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Original Research Article

A RETROSPECTIVE STUDY OF FETOMATERNAL OUTCOME IN HIV POSITIVE PREGNANT WOMEN

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Abstract

Introduction: In present scenario Acquired immunodeficiency syndrome is one of the worst global health concerns.HIV has a dramatic impact on the health of mother and children. Parent to child transmission of HIV is a major route of new infection in children.

Objective: Aim of my study is to find out the prevalence of HIV status among pregnant women delivering in our hospital and to determine maternal and fetal outcome in those HIV positive pregnant women.

Materials and Methodology: A retrospective study conducted in Government medical college and sir T hospital, Bhavnagar from May 2019 to April 2021. All HIV positive pregnant women with >28 weeks gestation and who are on ART or not and delivering in our hospital were selected. Maternal and fetal outcome variables were analysed.

Results: Total deliveries during the study period were 9526. Of these HIV positive pregnant women were 58, prevalence being 0.6%. Primigravida were found to be 34.48%, 48.27% were diagnosed HIV positive during pregnancy, vaginal deliveries were 75.86% and caesarean section was 24.13%. Birth weight <2kg in 20.68%.Exclusive breast feeding in 81.13%. Nevirapine prophylaxis were given to 96.22% of neonate.

Conclusion: Early diagnosis and initiation of therapy will prevent transmission to their children and better fetomaternal outcome. Awareness and information is important to increase access to PPTCT services. Team approach involving an experienced obstetrician, neonatologist and physician gives hope of having a healthy uninfected baby for HIV infected mothers.

Keywords: fetomaternal, HIV

Introduction:

AIDS was first described in june 1981 in Los angeles,USA and is presently one of the worst global health concerns.AIDS is caused by infection with HIV, a lentivirus in the retrovirus family.Two types of HIV have been identified,HIV -1and HIV -2. Majority of HIV infections are caused by HIV-1, but HIV-2 has been found to infect individuals in certain parts of Africa.(4)

It is a disorder of immune system in which body's normal defence against infection break down leaving it vulnerable to threatening infection.HIV has dramatic impact on the health of women and their children.

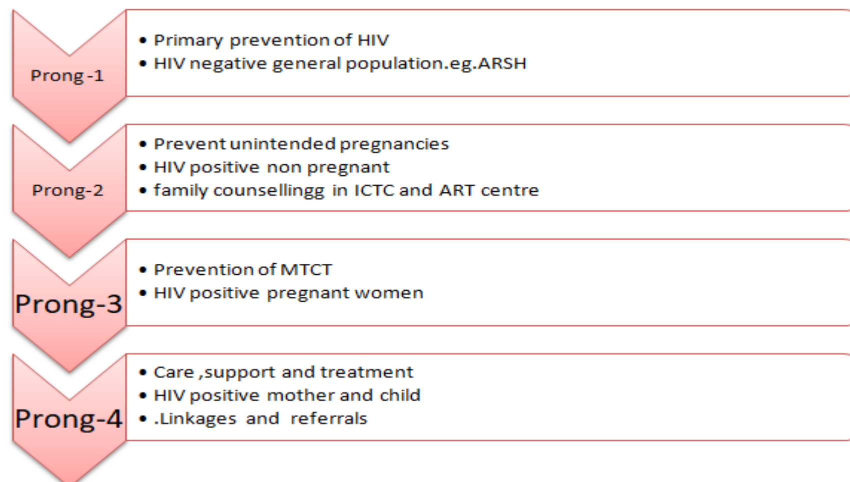
India has third largest pool of HIV cases in the world and 2.14 million people living with HIV. (4) Parent to child transmission of HIV is major route of new HIV infection in children.Pregnant women who are found HIV positive should have immediate and lifelong ART to treat HIV and improve her own health and maximally suppress maternal viral load prior to conception to decrease the risk of perinatal transmission and HIV transmission to uninfected partner.(1)

Goals of pre conceptional counselling are to improve the health of women before conception and to identify the risk factors for adverse maternal and fetal outcome.In the absence of any interventions transmission rate of MTCT range from 15-45%. This rate can be reduced to level below 5% with effective interventions. (2)

HIV infection itself has been associated with varying rate of adverse pregnancy outcome such as increase spontaneous abortion,stillbirth, perinatal and infant mortality, intrauterine growth restriction, low birth weight, chorioamnionitis.

In order to reduce perinatal transmission, all pregnant women should have access to voluntary HIV testing and counselling .Delay in accessing antenatal care and low level of education are the most significant patient risk factors associated with MTCT. Other factors like high viral load,advanced age, bad habit during pregnancy, mixed feeding are responsible for MTCT.

The National PPTCT programme recognizes the 4 elements integral to preventing HIV transmission among women and children.



AIM:

1) To know prevelance of HIV positive status in pregnant women.

2) To study maternal and neonatal outcome in HIV positive pregnant women.

OBJECTIVE:

1) To study development of obstetrics complication and mode of delivery.

2) To study neonatal outcome (birth weight, feeding practice and risk of transmission).

INCLUSION CRITERIA:

1) HIV positive pregnant women both on ART and not on ART

2) Women delivering in our hospital

3) Patients with period of gestation > 28 weeks.

EXCLUSION CRITERIA:

1) Women undergoing MTP and abortion

2) Other immunodeficiency disorder

3) Chronic medical disorder like hypertension, diabetes

4) Severe anemia and IUGR for other causes.

METHODOLOGY:

This retrospective study was conducted over a period of 2 years from May 2019 to April 2021 at department of obstetrics and gynaecology of Government medical college and sir T General hospital, Bhavnagar, Gujarat, India. During this retrospective study total 58 patients satisfying the inclusion criteria were taken in study. The case record of pregnant women with HIV positive status were selected from labour room record book and PPTCT clinic and follow up detail of both mother and child were obtained from ICTC centre. Maternal variables analysed were Age, parity, time of diagnosis, obstetrics complication, mode of delivery. Neonatal variable analysed were birth weight, feeding practise and risk of HIV transmission. Maternal and fetal outcome variables were presented as frequencies and percentages. Mothers and babies were managed according to NACO guideline.

RESULT:

The total number of deliveries from May 2019 to April 2021 at sir T hospital, Bhavnagar were 9526, out of which 58 were HIV positive pregnant women. The prevalence of HIV infection was 0.6%.

Total no. of deliveries	HIV positive	Prevalence
9526	58	0.6%

Table 1: Age wise distribution

Age	Number	Percentage
< 20 years	1	1.72%
20- 30 years	44	75.86%
> 30 years	13	22.41%

Most of the cases were between 20-30 years, which is the most sexually active age group. Prevalence of HIV infection in this target group can be reduced by providing information, education and effective behaviour change communication.

Table 2: Based on Parity

Gravida	Number	Percentage
G 1	20	34.48%
G 2	17	29.31%
G3 OR MORE	21	36.20%

Out of 58 HIV positive pregnant women, 20(34.48%) were primigravida, 17 (29.31%) were second gravida and 21 (36.20%) were gravida third or more. Hence in present study majority of HIV positive pregnant women were multigravida.

Table 3: Based on time of diagnosis of HIV positive

Time of diagnosis	Number	Percentage
Prepregnancy	30	51.72%
During pregnancy	28	48.27%

Out of 58 HIV positive pregnant women , 30 (51.72%) were diagnosed HIV positive before pregnancy and 28 (48.27%) were diagnosed HIV positive during pregnancy . Those diagnosed before pregnancy were mostly taking ART so risk of transmission to their neonate is less. Risk of transmission is more when ART was started during later months of pregnancy.

Table 4: Mode of delivery

Mode of delivery	Number	Percentage
Vaginal	44	75.86%
Caesarean	14	24.13%

LSCS was performed in 14 (24.13%) women and vaginal delivery occurred in 44 (75.86%) women.In present study more vaginal deliveries were occurred.LSCS was performed for obstetrics indication only.

Table 5: Obstetrics complication

Obstetrics complication	Number	Percentage
Preterm birth	12	20.68%
IUGR	03	5.17%
Pre eclampsia	03	5.17%
Oligohydramnios	01	1.72%
Anemia	10	17.24%
IUFD	05	8.62%

Out of 58 HIV positive pregnant women 34 had obstetrics complications. 12(20.68%) women had preterm deliveries, 03(5.17%) had IUGR, 03(5.17%) had preeclampsia, 01(1.72%) had oligohhydramnio, 10 (17.24%) had anemia, 05 (8.62%) had still birth babies. All women were managed accordingly.

Table 6: Birth weight of neonate

Birth weight (kg)	Number	Percentage
< 2kg	12	20.68%
2- 2.5 kg	24	41.37%
> 2.5 kg	22	37.93%

Out of 58 HIV positive deliveries, 12(20.68%) babies were weighing less than 2 kg, whereas 24(41.37%) babies were between 2-2.5 kg and 22(37.93%) were more than 2.5 kg. Hence majority of babies were between 2-2.5 kg.

Table 7: Feeding practise

Feeding practise	Number	Percentage
Exclusive breastfeeding	43	81.13%
Top feeding	08	15.09%
Mixed feeding	02	3.77%

Out of 53 live birth of HIV positive pregnant women, majority 43 (81.13%) choose for exclusive breastfeeding, 08(15.09%) choose for top feeding and 02 (03.77%) were giving mixed feeding to neonate.

Table 8: Nevirapine prophylaxis

Nevirapine prophylaxis	Number	Percentage
YES	51	96.22%
NO	02	3.77%

Out of 53 HIV positive deliveries, 51 (96.22%) neonate received nevirapine prophylaxis.

Discussion:

There were 58 HIV positive pregnant women during the study period, prevalence of HIV infection was 0.6%. In present study age of the largest group of HIV positive pregnant women were between 20-30 years.(6)

34.48% were primigravida and 36.20% were multigravida. 51.72% were diagnosed HIV positive before pregnancy and 48.27% were diagnosed during pregnancy. Those who diagnosed before pregnancy mostly taking ART so, risk of transmission was less. HAART for mothers effectively reduces the risk of infant HIV infection.(3) This would require ART for at least 6 months. The effectiveness in preventing MTCT is related to suppressed viral load.(5)

There was 44 (75.86%) vaginal deliveries and 14 (24.13%) caesarean section. Mode of delivery does not affect neonatal outcome. According to NACO, caesarean section not recommended for prevention of mother to child transmission particularly where women taking ART for their own health. LSCS were performed for obstetrics indication only. Obstetrics complications were developed in 58.62%.Preterm deliveries were 20.68% and 79.31% were delivered at term pregnancy. Anemia developed in 17.24%, preeclampsia were in 5.17% patients, IUFD in 8.62%, IUGR in 5.17%, oligohydramnio in 1.72%

41.37% babies had birth weight between 2-2.5 kg which was lower than average birth weight of babies delivered to HIV negative mother at our hospital. Exclusive breast feeding was practised among 81.13% and top feeding in 15.09%. Exclusive breast feeding has a low rate of transmission because HIV is not secreted in breast milk. Transmission is because of local anatomical abnormality or mixed feeding. Nevirapine prophylaxes were given to 96.22% neonate. Follow up of mothers and babies were done in ART centre. During follow up baby's dry blood spot was done at 6 week,6 month,12 month,18 month. Out of 53 live babies 2 were diagnosed HIV positive at 6 week. Confirmation of HIV status was done at only 18 month. Pediatric ART initiation was done after confirmation of HIV status.

In absence of any intervention transmission rate of MTCT high. Intervention not only include drug therapy but a comprehensive package including patient education and counselling as well.

Conclusion:

Though present sample size was small to be of statistical significance, our results suggest that better patient education will probably lead to earlier diagnosis and initiation of therapy to prevent transmission. In patients who are on ART, education and counseling can alter maternal and neonatal outcome.

Prevalence of HIV infection is more among young age group, which can be reduced by providing information, education and behaviour change communication.

Early detection of HIV through antenatal testing would result in decrease in pediatric HIV infection. Appropriate antenatal screening, intervention and preventive strategies during pregnancy, delivery and breast feeding will bring down mother to child transmission rate below 2%.

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