

https://dspace.org/

Viral load monitoring compliance among women attending PMTCT services during covid-19 pandemic in Ehlanzeni district, Mpumalanga, South Africa

Mbira, Thandiwe Elsie

2022

https://hdl.handle.net/10539/35511

Downloaded from a DSpace repository. https://dspace.org/

ABSTRACT

Background: Human Immunodeficiency Virus (HIV) viral load (VL) testing is the gold standard approach recommended by the World Health Organization (WHO) for monitoring the effectiveness of antiretroviral treatment (ART) in HIV-positive persons, including pregnant and breastfeeding women with HIV (PBWHIV). Progress towards the United Nations, Acquired Immunodeficiency Syndrome (UNAIDS) 2030 goals to eliminate vertical HIV transmission has been slow, and the 2025 interim target towards this goal is to have 95% of PBWHIV having suppressed VL to eliminate vertical HIV transmission (MTCT, EMTCT). Further delays towards EMTCT and UNAIDS 2030 goals were caused by the Coronavirus disease 2019 (COVID-19) pandemic, as access to HIV healthcare services was interrupted, including routine VL monitoring particularly during the early outbreak period.

Objectives: The objectives of this study were to:

(i) determine compliance to repeat VL testing schedule during the pre-COVID-19 period, transition period, and COVID-19 period, overall and by previous VL status (<50 copies/ml, 50-999 copies/ml and ≥1000 copies/ml) among PMTCT clients in Ehlanzeni district.

(ii) compare compliance to repeat VL testing schedule between pre-COVID-19, transition, and COVID-19 periods.

(iii) determine factors associated with timely VL testing among PMTCT clients in Ehlanzeni district over the course of the three periods, and during the COVID-19 period.

Methods: This was a secondary retrospective cohort analysis of repeat VL testing among PBWHIV using PMTCT services at Ehlanzeni district. Compliance to repeat VL testing schedule was determined as a proportion of participants with timely repeat VL tests in line with national PMTCT guidelines, during different time periods: pre-COVID-19 (1 April 2019- 25 March 2020), transition (VL test contact before start of lockdown on 26 March 2020 and expected repeat VL test on or after 26 March 2020), and COVID-19 (26 March 2020 -30 September 2021). Descriptive statistics were used to present participant characteristics and compliance to the repeat VL testing schedule during pre-COVID-19, transition, and COVID-19 periods. Partially overlapping z-test was used to compare proportions between pre-COVID-19 and transition periods, pre-COVID-19 and COVID-19 periods, and transition and COVID-19 periods. Multivariable Poisson regression (with robust error variance) analysis was conducted to determine factors associated with timely VL testing over the course of the three periods (combined) and during the COVID-19 period (sub-analysis).

Results: Of 405 women with ≥2 VL tests and included in the analysis, the overall median age was 30 years (Interquartile range (IQR): 26-35), 70% of them were in the postpartum period at baseline, and around 75% were diagnosed with HIV before their current or recent pregnancy and had initiated ART. During pre-COVID-19 period the proportion of women who were compliant to VL test schedule was 82.6% (233/282). Compliance during the transition period was 81.5% (172/211), while during COVID-19 was 86.0% (178/207). During pre-COVID-19, compliance was higher among women who had baseline VL<50 and VL=50-999 copies/ml compared to those with baseline VL≥1000 copies/ml, while during transition and COVID-19 compliance was higher among women with a baseline VL<50 copies/ml compared to women with baseline VL≥50 copies/ml. Compliance to repeat VL testing was not significantly different between

periods. Across all three periods, being compliant was significantly increased for the 25-34 years age-group (incidence-rate ratio (IRR)=1.12, [95% CI:1.01-1.23], p value=0.027) compared to younger age-group, and reduced among those with baseline VL=50-999 copies/ml (IRR=0.71, [95% CI: 0.61-0.82], p value<0.001) and VL≥1000 copies/ml (IRR=0.18, [95% CI:0.09-0.36], p value<0.001). Similarly, during the COVID-19 period, compliance was reduced by having baseline VL=50-999 copies/ml (IRR=0.40, [95% CI:0.23-0.67], p value=0.001) and VL≥1000 copies/ml (IRR=0.14, [95% CI:0.04-0.51], p value=0.003).

Conclusion: A slight decrease in compliance was observed during transition period, but overall compliance was over 80% and significantly reduced among PMTCT clients who previously had viraemia regardless of the pandemic. Young women compared to the mid-adult group were less likely to comply to VL testing schedule and to improve timely uptake of repeat VL testing especially among young women and those with detectable VL, there is a need to strengthen interventions such as short message service (SMS) reminders and other strategies such as young PBWHIV-targeted services, increasing educational efforts on its benefits, using point-of-care VL testing for short results turnaround times and access to VL testing in resource-limited settings, enhanced adherence counselling, and compensating patients, which have shown a potential to improve uptake and timeous linkage for appropriate treatment and care.