Use of tuberculosis lipoarabinomannan to improve management of and avert mortalities among newly diagnosed people living with HIV with advanced HIV disease: Findings from Kakamega County, Kenya.

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Background

Mortality due to immune reconstitution inflammatory syndrome (IRIS) among people living with HIV (PLHIV) newly initiated on antiretroviral treatment (ART) remains a major concern in managing advanced HIV disease (AHD).

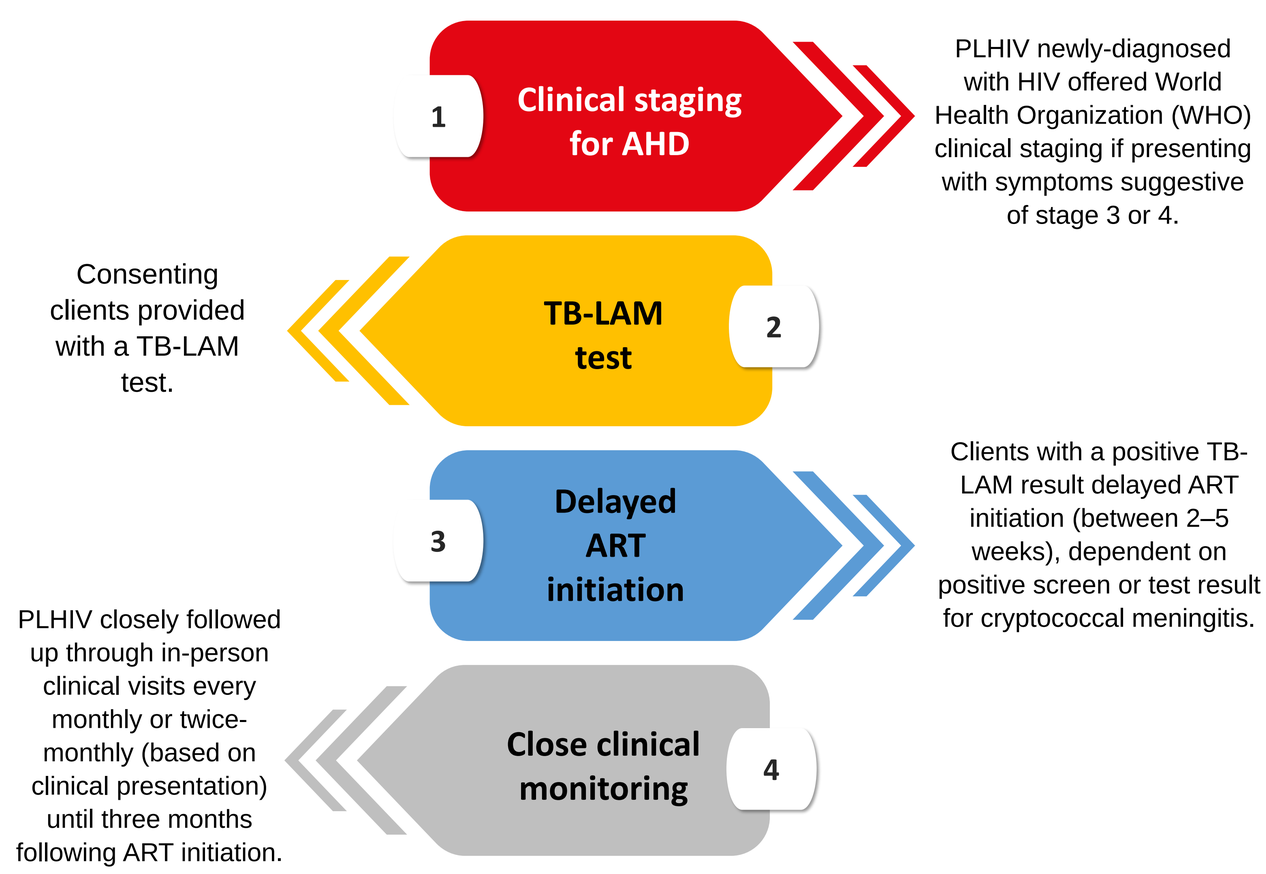
Pre-existing latent opportunistic infection with a high antigenic burden increases the risk and severity of IRIS. This problem is compounded by very low CD4 uptake occasioned by a chronic lack of CD4 reagents across the project-supported health facilities. Deliberately delaying ART initiation among newly-diagnosed PLHIV with AHD, based on results from additional clinical/laboratory testing, is a promising strategy to reduce early mortality (within three months of ART initiation).

While standard-of-care is to delay ART initiation based on CD4 levels (ART initiation delayed if CD4 count is less than 200 cells while AHD investigations continue as), limited availability of CD4 counts has made decision-making related to ART initiation difficult for clinicians. TB-LAM seems to offer a promising alternative.

Methods

PATH Kenya, through the US Agency for International Development (USAID)/Nuru ya Mtoto project, integrated use of tuberculosis lipoarabinomannan (TB-LAM) as part of clinical decision-making to delay ART initiation among PLHIV with AHD. Figure 1 summarizes the client flow for use of TB-LAM to assess newly-diagnosed PLHIV for AHD.

Figure 1: Use of TB-LAM to assess PLHIV for AHD.



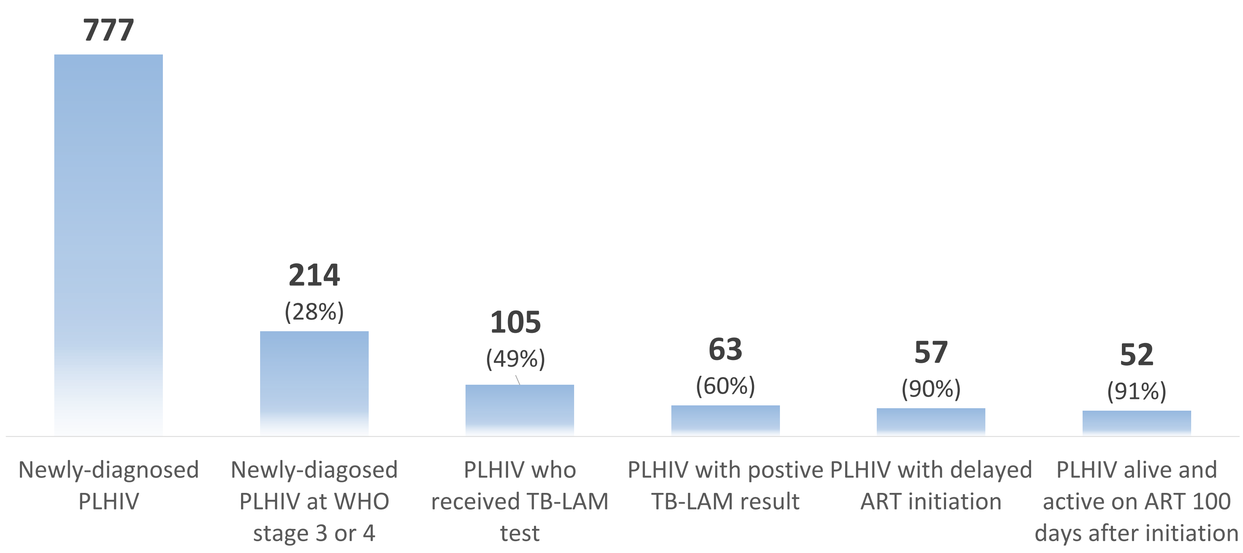
Study objective: We assessed whether use of TB-LAM in clinical decision-making to delay ART initiation would avert early mortality and lead to improved survival after eventual ART initiation among PLHIV with AHD in Kakamega County.

Results

777 newly diagnosed PLHIV were recorded across 11 project-supported facilities in Kakamega included in this pilot between October 2022 and September 2023.

As depicted in Figure 2, 214 were classified at WHO stage 3 or 4 and presumed to have AHD. 105 received TB-LAM testing; 63 received a positive TB result. ART initiation was delayed at least 2 weeks for 57 PLHIV with a positive TB-LAM result, among whom 52 were still alive 100 days following ART initiation.

Figure 2: Use of TB-LAM to assess PLHIV for AHD.



Conclusions

Use of TB-LAM to delay ART initiation was effective at preventing IRIS-related mortality among newly-diagnosed PLHIV with AHD. This strategy should be further tested and expanded to improve clinical management and prevent mortality among PLHIV with AHD, particularly in HIV/TB endemic areas with poor CD4 and GeneXpert capabilities, as TB-LAM is available.

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