FETO-MATERNAL OUTCOME OF HIV INFECTED PREGNANT WOMEN DELIVERING AT A TERTIARY HEALTH CARE CENTER OF SOUTH GUJARAT

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ABSTRACT

Aim: To document the feto-maternal outcome in HIV infected pregnant women delivering at a tertiary health care centre of South Gujarat.

Methods: This study was a secondary data analysis of pregnant HIV infected women delivering between May 2017- April 2021 in the Department of Obstetrics and Gynecology, Tertiary Health Care Center of South Gujarat.

Statistical Analysis

Secondary data analysis was done using SPSS software version 23.

Results: A total of 145 HIV infected pregnant women delivered at out institute during the study period. Thirteen (8.97%) participants had preterm delivery. 88(60.68%) of the 145 participants had vaginal delivery and 57(39.32%) underwent caesarean section. 143(98.62%) of our 145 participants had live births, while 2(1.38%) had stillbirths**.** Most of the new-borns i.e., 96(64.43%) had birth weight of between 2-3 kg, 25(16.77%) had a birth weight of less than 2kg. Out of 147 liveborn babies, 36 babies (24.48%) were admitted in NICU.

Conclusion: Though the HIV positivity in our general population is less than 1%, it entails a slightly higher risk of preterm birth and still birth for the HIV positive pregnant women. Early registration and appropriate antenatal care are necessary for optimizing the feto-maternal outcome.

Keywords: Pregnancy, ART, HIV.

Key messages: Early antenatal registration, initiation of ART, regular antenatal check ups and institutional delivery are essential in management of HIV infected pregnant women to reduce the chances of vertical transmission of disease.

Introduction:

Globally HIV/AIDS infection has become a factor of major health concern among pregnant women. India is home to the third largest number of people living with HIV in the world. Globally, there were 1.3 million [1.0–1.6 million] pregnant women with HIV in 2021, of which an estimated 81% [63–97%] received antiretroviral drugs to prevent mother-to-child transmission.[1]Nationally, there were an estimated 300.61 lakh PLHIV in 2020-21. Nationally, there were an estimated 20.52 thousand pregnant women who would require ART to prevent mother-to-child transmission of HIV.[2]Several studies have reported that HIV infected pregnant women are at an increased risk of adverse pregnancy outcomes such as spontaneous abortion, still births and preterm labour, low birth weight, intrauterine growth retardation. [3,4,5] As per the new guidelines released by WHO, further adopted by NACO (National AIDS Control Programme) in 2017, all HIV infected patients, including pregnant women are to be started on WHO B+ regimen irrespective of CD4 Count and continued for life.

Subjects and Methods:

This study was a secondary data analysis of pregnant HIV infected women delivering between May 2017- April 2021 after line-listing of in the Department of Obstetrics and Gynecology, Tertiary Health Care Center of South Gujarat.

- ***Inclusion Criteria:***

  Mamta Clinic Records of all HIV seropositive pregnant women delivering delivering at labour room of Tertiary Health Care Center of South Gujaratbetween May 2017 to April 2021 (48 months).

- ***Exclusion Criteria:***

  1. Incomplete Mamta Clinic records
  2. Seropositive Pregnant Women registered at Mamta clinic who are lost to follow up.

Results:

A total of 145 HIV infected pregnant women delivered at our centre during the study period.

Despite widespread promotion of Integrated Counselling and Testing services, 66 (45.51%) of our subjects knew their sero-status prior to conception, while 79 (54.49%) were diagnosed during current pregnancy, of which 7 were diagnosed intra-partum.

Emphasis is placed on early antenatal registration in first trimester for screening of pregnant women, initiation of anti-retroviral therapy, regular antenatal check-ups to optimise feto-

maternal outcome. Only 11 (7.58%) of our subjects registered in the first trimester, 71(48.96%) in second trimester, 44 (31.03%) in the third trimester, while 19 (12.41%) came directly in labour.

67 (46.20%) of our subjects had CD4 count greater than 500, 64(44.13%) had counts between 250 to 500, while 14(9.65%) had CD4 counts of less than 250 at the time of current pregnancy. 66 subjects (45%) were on ART at the time of their first visit with us. Out of these 66 subjects on ART, majority (57.57%) had CD4 counts of more than 500, which was seen in 36.17% of subjects who were not on ART. The differences observed were statistically significant. (p-value<0.05)

The pregnancy outcome of our 145 subjectswas analysed with respect to the data of HIV sero-negative women delivering in the same period.

Table 1: Pregnancy outcome of our subjects

Variable	Number of subjects	Percentage result in subjects	Percentage in sero-negative women	P-value
Gestational age at delivery (n=145)				
34-37 weeks	13	8.97%	6.8%	>0.05
≥37 weeks or more	132	91.03%		
Mode of delivery (n=145)				
Vaginal birth	88	60.68%		
CS	57	39.32%	32%	>0.05
Status of baby(n=149) (4 twin deliveries)				
Alive	147	98.62%		
Stillbirth	2	1.38%	2%	>0.05
Weight of the baby(n=149)				
<2.5 kg	52	34.89%	18.0%	<0.05
≥2.5 kg	97	65.11%		
NICU admission at birth (n=147)				
Yes	36	24.48%	2.64%	<0.05
No	111	75.52%		

Of the 147 liveborns, 137 babies were administered Syrup Nevirapine and 10 babies were given Zidovudine syrup within 72 hours of birth as per NACO guidelines.

Majority (88.8%) of our subjects opted for exclusive breast feeding, irrespective of age group of mother, timing of knowledge about HIV status and occupational status.

Discussion:

Studies on HIV infection and pregnancy outcome until today have been unable to clearly suggest a relation between maternal HIV infection and common adverse pregnancy outcomes, particularly the risk of premature delivery and of growth retardation and organisations including WHO have highlighted the importance of early diagnosis of HIV infection, early antenatal registration and early initiation of anti-retroviral medication irrespective of clinical stage of HIV infection.

Though many of our subjects (45.51%) were aware of their HIV infected status at the time of antenatal registration and were on ART, they presented in third trimester and even during labour for the first time for obstetric care (43.4%), suggesting the need to focus on creating awareness for early antenatal registration amongst HIV infected women in reproductive age group registered in ART centres. This is in contrast to study by Dadhwal et al who reported early antenatal registration of 81% amongst their HIV infected women, probably because we cater to lower and lower-middle socio-economic status patients and also to migrants. Seven of our subjects (4.8%) were diagnosed during labour, increasing the risk of Maternal to Child transmission.

We also noted higher CD4 counts amongst registered HIV infected women on ART as compared to those who were not on ART at the time of conception. Efforts need to be made to create awareness to come forward for counselling and testing at our Integrated Counselling and Testing Centres for early identification of HIV infected status.

In our study, thirteen (8.97%) participants had preterm delivery. The rate of preterm delivery in the HIV uninfected women in our institute during the study period was 3.2% while in HIV infected women was 8.97%. Brocklehurst et al and Xiao PL reported that LBW and PTD were associated with maternal HIV infection.[6,7] Habib et al, has also shown an association between maternal HIV status and preterm labour.[8] Preterm deliveries were 1.8% in study by Prameela et al, 4% by Malik et al, 13.1% by Ezechi et al, 19% by Yudin et al and 25% by Dwivedi et al.[9-12] Studies done by Merwe V et al and Kim et al have documented that women with CD4 cell counts <350 cells/μl had an increased risk of having LBW compared to women with higher CD4 cell count.[13,14]

Our participants had a higher caesarean section rate (39%) as compared to that of HIV uninfected women in our hospital (32%).143(98.62%) of our 145 participants had live births, while 2(1.38%) had stillbirths**.** In India, studies done by Gautam S et al, and Prameela et al found still birth rate to be comparatively less 3.1% and 3.9% respectively.[9,15]

Our CS rate was intermediate compared to other Indian studies because we gave the choice of route of delivery to the participant while in Irene study all participants underwent CS and in study by Patil et al CS was performed only if obstetrically indicated.[16]

In study done by Dwivedi et al, and Yadav S et al, most of the women delivered vaginally (65%), as LSCS in HIV seropositive patients was done for obstetric indication only. [12,17] The rate of transmission was marginally less than normal labour. In study done by Azria E et al 55% women delivered by caesarean section while in studies by Gautam et al, Prameela et al and Ezechi et al; 70.8%, 73.7% and 53.1% women delivered by vaginal route respectively.[9,11,15,18]

35.86% (52 of 145) of new-borns of our study participants had birth weight of less than 2.5kg, while the corresponding figure in general population was 18.0%(NFHS-5) (p-value<0.01), indicating that HIV+ve status is a significant risk factor for LBW.

Out of 147 liveborn babies, 36 babies (24.48%) were admitted in NICU for various reasons like prematurity, low birth weight, congenital anomaly, meconium aspiration etc. This was significantly higher than NICU admission in our institute during that period in HIV non infected subjects, which was 2.64%.

We had a lower preterm delivery rate and higher perinatal mortality rate as compared to those reported by Patil et al.[16]

Our Preterm Birth rate was similar to study done by Swati Trivedi et al[19], while incidence of LBW babies was relatively higher in our study.

Conclusion:

Though the HIV positivity in our general population is less than 1%, it entails a slightly higher risk of preterm birth,still birth and low birth weight for the HIV positive pregnant women. It also highlights that most women come for late registration during antenatal period, and subsequent delay in starting ART, thus need for awareness about early antenatal registration, regular follow up, early initiation of ART and linking with nearest ART center. Prevalence of adolescent pregnancy and vertical transmission of disease among young females, highpoints the importance of safe sex practices, strengthening testing services and identification of high-risk groups for screening.

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