



# Low Viral Load Testing in HIV Patients on Antiretroviral Therapy: Mitigation Measures in Ghana

Mubarick Nungbaso Asumah<sup>a++\*</sup>, Abdulai Abubakari<sup>b++</sup>,  
M. Awell Olives Mutaka<sup>b</sup>, Doreen-Remember Donkor<sup>a</sup>  
and Raphael Abolasom Kumah<sup>c</sup>

<sup>a</sup> Ministry of Health, Nurses' and Midwives' Training College, P.O. Box-565, Tamale, Northern Region, Ghana.

<sup>b</sup> Department of Global and International Health, School of Public Health, University for Development Studies, P.O. Box-TL1350, Tamale Northern Region, Ghana.

<sup>c</sup> Ghana Health Service, Bono Regional Hospital, Sunyani, Ghana.

## Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

## Article Information

DOI: 10.9734/AJMAH/2023/v21i8847

## Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/100900>

**Letter to the Editor**

**Received: 26/03/2023**

**Accepted: 02/06/2023**

**Published: 07/06/2023**

**Keywords:** Antiretroviral therapy; HIV; low viral load testing; ART regime.

Viral load testing is a primary indicator for measuring treatment success and the third 90% or 95% of the viral suppression rate among patients on antiretroviral therapy [1]. Access to viral load testing ensures that healthcare providers identify early challenges in patients'

treatment adherence, provide timely supportive interventions and prevent delays in regimen switch to second line treatment [2]. The World Health Organization recommends that viral load testing should be the preferred monitoring tool to diagnose and confirm treatment failure at 6

<sup>++</sup> Equally contributed and first authors;

\*Corresponding author: E-mail: [nungbaso.asumah@uds.edu.gh](mailto:nungbaso.asumah@uds.edu.gh);

months, 12 months and after. The World Health Organization (WHO) does not recommend routine CD4 monitoring for HIV in successfully established HIV clients. CD4 is a variable and unstable measure which does not determine outcomes of care [3]. Globally, only 38% of people living with HIV who are on antiretroviral therapy have access to viral load testing especially in countries with low prevalence of HIV and fragile health systems [4].

By 2020, Ghana adopted the 90-90-90 UNAIDS worldwide idealistic benchmarks, according to which 90.0% of HIV/AIDS clients should have recognized their status, 90.0% of HIV patient who know their status should be on antiretroviral therapy (ART), and 90.0% of those on treatment (ART regime) should have their viral loads suppressed [5]. Sadly, neither of these goals have been reached yet in many affected nations, including Ghana. Currently, in Ghana only 71.0% of those who have HIV/AIDS know that they have this condition, but nearly all (99.0%) of those who know their status are on sustained ART regime. Out of the 99.0% of those on treatment, only 79.0% have achieved viral load suppression [6].

Although, Ghana is doing well with the treatment of HIV/AIDS cases, there is no direct linkage between the treatment and the viral load suppression. Ghana is trailing on its ability to detect cases of HIV/AIDS as well as achieving the targeted viral suppression. A number of factors seem to be contributing to Ghana's current HIV/AIDS detections and suppressions.

## 1. CHALLENGES IN VIRAL LOAD TESTING

- i. In resource-poor countries, the cost and complexities of technologies for viral load testing limits its access and availability. The viral load tests are conducted only in small numbers at centralized laboratories. Samples of patients are collected and transported to these laboratories and patients would have to wait for weeks to months to get their results [7].
- ii. Inadequate human resources at the ART clinics. Some of these human resources at the ART clinics may not be able to understand the results.
- iii. Weak sample storage space as well as transportation gaps.
- iv. Inadequate sample collection materials and equipment [8].

- v. Poor documentation of sample collection and results receipt [3].
- vi. Lack of systems and clinical capacity to receive viral load test results and act promptly, especially in switching clients who failed viral suppression to second line treatment.
- vii. Inability to apply the information for decision-making and clinical management of patients by healthcare professionals.

From above, it has become very necessary that some cogent and radical steps are required for Ghana to realize her 95 testing, 95 treatment and 95 suppression targets. It is our considered view that the under listed when implemented could make the country exceed its targets.

## 2. WAY FORWARD

- i. Creation of simple and newer-of-point technologies and decentralize to remote locations to ensure rapid return of viral load results.
- ii. Civil society originations should engage with the manufacturers for affordable viral load setting systems and advocate for scale-up of viral load testing in low- and middle-income countries.
- iii. Data managers should improve clients contact information and documentation.
- iv. Improve community engagement and point-of-care support for people living with HIV.
- v. Manufacturers should advance ways to create rapid diagnostic test (RDTs) kits for viral load testing.
- vi. More importantly, there ought to be periodic in-service training for the ART clinic staff on the best practices in dealing with people living with HIV/AIDS.

## 3. CONCLUSION

Viral load testing is essential in measuring the successes of ART regime. As such, for persons who are confirmed positive and have agreed to take treatment, viral load is essential to monitor the progress of management.

## CONSENT AND ETHICAL APPROVAL

It is not applicable.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Abubakari A, Issah H, Mutaka MA, et al. Determinants of Virological Failure in HIV Patients on Highly Active Antiretroviral Therapy (HAART): A Retrospective Cross-Sectional Study in the Upper East Region of Ghana. *Venereology* 2023;2:16–29.
2. UNAIDS. The need for routine viral load testing. *Unaids 2016 Reference*, 1–12. Switzerland, [https://www.unaids.org/sites/default/files/media\\_asset/JC2845\\_en.pdf](https://www.unaids.org/sites/default/files/media_asset/JC2845_en.pdf)[http://www.unaids.org/sites/default/files/media\\_asset/JC2845\\_en.pdf](http://www.unaids.org/sites/default/files/media_asset/JC2845_en.pdf) (2016).
3. World Health Organization. Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: recommendations for a public health approach. World Health Organization; 2016.
4. UNITAID. Improving access to viral-load testing for people living with HIV - Unitaid.
5. Alhassan RK, Ketor CE, Ashinyo A, et al. Quality of antiretroviral therapy services in Ghana: Implications for the HIV response in resource-constrained settings. *SAGE Open Med* 2021;9: 20503121211036144.
6. Ghana AIDS Commission. 95-95-95 PROGRAMME, Available: <https://www.ghanaims.gov.gh/> (2023, accessed 1 April 2023).
7. Biney IJK, Kyei KA, Ganu VJ, et al. Antiretroviral therapy adherence and viral suppression among HIV-infected adolescents and young adults at a tertiary hospital in Ghana. *African J AIDS Res* 2021;20:270–276.
8. Ayisi Addo S, Abdulai M, Yawson A, et al. Availability of HIV services along the continuum of HIV testing, care and treatment in Ghana. *BMC Health Serv Res* 2018;18:1–10.

© 2023 Asumah et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

*Peer-review history:*

*The peer review history for this paper can be accessed here:*  
<https://www.sdiarticle5.com/review-history/100900>