



## Effectiveness of the Prevention of HIV Mother-To-Child Transmission (PMTCT) Program via Early Infant Diagnosis (EID) data in Senegal

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### ABSTRACT

**Background:** To improve the care and treatment of HIV-exposed children, early infant diagnosis (EID) using dried blood spot (DBS) sampling has been performed in Senegal since 2007, making molecular diagnosis accessible for patients living in decentralized settings. This study aimed to determine the evolution of the HIV transmission rate in children from 2008 to 2015 and to analyze associated factors, particularly the mother's treatment status and/or child's prophylaxis status and the feeding mode.

**Methods:** The data were analyzed using EID reports from the reference laboratory. Information related to sociodemographic characteristics, HIV profiles, the mother's treatment status, the child's prophylaxis status, and the feeding mode was included. Descriptive statistics were calculated, and bivariate and multivariate logistic regression analyses were performed.

**Results:** During the study period, a total of 5418 samples (5020 DBS and 398 buffy coat) from 168 primary prevention of HIV mother-to-child transmission (PMTCT) intervention sites in Senegal were tested. The samples were collected from 4443 children with a median age of 8 weeks (1-140 weeks) and a sex ratio (M/F) of 1.1 (2309/2095). One-third (35.2%; N = 1564) of the children were tested before 6 weeks of age. Twenty percent (N = 885) underwent molecular diagnostic testing more than once. An increased number of mothers receiving treatment (57.4%; N = 2550) and children receiving prophylaxis (52.1%; N = 2315) for protection against HIV infection during breastfeeding was found over the study period. The transmission rate decreased from 14.8% (95% confidence interval (CI): 11.6-18.7) in 2008 to 4.1% (95% CI: 2.7-6.2) in 2015 ( $p < 0.001$ ).

**Conclusion:** This study demonstrates the effectiveness of PMTCT interventions in Senegal and indicates that increased efforts should be continued to reduce the MTCT rate to less than 2%.

### EXTERNAL LINK

Short title: Effectiveness of Senegalese PMTCT Program

### THIS DOCUMENT ACCOMPANIES THE FOLLOWING PUBLICATION

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Figure 2.docx



Figure 3.docx



Figure 4.docx

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