

Effectiveness of SMS Appointment Reminders on Antiretroviral Therapy Adherence and Viral Load Suppression in Khayelitsha, South Africa: A 12-Month Cohort Study

L, i, n, d, i, w, e, N, d, l, o, v, u, ,, T, h, a, b, o, v, a, n, d, e, r, M, e, r, w, e, ,,
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| Abstract

Poor adherence to antiretroviral therapy (ART) is a major barrier to viral load suppression for people living with HIV in sub-Saharan Africa. Missed clinic appointments contribute substantially to this problem. This study evaluated the effectiveness of an SMS-based appointment reminder system on improving ART adherence and viral load suppression at a primary healthcare clinic in Khayelitsha, South Africa. A 12-month prospective cohort study was conducted. Participants were randomised into an intervention group receiving automated SMS reminders before appointments and a control group receiving standard care. The primary outcome was the proportion achieving viral load suppression (<1000 copies/mL) at 12 months. Secondary outcomes included appointment attendance and self-reported adherence. The intervention group showed a statistically significant improvement in viral load suppression compared to the control group (78% vs. 65%). Appointment attendance was also higher in the intervention group (92% vs. 84%). SMS-based appointment reminders were an effective intervention for improving ART adherence and viral load suppression in this high-burden, resource-limited setting. Integration of SMS reminder systems into routine HIV care in similar primary healthcare contexts is recommended. Future research should explore the cost-effectiveness and long-term sustainability of such programmes. HIV, antiretroviral therapy, adherence, SMS reminders,

mHealth, viral load suppression, South Africa This study provides empirical evidence from a resource-constrained African setting supporting the use of a low-cost technological intervention to improve HIV treatment outcomes.
