

Time to Undetectable Viraemia among Children Newly Initiating Dolutegravir-based Antiretroviral Therapy: A Programmatic Analysis

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Background

Undetectable viraemia reduces the likelihood of clinical disease and transmission¹. WHO recommends viral load (VL) testing within six months of initiating ART.

Aim

This study assessed the time to undetectable viraemia among children newly initiating ART in Southern Nigeria.

Methods

This retrospective cohort study used data from electronic medical records of children aged below 15 years who initiated ART between October 2021 and September 2023 at 88 health facilities in Akwa Ibom and Cross River States. Data extracted at ART initiation includes sex, age, regimen type (Abacavir-Lamivudine-Dolutegravir [ALD] or Tenofovir-Lamivudine-Dolutegravir [TLD]), and VL test results with dates (extracted quarterly until September 2024). Viral load tests were routinely done every six months. VL results were categorised as undetectable (<50 copies/mL), otherwise detectable. Kaplan-Meier estimator was used to assess the time to undetectable viraemia (days between ART initiation and first undetectable VL), stratified by age (categorised into 0-4 years, 5-9 years and 10-14 years) and regimen type, at a 0.05 significance level.

Results

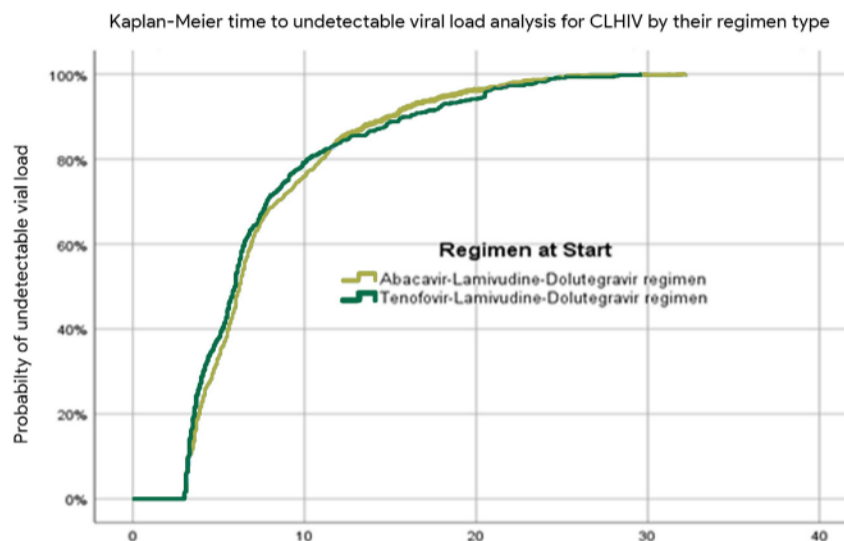
During the study period, 1816 children initiated ART; 51.3% (932) were female, 37.3% (677) were aged 0-4 years, 28.5% (518) were aged 5-9 years and 34.2% (621) were 10-14 years. 72.5% (1316) were initiated on ALD regimen. Overall median time to undetectable viraemia was six months (IQR: 4-9) and differed by age (0-4 years: 7 months [IQR: 5-10]; 5-9 years: 6 months [IQR: 4-6]; 10-14 years: 6 months [IQR: 4-9], log-rank p-value =0.05). Median time was comparable by regimen type (ALD: 6 months [IQR: 4-10]; TLD: 6 months [IQR: = 4-9 months], log-rank p-value =0.621) Fig 1.

Acknowledgments

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References

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Younger children who initiate ART take longer to achieve undetectable viral load levels compared to older children.

Conclusions and Recommendations

While the majority of children attained undetectable viraemia within six months of ART initiation, children 5 years and older attained undetectable viraemia earlier. Attention should be given to children <5 years to attain optimal treatment outcomes.