



## HIV Mother-to-child Transmission

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### Introduction

Infection by the human immunodeficiency virus (HIV) is a public health problem worldwide, with mother-to-child transmission (MTCT) being the most important due to not only maternal but also fetal involvement, representing the majority of infections in the childhood. This transmission can occur during the second and third trimesters of pregnancy, childbirth or breastfeeding up to 50% if no intervention is performed, breastfeeding being the one with the highest risk of transmission with 12 to 26%, however, when implementing antiretroviral therapy (ART) this risk is reduced to less than 1% as has been evidenced in the last quarter of a century [1].

### Epidemiology

By 2021, according to data from UNAIDS worldwide, 38.4 million people were living with HIV, of these 36.7 million are over 15 years of age and 1.7 million under 14 years of age; Of these infections, 54% are women. 75% of people had access to ART and of these, 80% of people were women over 15 years of age; 81% of pregnant women with HIV had access to ART [2].

### Risks for mother-to-child transmission

High maternal viral load is the main risk factor for MTCT both intrapartum and at delivery, as well as depending on the viral phenotype, concomitant advanced HIV-associated diseases, maternal co-infections, premature rupture of membranes or primary infection during pregnancy [1].

Lack of intervention during pregnancy is another risk factor for IMT, as well as late intervention, intravenous drug use, regular

unprotected sex, and sexually transmitted infections during pregnancy [3].

### Prevention of HIV mother-to-child transmission:

Prevention is the most important pillar for IMT, and it encompasses 4 main elements: universal maternal screening, ART during pregnancy, labor, delivery and the puerperium, elective cesarean section, and avoiding breastfeeding [1].

The risk of transmission is especially high when the mother has an acute or early untreated infection [3].

### Maternal screening

One of the strategies to reduce perinatal transmission is to identify HIV-infected women by applying serological tests using enzyme immunoassay and to facilitate their medical care. If this first test is positive, a specific confirmatory test for HIV antibodies will be requested (antigen/antibody) [3].

It is recommended that before 36 weeks of gestation, preferably between 28 and 32 weeks, repeat HIV testing should be done for all patients with a previous negative result or without a documented HIV test result in early pregnancy [4].

### Antiretroviral therapy in pregnancy

ART, especially Zidovudine (nucleoside reverse transcriptase inhibitor), reduces the risk of TMI by 67%, becoming the first-line drug for pregnant and lactating women with HIV; It reduces the viral load in maternal blood, as well as in genital secretions, protecting maternal and fetal health. There are several antiretroviral

drugs approved for pregnancy such as Abacavir, Emtricitabine, Lamivudine, Darunavir, Dolutegravir, etc. The adverse effects of ART on the product are low birth weight, premature delivery, stillbirths or fetal growth restriction [1].

### Breastfeeding

Breastfeeding is an important factor in ensuring adequate nutrition for the baby, so that, to ensure the survival of babies exposed to HIV, current recommendations establish that mothers living with HIV should breastfeed for at least 12 months and can continue to breastfeed for up to 24 months or longer while on full ART support and undetectable viral load has been achieved [5].

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