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SIYINQABA

Routine viral load (VL) monitoring for targeted adherence support among antiretroviral therapy (ART) patients in a resource-limited setting, Swaziland

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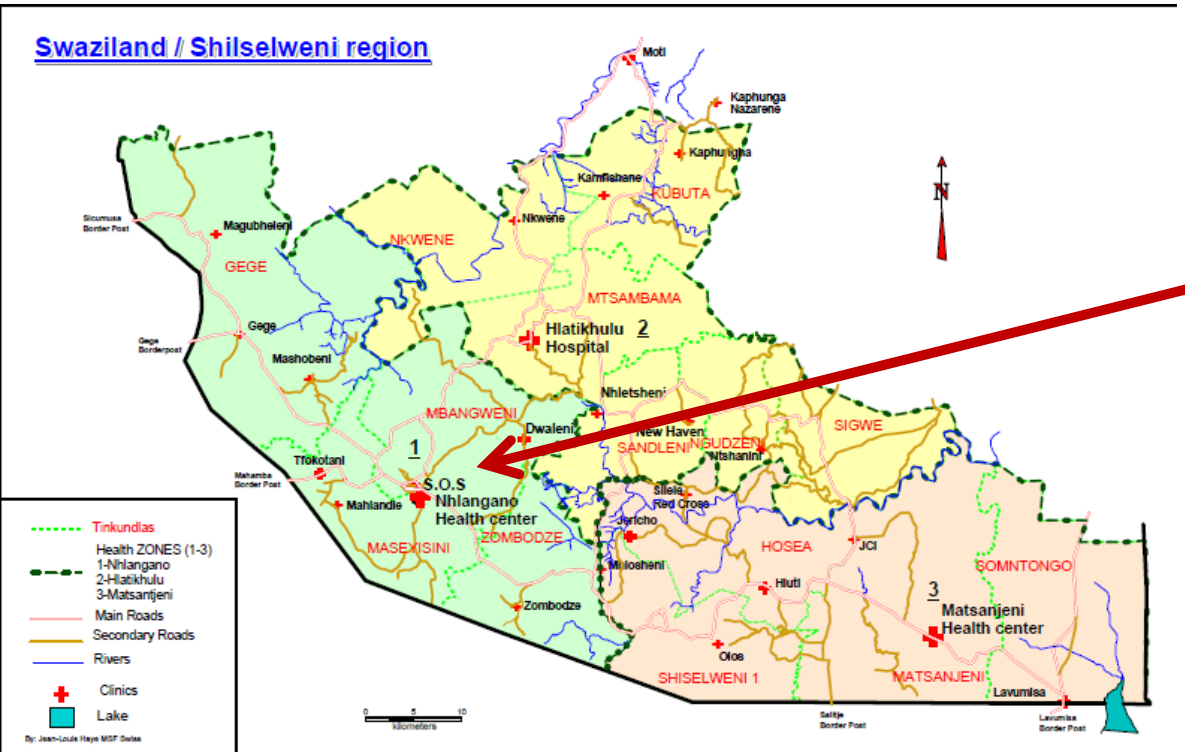
Introduction I

- Swaziland (popula 1.1 m)
- Adult (18-49yrs) HIV prevalence of 31% (SHIMS 2012)
- ~90,000 clients on ART (Mar 2013)
- >80% retention at 24months
- **4-6monthly routine CD4 monitoring (currently)**

Introduction II

- In May 2012, the Swaziland National AIDS Programme, in partnership with Medecins sans Frontieres, (MSF) began implementation of **Routine Viral Load (VL) monitoring** in Shiselweni region.



- Generic laboratory-based VL platform (Biocentric), at regional lab level.
- With detectability threshold at **100copies/ml**

Introduction III

- **Eligibility for routine VL monitoring**: on ART for at least 6 months.

- Patients with detectable VL then receive **enhanced adherence interventions** consisting of:

    - Baseline adherence and clinical assessment by nurse (with treatment of Opportunistic Infections)

    - 1-monthly drug pick-ups (from 3monthly pick-up)

    - **Stepped-up adherence counselling** (x 3 sessions)
        - solution-focused counselling intervention,
        - provided by lay counsellors (Expert Clients),
        - each counselling session lasting 30-45 minutes.

Rational

Routine VL monitoring enhances timely detection of treatment failure, & can help identify patients with adherence problems, thus permitting adherence interventions to prevent acquired resistance.

Objectives

- To identify determinants of detectable VL
- To define high-risk groups that may benefit from stepped-up adherence support
- To make recommendations for programming

Methodology 1

- Operational Research
- Involving 23 clinics and 2 health centres in 3 health zones of Shiselweni region, Swaziland
- Study period – May 2012 – March 2013
- Study subjects – all HIV+ clients on ART for =>6 months and have 1st VL test done
- Outcome measure – viral detectability following ART for =>6 months

Methodology 2

- We analysed lab records of 7689 patients who received 1st routine VL test during study period.
- Among these, 2089 were linked electronically with the national ART database using unique patient ID.
- Descriptive analysis and multivariable logistic regression were used to explore the relationship between VL and gender, age, time on ART, recent CD4 count & WHO stage.
- Statistical analysis were performed using Stata/SE (StataCorp, Texas, U.S.A.) Version 12.1.

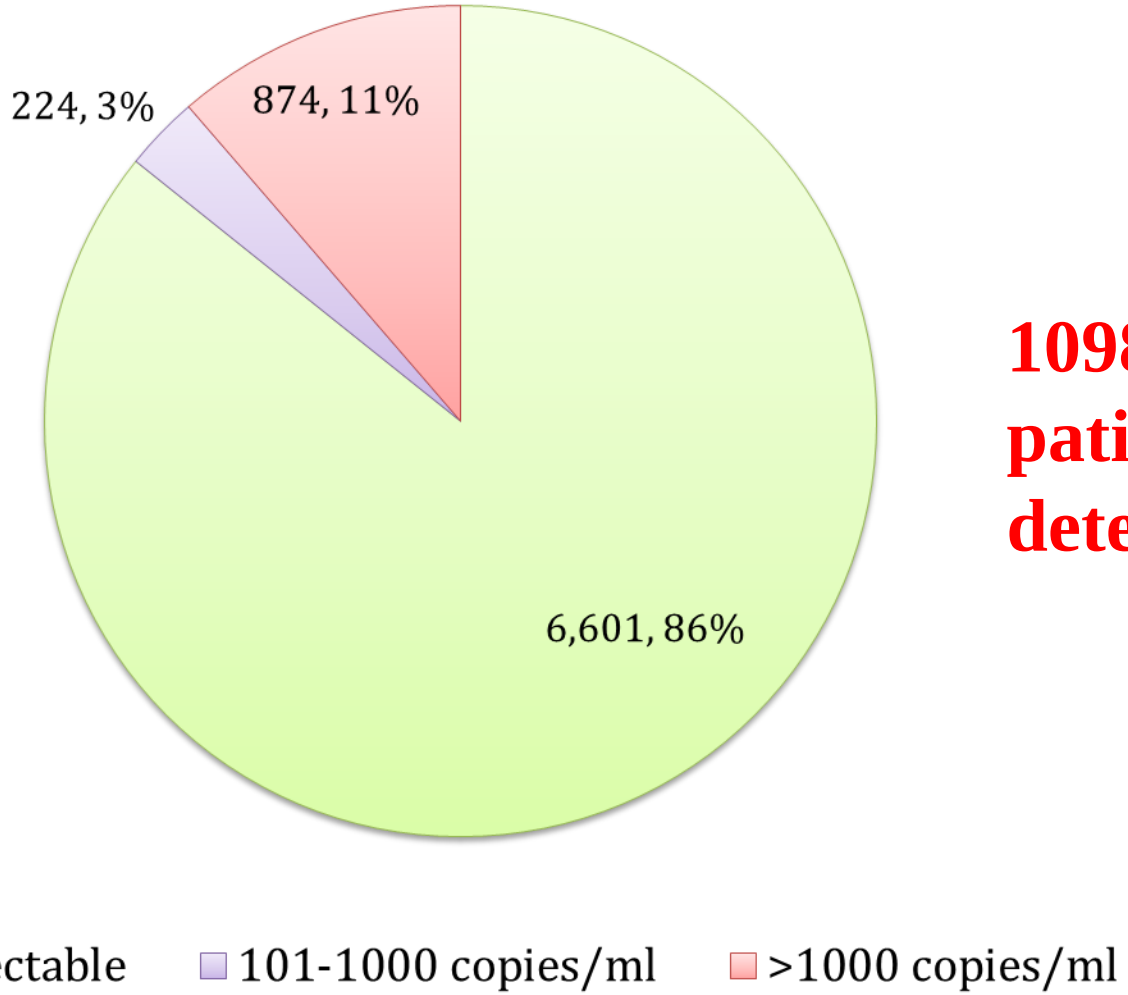
Lab and staff

Description of the population

- 7689 patients
- 4979 (65%) female
- Median age 38 years (IQR 30 – 48)
- Median time since ART initiation 3years and 5months (IQR 2–5 years)

Findings

Viral detectability among study cohort



1098 (14%) patients had a detectable VL.

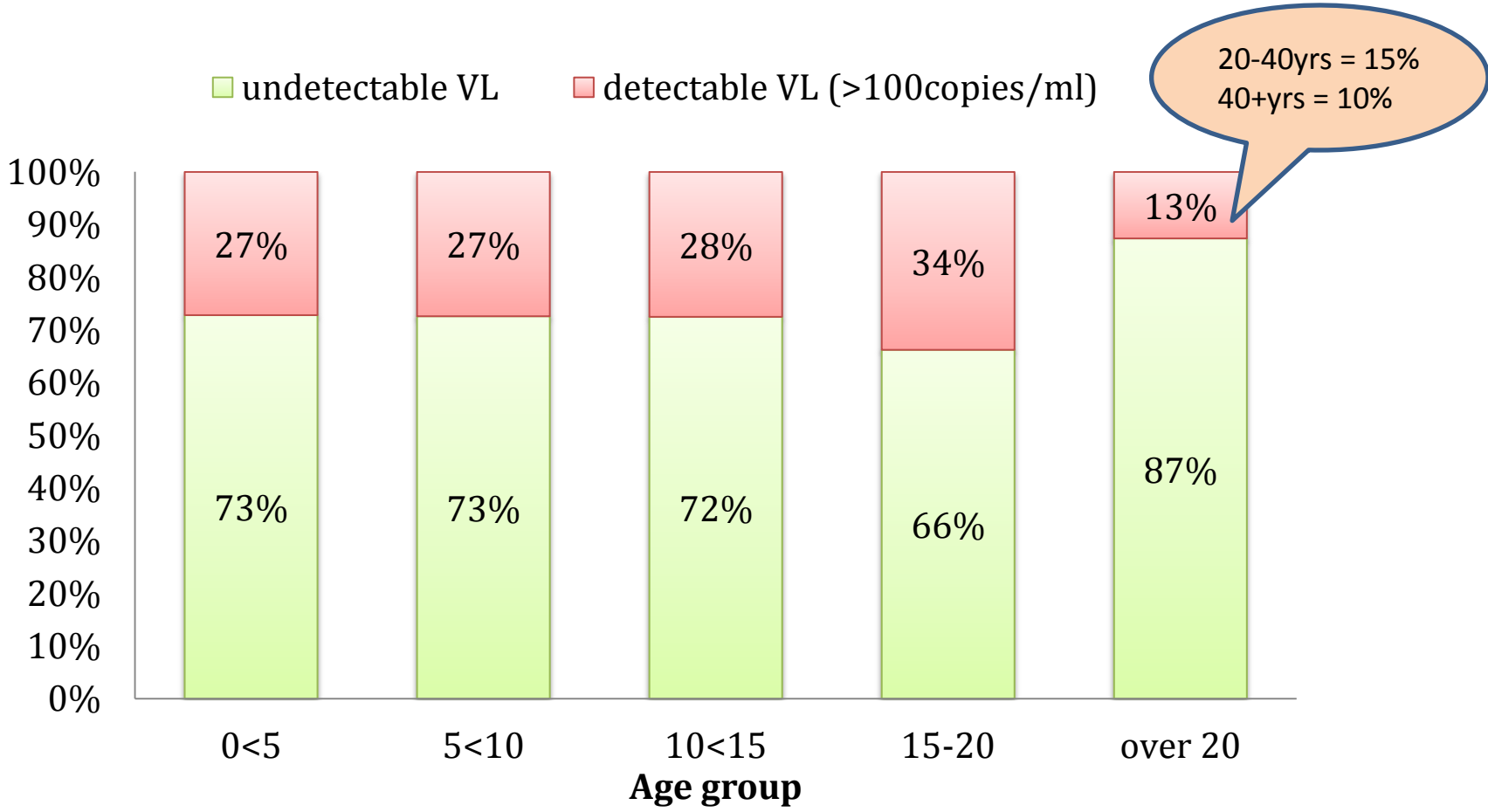
Viral detectability by sex

	Undetectable (N, %)	Detectable (N, %)
Male	2290 (84.5%)	420 (**15.5%**)
Female	4301 (86.4%)	678 (**13.6%**)
Total	65921(85.7%)	1098 (14.3%)

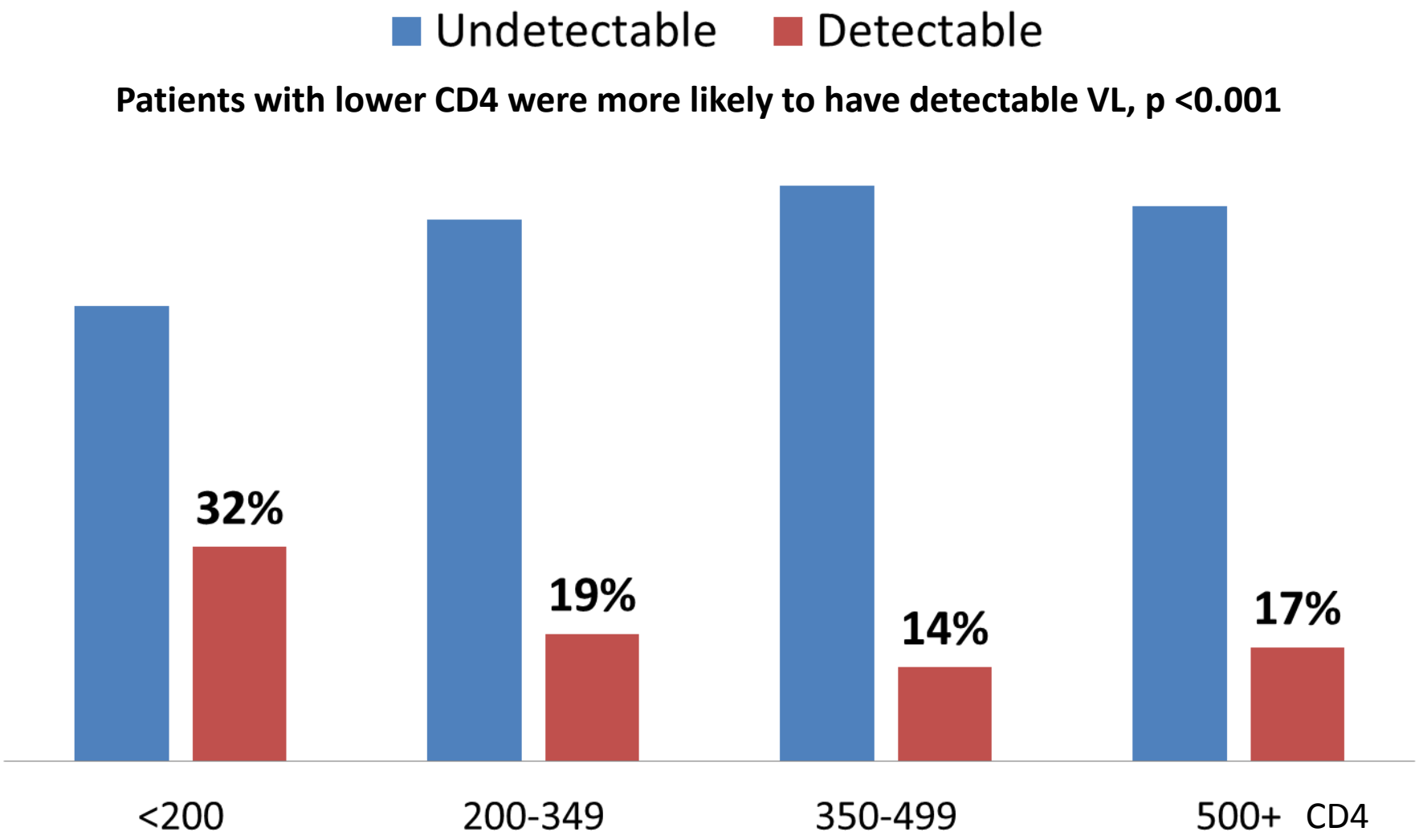
Although small, we noted a significantly higher rate of detectability in men (p 0.023)

Viral detectability by age

Proportion with detectable VL was higher among children/adolescents (28.7% in patients aged =<20yrs, compared to 12.6% in those aged >20, p<0.001).

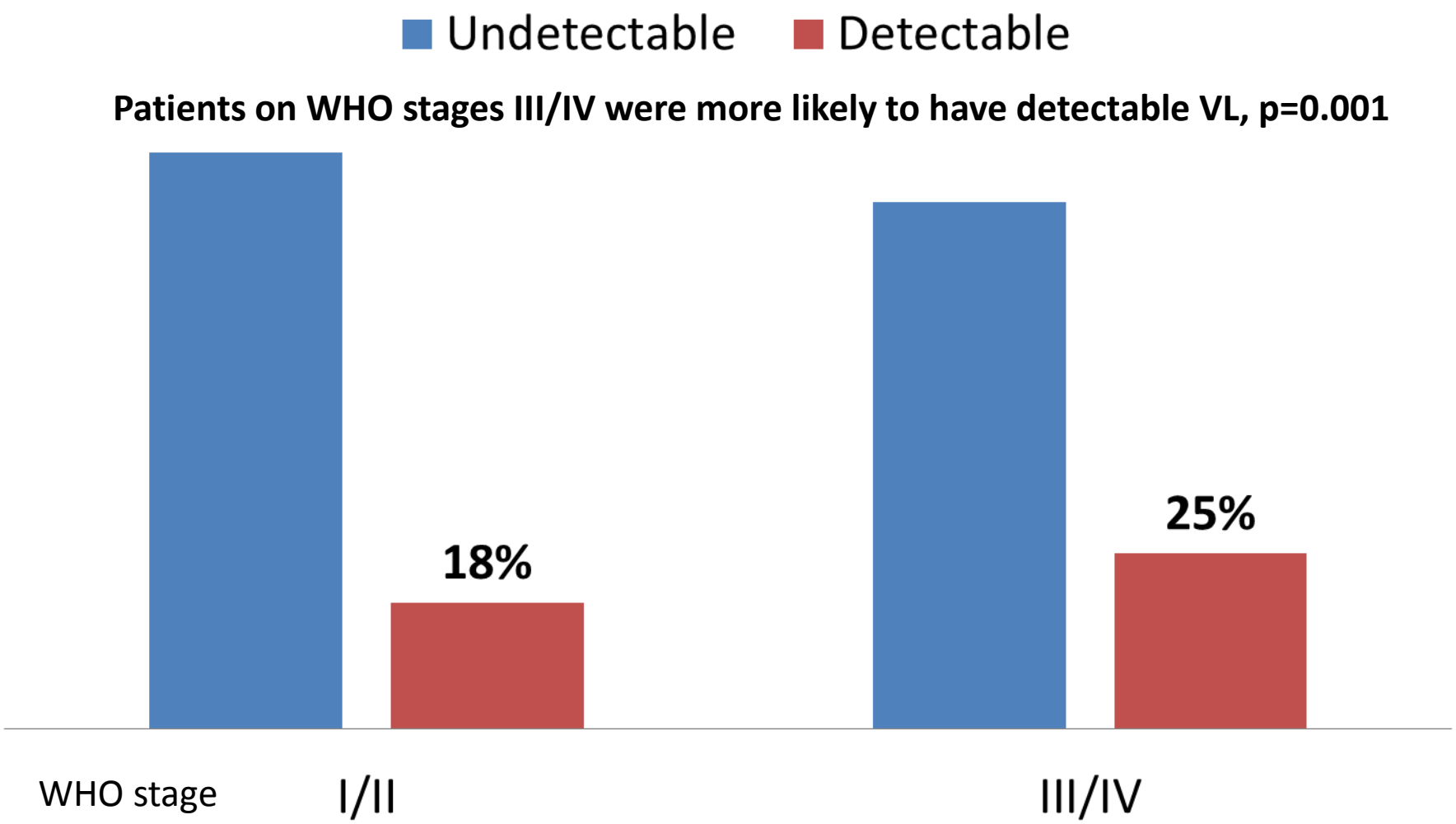


Viral detectability by most recent CD4 count



Patients with lower CD4 were more likely to have detectable VL, p <0.001

Viral detectability by most recent WHO staging



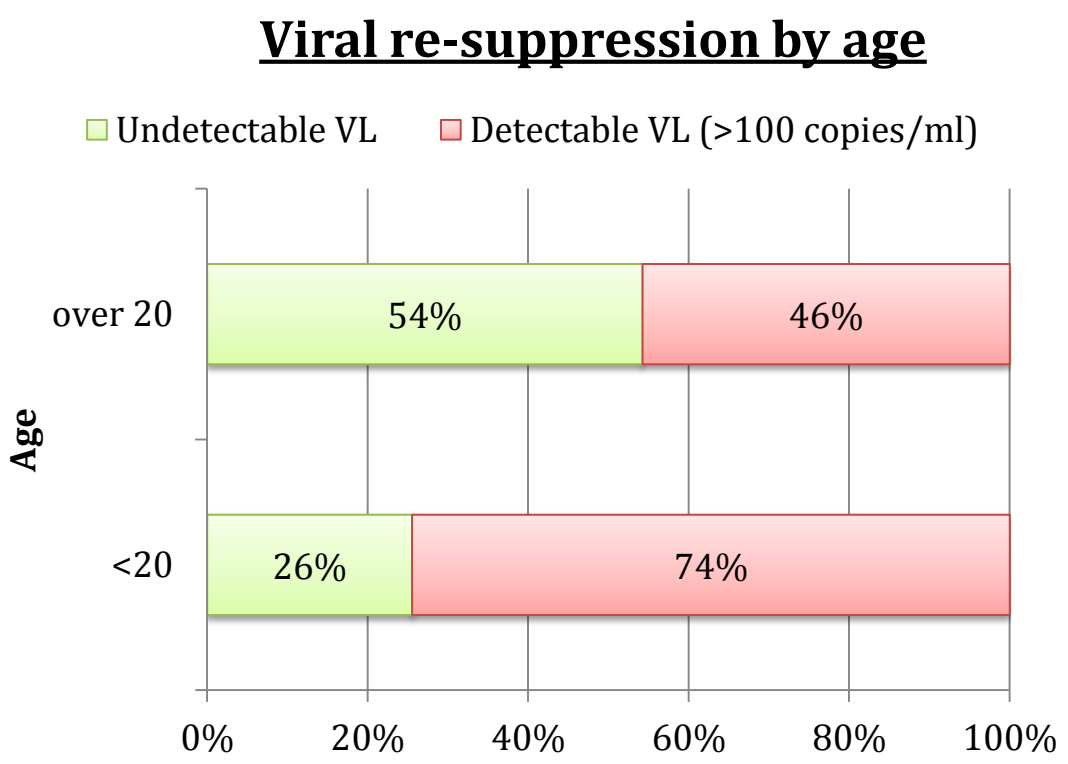
Viral detectability & time on ART

	Undetectable (N, %)	Detectable (N, %)
Time on ART		
Median	3.4 yrs	3.4 yrs
Interquartile Range	(2 yrs – 5.2 yrs)	(2 yrs – 5 yrs)

Re-suppression following adherence interventions

- Among 200 “detectable patients” who had repeat VL test, 95 (47.5%) became undetectable following stepped-up adherence counseling **(re-suppression)**.

- Level of **re-suppression** was significantly less among patients =<20 years old than those >20years old (p=0.001).
- 41% of men vs 49% of women got re-suppressed (p=0.223)



Conclusions 1

- Routine VL monitoring can be beneficial in resource-constrained settings—to identify those who may benefit from targeted adherence interventions.

- Children and adolescents are more likely to have detectable VL, and are less likely to re-suppress following stepped-up adherence interventions.

- Men are more likely than women to have detectable VL, and are less likely to re-supress following adherence interventions.

Conclusions 2

- These groups could benefit from routine, early and more frequent VL monitoring, to detect adherence problems early; with tailored interventions to improve adherence and achieve viral re-suppression.

Study Limitations

- An operational research – not RCT design
- Utilising laboratory-based data mainly
- Did not control for some baseline patient characteristics, e.g. CD4 count at initiation
- Adherence counselling interventions provided mainly by lay counsellors with limited skills

Acknowledgements

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THANK YOU