Title: A facility approach to reduce treatment failure amongst patients on first-line antiretroviral therapy (ART)

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Background

An increasing number of patients are failing HIV treatment, often attributed to poor adherence. Treatment failure results in more complex and costly regimens, inaccessable to many patients. Viral load monitoring is increasingly available routinely, identifying viraemic patients at risk of treatment failure. Simple approaches are needed which guide clinicians on how to integrate adherence support into clinical management including appropriate regimen switch.

A facility based intervention flagging patients with detectable viral loads (>400 copies/uL) and providing support groups and structured adherence support integrated into clinical care was implemented at a large primary care facility in Khayelitsha, South Africa.

Methods

Outcomes were compared between patients on first-line treatment receiving and not receiving the intervention following a first ever (1) single or (2)consecutive (within 9 months) detectable viral load after 01/01/2010. Only those with a follow-up viral load between 30 and 180 days were included. Outcomes included the proportion with detectable subsequent viral load, or in the case of confirmed viraemia (2), the proportion switched to second-line. Logistic regression was used to adjust for gender, baseline CD4 count and time on treatment.

Results

Between February 2012 and April 2013, amongst 630 patients receiving the intervention,495 were on first-line. Of those 98 met the study entry criteria, receiving the intervention after single (74) or consecutive (24) viral load elevations.

In patients with a first ever detectable viral load, fewer patients receiving the intervention (64% [47/74])had subsequent viraemia compared to those receiving usual care (77% [457/590]), aOR=0.47, 95% CI 0.26-0.83, p=0.009). Similarly in patients with confirmed viraemia, the intervention reduced the proportion remaining viraemic (67%, 16/24 vs 85%, 296/347, aOR=0.22, 95% CI 0.08-0.61, p=0.004). For those eligible to switch to second-line, having both first and consecutive detectable viral load measurements > 1000 copies/mL, more patients receiving the intervention switched regimen within 6 months, 29% (7/24) vs 8% (28/337, p=0.001).

Discussion

This simple intervention has shown promising results in reducing first-line treatment failure and assisting clinicians in switching patients to second-line treatment when appropriate. Viral monitoring is optimized when clinicians have a defined approach to follow for patients at risk of treatment failure.