Effect of a Mobile Application on Self-Care Dementia Prevention in People Over 40: An Intervention Study

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ABSTRACT

Introduction: Dementia poses a significant public health challenge, particularly among older adults. Promoting self-care strategies for dementia prevention is essential for reducing the incidence of this condition. Mobile applications offer a promising avenue for delivering educational and behavioral interventions to support dementia prevention efforts. This intervention study aimed to evaluate the effectiveness of a mobile application designed to enhance self-care practices for dementia prevention in individuals aged 40 and above.

Methods and Materials: This randomized controlled trial was conducted with 200 participants aged 40-65. Participants were randomly assigned to either the intervention group, which used the dementia prevention mobile application, or the control group, which received standard informational pamphlets on dementia prevention. The mobile application included cognitive training exercises, lifestyle modification tips, health monitoring tools, and educational content about dementia. The primary outcome measure was the change in self-care practices, assessed using the Dementia Prevention Self-Care Scale over six months. Secondary outcomes included changes in cognitive function, lifestyle behaviors, and user satisfaction.

Results: Of the initial 200 participants, 180 completed the study (90 in each group). The intervention group demonstrated a significant improvement in self-care practices for dementia prevention compared to the control group ($p = 0.01$). Specifically, participants in the intervention group showed increased engagement in cognitive activities, improved adherence to a healthy diet and exercise regimen, and enhanced knowledge about dementia prevention. As measured by the Mini-Mental State Examination, cognitive function also improved significantly in the intervention group ($p = 0.05$). User satisfaction with the mobile application was high, with 85% of participants reporting a positive experience and willingness to continue using the application.

Conclusion and Discussion: Using a mobile application significantly enhances self-care practices for dementia prevention in people over 40. This digital intervention effectively promotes cognitive engagement, healthy lifestyle behaviors, and knowledge about dementia, contributing to overall cognitive health. Future studies should explore long-term effects and the potential for integrating such applications into routine healthcare settings to maximize their preventative benefits.

Keywords: Cognitive training, Dementia, Mobile application

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