



Assessing the Impact of Dolutegravir-Based Regimens on Mother-to-Child HIV Transmission in Manicaland Province, Zimbabwe: A Mixed Methods Study, 2016

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Abstract

The introduction of dolutegravir-based antiretroviral therapy for pregnant and breastfeeding women in Zimbabwe was a major policy change to improve viral suppression and reduce mother-to-child transmission of HIV. Evidence of its real-world effectiveness within routine antenatal services in Zimbabwean provinces was limited prior to implementation. This study assessed the impact of the dolutegravir-based regimen rollout on mother-to-child transmission rates in Manicaland Province. Its objectives were to quantify changes in early infant diagnosis positivity and to explore healthcare worker and patient experiences of the new regimen's implementation. A convergent parallel mixed methods design was used. The quantitative component was a retrospective cohort analysis of routine programme data from antenatal clinics, comparing early infant diagnosis outcomes before and after the dolutegravir rollout. The qualitative component involved semi-structured interviews with healthcare workers and focus group discussions with HIV-positive mothers receiving antenatal care. Quantitative analysis showed a statistically significant reduction in the mother-to-child transmission rate at six weeks postpartum following the rollout. Qualitative data revealed three key themes: improved patient-reported side-effect profiles leading to better adherence; initial healthcare worker anxieties about drug safety that were later alleviated; and persistent systemic challenges, including occasional drug stock-outs. The rollout of dolutegravir-based regimens in Manicaland Province was associated with a substantial reduction in mother-to-child transmission of HIV, meeting the programme target. The regimen was well-accepted by patients and providers, though operational barriers remained. Sustain and expand access to dolutegravir for all eligible pregnant and breastfeeding women. Strengthen

drug supply chain management to prevent stock-outs. Incorporate focused dolutegravir counselling training for antenatal care providers. Dolutegravir, mother-to-child transmission, HIV, antenatal care, mixed methods, Zimbabwe, implementation. This study provides evidence of the real-world effectiveness of dolutegravir-based regimens in reducing perinatal HIV transmission within a routine public health programme, highlighting both clinical benefits and operational challenges for policymakers and programme managers.

Keywords: *Mother-to-child transmission, Dolutegravir, Antiretroviral therapy, Sub-Saharan Africa, Implementation science, Viral suppression, Health systems strengthening*

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