ABSTRACT

Background: Viral load (VL) testing coverage in individuals with HIV remains low particularly in resource limited countries despite recommendation by World Health Organization, and Malawi is no exception. A quality improvement (QI) approach was used to improve VL testing coverage from 27% to a target of 80% at an urban health facility in Malawi.

Methods: A QI study employing a time-series quasi-experimental design with no comparison group was conducted at Chilomoni health centre in Blantyre from April 2020 to July 2020. A retrospective record review of 257 patient records from 8 weeks before the study was conducted to determine baseline VL testing coverage. Root cause identification and prioritization of low VL testing coverage was done using fish-bone tool and Pareto-chart respectively by healthcare providers. Change ideas were identified and prioritized using an effort-impact matrix by healthcare providers. Two change ideas; *re-orienting ART providers on VL test order in EMR* and *dedicated ART provider to serve VL tested patients* were implemented and tested in 5 Plan-Do-Study-Act (PDSA) cycles from the Model for Improvement (MFI), each lasting one week. The latter was tested, and adapted in 3 cycles, and eventually adopted for monitoring for another 5 weeks. VL testing coverage was tracked throughout the study using run charts and p-charts. Segmented regression analysis was also done to assess significance of the change in outcome.

Results: VL testing coverage increased from 27% to 81% in the post-intervention period, with children aged up to 17 years experiencing the lowest VL testing coverage. A significant overall increase in the outcome was observed after implementation of interventions in the post

intervention period (IRR 7.026; 95% confidence interval (CI) 1.484-33.263; P < 0. 014). However, change in children was insignificant.

Conclusion: The MFI as a QI approach improved VL testing coverage through implementation of contextualized change ideas, although the results suggest children need tailored interventions. Future research should focus on evaluating sustainability of improved VL testing coverage at the health facility and assessing barriers to VL testing among children.

Keywords: HIV, Viral load testing coverage, Quality Improvement, Model for Improvement