

## **ABSTRACTBACKGROUND:**

Pill counts are often used to measure adherence to ART, but there is little data on how they affect adherence. We previously showed a bivariate relationship between clinicians counting pills and adherence in patients receiving HIV care in Kenya. We present a secondary analysis of the relationship between numbers of pill counts and clinical outcomes in resource limited settings.

## **METHODS:**

Patients initiating ART at Kijabe Hospital were monitored for the number of discretionary pill counts performed by their clinician in the first 6 months of ART. Subjects were followed for at least 1 year after enrollment. The number of clinician pill counts was correlated to ART adherence. The primary endpoints were time to treatment failure, defined as a detectable HIV-1 viral load, death; or loss to follow-up.

## **RESULTS:**

Clinician pill counts were done at 68% of clinic visits for 304 subjects. There was a positive correlation between the number of clinician pill counts and ART adherence ( $r = 0.21$ ,  $p < 0.001$ ). Patients were divided into 3 groups (0 counts, 1 to 3 counts, 4 to 7 counts) and exhibited adherence of 76%, 84%, and 92%, respectively ( $p = 0.004$ ). Time to treatment failure for these groups was 220 days, 438 days, and 497 days ( $P < 0.01$ ), respectively. Time to virologic failure in living patients remaining in the cohort was longer in those with more pill count ( $P = 0.02$ ). Multi-variate analysis adjusting for co-variates affecting time to treatment failure found that that clinician pill counts were associated with a decreased risk of treatment failure (HR = 0.69,  $p = 0.04$ ).

## **CONCLUSIONS:**

The number of clinician pill count performed was independently associated with better adherence and a decreased risk of treatment failure. The use of clinician pill counts should be further studied as an adherence promoter through a randomized clinical trial.