Laboratory Monitoring and Virologic Suppression after Down Referral of Paediatric HIV Patients to Local Clinics in KwaZulu-Natal, South Africa

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Abstract

BACKGROUND: The South Africa province of KwaZulu-Natal (KZN) has a large burden of human immunodeficiency virus (HIV) disease. Guidelines are in place for diagnosis, treatment, and monitoring of HIV in paediatric patients, but how consistently these guidelines are followed in not known.

There has been an attempt to de-centralize HIV care as a means to improve ARV coverage and adherence. However, the effectiveness of local clinic-based paediatric HIV treatment in KZN is unknown. Additionally, there have been no studies evaluating the outcomes of virologically suppressed patients who are down-referred from regional to local clinics in KZN or in other provinces of South Africa.

We evaluated adherence to guidelines for laboratory follow-up of pediatric HIV patients, and assessed maintenance of virologic suppression after down-referral from a regional to local clinics.

METHODS: Subjects were 266 children seen in the HIV clinic of a large regional hospital who were down-referred to a local clinic after demonstrating virologic response to ARVs.

The National Health Laboratory System was queried to determine whether viral load (VL) was obtained ~12 months after down-referral. Additionally, persistence of virologic response to antiretroviral medications was evaluated.

RESULTS: Only 73% (194/266) had a VL obtained at ~12 months. Of those with a VL, 19% (37) were no longer virologically suppressed. The percentage of those with reversion to virus detection could have ranged from 14% (if all with unknown VL [n=72] remained suppressed) to 41% (if all with unknown VL were no longer suppressed).

CONCLUSIONS: Adherence to guidelines for laboratory monitoring of pediatric HIV patients in KZN, South Africa is less than optimum. Additionally, virologic suppression did not persist in 19% of those with documented VL, with this reversion to virologic detection potentially being as great as 41% of down-referred patients. Evaluation of guideline adherence and VL response in patients who remain within a central/regional clinic is ongoing. Additionally, current work is focusing on factors (clinic and patient characteristics) associated with lack of guideline adherence and reversion to virus detection in an attempt to devise potential strategies for intervention.

Introduction

->400 000 children in South Africa are infected with HIV

-within South Africa, the province of KwaZulu-Natal has the highest burden of HIV in both adults and children

-guidelines from the National Department of Health are available for diagnosis, treatment, and monitoring of HIV in children

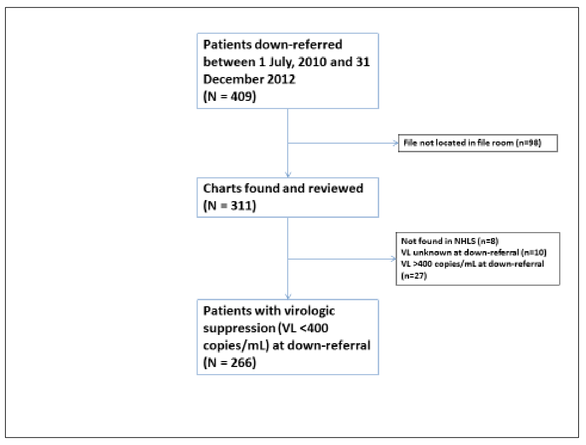
-it is unknown how consistently guidelines for monitoring are followed

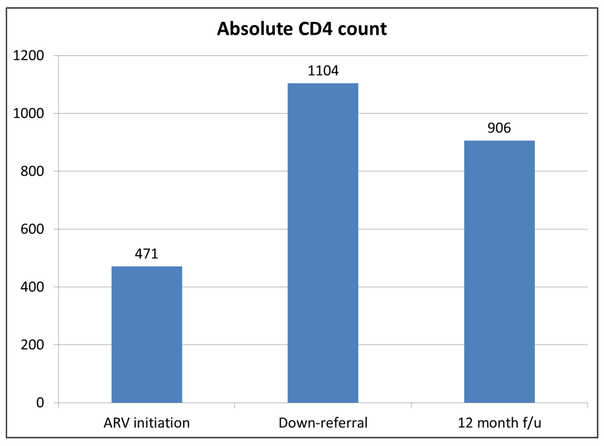
-it is unknown how adherence to guidelines potentially impacts virologic suppression and immunologic recovery

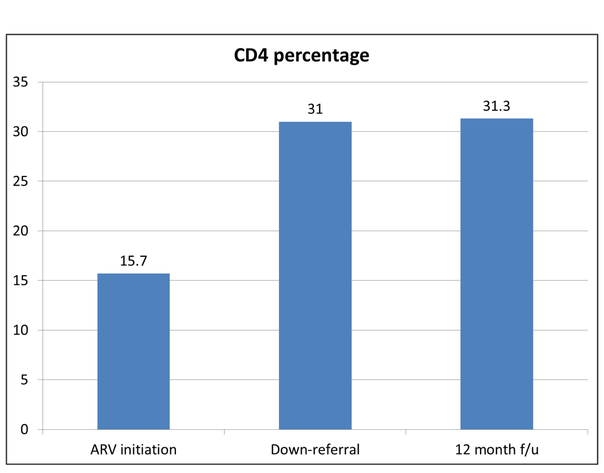
-there is a need to decentralize HIV care in order to improve ARV coverage and, possibly, to improve adherence

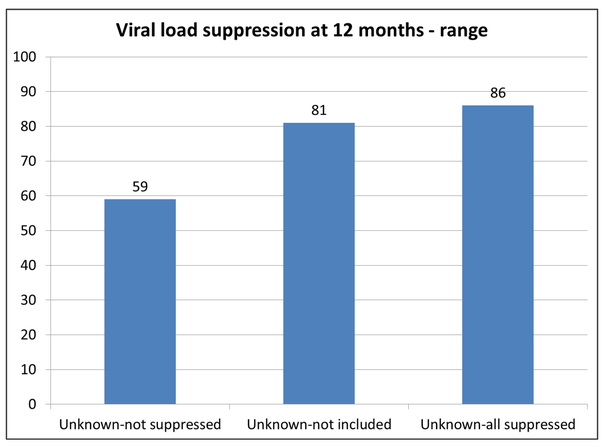
-effectiveness of local clinic-based pediatric HIV treatment in KZN is unknown

-rate of persistent virologic suppression after down-referral from regional to local clinics is unknown









Future Directions

- **Determination of adherence to guidelines at the regional (down referring) clinic**
- **Determination of persistence of virological suppression at the regional clinic**
- **Analysis of clinic and patient characteristics associated with poor guideline adherence and negative clinical outcomes**
- **Development of intervention strategies to strengthen guideline adherence and improve clinical outcomes**

Objectives

1) **to determine the percentage of pediatric patients receiving recommended laboratory monitoring at 12 months after down-referral to a local clinic**
2) **to determine the percentage of pediatric patients with persistent virologic suppression 12 months after down referral**
3) **to determine the percentage of patients with stable or improved immunologic functioning 12 months after down referral**

Methods

Design: Retrospective case-control study

Setting: HIV clinic (Khanyisa Clinic) at Edendale Hospital, Pietermaritzburg, KZN, SA

Cases: Children down-referred from Khanyisa Clinic to a local clinic/hospital after achieving virologic suppression with ARVs

Data: National Health Laboratory System (NHLS) queried to determine whether monitoring labs were obtained, and if so, results of VL and CD4 measurements

Analysis: Descriptive

Results

Laboratory monitoring:

-VL at 12 months: 194/266 (73%)

-CD4 at 12 months: 188/266 (71%)

Virologic suppression:

-157/194 (81%) - range: 157/266 (59%) to 229/266 (86%)

CD4 maintained/improved:

-172/188 (91%) - range: 172/266 (65%) to 250/266 (94%)

Conclusions

- **Adherence to guidelines for laboratory monitoring can be improved**
- **Virologic suppression is not maintained for many patients after down referral**
- **Children with viral suppression were more likely to have maintained/improved CD4 (87% versus 66% of those not suppressed)**