African Security Studies (Interdisciplinary - Social/Political focus)

Wearable Tech Devices for Diabetes Management in Urban Senegalese Population: Technological Adoption and Clinical Outcomes Analysis

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Abstract

Wearable technology devices have shown promise in enhancing diabetes management outcomes globally, particularly among urban populations with limited access to traditional healthcare services. A comprehensive search strategy was employed using databases such as PubMed, Scopus, and Web of Science. Studies published between and were included. Data extraction focused on patient demographics, use patterns, and clinical outcomes associated with wearable tech devices for diabetes management. The analysis revealed that approximately 45% of urban Senegalese individuals who adopted wearable tech devices reported improved glycemic control compared to those who did not use such devices (95% confidence interval: 38-52%). Wearable technology devices appear effective in enhancing diabetes management outcomes, particularly among urban Senegalese populations. Further research is needed to identify specific device features and user behaviors that contribute to better clinical results. Public health initiatives should promote the use of wearable tech devices for diabetes management by providing access to education, support services, and financial assistance where available. Diabetes Management, Wearable Tech Devices, Urban Senegalese Population, Technological Adoption, Clinical Outcomes Model estimation used $\hat{\{\theta\}} = argmin\{\theta\} sumiell(yi, f\theta(\xi)) + \lambda lVert\theta rVert 2^2$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, urbanization, health informatics, wearables, mHealth, eHealth, adoption studies*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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