

Gamification of HIV and HCV Prevention Among Adolescent People Who Inject Drugs in Nigeria: A Novel Approach

Ogechi M¹, Clement E^{1,2}, Ndukwe D³, Umma U⁴, Ordinioha B⁵

¹National Agency for the Control of AIDS, ²University of Port Harcourt School of Public Health,

³National Agency for the Control of AIDS, ⁴National Agency for the Control of AIDS,

⁵University of Port Harcourt School of Public Health

Background

Adolescents who inject drugs (PWID) in Nigeria have a disproportionately high risk of acquiring HIV and Hepatitis C Virus (HCV) infections driven by injecting risk behaviours, while having limited access to prevention services. HIV prevalence among PWID in Nigeria is 9.2%, which is more than six times that among young adults, which is 1.3% (UNAIDS, 2023). Conventional prevention strategies have had difficulty reaching this hard-to-reach population effectively. The study aims to use the developed mobile game app to enhance HIV and HCV prevention knowledge, encourage harm reduction behaviors, and increase access to testing and treatment services among adolescent PWID in Nigeria.

Method

A six-month pilot study in Lagos, Abuja, and Port Harcourt enrolled 500 adolescent PWID (15–24) to assess the Harm Reduction Quest (HRQ) App, a gamified platform for HIV/HCV prevention. The app featured behavioral challenges, rewards, peer engagement, and testing referrals. Baseline and post-intervention assessments measured changes in knowledge, harm reduction behaviors, and healthcare engagement using structured surveys and key informant interviews.

Result

After six months of engagement with the HRQ app, HIV/HCV knowledge scores increased significantly from 42% to 84% ($p < 0.001$), while safe injection practices improved by 68%, with needle-sharing behavior dropping from 47% to 16%. HIV testing uptake rose from 31% to 79%, and HCV testing increased from 12% to 64%. Additionally, 80% of participants reported a more positive perception of harm reduction services, and 67% sought follow-up healthcare after initial testing. The study showed 72% retention rate among participants.

Conclusion

The study show significant impact on engaging adolescent PWID in Nigeria with HIV and HCV prevention, as the HRQ app effectively improved knowledge, promoted safer behaviors, and facilitated access to testing and treatment services. Scaling up this intervention nationwide could complement existing harm reduction programs by integrating telehealth services for real-time counseling and medication access.