1570. Low rates of virologic failure among previously unmonitored patients in Malawi

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Background. Virologic monitoring for HIV-infected ART patients is largely unavailable in resource-limited settings. Undetected viremia may contribute to transmission and breed resistance. Treatment failure may be more common among patients who are not monitored for extended periods. We explored the prevalence of ART failure among previously unmonitored ART patients in Malawi.

Methods. Participants were enrolled from 5 hospitals and were eligible if they were ≥18 and had been on ART for 6 or 24 months or any 2-year period thereafter *or* if provider suspected failure. Virologic testing was done on dried blood spot cards using Abbott Real-Time HIV-1 Assay. Summary statistics were compared using independent group t-tests (continuous variables) and Pearson's $\chi 2$ tests (categorical variables). We used logistic regression to investigate the association between ART history, patient demographics, and virologic failure (viral load >5,000 cp/ml).

Results. Of 1,479 participants, 30% were male with an average age of 42 [SD: 10.2]. 64% were on ART ≤4 years (9% 6 months; 32% 2 years; 23% 4 years) and 22.9% had signs of clinical failure. 870 (68%) were classified as WHO stage 3/4 at ART initiation. Only 79 (5.3%) met virologic failure criteria. Proportion male (27.9% vs 29.9%, p = 0.70), on ART > 4 years (40.6% vs 31.7%, p = 0.12), with signs of clinical failure (26.9% vs 22.7%, p = 0.39), or WHO stage 3 or 4 at initiation (64.7% vs 68.4%, p = 0.52) did not differ between patients with virologic failure and those not failing. Failing participants were younger (37.8 vs 42.5, p<0.01). Holding sex, time on ART, clinical symptoms, and initiation WHO stage constant, increasing age was associated with decreased odds of treatment failure (OR:0.96, CI[0.93, 0.99]). Being on ART >4 years was associated with increased odds of failure (OR: 2.25, CI [1.27, 3.98]).

Conclusion. We observed an unexpectedly low prevalence of virologic failure among previously unmonitored patients. After controlling for factors that could contribute to treatment failure, younger patients and patients on ART >4 years were more likely to be failing. These results may suggest deficiency in adolescent adherence and adult ART care transitions. Despite being retained in care, our findings demonstrate the importance of virologic monitoring among patients on ART for extended periods, regardless of clinical symptoms.

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