



Smartphone Usage Rates and Fasting Blood Sugar Control Among Urban Indian Adolescents with Diabetes in Tanzania: An Intervention Study

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Abstract

Urban Indian adolescents in Tanzania with diabetes face challenges in managing their condition effectively. A randomized controlled trial was conducted, where participants were randomly assigned to either an intervention group using a mobile app for monitoring and management or a control group. The study collected data on smartphone usage rates and fasting glucose levels over six months. An analysis of variance (ANOVA) revealed that the intervention group showed a statistically significant improvement in smartphone usage rates compared to the control group, with an effect size of Cohen's $d = 0.85$, suggesting a substantial difference. The proportion of participants achieving optimal fasting blood sugar levels was also higher in the intervention group (62% vs. 45%). The digital health intervention demonstrated effectiveness in enhancing smartphone usage and improving diabetes management. Further studies should explore longer-term effects and potential scalability of this approach. Diabetes, Adolescents, Digital Health, Smartphone Usage, Intervention Study

Keywords: African, Diabetes Management, Mobile Health, Randomized Control Trial, Adolescents, Digital Engagement, Blood Glucose Monitoring

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