

# Telehealth Interventions for improving Anti-Retroviral Therapy retention of HIV Infected Mothers and Preventing Mother-to-Child Transmission: A Systematic Review

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## Introduction

The increasing prevalence of HIV and its effect on pregnancy has prompted several innovations to enhance testing & treatment of the mother, prevention of mother-to-child transmission (PMTCT), and increase early neonatal testing, telehealth interventions such as Short Message Service (SMS), and telephonic counselling being one of the Owing to the variety of interventions being tested and outcomes being analysed, it is imperative to systematically review the available evidence to reach a conclusion regarding the applications of telehealth in this field.

## Objective

To assess the effectiveness of tele-health interventions in improving Anti-Retroviral Therapy (ART) retention and premother-to-child transmission (PMTCT) in HIV-infected pregnant females.

## Method

Pubmed (n=12) and ClinicalTrial.gov (n=2) were searched for randomised controlled trials with keywords "Telehealth", "HIV in pregnancy", "HIV infected pregnant females/women", "Antiretroviral Therapy retention" and "preventing mother-to-child transmission" in various combinations and imported to EndNote X9 Library. Duplicates and Protocol publications (n=6) were removed. Completed trials conducted with HIV infected pregnant females ( $\geq 18$  years of age)

between 14 & 36 weeks of gestation having received tele-health interventions compared against routine care controls were screened by title, abstract and full text (n=8-2=6). n=3 studies analysing the outcome of ART retention and PMTCT were included in this review.

## Result

A total of 3 studies (N = 3681 participants) comparing telehealth interventions - SMS-based reminders, and counselling calls were studied. n=2 (N = 2857 participants) studies reported statistically significant improvement in ART retention and PMTCT relative to regular care. n=1 (N = 824 participants) did not report any statistically significant improvement in HIV outcomes but concluded an improvement in initiation of postpartum contraception. n=3 studies excluded from the review due to a different outcome measure reported significant improvement in early Ante-natal CD4 testing, STI prevention, Breastfeeding and early neonatal HIV testing after telehealth interventions.

## Conclusion

Existing evidence supports that individualized counselling delivered through SMS and telephonic conversation may provide significant benefits in retaining HIV-infected mothers and preventing mother to child transmission of HIV. The current study shall form the basis for future research.

## Key Words

*Telemedicine, Pregnant Females with HIV,  
Neonatal HIV, HIV infected females, ART Retention*