right to withdraw at any time without consequences. Anonymity was preserved through the use of pseudonyms, and all data were kept confidential and securely stored. The study adhered to the ethical guidelines established by the Declaration of Helsinki and relevant national research ethics standards.

RESULTS

This study explored the subjective experiences of community nurses in implementing telehealth services in rural areas of Indonesia. Through interpretative phenomenological analysis of in-depth interviews, four major themes emerged, capturing the complexity of nurses' adaptation to digital technologies within a context characterized by limited infrastructure and strong local socio-cultural values.

Bridging Technology and Social Closeness

Most participants described their initial encounters with telehealth as “confusing yet inevitable.” They found themselves in a dilemma between the professional imperative to adopt digital innovation and the desire to maintain personal relationships with patients. For these nurses, healthcare delivery is not merely a clinical task but also a platform for warm, interpersonal connection.

“Patients in the village prefer face-to-face conversations... they feel more cared for when we visit their homes. But with video calls, it becomes stiff—too formal. Sometimes, they don't even know what to say.” (P2)

Telehealth was perceived to diminish the warmth of interaction and create emotional distance, even though it maintained the functional aspects of care. This created a tension between systemic efficiency and the local values of social intimacy.

Infrastructural Challenges and Technological Uncertainty

Community nurses working in rural settings faced substantial barriers to telehealth implementation, including unstable internet connectivity, a lack of proper devices, and limited training. These challenges were not only technical but also evoked feelings of frustration and helplessness among participants.

“Sometimes the signal drops during consultations. I have to climb a hill to get a better connection, and even then it's not always stable. It's exhausting, but we have no choice.” (P5)

Such conditions contributed to an internal conflict—between the commitment to provide optimal care and the structural limitations beyond their control.

Redefining Professional Role and Identity

The introduction of telehealth altered how nurses perceived their own professional identity. They were no longer just providers of health care but were also expected to act as “technology facilitators” for patients and their families.

“I feel like I’ve become more of a technician than a nurse. I have to help patients press buttons, guide families on how to use the apps. But it’s also an opportunity for me to learn new things.” (P1)

While initially perceived as an added burden, many participants eventually recognized this shift as part of a broader professional transformation—one that expanded their skill set and digital competence.

Psychosocial Adaptation in Local Social Environments

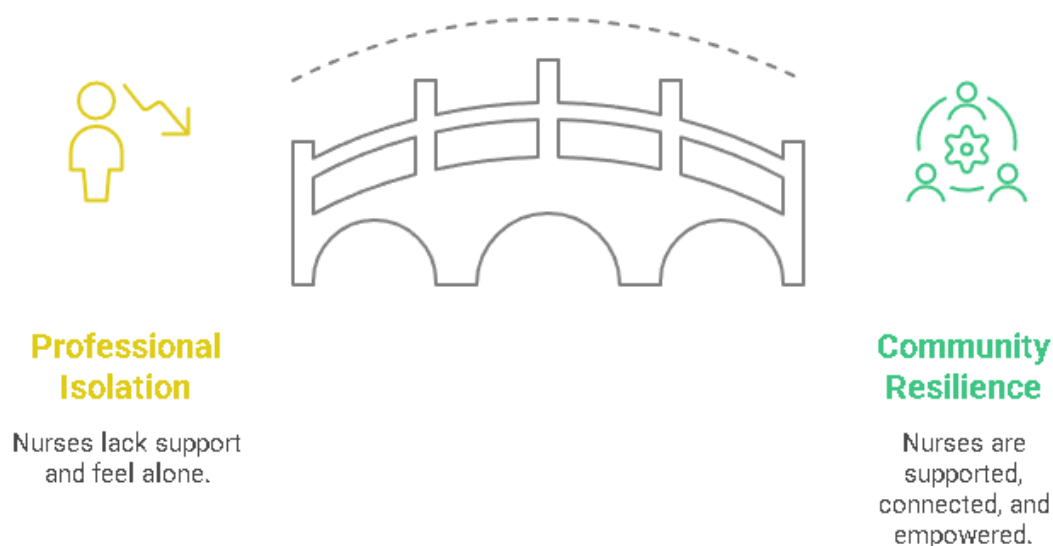
The process of adapting to telehealth was not limited to technical challenges; it also involved emotional and social struggles. Many nurses felt isolated professionally, citing the lack of emotional or technical support from colleagues or supervisors.

“I often feel like I’m facing this alone. My colleagues are just as confused, and the supervisors only give instructions via WhatsApp. We have to figure things out by ourselves.” (P4)

Despite these constraints, participants described emerging forms of informal peer support and local community initiatives that fostered a sense of shared resilience. Adaptation in rural contexts, therefore, was shaped more by social capital than by formal institutional support.

These four themes reveal that community nurses’ experiences with telehealth in rural Indonesia constitute a multifaceted process shaped by technology, emotions, social expectations, and evolving professional identities. Telehealth was not merely perceived as a tool, but as a transformative element in the meaning of nursing care—an element negotiated between modern healthcare systems and deeply rooted local values. These findings contribute to a nuanced understanding of digital health implementation in underserved communities and highlight the importance of context-sensitive strategies in advancing equitable healthcare delivery.

Telehealth Adaptation: From Isolation to Community Resilience



DISCUSSION

These results directly address the guiding question of the study: How do community nurses make sense of telehealth in resource-limited, relationally rich contexts? The interpretation suggests that telehealth is experienced not merely as a technological shift but as a transformative force—altering nurses’ perceptions of self, care, and connection.

Rather than viewing telehealth in purely functional terms, participants framed it within broader narratives of identity, emotion, and cultural expectation. This insight extends the discourse beyond standard measures of telehealth success (e.g., access, efficiency) into the domain of lived experience.

These findings align with prior literature such as Lee & Kim (2021) and Suryanto et al. (2023), who reported emotional and role-related disruptions during digital transitions. However, this study builds further by foregrounding the rural socio-cultural context in shaping those disruptions.

The existential aspect of role redefinition highlighted in this study deepens the structural emphasis observed by Razaq et al. (2022), revealing that adaptation is not just organizational but personal. Moreover, while Nuraini et al. (2021) emphasized technical readiness, this study complements it by foregrounding emotional and cultural readiness as equally vital for meaningful telehealth engagement.

In sum, successful implementation of telehealth depends not only on infrastructure or skills training, but also on addressing the interpretive frameworks and emotional labor of the healthcare providers involved.

The implications of these findings extend beyond the immediate context of rural nursing practice. Socially and culturally, the results highlight the importance of integrating technological innovation with an understanding of local relational norms and professional identities. Nurses' interpretations of telehealth reflect broader questions about trust, presence, and care ethics in digital environments. Practically, this suggests that telehealth implementation strategies should not be designed solely around technical competencies, but must also include psychosocial preparation and support mechanisms that respect the values of community-based care. These insights are relevant not only for Indonesian rural healthcare but also for other low-resource settings where technology meets tradition in deeply personal ways.

This study, however, is not without limitations. The sample size was limited to a specific geographical and cultural context, which may affect the transferability of findings to other regions or healthcare systems. Additionally, the use of a single data collection method—semi-structured interviews—may restrict the depth of understanding that could be enriched through additional methods such as participant observation or longitudinal tracking. The interpretative nature of the analysis, while central to phenomenology, also depends on the researcher's own perspective, which can introduce subjective bias despite efforts to maintain reflexivity.

Future research could build on these findings by exploring telehealth experiences from the perspectives of other stakeholders, such as patients or family caregivers, to develop a more holistic understanding of digital health in rural communities. Studies that examine cross-cultural comparisons or longitudinal shifts in perception as digital systems mature would also be valuable. Furthermore, integrating phenomenological insights with policy design could help align digital health innovations with the lived realities of those who implement and receive care—ultimately contributing to more empathetic and effective healthcare systems.

CONCLUSION

This study explored how community nurses in rural Indonesia experience and interpret the implementation of telehealth within their professional and cultural contexts. Using an interpretative phenomenological approach, the research uncovered four key themes that reflect the emotional, relational, and identity-based dimensions of digital healthcare adoption. The findings revealed that nurses view telehealth not merely as a tool but as a transformative element that reshapes their roles, challenges their sense of presence, and alters patient-care relationships. These insights address a significant gap in previous studies that focused primarily on technical outcomes, offering a more human-centered understanding of telehealth in resource-limited settings.

The study highlights the need for implementation strategies that are not only context-sensitive but also include structured emotional support systems, culturally adapted digital literacy training, and participatory design processes that involve frontline providers in telehealth planning. Future research

should examine patient and family perspectives to capture the relational dynamics from both sides of care, and explore longitudinal changes in nurse-patient rapport and job satisfaction over time. In addition, comparative studies across different regions could illuminate how socio-cultural variables influence telehealth integration outcomes, thereby informing scalable and locally responsive policy frameworks.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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