

ABSTRACT

Background: HIV infection is an important cause of maternal and perinatal morbidity and mortality in Sub-Saharan Africa. HIV infected pregnant women have been found to have higher risks of having adverse outcomes such as stillbirth, congenital malformation, miscarriages and other birth-related complications. In addition, Infants born from HIV positive mothers have been found to be at high risk of dying as compared to infants born from HIV negative mothers.

Available evidence in the literature shows that the magnitude of the effect of maternal HIV infections on pregnancy and infant survival outcomes is vary across space and time. Therefore, there is an ongoing need to assess the effect of maternal HIV infections on pregnancy and infant survival outcomes in different settings with high prevalence levels of maternal HIV infections.

Aim: The study aims to assess the effect of maternal HIV infection on perinatal and infant survival outcomes in Agincourt, rural South Africa over the period 2015-2019.

Methods: Secondary data from two data sources, the routine Agincourt HDSS and the Agincourt HDSS-Clinic Link Study data collected from 2015-2019 among 10942 pregnancies were analyzed. A descriptive analysis was conducted to describe maternal characteristics of total sample and across HIV status, to describe the distribution of adverse perinatal outcome (abortion, low birth weight and preterm delivery). Binary logistic regression was used to model the unadjusted and adjusted association between adverse perinatal outcomes and maternal factors. Lasty Kaplan-Meier curves were used to describe the patterns of infant mortality and the Cox regression technique was used to obtain both the Crude hazard ratio (CHR) and adjusted hazard ratio by maternal factors. To compare the effect of maternal HIV infection, the above process was performed for the total sample of all women regardless of their HIV status and for observations from women with known HIV status.

Results: The total sample included 10942 pregnancies regardless of HIV status with 4661 pregnancies in the HIV negative subgroup. Prevalence of maternal HIV infections among women aged 13-49 years was 16.58%. Maternal HIV infections were associated with preterm delivery in the multivariate logistic regression (OR=2.12;95%CI: 1.28 – 3.51). There was no association between maternal HIV and low birth weight. The risk of abortion/stillbirths and preterm deliveries

was double for women who attended 3 or less antenatal care (ANC) visits in the adjusted model for both total sample and sample consisting of women with known HIV status. Attending 3 or less ANC visits was also a risk factor of infant mortality (OR: 1.96; 95% CI; 0.91 – 4.23).

Conclusion: There is no difference in risk of having adverse perinatal outcomes including infant mortality between HIV infected and non-infected mothers. The result from this suggests that introduction of ART to all pregnant women regardless their CD4 counts in the past 5 years made a huge impact in combatting adverse perinatal outcomes. There has been a decrease in cases of pregnancy loss, low birth weight (LBW), preterm delivery (PTD) and infant mortality over the years.

Keywords: Maternal HIV, outcomes, infants