

Digital Health Adoption and Innovation: Psychological Benefits and Risks in the Future of Healthcare

Irena Xhaferri^{1*}, Lindita Durmishi², Elona Hasalla³, Elda Ruçi⁴

1. Clinical Psychologist, PhD in [Neuroscienze Clinico-Sperimentali E Psichiatria](#), Sapienza, Rome, Italy, irena.xhaferri1@gmail.com
2. Head of Department of Psychology, University of Elbasan “Aleksandër Xhuvani”, lindita.durmishi@uniel.edu.al
3. Lecturer at Preclinical Department University of Elbasan “Aleksandër Xhuvani”, elona.hasalla@uniel.edu.al
4. Clinical Psychologist, leli-el@info.al

INTRODUCTION & AIM

The digital transformation of healthcare represents one of the most significant paradigm shifts in modern medicine, fundamentally altering how care is delivered, experienced, and evaluated. Digital health technologies—encompassing telemedicine, mobile health applications, artificial intelligence, electronic health records, wearable devices, and digital therapeutics—have proliferated rapidly, accelerated by the COVID-19 pandemic and driven by promises of improved access, efficiency, and personalization (Ashcroft et al., 2021; Rodriguez-Villa et al., 2020; Husain et al., 2021). While technological capabilities continue to advance, the psychological dimensions of digital health adoption remain critical yet underexplored determinants of success or failure in implementation.

Understanding the psychological impacts of digital health technologies on both patients and healthcare providers is essential for several reasons. First, psychological factors such as trust, anxiety, satisfaction, and therapeutic alliance directly influence adoption rates, adherence, and clinical outcomes (Mayer et al., 2019; Jaywant et al., 2023). Second, the mental health and wellbeing of healthcare providers affect not only their own quality of life but also patient safety, care quality, and health system sustainability (Newnham et al., 2020; Li et al., 2022). Third, as healthcare systems worldwide invest billions in digital infrastructure, evidence-based insights into psychological benefits and risks can guide more effective, equitable, and human-centered implementation strategies (Patel et al., 2018; Galatzer-Levy et al., 2023).

The COVID-19 pandemic served as a natural experiment in rapid digital health adoption, forcing healthcare systems to implement virtual care at unprecedented scale and speed (Ashcroft et al., 2021; Mostafaei et al., 2022). This accelerated transition provides valuable insights into both the potential and pitfalls of digital health, revealing benefits such as maintained continuity of care and reduced infection risk alongside challenges including technological barriers, exacerbated inequities, and provider burnout (Bucci et al., 2019; Carlbring et al., 2025). As healthcare systems transition from emergency responses to sustainable digital health strategies, understanding these psychological dimensions becomes increasingly critical.

Digital health technologies vary widely in their modalities, purposes, and implementation contexts. Telemedicine and telehealth enable remote consultations via video or telephone (Jones et al., 2020; Connolly et al., 2021). Mobile health applications support self-monitoring, psychoeducation, and symptom tracking (Das et al., 2024; Saikia et al., 2025). Artificial intelligence and machine learning tools assist with diagnosis, risk prediction, and clinical decision support (Saikia et al., 2025; Hernández et al., 2025). Digital therapeutics deliver evidence-based interventions through software (Sestino et al., 2024). Wearable devices enable continuous physiological monitoring (Masri et al., 2024). Each technology type presents distinct psychological implications for users and providers, necessitating nuanced analysis rather than broad generalizations.

METHOD

The study selection process followed the PRISMA 2020 guidelines. A comprehensive search strategy was implemented across multiple databases and additional sources. A total of 787 records were identified from databases, including PubMed (n = 26), Scopus (n = 60), Google Scholar (n = 60), SciSpace Full Text (n = 300), Elsevier (n = 60), and SciSpace Deep Search (n = 281). In addition, 500 records were identified through other methods, including websites (n = 200) and citation searching (n = 300).

Prior to screening, duplicate records (n = 196), records marked as ineligible by automation tools (n = 119), and records removed for other reasons (n = 50) were excluded. Following this process, 381 records remained and were screened based on titles and abstracts. Of these, 100 records were excluded. Subsequently, 200 reports were sought for retrieval, of which 81 were not retrieved. A total of 150 full-text articles were assessed for eligibility from database sources, with no exclusions at this stage. From other sources, 170 reports were sought for retrieval, and 30 were not retrieved. A total of 150 reports were assessed for eligibility, of which 150 were excluded. The main reasons for exclusion included lack of focus on psychological outcomes, purely technical or engineering orientation, insufficient methodological quality, absence of healthcare professionals or patients in the study population, and lack of relevance to digital health technologies.

Finally, 50 studies met the inclusion criteria and were included in the scoping review.

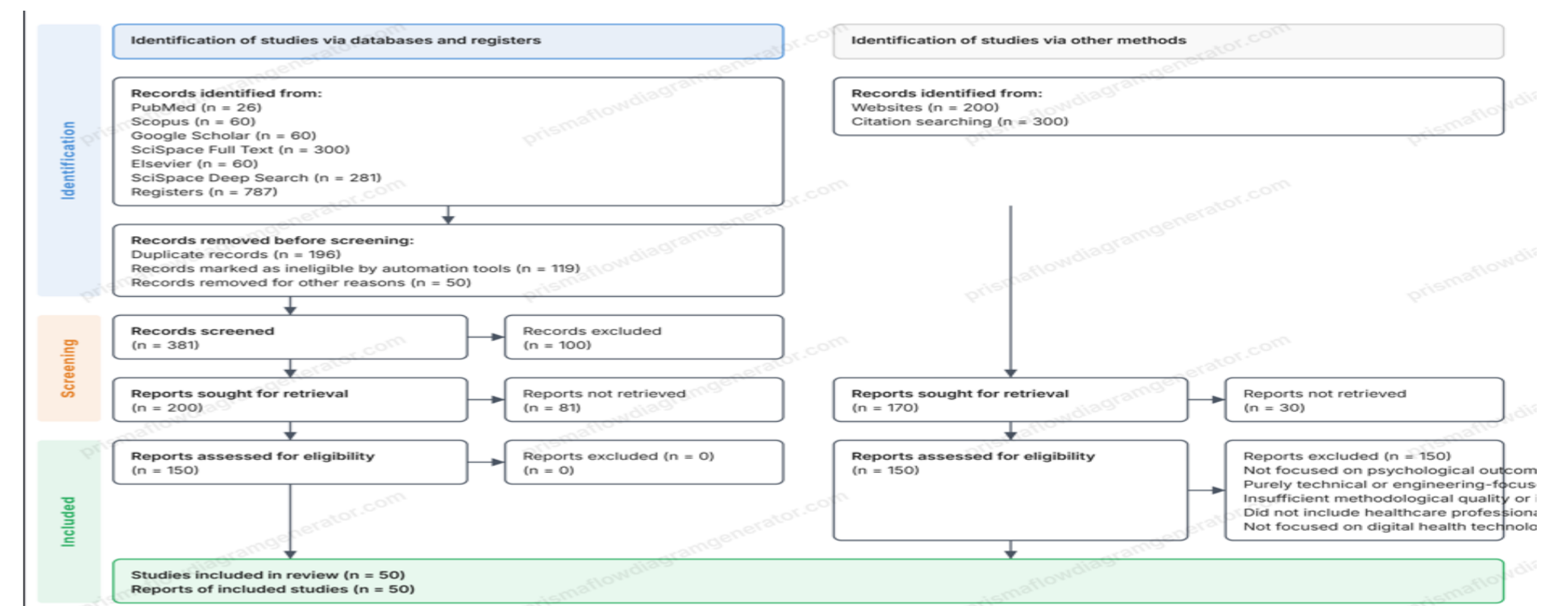
RESULTS & DISCUSSION

The study selection process followed PRISMA 2020 guidelines, ensuring transparency and reproducibility in identifying, screening, and including studies. As shown in Figure 1, the PRISMA flow diagram illustrates the study selection process. A total of 787 records were identified, of which 381 were screened after removing duplicates and ineligible records. Following screening and full-text assessment, 50 studies were included in the final review.

The analysis of the 50 included studies revealed a complex and multidimensional impact of digital health technologies on psychological outcomes. Five key dimensions were identified: emotional well-being, stress, perceived control, professional burden, and patient satisfaction.

RESULTS & DISCUSSION

Table 1. Prisma Flow



Patient benefits

Patients experienced both positive and negative psychological outcomes. On the positive side, digital health technologies improved accessibility, particularly for individuals in remote areas, and increased perceived control over health management. Many studies reported improved patient satisfaction in contexts where digital tools were user-friendly and reliable. However, negative effects were also evident. Patients frequently reported anxiety related to technology use, concerns about data privacy, and reduced emotional connection with healthcare providers. The lack of face-to-face interaction was associated with feelings of detachment and reduced trust in some cases.

Healthcare professionals' benefits

A consistent finding across studies was the increase in stress and cognitive workload (Greenhalgh et al., 2020) among healthcare professionals. Digital systems often require continuous adaptation, leading to technostress and mental fatigue. Administrative burdens associated with electronic systems were frequently reported as contributing to increased workload and reduced time for patient interaction. These findings are supported by recent research demonstrating that digital health adoption significantly impacts performance and workload through technological and organizational factors (Jeilani & Hussein, 2025). Additionally, healthcare professionals reported reduced job satisfaction due to system inefficiencies and increased pressure to maintain digital competence.

Dual Impact of Digital Health

Overall, the findings highlight a **dual psychological impact**:

- **Positive:** increased access, autonomy, and efficiency
- **Negative:** increased stress, emotional detachment, and cognitive burden

The findings of this study align with contemporary theoretical frameworks such as **technostress** theory, which explains how digital environments contribute to stress through information overload, constant connectivity, and system complexity. Additionally, the Technology–Organization–Environment (TOE) model provides a useful lens for understanding how institutional factors influence the psychological impact of technology adoption.

The dual nature of digital health technologies suggests that psychological outcomes are not inherent to technology itself but are shaped by implementation strategies, system design, and user support. Poorly designed systems may exacerbate stress and reduce satisfaction, while well-integrated technologies can enhance both efficiency and well-being.

A key concern identified in the literature is the **potential erosion of the therapeutic relationship**.

CONCLUSION

The digital transformation of healthcare represents a significant advancement in service delivery, offering improved accessibility, efficiency, and patient empowerment. However, this transformation also introduces complex psychological challenges for both healthcare professionals and patients. This scoping review demonstrates that digital health technologies have a dual impact, simultaneously enhancing and challenging psychological well-being. Addressing these challenges requires a balanced approach that incorporates user-centered design, adequate training, and institutional support.

FUTURE WORK

Future research should focus on empirical studies within specific national contexts, including Albania, to better understand local dynamics and inform evidence-based policy development. Ultimately, sustainable digital healthcare systems must prioritize not only technological innovation but also the psychological well-being of all stakeholders.