African Primary Care Nursing

Evaluation of Smartphone-Based Health Monitoring Systems for Diabetic Patients in Indian Suburban Areas: A Pilot Study in Tunisia

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Abstract

Diabetes is a prevalent condition in Indian suburban areas, where access to healthcare services can be limited. Smartphone-based health monitoring systems offer an innovative solution to improve diabetes management and reduce healthcare disparities. A mixed-methods approach will be employed, incorporating a pre-post design with baseline assessments followed by implementation of the smartphone system. Data collection will encompass both quantitative (health metrics) and qualitative (user feedback) components. Users demonstrated high satisfaction with the system's intuitive interface, though initial engagement rates were moderate, indicating room for improvement in user initiation strategies. The preliminary findings suggest that smartphone-based health monitoring systems have potential as a supplementary tool to enhance diabetes management among urban diabetic patients. Further research is warranted to refine and validate these tools. Future studies should focus on developing more engaging user interfaces, conducting longer-term follow-ups, and exploring integration with existing healthcare infrastructure. Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \vec{\beta}\, p\, X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic Terms: Tunisia*

Methodological Terms:

Mobile Health (mHealth)
Randomized Controlled Trial (RCT)

Theoretical Terms:
Digital Divide
Telemedicine

Relevant Subfields:
Diabetes Management
Socioeconomic Factors in Healthcare Access

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