Combination antiretroviral treatment use in prevention of mother-to-child transmission programs: 6-week HIV prevalence and relationship to time of antiretroviral treatment initiation and mixed feeding.

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Background: Zimbabwe is one of the country's worst hit by the Human Immunodeficiency virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) scourge with an estimated 1.4 million people living with HIV. 16% of the pregnant women aged 15 to 49 years are infected with HIV. More than 90% of HIV infection in children is through mother-to-child transmission (MTCT), and about two thirds of such infections occur during pregnancy and delivery while the rest occur after pregnancy. We investigated the effectiveness of the Option B+ in reducing HIV infection and factors associated with HIV transmission among infants born to mothers enrolled in the PMTCT programme.

Methods: We randomly selected 1204 early infant HIV diagnosis test results for HIV exposed infants and linked these results to maternal clinical records at primary health care clinics in Harare to estimate the prevalence of MTCT and to determine clinical factors associated with MTCT of HIV at 6 weeks.

Results: Of the 1204 infants in the study, 2.5% (95% CI: 1.7 to 3.5) were infected with HIV at 6 weeks post-delivery. Antiretroviral adherence reduced the odds of HIV infection by about 99% [OR 0.01 (95% CI 0.00 to 0.06)]. Both mixed feeding [OR 3.89 (95% CI 0.92 to 16.50)] and late initiation of ART (after delivery) [OR 3.18 (95% CI 0.42 to 23.94)] increased the odds of HIV infection.

Conclusion: Early initiation of combination antiretroviral treatment reduces 6-week mother-to child transmission of HIV in PMTCT programmes to levels similar to those found in controlled trial settings. Exclusive breastfeeding remains important even in the presence of ART.