Enhancing Emotional Support in Critical Care Through Digital Family Interaction

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ABSTRACT

Intensive Care Unit (ICU) patients often experience heightened emotional distress due to isolation and restricted family access, making digital family interaction a promising solution to bridge these emotional gaps. This study examined the perceived impact of digital family interaction on emotional support in ICU settings from the perspectives of patients, families, healthcare providers, and administrators. Employing a descriptive-quantitative correlational design, the research was conducted in selected hospitals in Tarlac City, involving 30 ICU patients, 30 family members, 20 healthcare staff, and 10 administrators selected through purposive sampling. Data were collected using validated questionnaires and analyzed through descriptive statistics and Pearson correlation at a significance level of $p < 0.05$. Findings revealed unanimous agreement among patients and families that digital interaction reduced anxiety, loneliness, and fear while enhancing motivation and connectedness (mean = 5.00). Healthcare providers (mean = 4.88) and administrators (mean = 4.95) strongly affirmed its benefits. While patient demographics showed no significant association with perceived emotional benefit, staff position ($p = 0.035$), years of experience ($p = 0.029$), and administrators' leadership roles ($p = 0.015$) were significantly correlated with perceptions. The study concludes that digital family interaction is universally beneficial in ICU care and recommends its institutionalization through structured protocols and leadership-driven policies.

Keywords: ICU, digital family interaction, emotional support, telehealth, virtual visitation.

INTRODUCTION AND BACKGROUND OF THE STUDY

The Intensive Care Unit (ICU) is a specialized healthcare environment designed for patients with life-threatening conditions requiring continuous monitoring and advanced medical interventions. While the ICU's technological capacity is indispensable for sustaining life, its environment often contributes to emotional distress among patients and their families. Factors such as the severity of illness, unfamiliar surroundings, and restricted visitation policies can exacerbate anxiety, fear, and feelings of isolation (Aydın Er, 2024).

Family presence has long been recognized as a critical element of patient-centered care, contributing to improved emotional well-being, enhanced satisfaction, and better recovery outcomes (Rose et al., 2021). However, infection control measures and institutional protocols—particularly during the COVID-19 pandemic—imposed strict visitation restrictions, limiting the physical presence of family members and disrupting traditional modes of emotional support (Xyrichis et al., 2022). This unprecedented separation underscored the need for alternative means of communication to maintain patient-family connections in critical care settings.

Digital family interaction, facilitated through telehealth technologies such as video conferencing, instant messaging, and virtual presence platforms, has emerged as a viable solution to bridge these gaps. Evidence suggests that virtual visitation can help reduce psychological distress, maintain family closeness, and enhance patient morale, even in high-acuity environments (Kebapcı & Türkmen, 2022). Additionally, healthcare providers report that such interventions improve care coordination, reduce family anxiety, and foster a sense of trust in the care process (Alenezi et al., 2021).

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The integration of digital communication in ICUs aligns with global trends in telehealth adoption. During the COVID-19 pandemic, many hospitals rapidly implemented virtual visiting programs to ensure continued emotional and informational exchange between patients and their families (Brigham et al., 2022). Studies have shown that these initiatives not only support patients' psychological needs but also positively impact healthcare providers by reducing their emotional burden and facilitating family involvement in care decisions (Conte et al., 2023).

In the Philippine context, the adoption of digital health interventions in critical care has been uneven, hindered by technological limitations, resource constraints, and the absence of standardized protocols. While some institutions have embraced virtual family interaction during crises, its sustained integration into ICU practice remains limited. Understanding the perceptions and experiences of ICU patients, their families, healthcare staff, and hospital administrators is essential to designing effective, culturally sensitive, and sustainable digital communication strategies.

This study aims to examine the perceived impact of digital family interaction on emotional support in ICU settings, exploring its benefits, challenges, and potential for institutionalization. By identifying relationships between participant profiles and perceptions of digital family interaction, the research seeks to inform the development of structured protocols and policies that can enhance emotional care in critical care environments.

METHODOLOGY

This study employed a descriptive-quantitative correlational design to examine the relationship between digital family interaction and emotional support in Intensive Care Unit (ICU) settings. The descriptive approach was used to capture the current perceptions, experiences, and practices of ICU patients, their families, healthcare providers, and hospital administrators, while the correlational component allowed the identification of significant associations between participant profiles and their perceived emotional benefits of virtual family interaction (Creswell & Creswell, 2018; Polit & Beck, 2021).

The research was conducted in selected public and private hospitals in Tarlac City, Philippines, chosen for their operational capacity to support virtual communication systems such as video conferencing, messaging platforms, and other telehealth tools. Participants were drawn from four key groups: thirty ICU patients who had engaged in virtual family interaction during their stay, thirty family members who had participated in these interactions, twenty ICU healthcare staff (including nurses, physicians, and allied health personnel), and ten hospital administrators involved in policy-making for virtual care. Using purposive sampling, participants were selected based on their direct experience with digital family interaction, a method particularly effective in obtaining information-rich cases in healthcare research (Etikan et al., 2016).

Data were collected using a structured questionnaire designed by the researcher, informed by existing literature on telehealth, patient satisfaction, and emotional support in critical care (Kebapcı & Türkmen, 2022; Rose et al., 2021). The instrument consisted of sections on demographic and professional profiles, patterns of virtual communication, perceived emotional outcomes, and—specifically for staff and administrators—perceptions of implementation and policy integration. The questionnaire underwent content validation by a panel of experts in nursing, telehealth, and psychology, and Cronbach's alpha confirmed internal consistency above the acceptable threshold of 0.70, indicating strong reliability (Tavakol & Dennick, 2011).

Ethical clearance was secured from the respective institutional review boards, and informed consent was obtained from all participants in accordance with the Declaration of Helsinki (World Medical Association, 2013). Surveys were administered either face-to-face or electronically, depending on hospital protocols, over a two-month data collection period. Descriptive statistics—frequency, percentage, and weighted mean—were used to summarize respondent characteristics and perceptions, while Pearson's Product-Moment Correlation Coefficient tested the relationships between profile variables and perceived emotional benefits of digital family interaction. Statistical analyses were conducted at a significance level of $\alpha = 0.05$, with p-values less than 0.05 considered statistically significant. All data were anonymized, securely stored, and used solely for academic purposes.

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RESULTS AND DISCUSSION

The findings of this study revealed a strong and unanimous consensus among ICU patients and their families on the positive emotional impact of digital family interaction. Across all assessed indicators, both groups reported the highest possible mean score (M = 5.00), affirming that virtual communication substantially reduced anxiety, loneliness, and fear while enhancing hope, motivation, and connectedness during critical illness. This aligns with earlier work by Kebapcı and Türkmen (2022), who demonstrated that structured virtual visits significantly lowered anxiety levels and increased satisfaction among ICU patients and their relatives. Healthcare providers also strongly endorsed the value of digital interaction (overall M = 4.88), noting improvements in patient morale, cooperation, and emotional stability, alongside reduced emotional burden for staff—findings consistent with Conte et al. (2023), who reported that virtual visiting enhanced care delivery and strengthened patient-family relationships in ICUs. Hospital administrators expressed equally strong support (overall M = 4.95), emphasizing that digital communication aligns with institutional missions, improves patient satisfaction, and enhances hospital reputation, mirroring Dhaliwal and Jha's (2023) assertion that leadership engagement is critical to sustaining digital health integration. Statistical analysis indicated no significant association between patient demographic factors and perceived emotional benefit, suggesting that the advantages of virtual family interaction transcend age, sex, and ICU length of stay, corroborating the conclusion of Xyrichis et al. (2022) that virtual visiting benefits diverse patient populations equally. In contrast, ICU staff position ($p = 0.035$) and years of experience ($p = 0.029$) were significantly correlated with perceived emotional benefits, as was administrators' leadership role ($p = 0.015$), reinforcing evidence from Rose et al. (2021) that experience and strategic positioning enhance the effectiveness and appreciation of digital family engagement.

This study concludes that digital family interaction is a universally beneficial and emotionally supportive intervention in ICU care. It reduces psychological distress, fosters connectedness, and promotes patient and family satisfaction, while also enhancing staff morale and aligning with institutional quality care objectives. The findings confirm that demographic variables do not influence the emotional benefits experienced by patients, highlighting the broad applicability of virtual family interaction in critical care contexts. However, the more favorable perceptions among experienced staff and higher-level administrators underscore the importance of leadership and professional competence in facilitating and sustaining such interventions.

To institutionalize these benefits, it is recommended that hospitals adopt structured protocols for digital family interaction, incorporating scheduled virtual visits, standardized communication guidelines, and designated staff facilitators to ensure equitable access and consistent delivery. Training programs for ICU staff should include competencies in digital communication, emotional support strategies, and the operation of virtual platforms to standardize care quality regardless of staff experience level. Investments in secure and reliable digital infrastructure are critical to support seamless interactions while safeguarding patient privacy. Furthermore, cross-departmental collaboration in policy development is essential to broaden engagement, ensure sustainability, and embed virtual visiting as a standard practice in patient-centered critical care.

The study was limited to selected hospitals in Tarlac City that already had digital communication systems in place, which may restrict the generalizability of findings to institutions with limited technological infrastructure. Data collection relied on self-reported measures, which are subject to recall and social desirability bias. Additionally, the focus was on short-term emotional outcomes during ICU admission, without assessment of long-term psychological effects post-discharge. Future research should expand to include diverse healthcare settings, longitudinal assessments, and qualitative exploration of patient, family, and staff narratives to enrich the understanding of digital family interaction's impact.

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