

Digital Health Intervention for Diabetes Self-Management Using Mobile Health Applications

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BACKGROUND

Diabetes is a major global public health issue affecting over 537 million adults worldwide (IDF, 2023). Poor self-management contributes to complications such as cardiovascular disease and kidney failure. Traditional interventions include face-to-face education and community programmes; however, these often fail to reach disadvantaged populations. Digital interventions, particularly mobile health (mHealth) applications, provide accessible, cost-effective solutions for monitoring blood glucose, diet, and physical activity. This poster focuses on mHealth apps as a digital intervention to improve diabetes self-management while addressing digital health inequalities, particularly among low-income and digitally excluded populations.



HEALTH PROMOTION VALUES & PRINCIPLES

Health promotion is guided by principles such as empowerment, equity, participation, and sustainability (WHO, 1986). mHealth applications align with these principles by empowering individuals to take control of their health through self-monitoring and real-time feedback. They promote equity by offering remote access to health resources, reducing geographical and financial barriers. However, digital exclusion remains a concern, particularly among older adults and low-income groups. To address this, interventions must incorporate inclusive design, digital literacy training, and culturally appropriate content to ensure equitable access and effectiveness.

CONCLUSION

mHealth interventions have significant implications for public health policy, education, and research. Policymakers must address digital inequality through infrastructure and inclusive strategies. Education systems should promote digital health literacy to enhance engagement. Future research should focus on long-term effectiveness and equitable implementation. Overall, digital health technologies offer promising opportunities but must be carefully designed to ensure they do not widen existing health disparities.



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EXPECTED OUTCOMES

The use of mHealth apps informed by behavioural theory is expected to improve self-management behaviours, including medication adherence, diet, and physical activity. This may lead to better glycaemic control and reduced complications. However, outcomes may vary due to digital literacy and access disparities. While some studies show improved health outcomes, others highlight limited engagement among vulnerable populations. Therefore, combining digital tools with supportive policies and education is essential to maximise effectiveness and reduce inequalities.

