

Determining propensity for sustaining undetectable viremia among Persons Living with HIV Who Attained Undetectable Viraemia in Nigeria, A Retrospective Cohort Study

Authors

Esther Nwanja¹, Udochi Prosper-Njoku², Ofonime Dixon-Umo³, Utibe David³, Blessing Okon Edet³, Precious Peter Mba³, Tina Igwenagu³, Anyiekere Morgan Ekanem³, Oghenezuazo Onwah¹, Uduak Akpan¹, Otoyoy Toyo¹, Onyeka Igboelina⁴, Dolapo Ogundehin⁴, Rupert Eneogu⁴, Ughweroghene Omo-Emmanuel⁴, Moses Katbi⁴, Davies Kimanga⁴, Chika Obiora-Okafo⁴, Augustine Idemudia⁴, Bashorun Adebobola⁵, Ezekiel James⁴, Jemeh Pius⁴, Omosalewa Oyelaran⁴, Okezie Onyedinachi¹, Adeoye Adegboye¹, Andy Eyo¹

Affiliations

¹Excellence Community Education Welfare Scheme
²Achieving Health Nigeria Initiative
³University Teaching Hospital Uyo
⁴Office of HIV and TB, United States Agency for International Development, Abuja, Nigeria
⁵National AIDS, STI and Viral Hepatitis Control Program, Abuja, Nigeria

Background

Achieving and maintaining undetectable viraemia eliminates the risk of HIV transmission for people living with HIV (PLHIV)¹

Aim

This study assessed the treatment outcomes of PLHIV who had undetectable viraemia and identified factors associated with retention on antiretroviral therapy (ART) and sustained undetectable viraemia in Southern Nigeria.

Methods

We conducted a retrospective cohort study by reviewing the health records of PLHIV who had undetectable viraemia as of September 2023 at 225 health facilities in Akwa Ibom and Cross River States, Nigeria. We defined undetectable viraemia as a viral load <50 copies/ml. We then followed up with this cohort for 12 months and looked at their outcomes in September 2024. We extracted the following variables age, sex, duration on ART, and regimen line. The outcomes of interest were retention in care (i.e. active on ART) and sustained undetectable viraemia (i.e. subsequent viral load results remained undetectable). Logistic regression was used to identify factors associated with retention in care and sustained undetectable viraemia, with a significant p-value at 0.05.

Acknowledgments

We appreciate the community of people living with HIV, their caregivers, and treatment supporters; the dedicated healthcare workers, the host government and the generous support of the American people to the HIV response.

Results

A total of 118,012 PLHIV attained undetectable viraemia: 64% (75,589) were female, 2.8% (3,360) aged 0-14 years, 6.0% (7,109) aged 15-24 years, 86.5% (102,109) aged 25-59 years and 4.6% (5,434) aged ≥60 years. The median duration on ART was 3.3 years (IQR: 2.5-5.2). After 12 months, 95.9% (72,740) were retained in care and 93.3% (104,016) had sustained undetectable viraemia [Fig 1]. Retention was positively associated with longer duration on ART ([aOR: 0.03; CI: 1.025-1.042], $p < 0.001$). Compared to adults aged ≥60 years, those aged 0-14 years ([aOR: 0.34; CI: 1.200-1.647], $p < 0.001$), 15-24 years ([aOR: 0.43; CI: 1.357-1.764], $p < 0.001$), were less likely to be retained in care. Sustained undetectable viraemia was less likely in males ([aOR: 0.90; CI: 0.81-1.01], $p = 0.013$), in those aged <14 years ([aOR: 0.66; CI: 0.44-0.60], $p < 0.001$), in those aged 15-19 years ([aOR: 0.77; CI: 0.68-0.92], $p = 0.002$), and those with lower duration on ART ([aOR: 0.94; CI: 0.93-0.94], $p < 0.001$)

95.9% retention, 93.3% sustained undetectable VL – but children and adolescents lag



95.9%
Retention



93.3%

Figure 1: 12-months treatment outcomes of clients with undetectable viral load levels



But children and adolescents lag.

Conclusions and Recommendations

Children and adolescents (<20 years) are less likely to sustain undetectable viraemia compared to adults. Tailored differentiated service delivery models for individuals within this subpopulation may enhance treatment outcomes.

References

1. Joint United Nations Programme on HIV/AIDS (UNAIDS). 2024 global AIDS report — The Urgency of Now: AIDS at a Crossroads [Internet]. 2024. Available from: <http://www.wipo.int/>