

# The Effect of ARV on Rate of HIV Vertical Transmission from Exclusive Breastfeeding Mothers: A Systematic Review

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## Abstract

**Objective:** To give a visualization and explanation whether the use of ARV during exclusive breastfeeding period is able to reduce the rate of transmission during exclusive breastfeeding.

**Methods:** Systematic review of cross-sectional studies, case control, cohort studies, and prospective studies using Pubmed, LWW Journals, and Science Direct for literature search. Literature published between 2010 and 2020 are researched. Results are recorded using PRISMA, MMAT is used for bias-risk evaluation.

**Results:** A total of 2090 breastfed infants were included among the 2 studies. The first journal included was by Coovadia *et al.* 2012 was a 3<sup>rd</sup> phase clinical regarding the use of extended NVP on HIV exposed infants were exclusive breastfed, concluded that the transmission rate for the group that received extended NVP was only 1.1%. Rutagwera *et al.* 2019, focused on the shedding of HIV virus into the breastmilk which is why this study used breastmilk as their sample<sup>4,6</sup>. Rutagwera *et al.* 2019. found almost 80% of their subjects shed HIV virus into their breastmilk<sup>6</sup>. This number is correlated to the transmission of HIV vertically in breastfeeding mother.

**Conclusion:** To conclude, the use of ARV does affect the rate of transmission of HIV from mother to child during breastfeeding.

**Keywords:** HIV, exclusive breastfeeding, mother-to-child transmission

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## Introduction

HIV or Human Immunodeficiency Virus is a virus that attacks a person's immune system, especially CD4 cells<sup>4</sup>. The targeted cells are none other than CD4 cells<sup>3</sup>. According to WHO (World Health Organization), the number of people living with HIV reached 37.9 million at the end of 2018 and 62% of them had access to antiretroviral therapy<sup>15</sup>. UNICEF says that at least 1.1 million people living with HIV