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Mobile Health Applications for Management of Pressure Ulcers: A Systematic Review

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ABSTRACT

Introduction: Pressure ulcers are a chronic local injury to the skin or underlying tissue that causes extended hospital stays, delayed recovery, aggravation of movement restrictions, and social isolation. With the expansion of access to mobile devices, the use of mobile applications to promote health and wellness has grown exponentially in recent years. Mobile health applications (MHAs) can significantly improve disease screening, diagnosis, prevention, and treatment by providing accessible, practical, affordable, scalable interventions and health information. This systematic review aimed to investigate MHA usage in managing pressure ulcers.

Search Strategy: The study protocol adopted PRISMA guidelines. A comprehensive systematic review was conducted from March 2010 to 2024 in PubMed, Scopus, and Web of Science databases using keywords related to M-health and pressure ulcers. Two independent researchers reviewed the published articles' titles, abstracts, and full text. Finally, after two screening levels, the data were collected based on the purpose of the study.

Results: We retrieved 211 articles from three databases. Finally, 23 articles met the inclusion criteria and were identified. The findings indicated that MHAs have been designed and developed for different purposes and applications in different wound domains. MHAs in pressure ulcers, including assessment of pressure ulcers (n = 3), quantification of images (n = 1), prevention of pressure ulcers (n = 6), education and care of chronic ulcers (n = 4), reporting and classification (n = 2), clinical monitoring (n = 4), and self-management, were used in the prevention of pressure ulcers (n = 3).

Conclusion and Discussion: MHAs have spread among different spectrums of society, using their increasing popularity. They can be an innovative tool in the self-management of patients with pressure ulcers and improve their quality of life. Future studies can be conducted on integrating MHAs with patients' electronic health records and using artificial intelligence algorithms to diagnose and prevent pressure ulcers.

Keywords: Mobile applications, Pressure ulcer, Self-management

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