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Original Research Article

Study of Maternal and Fetal Outcome in HIV Positive Women in a Tertiary Care Centre

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Abstract

HIV/AIDS infection is one of the most important causes for maternal and perinatal morbidity/mortality worldwide, also known as Slim disease caused by retrovirus. Mother to child transmission risk increased by PROM, repeated PV examinations. Use of highly active antiretroviral therapy (HAART) and safe delivery technique should prevent MTCT. HIV has been associated with spontaneous abortions, stillbirths, perinatal and infant mortality, IUGR, low birth weights and chorioamnionitis.

Introduction

HIV/AIDS infection is one of the most important causes for maternal and perinatal morbidity/mortality worldwide, also known as slim disease caused by retrovirus. Mother to child transmission risk increased by PROM, repeated PV examinations.

Aims & Objectives: To study the maternal and fetal outcomes in HIV infected pregnant women.

Materials and Methods :

Source of data: All antenatal women who attended the OPD for antenatal care and got admitted .

Study period: March 2021 – February 2022 (1 year)

Type of study: Observational prospective study

Inclusion criteria:

- The study includes antenatal mothers in the age group of 20-40 years.
- HIV positive with all trimesters were included in this study.
- Antenatal mothers who are willing to participate in the study.

Exclusion criteria:

- Antenatal mothers who need emergency observation and treatment.
- Women who are not willing to participate in the study and have not given written consent.

Results:

In the current study 12,641 subjects gave consent for HIV testing. After testing 60 women were found to be seropositive. The overall prevalence of HIV positive pregnant women was 0.47%.

Table 1: Prevalence of HIV infection in pregnant women

HIV positive status	Frequency (percentage)
Negative	12581
Positive	60 (0.47%) prevalence
a. Known positive	46 (76.6%)
b. New positive	14 (23.3%)

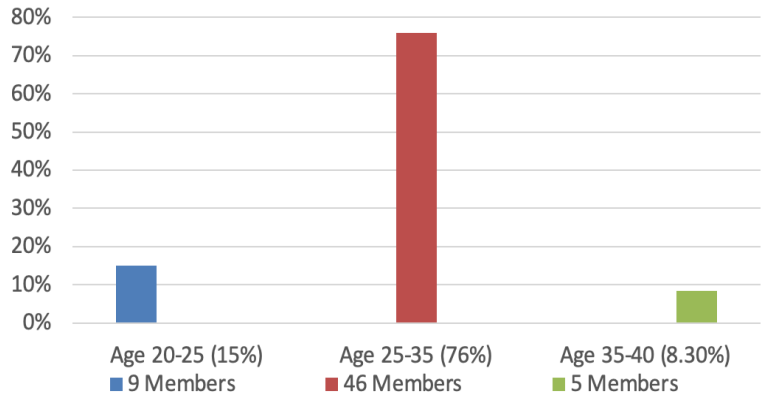

Figure 1: Barchart showing age distribution of HIV positive pregnant women

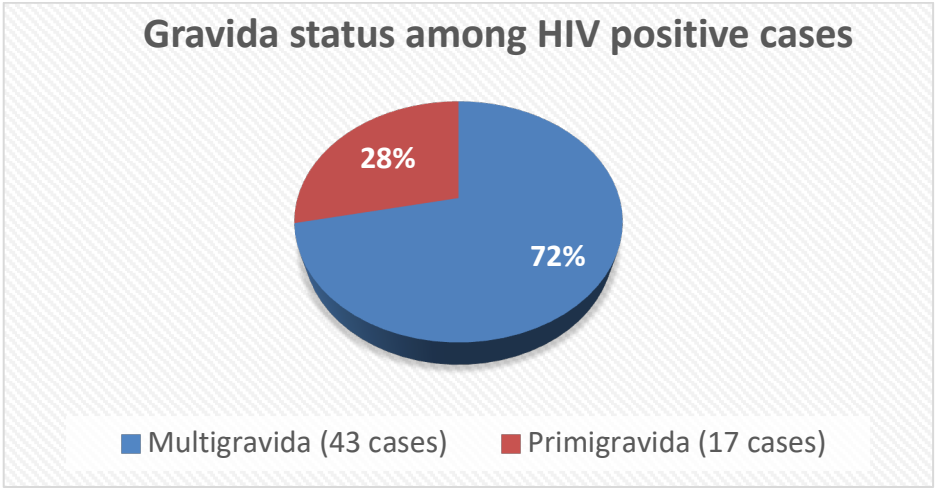

Figure 2: Pie chart showing gravida status among HIV positive pregnant women

MODE OF HIV TRANSMISSION: Among 60 cases 3 (5%) cases are vertically transmitted, around 56 (93%) cases are sexually transmitted,1 (2%) case is transmitted by needle stick injury.

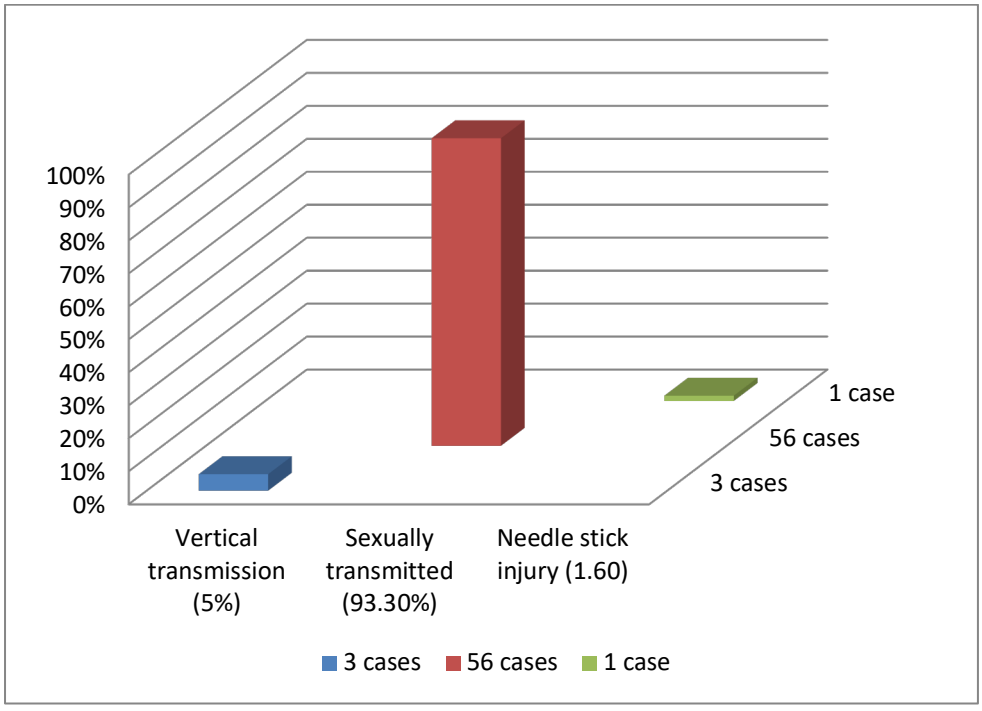

Figure 3: Bar chart showing mode of transmission of HIV in pregnant women

Based on CD4 count-Among 60 cases for 26 (43%) subjects CD4 count is not known. For 10 subjects (17%) CD4 count was 200-350 cells /mm^3. For 24 subjects (40%) CD4 count was >350 cells /mm^3.

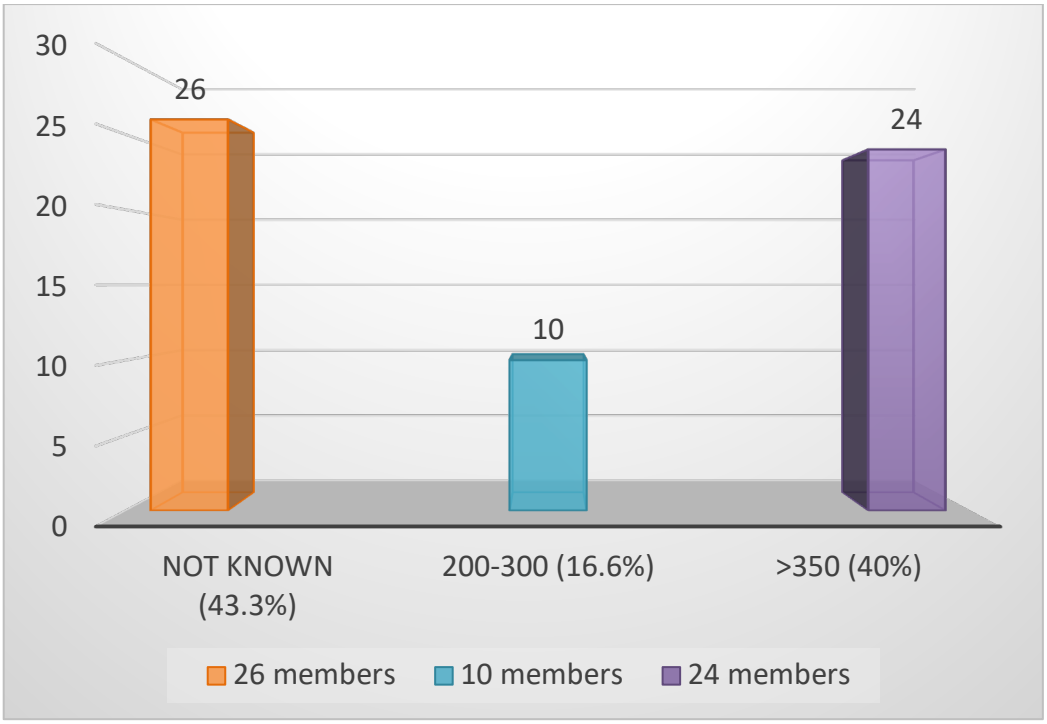

Figure 4: Bar chart showing CD4 counts of HIV positive pregnant women

Adverse outcomes in HIV positive women -Complications among HIV positive women are- around 20 cases (33%) are diagnosed as pre term delivery, while 15 (25%) cases are diagnosed as Anemia 15 cases(25%) are IUGR, 10 cases (16.7%) are Pre eclampsia, 7 cases (11.7%) are PROM, 4 cases (6.7%) are IUD, 2 cases (3.3%) are ectopic.

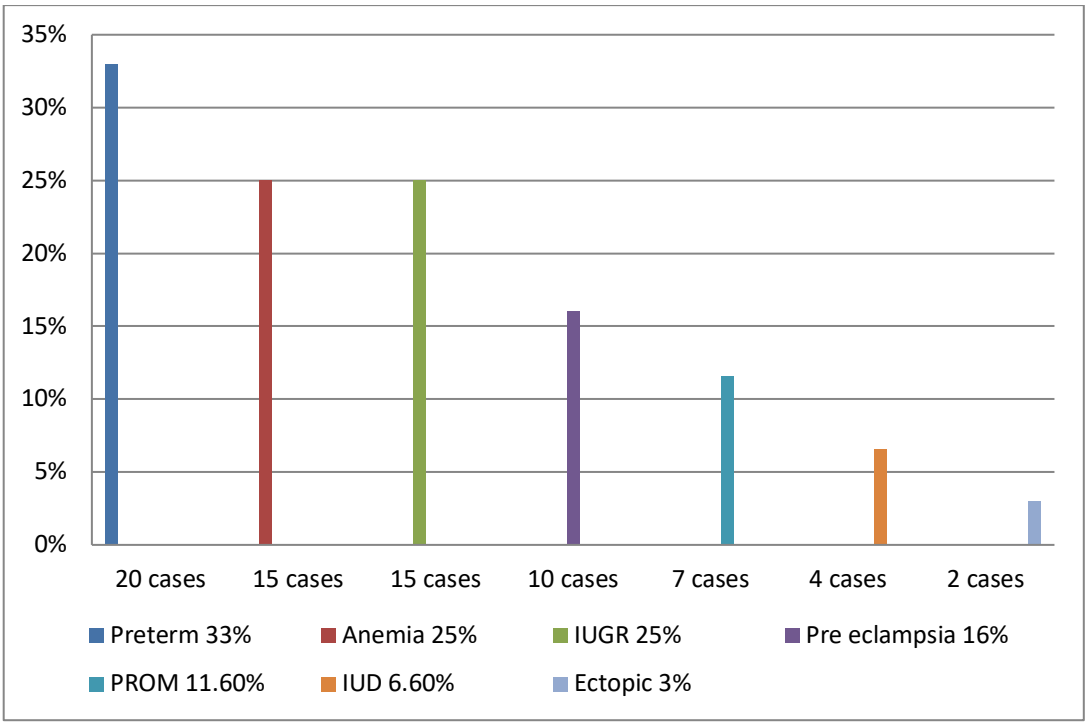

Figure 5: Bar chart showing distribution of HIV positive pregnant women based on Fetal outcome/adverse events

Table 2: Duration of ART and risk of transmission of HIV

Mean duration of ART	No. of cases	No. of positive cases
< 3 months	11	2 (18.18%)
> 3 months	42	1 (2.4%)

Table 3: Mode of delivery and risk of transmission of HIV

Mode of delivery	No. of cases	No. positive cases
NVD	45	2 (4.4%)
LSCS	15	1 (6.7%)

Table 4: Feeding practice and risk of transmission of HIV

Feeding practice and risk of transmission	No. of children	No. of positive children
Exclusive breast feeding	50	2 (4%)
Topups	10	1 (10%)

Table 5: Nevirapine prophylaxis among HIV positive pregnant women

Nevirapine received	Number	percentage
Yes	59	98.3%
No	1	1.6%

Discussion:

The prevalence of HIV among pregnant women varies globally, with sub-Saharan Africa being disproportionately affected due to high HIV burden in the region. Studies report prevalence rates ranging from 5% to 40% in African countries, with factors such as lack of education, poor access to healthcare, and high rates of unprotected sexual activity contributing to these rates (UNAIDS, 2023)[1].

The predominant mode of transmission of HIV to the fetus is vertical transmission, occurring during pregnancy, delivery, or breastfeeding. Without interventions, the transmission rate can reach 25% to 35%; however, effective antiretroviral therapy (ART) and elective cesarean sections can reduce this to below 2% (Ciaranello et al., 2018)[2].

Fetal outcomes in HIV-positive pregnancies are closely linked to maternal viral load and access to ART. Research has shown increased risks of preterm delivery, low birth weight, and stillbirth in untreated HIV-positive women. However, women on ART demonstrate improved outcomes, comparable to HIV-negative women (Zash et al., 2018)[3].

Despite this, ART exposure has been associated with mild risks of congenital abnormalities and mitochondrial toxicity, necessitating close monitoring during pregnancy (Boehme et al., 2019)[4]. Overall, advancements in ART and early antenatal care have dramatically improved both maternal and fetal outcomes for HIV-positive pregnancies.

Conclusion

In conclusion, the combination of maternal antepartum, intrapartum, postpartum prophylaxis and infant prophylaxis is recommended to prevent perinatal transmission. All HIV-infected pregnant women should receive combination antiretroviral therapy to reduce maternal viral load below the limit of detection and to decrease the risk of transmission.

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