Trends in Advanced HV Disease Prevalence in 5 African Countries: An Analysis of Household Surveys

1132

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BACKGROUND

- Advanced HIV disease (AHD) among adults is defined as a CD4 count <200 cells/mm³ or a World Health Organization HIV clinical stage 3 or 4.
- Estimated burden of AHD is high in sub-Saharan Africa and is strongly associated with knowledge of status, antiretroviral treatment and viral suppression.[1,2]
- Despite suppressed viral load, some people may have AHD due to various factors, including intermittent treatment disruptions.[1]
- AHD prevalence trends in Africa remain unclear, but AIDS-related deaths have not decreased at a rate to meet global targets.

METHODS

- We analysed population-based HIV impact assessment (PHIA) household surveys from **Eswatini, Lesotho, Malawi, Uganda and Zimbabwe**, each of which had two surveys available.
- PHIA round 1 were conducted **2015/16**; round 2 in **2020/21**.
- We pooled the surveys and assessed changes in the proportion of adults living with HIV with a CD4 count <200 cells/mm³ (i.e. AHD prevalence). Differences were stratified by demographic factors and the HIV treatment cascade.

Table 1. Baseline characteristics of participants, by PHIA round

		PHIA round I		PHIA round II	
		n	Weighted %	n	Weighted %
Participants		15,813		13,476	
Sex	Females	10,396	59.8	9278	63.4
	Males	5417	40.2	4198	36.6
Age in years	Median (IQR)	36	28–45	39	31–48
Cascade	Not aware of HIV status	2522	23.1	1345	14.2
	Aware but not on ART	1053	7.6	318	2.6
	On ART but not virally suppressed	1166	9.1	752	5.9
	On ART and virally suppressed	8877	60.2	11040	77.3
CD4 count (cells/mm³)	Median (IQR)	505	327–713	537	366–735

Figure. Proportion of people with CD4 count <200cells/mm³ by the HIV treatment cascade and by PHIA round (round I: 2015/16; round II: 2020/21)

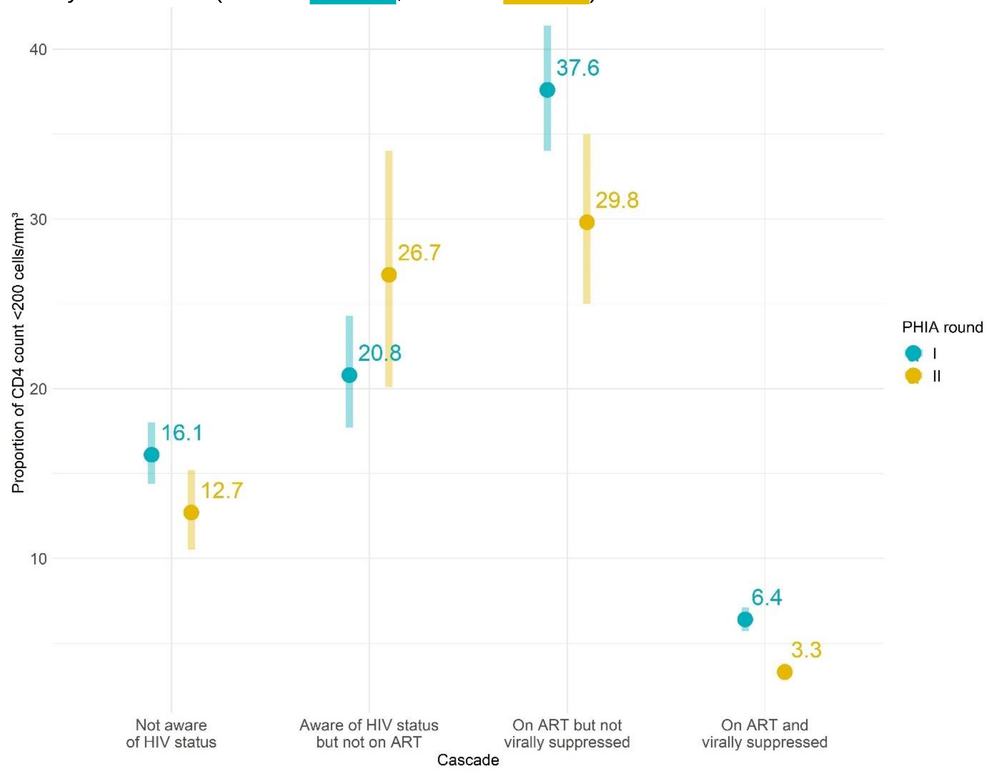


Table 2. Prevalence of AHD by demographic factors and place of residence, by PHIA round

		PHIA round I			PHIA round II		
		Mid-point	95% CI	n/N	Mid-point	95% CI	n/N
CD4 count	<200 cells/mm³	10.4	(9.8–11.0)	1547/15813	6.8	(6.2–7.4)	802/13476
Sex	Females	7.9	(7.3–8.6)	784/10396	4.5	(4.0–5.2)	393/9278
	Males	14.0	(12.8–15.3)	763/5417	10.7	(9.4–12.1)	409/4198
Age in years	15-24	5.0	(3.9–6.3)	123/2292	6.1	(4.3–8.2)	59/1111
	25-49	11.4	(10.6–12.3)	1119/10630	7.2	(6.4–8.1)	553/8819
	50+	11.7	(10.2–13.3)	305/2891	5.9	(4.9–7.1)	190/3546
Residence	Rural	9.8	(9.1–10.5)	955/10183	7.0	(6.2–7.8)	510/9005
	Urban	11.7	(10.5–12.9)	592/5630	6.4	(5.4–7.5)	292/4471

RESULTS

- Pooled across the five countries, 10.4% (95% confidence interval [CI] 9.8–11.0%) of PLHIV had a CD4 cell count <200cells/mm³ in PHIA round 1 and 6.8% (CI 6.2–7.4%) in PHIA round 2.
- Prevalence of AHD remained similar among people not aware of their status, and their median CD4 count did not change considerably: 384 (IQR 246–562) to 389 (IQR 261–589) cells/mm³.
- Prevalence of AHD decreased among people on ART, particularly among people with suppressed viral load (from 6.4% (CI 5.7–7.1%) to 3.3% (CI: 2.8–3.8%)).
- AHD prevalence among females with suppressed viral load decreased to 1.6% (CI: 1.3–2.1%), that of males to 6.3% (CI: 5.2–7.6%).

CONCLUSIONS

- Prevalence of AHD decreased across the five countries, primarily due to progress in HIV testing, knowledge of status and treatment.
- Improvements in testing and treatment may further reduce burden of AHD, though treatment disruptions may continue to hinder AHD prevention efforts.
- AHD persists among people with new HIV diagnosis and among young people.
- Ongoing CD4 count testing and delivery of comprehensive care for those with AHD are essential to reduce the disease burden and prevent opportunistic infections and deaths.
- *Limitations:* Household surveys underestimate the prevalence of AHD by excluding hospitalized individuals or by excluding key populations.

References

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