430

Evolving Patterns of Mortality Causes and Associated Factors Among People Living with HIV (PLHIV) with Unsuppressed Viremia in Southern Nigeria: A Retrospective Cross-Sectional Study

Authors

Uduak Akpan[1], Esther Nwanja[1], Maria Umunike[1], Ogagaoghene Esosuakpo[1], Mathias Etim1, Onwah Ogheneuzuazo[1], Chukwuemeka Okolo1, Adekemi Aikhomokhor[2], Ughweroghene Omo-Emmanuel[3], Dolapo Ogundehin[3], Chika Obiora-Okafo[3], Augustine Idemudia[3], Ezekiel James[3], Jemeh Pius[3], Omosalewa Oyelaran[3], Okezie Onyedinachi[1], Adeoye Adegboye[1], Andy Eyo[1]

Background

Antiretroviral therapy has transformed HIV from a fatal to a chronic manageable condition.[1] However, unsuppressed viremia elevates the risk of disease progression and death.[2]

Aim

This study assessed the causes of death (COD) and factors associated with mortality among PLHIV with unsuppressed viraemia in southern Nigeria.

Methods

This retrospective cross-sectional study analysed mortality data of people living with HIV (PLHIV) with unsuppressed viral load (>1000copies/ml) from July 2023 to September 2024 across 255 health facilities in Akwa Ibom and Cross River states. The COD was determined using verbal autopsy (VA) by interviewing the client's relatives using the WHO verbal autopsy tool and analysing the responses using the WHO SmartVA algorithm. The COD derived from this process was then entered into the electronic medical records. Data was abstracted from the electronic medical records including sex, age (children: 0-14years, adults:>14 years), comorbidities, and viral load (VL) counts (High-VL (HVL)):1001–100,000, Very-High-VL (VHVL):>100,000 copies/ml) as of the last clinic visit. COD was categorised into AIDS-related (AIDS or tuberculosis), non-communicable disease (NCD)-related, and others. Chi square statistic was used to assess factors associated with mortality at a significant p-value set at <0.05 using STATA version 14.

Results

A total of 3,078 PLHIV were virally unsuppressed, with a mean age of 36 years (SD±13) and mean duration on ART of 5 years (SD ± 4); 66.7%(n=2053) were females, 3.5%(n=108) had comorbidities, and 24.3%(n=749) had VHVL. Over 5.1%(n=157) PLHIV with unsuppressed viraemia died within the period assessed, with mortality significantly higher among males (6.7% vs. 4.3%, p=0.004), those with shorter ART duration (6.4% vs. 3.4%, p<0.001), comorbidities (19.4% vs. 4.6%, p<0.001), and VL >100,000 copies/ml (9.9% vs. 4.3%, p<0.001). Of the 67 records with a documented COD, 25.4% (17/67) were specifically AIDS-related, 19.4% (13/67) were NCD-related and 55.2% (37/67) were due to combination of other factors. There was no significant difference in AIDS-related deaths across demographic and clinical characteristics.

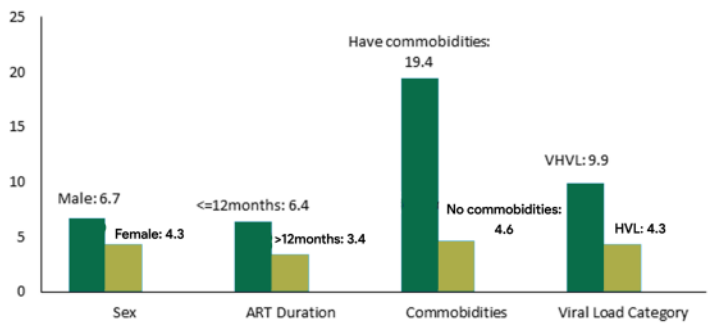

Figure 1: Mortality rate among PLHIV with unsuppressed viraemia

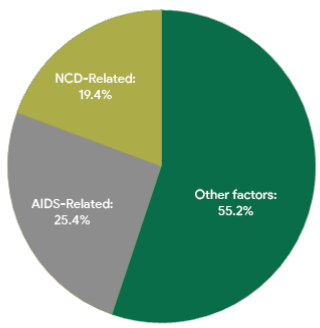

Figure 2: Causes of death among PLHIV with unsuppressed viraemia

AIDS-related death contributed over 25% of deaths among PLHIV with unsuppressed viral load.

Conclusions and recommendations

While AIDS-related deaths contributed significantly to deaths among PLHIV with unsuppressed viral load, over half of the documented causes were due to non-AIDS-related factors, underlining the growing importance of addressing broader health determinants and comorbidities among PLHIV.

Acknowledgments

Provide any additional acknowledgments you require. For example: We would also like to thank all partner organizations involved in conducting this research and those individuals who participated in the study.

We appreciate the dedicated healthcare workers dedicated to advanced HIV care, the host government and the generous support of the American people to the HIV response.

References

1. Broder S. The development of antiretroviral therapy and its impact on the HIV-1/AIDS pandemic. Antiviral Res. 2010 Jan;85(1):1-18. doi: 10.1016/j.antiviral.2009.10.002. Epub 2009 Dec 16. PMID: 20018391; PMCID: PMC2815149. https://pmc.ncbi.nlm.nih.gov/articles/PMC2815149/
1. Bernal, Enrique & Gómez, Jose & Jarrin, Inma & Cano, Alfredo & Muñoz, Angeles & Alcaraz García, Antonia & Imaz, Arkaitz & Iribarren, J. & Rivero, María & Arazo, Piedad & Gutiérrez, Félix & Group, CoRIS. (2018). Low-Level Viremia Is Associated With Clinical Progression in HIV-Infected Patients Receiving Antiretroviral Treatment. JAIDS Journal of Acquired Immune Deficiency Syndromes. 78. 1. 10.1097/QAI.0000000000001678.

This work was made possible by the generous support of the American people through the United States Agency for International Development (USAID) and the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). The contents are the responsibility of the ACE5 project and do not necessarily reflect the views of USAID, PEPFAR, or the United States Government. ACE5 project (cooperative agreement #72062019D00009/72062020F00004) is led by Excellence Community Education Welfare Scheme (ECEWS) in consortium with Achieving Health Nigeria Initiative (AHNi), FHI 360 and Howard University Global Initiative in Nigeria (HUGIN)