Chapter 3
Mobile Applications in Advancing Health Literacy: A Review of Methodologies, Participants, and Challenges

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ABSTRACT

This scoping review explores the role of mobile applications in advancing health literacy, a critical aspect of modern healthcare. Health literacy, encompassing the ability to access, understand, and apply health-related information, significantly influences individual well-being and healthcare effectiveness. The review delves into various research findings, highlighting how mobile applications, with their widespread accessibility, have revolutionized the availability and usability of health information. By examining numerous studies, the review assesses how mobile applications not only enhance patient understanding and management of health conditions but also bolster healthcare professionals' proficiency. Through this exploration, the review underlines the necessity of integrating digital resources into healthcare strategies, thereby reinforcing the potential of mobile applications to significantly contribute to the advancement of health literacy.

INTRODUCTION

Combining technology and healthcare has paved the way for innovative approaches to improving health outcomes (Aceto et al., 2018; Fiordelli et al., 2013). One significant development is integrating mobile applications to advance health literacy (Emerson et al., 2022; Üstün et al., 2020). Health literacy, recognized as an essential factor in individual well-being and healthcare effectiveness (Ishikawa & Yano, 2008; Squiers et al., 2012; Visscher et al., 2018), includes the ability to access, understand, and apply health-related information (Emerson et al., 2022; Liu et al., 2020). With the advent of mobile applications, individuals now have easy access to a wealth of tailored

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and comprehensible health resources at their fingertips (Emerson et al., 2022; Lin & Lou, 2021). The proliferation of mobile devices has played a crucial role in this advancement, making it possible to reach and cover a larger population. Due to the ever-growing popularity of these technologies, more individuals than ever before have the opportunity to benefit from the integration of mobile applications in health literacy initiatives. This accessibility revolutionizes the way people can access and utilize tailored health information, contributing to improved health outcomes (Aceto et al., 2018; Chauhan et al., 2024; Darda & Matta, 2024).

Despite these advancements, a research gap exists in understanding the published literature on the subject. Existing studies have primarily focused on specific aspects of mobile applications in health literacy, such as usability, effectiveness, or impact on specific health outcomes. However, a limited amount of research systematically maps and analyzes the breadth of existing literature related to this topic. This gap is significant as it can provide an overview of the field, identify key themes and gaps, and set the stage for future research endeavors. Thus, this chapter embarks on the examination of studies and research findings, drawing on the methodologies from the works of Selva-Pareja et al. (2022), Garcia (2023b), Bringula and Atienza (2022), and Emerson et al. (2022) to shed light on the complexity of technology improves something particularly in the field of healthcare (Fiordelli et al., 2013). This chapter aims to understand how mobile applications contribute to enhancing health literacy. Research on mobile applications and the targeted interventions addressing specific health conditions presented a convincing case for the potential of mobile applications in this domain (Emerson et al., 2022). Furthermore, several studies stressed the potential of mobile applications to strengthen healthcare professionals' proficiency. This aspect of mobile health technologies holds significant implications for the broader healthcare ecosystem, suggesting opportunities for improved collaboration and information dissemination within healthcare settings (Aceto et al., 2018; Fiordelli et al., 2013; Üstün et al., 2020). Additionally, exploring the impact of mobile health technologies on health literacy levels provides a critical perspective (Emerson et al., 2022).

Further, the significance of integrating digital resources, particularly mobile applications, into modern healthcare strategies is underscored by these research findings, reinforcing the case for advancing health literacy through these technological tools (Erisen & Uludag, 2024; Tariq, 2024a, 2024b). Within this context, the objectives of this scoping review encompass three main points:

1. The aim is to offer a comprehensive overview of publications on mobile application utilization for enhancing health literacy.
2. This review seeks to discern and analyze the methodological characteristics employed in these studies, providing insights into their approaches and frameworks.
3. The intent is to consolidate and outline the limitations and challenges inherent in leveraging mobile applications to improve health literacy, offering a concise summary of the hurdles encountered within this domain.

Through these objectives, this scoping review endeavors to contribute a holistic perspective on the use of mobile applications in promoting health literacy while shedding light on the associated methodologies and limitations.