

Baseline CD4 counts are important for client care & ART programmes, even in the era of UTT



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Introduction

Even though antiretroviral therapy (ART) is widely available in South Africa, people continue to die due to HIV. According to the World Health Organization, there has been no improvement in the number of deaths due to HIV in South Africa between 2013 and 2017 [1].

Did you know?

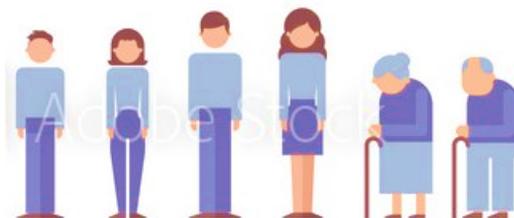
Clients who present late for HIV care with low baseline CD4 counts or advanced clinical disease are more likely to get sick or die [2-5]. We need to prioritise these clients for targeted interventions to improve their outcomes.

Why did we want to look at this?

This study described ART initiation and mortality over time, with a focus on clients presenting for care with low CD4 counts, in order to identify possible areas for intervention to reduce HIV-associated morbidity and mortality.

What was our approach?

- We analysed routine TIER.Net data from Johannesburg Regions C,D,E and G and Mopani District.
- TIER.Net records were included in the analysis for HIV-infected adults who were 15-80 years of age, were initiating ART for the first time between 2004 and 2017, and had a baseline CD4 count on record.
- We investigated trends in baseline CD4 count and mortality, and described the clients who initiated ART with low baseline CD4 counts (below 200 cells/mm³) in 2017.



What did we find out?

203 131
records from
Johannesburg were
analysed

101 814
records from
Mopani were
analysed

Median baseline CD4
count **increased**
from 2004 to 2017 in
both districts –
69 to **263** in
Johannesburg and 101
to **293** in Mopani

The increase is in
line with national
guidelines that have
repeatedly raised
the CD4 cut-off for
ART initiation

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However, a large number of clients initiating ART still have a CD4 count below 200 and this has not improved in recent years (Figure 1).

±40% of clients initiating ART in Jhb have a CD4 count below 200

±35% of clients initiating ART in Mopani have a CD4 count below 200

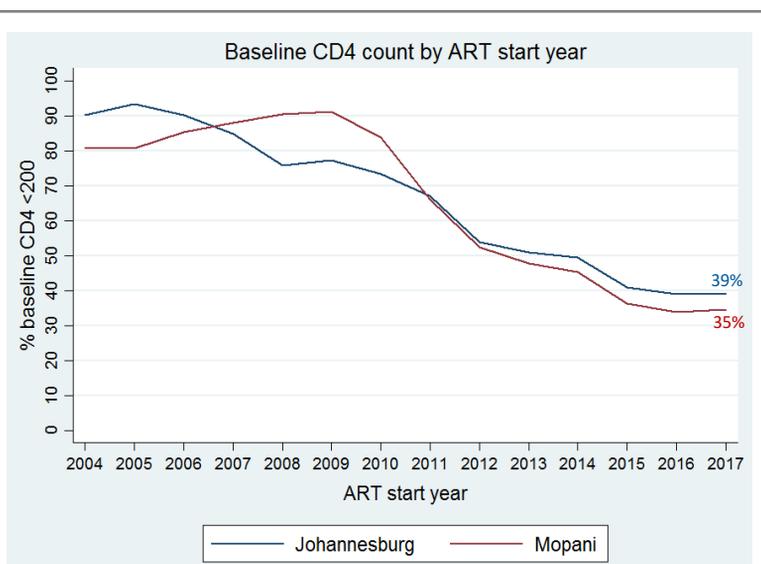


Figure 1. Proportion of clients initiating ART with CD4 counts below 200 cells/mm³.

Clients with low baseline CD4 counts have significantly increased mortality compared to clients who initiate ART with higher CD4 counts. In Johannesburg, 6% of clients with baseline CD4 counts below 200 died after 5 years, compared to 2% of clients with baseline CD4 counts greater than 200. In Mopani, 23% of clients with baseline CD4 counts below 200 died after 5 years, compared to 7% with CD4 counts above 200 (Figure 2).

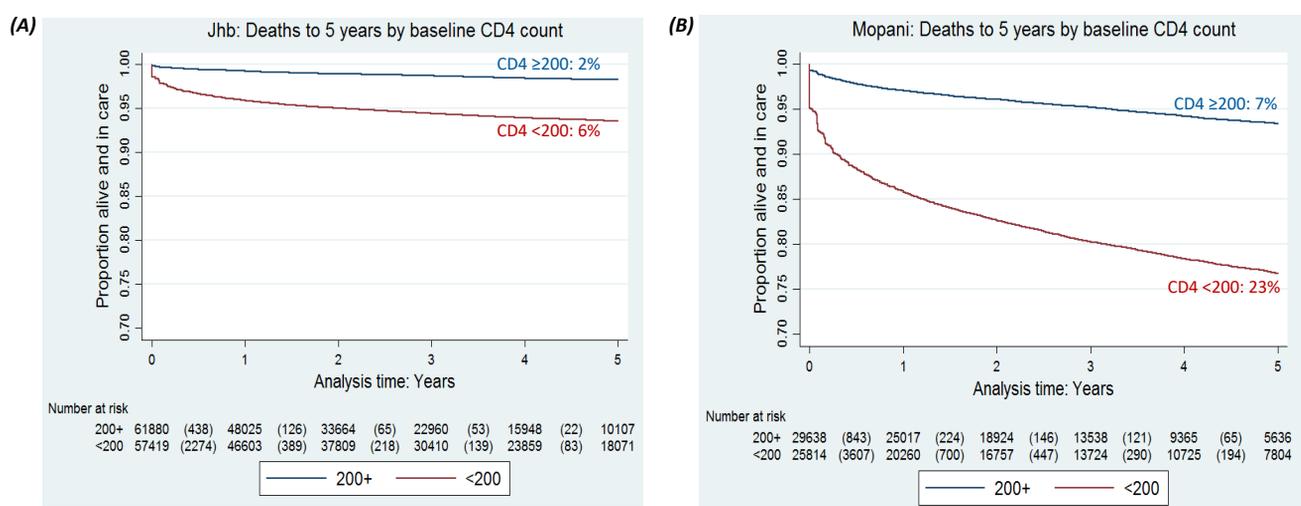


Figure 2. Increased mortality in clients initiating ART with baseline CD4 counts below 200 cells/mm³ in (A) Johannesburg and (B) Mopani.

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Presentation with low CD4 count in 2017 was associated with older age, male gender, hospitalisation and advanced clinical disease



SO WHAT?

All clients with baseline CD4 counts below 200 should receive cotrimoxazole preventive therapy (CPT) to prevent bacterial infections, but this is not being implemented – in 2017, **only 23% of clients with baseline CD4 counts below 200 received CPT in Johannesburg and 26% in Mopani.**

TAKE-HOME MESSAGES

Baseline CD4 counts are critical for patient care and ART programme monitoring.

FOR PATIENT CARE

It is essential to focus on clients presenting with low CD4 counts to improve their outcomes.

- 1 Although median CD4 is rising over time, many clients still initiate ART with low CD4 counts.
- 2 Clients who initiate ART with low CD4 counts are more likely to have poor outcomes, including death.
- 3 Interventions like CPT can prevent the diseases that lead to death in these clients, but they are rarely prescribed.

FOR ART PROGRAMMES

ART programmes should emphasise baseline CD4 as a monitoring tool.

- 1 Baseline CD4 counts should be requested for all clients.
- 2 The proportion of clients starting ART with CD4 counts below 200 should be monitored routinely.
- 3 Programmes should target people who are likely to initiate treatment with low CD4 counts in order to improve early engagement in care: men, older clients, those presenting to hospital and those with advanced disease.

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For further information, please refer to the source of publication below:

Lilian RR, Rees K, Mabitsi M, et al. Baseline CD4 and mortality trends in the South African human immunodeficiency virus programme: Analysis of routine data. *South Africa Journal of HIV Med.* 2019;20(1), a963. <https://doi.org/10.4102/sajhivmed.v20i1.963>

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