

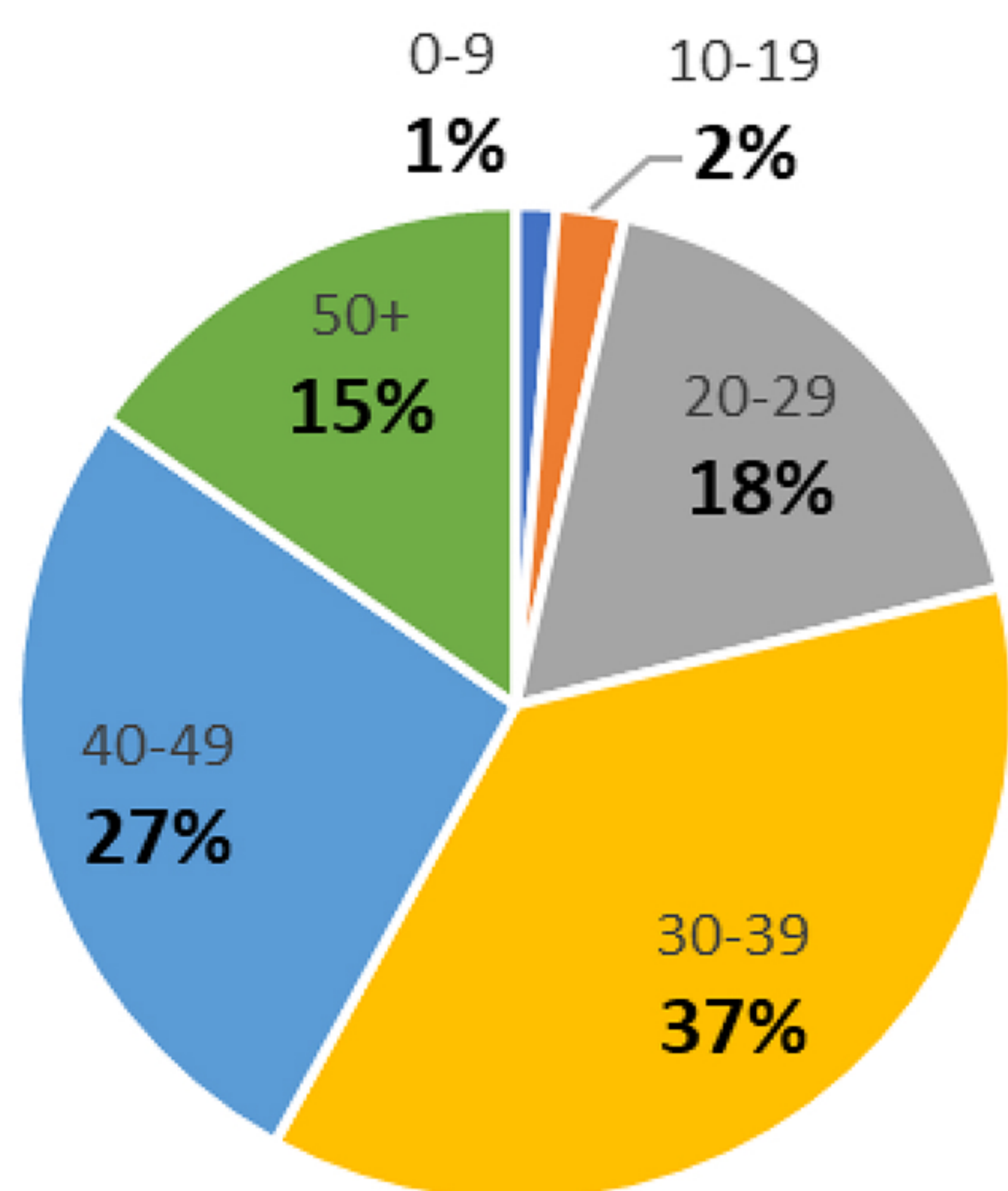
# Prevalence and Predictors of Persistent Low-Level HIV Viraemia Among People Receiving Dolutegravir-Based Antiretroviral Therapy in Southern Nigeria

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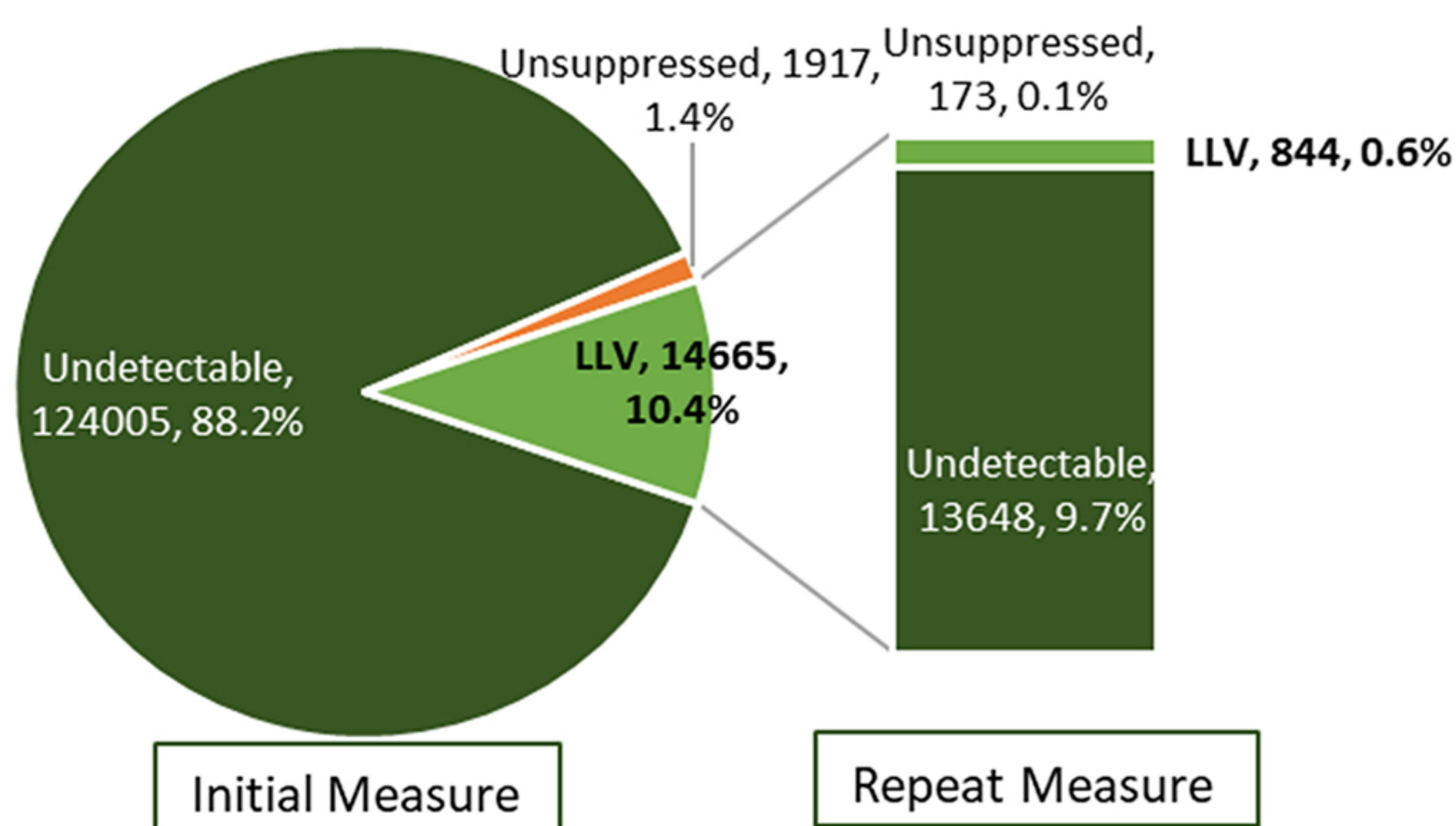
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## Low-level viraemia was persistent in 0.6% of the cohort after adherence support, and was associated with longer duration on ART and non-differentiation of ART services

**Fig. 1 Age disaggregation of the study population**



**Fig. 2 Prevalence of low-level viraemia at initial and repeat measures**



## Background

Persistent low-level viraemia (pLLV) is a risk factor for virologic failure among people on antiretroviral therapy (ART). With the scale-up of Dolutegravir (DTG)-based regimen, this paper assesses the prevalence and predictors of persistent low-level viraemia among clients receiving DTG-based regimen in Nigeria.



## Methods

**Study design:** This retrospective cohort study used routine program data from electronic medical records for persons receiving DTG-based regimen.

**Setting:** 154 health facilities supported by PEPFAR through USAID in Akwa Ibom and Cross Rivers States, Nigeria.

**Participants:** Persons with low-level viraemia (LLV), i.e. plasma viral load (VL) between 51 and 999 copies/ml, received additional adherence support from trained case managers.

**Data collection:** Demographic (age, sex) and clinical (duration on ART, viral suppression status, and service delivery models) data were extracted and reviewed. Clients on ART ≥6 months, with baseline viral load in September 2021, and two subsequent viral load results were included in the study. The outcome analyzed was pLLV defined as two consecutive LLV results within the 12 months period.

**Statistical analyses:** Descriptive statistics were used to summarize indices and multivariate logistic regression analysis was used to determine the predictors of pLLV using STATA ver.14 with significance set at .05



## Results

The study included 140,587 PLHIV, 63.6%(n=89,434) being females, a median age of 37 years [31-45 years], and a median ART duration of 2 years [2-4years] Fig. 1.

The majority [n=125,619; 89.4%] were on differentiated service delivery models. The prevalence of LLV at the initial measure was 10.4%(n=14,665/140,587). However, at repeat measure, the occurrence of persistent LLV was 0.6% (n=844/140,587). The majority of PLHIV with initial LLV [n =13,002/14,665] attained undetectable VL level (≤50 copies/ml), and only 173/14,665 transitioned to Virologic Failure (VL≥1000 copies/ml) Fig. 2.

In multivariate analysis, increasing ART duration [coef. = 0.05; 95%CI: 0.03 – 0.07; p<0.001] and being on no differentiated service delivery models [coef. =0.38; 95%CI: 0.19 – 0.57; p<0.001] had positive association with pLLV. However, there was no association between client age and pLLV occurrence. [Fig.3 and Fig. 4]

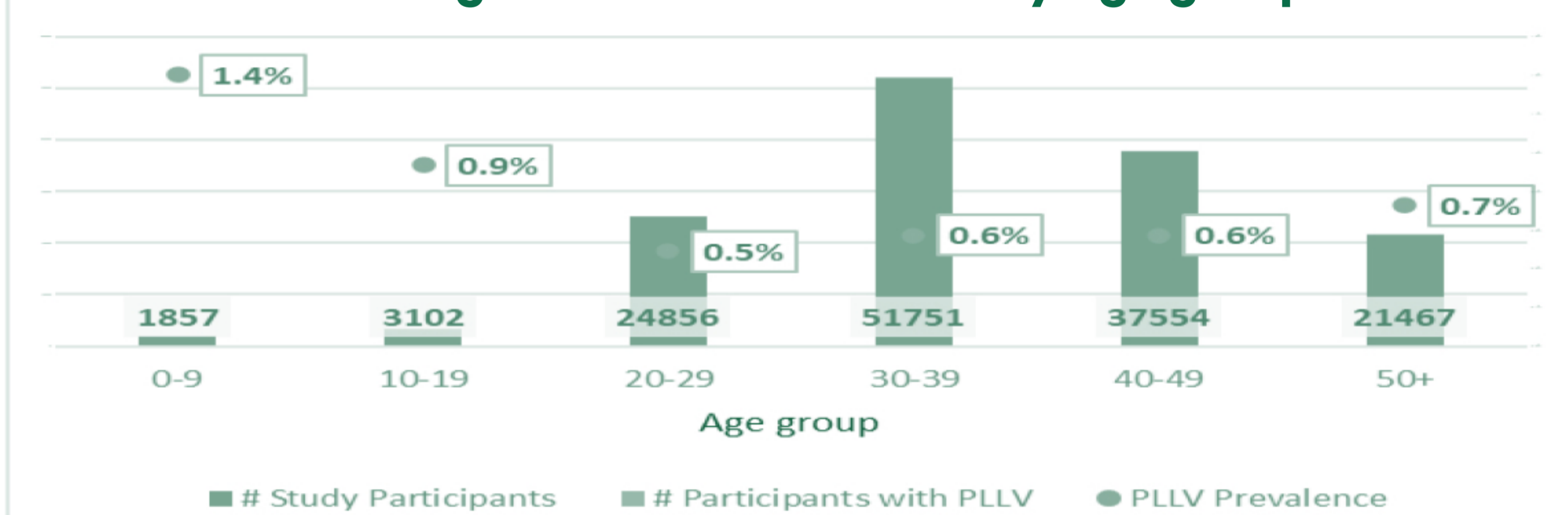


## Conclusion

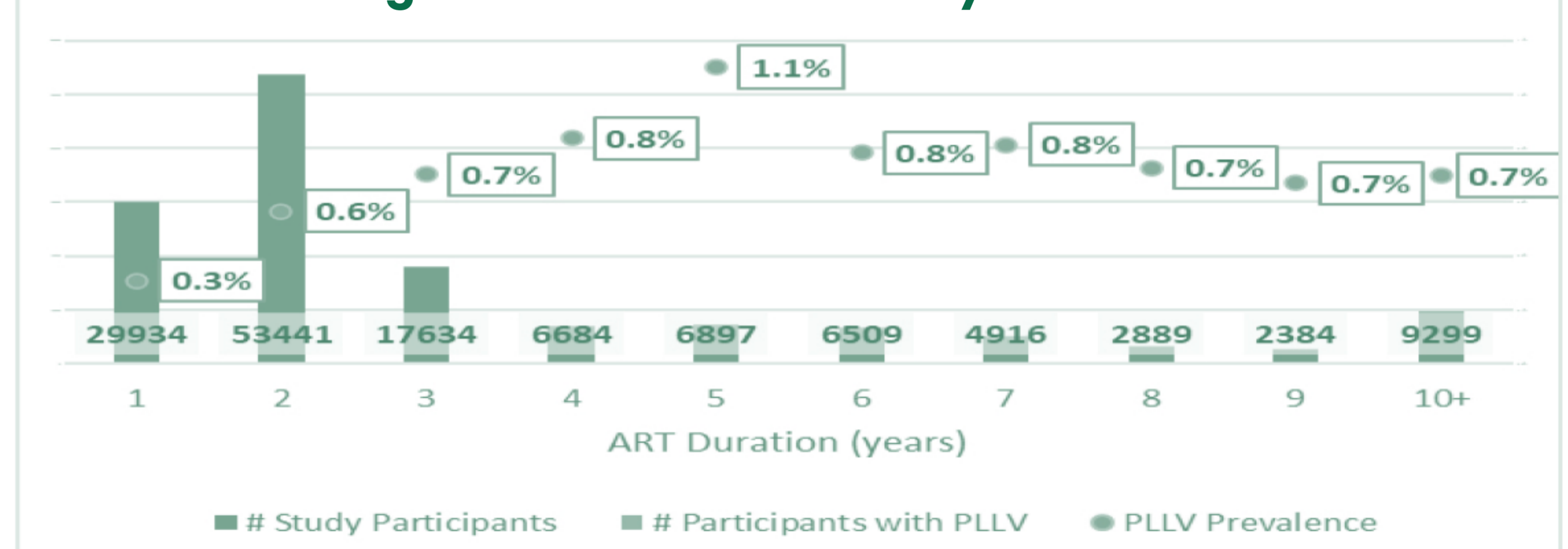
pLLV was associated with longer ART duration and non-differentiation of ART services. This finding strengthens recommendations for frequent viral load monitoring and the benefits of intensive adherence support for clients with LLV.



**Fig. 3 Prevalence of PLLV by age group**



**Fig. 4 Prevalence of PLLV by Duration on ART**



## Acknowledgement

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