

Abstract

Artificial Intelligence and Augmented Reality for Personalized Home Rehabilitation: A Multidimensional Care Approach

Cristiana Rago¹, Alessandro Pini¹, Alice Grieco¹, David Nucci¹

¹ *Interprovincial Order of Nursing Professions of Florence–Pistoia (OPI Firenze–Pistoia), Florence, Italy*
(Corresponding Author: ragocristiana@gmail.com)

Citation: Arnone A, Capasso R, Gioiello G, Marino A, Rago C, Pini A, Grieco A, Nucci D. “The Role of Nursing Leadership in Promoting Evidence-Based Nursing Practice” (2026) *International Journal of Health Supplements* 1(Suppl. 1):101. Supp. DOI: <https://doi.org/10.82051/ijhs-2026-1>

Introduction. The integration of artificial intelligence (AI) and augmented reality (AR) in healthcare is opening new opportunities for personalized rehabilitation and remote patient monitoring. Digital technologies can support the development of innovative rehabilitation models that enhance treatment adherence, improve functional outcomes, and promote patient engagement. These tools may play a particularly important role in home-based care, where continuity of rehabilitation and patient empowerment are essential.

Methods. A narrative review was conducted to explore the potential applications of artificial intelligence and augmented reality in personalized home rehabilitation. Scientific literature was analyzed to identify technological solutions supporting remote rehabilitation, patient monitoring, and individualized therapeutic programs. Particular attention was given to studies evaluating clinical outcomes, patient engagement, and the role of digital technologies in supporting multidisciplinary care.

Results. The literature suggests that AI and AR technologies may enhance rehabilitation by enabling personalized treatment pathways, real-time feedback, and remote monitoring of patient performance. These tools can support clinicians in adapting rehabilitation programs to individual needs while improving adherence and motivation. Evidence also indicates potential benefits in terms of accessibility, continuity of care, and patient empowerment in home-based rehabilitation settings.

Discussion. AI- and AR-based rehabilitation models represent an emerging paradigm in digital health and patient-centered care. Integrating these technologies into rehabilitation pathways may improve accessibility and personalization of care while supporting multidisciplinary collaboration. Further research is needed to evaluate long-term clinical outcomes and optimize the implementation of these technologies in healthcare systems.

Keywords: Artificial Intelligence, Augmented Reality, Home Rehabilitation, Digital Health, Continuity of Care

© The Author(s) 2026. This abstract is published by iEditore and distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0).

Funding: This research received no external funding. **Conflict of Interest:** The authors declare no conflict of interest.