

Prevalence of HIV in Pregnant Women and Rate of Vertical Transmission A Retrospective Study

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Abstract: Background: HIV transmission from mother to child during pregnancy, labor, delivery, or breastfeeding is called perinatal transmission. Highly active antiretroviral therapy (HAART) for HIV-positive pregnant women reduces the risk of mother to child transmission of infection. Objective: The objective of present study is to know the prevalence of HIV infection in patients delivered in this tertiary care hospital (routine as well as emergency case) and to find out the vertical transmission rate in these patients. Methods: This retrospective study was carried out in all antenatal patients delivered in Dr RPGMC, Tanda at Kangra, April, 2014 –July, 2016. Results: The prevalence of HIV with pregnancy come out,0.7/1000/year. 50% of patients were from the age group of 26 to 30 years with mean age of patient was 27years. 71.42% of patients had sexual mode of transmission. 64.28% were nulliparous. Only 21.42% of HIV positive patients took antenatal visit in the first trimester and started HAART, but majority of the patients, 42.85% reported in 3rd trimester. Lowest reported CD4 count was 75, among 14 patients, 50% of patients had CD4 count > 350 at the time of reporting and initiating HAART. Out of 14 patients 11 had normal vaginal delivery whereas 3 had undergone LSCS. Out of 11 vaginally delivered patients 1 neonate expired within 1 week after birth, rest 90.9% neonates are HIV negative till date. Out of 3patients who had undergone LSCS 100% are HIV negative till date. Out of 14 none of the infants were breastfed and Nevirapine prophylaxis given to all neonates. Neonates were followed at 6month and 18 month for HIV testing, all were negative till date. Conclusion: Early universal screening of all pregnant women and early use of Highly Active Anti-retroviral therapy in HIV infected patients, safe labor practices; timely done caesarean section, avoiding breast feeding and Nevirapine prophylaxis to neonate can decrease the rate of perinatal transmission of HIV infection. [Reena S SEAJCRR 2017; 6(1):1-4]

Key Words: HIV, Perinatal Transmission, HAART, CD4 count

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Introduction: HIV infection among pregnant women became a challenging public health problem in the whole world. Each year approximately 1.4 million women are becoming pregnant. In 2013 around 2,40,000 children were newly infected with HIV¹. In 2010, HIV affected 30% of all pregnancies. 50% of deaths were noted due to HIV among under five children². Most of the HIV infection among children were due to mother to child HIV transmission (MTCT) during pregnancy, delivery or breast feeding³. Mortality of HIV infected pregnant women estimated were 7 to 21% by Model based estimates⁴. Infection with HIV/AIDS is not a contraindication to pregnancy. Women, who desire to be pregnant, should start antiretroviral therapy (ART) as early as possible⁵. Perinatal transmission of HIV is truly a multifactorial situation and the risk factors associated with transmission include high maternal viral load (especially at the time of delivery), viral prototype, obstetric factors, maternal immune response, prematurity and breast feeding of the babies. Mother's immune status as derived by

CD4/CD8 lymphocyte cell counts and viral load correlates directly with vertical transmission⁶.

Prevention of transmission by elective caesarean section has been a subject of controversy for several years, with some studies showing reduced rate of transmission and others showing no benefit^{6,7}. Breast feeding continues to be associated with increased transmission and is not recommended when safe alternatives exist⁷.

State HIV testing rates differ, depending on the testing approach used. For example, rates for states using the opt-in approach (women are provided pre-test counselling and must specifically consent to an HIV test) ranged from 25% to 69% The opt-out approach (women are told that an HIV test will be included in the standard group of prenatal tests but that they may decline testing) results in higher testing rates⁸. CDC recommends the opt-out approach⁹.

Antiretroviral therapy administered during pregnancy, labor, and delivery and then to the newborn, as well as elective caesarean section for women with high viral loads (more than 1,000 copies/ml), can reduce the rate of perinatal HIV transmission to 2% or less¹⁰, without this transmission risk is 15-45%¹¹. The risk of mother to child transmission is directly related to HIV viral load of the mother. The risk of mother to child transmission of HIV is low for women who take anti-HIV medications during pregnancy and have a viral load less than 1000 copies/mL near the time of delivery⁵.

Aims & Objectives: To determine the prevalence of HIV infection amongst the pregnant women visiting the hospital.

To start Highly Active Anti-retroviral therapy in pregnant women. To know the incidence of vertical HIV transmission.

Methods: It is a retrospective observational analysis from Apr, 2014–July, 2016. All the patients who delivered at Dr.RPGMC, Kangra at Tanda during above said period (routine as well as emergency cases) were included in the study. All patients were subjected to HIV counselling and testing at the first visit and then repeat test was done in the third trimester. All the patients who were seropositive were subjected to testing of CD4 counts and HAART was initiated. The patients were followed up till term and routine antenatal protocols were followed. Universal precautions were taken during perinatal period. Neonates were given Nevirapine syrup 2mg/kg within 72 hours after birth. Neonates were followed & tested at 6 weeks and 18 months for HIV. Data analysis was done.

Observations & Discussion: Prevalence of HIV infection amongst patients in our tertiary hospital is 0.07%. Prevalence among antenatal women in India is 0.3%¹².

Table -1: Age distribution of women

Age	18-20 years	21-25 years	26-30 years	>30 years
Number	0	6	7	1
Percentage	0	42.85%	50%	7.14%

As this can be observed from the above table, that 50% of patients were from the age group of 26 to 30 years and 42.85% patients were from 18-25years. It

states that the majority of adult HIV infected females were in age group of 26 to 30 years and mean age was 27 years. It is comparable with Shah et al¹³ in which 50% of patients belong to age group of 21-25 years and 25% belong to age group 26-30 years.

Table - 2: Mode of transmission

Mode of Transmission	Sexual	Blood Transfusion/Unknown
Number	10	4
Percentage	71.42%	28.57%

As this can be concluded from the table that, 71.42% of patients had sexual mode of transmission. It is comparable with data given by unicef¹⁴ that shows 86% of prevalence of HIV in India is transmitted through sexual contact.

Table - 3: Parity

Parity	1	2
Number	9	5
Percentage	64.28%	35.71%

As observed from the table 64.28% were nulliparous. It is comparable with 66% nulliparous as study done by Shah et al¹³.

Table-4: First reporting and initiation of HAART.

Trimester	First	Second	Third
Number	3	5	6
Percentage	21.42%	35.71%	42.85%

As observed from the above table, first reporting and initiation of HAART was done in 1st trimester by 21.42% patients but, majority 42.85% patients first reported and started HAART in 3rd trimester.

Table-5: CD 4 Count when HAART started.

CD 4 Count	<100	101-350	>350
Number	1	6	7
Percentage	7.14%	42.85%	50%

As concluded from the above table, first CD 4 count when HAART started, only 1 patient (7.14%) was having CD 4 count <100 but majority (50%) of patients were having CD 4 count >350. As per RCOG Green top guidelines 2010¹⁵, it is now recommended to initiate HAART in each and every antenatal HIV positive patient, second trimester onwards irrespective of CD4 count.

Table - 6: Mode of delivery and neonatal HIV prevalence.

Mode of delivery	Normal Delivery 11		LSCS 3	
	Neonate Negative	Neonate Positive	Neonate Negative	Neonate Positive
Number	10+1 Expired	0	3	0
%	90.9%		100%	

Out of 14 patients 11 had normal vaginal delivery whereas 3 had undergone LSCS. Out of 11 normally delivered, 1 neonate expired within one week after the birth and rest 10 of the neonates (90.9%) were HIV negative till date. Out of 3 patients who had undergone LSCS all neonates (100%) were HIV negative till date. LSCS rate observed was 21.42%. None of the infant was breastfed. As per RCOG Green top guidelines 2010¹⁶ if anti-retroviral therapy during antenatal period, elective LSCS at term and breastfeeding is avoided then rate of transmission can be decreased from 33% to 2%.

Conclusion: Therefore it is recommended that even though the curative treatment for HIV is not available at present but, universal screening of antenatal patients, timely started HAART, timely performed caesarean section, avoiding breast feeding and followed by timely Nevirapine prophylaxis to neonates can reduce the perinatal transmission of HIV.

Summary: It is a retrospective observational analysis done from Apr, 2014 – July, 2016. All the patients who delivered at Dr. RPGMC, Kangra at Tanda during above said period (routine as well as emergency cases) were included in this study. The prevalence of HIV with pregnancy came out, 0.7/1000/year. 21.42% of HIV positive patients took antenatal visit in the first trimester and started HAART. 50% of patients were from the age group of 26 to 30 years with mean age of patient was 27 years. 71.42% of patients had sexual mode of transmission. 64.28% were nulliparous. Only 21.42% of HIV positive patients took antenatal visit in the first trimester and started HAART, but majority of the patients, 42.85% reported in 3rd trimester. Lowest reported CD4 count was 75, among 14 patients, 50% of patients had CD4 count > 350 at the time of reporting and initiating HAART. Out of 14 patients 11 had normal vaginal delivery whereas 3 had undergone LSCS. Out of 11 normally delivered patients 1 neonate expired within 1 week after birth, rest 90.9% neonates

are HIV negative till date. Out of 3 patients who had undergone LSCS 100% are HIV negative till date. Out of 14 none of the infants were breastfed and Nevirapine prophylaxis given to all neonates. Neonates were followed at 6 month and 18 month for HIV testing, all were negative till date. Therefore it is recommended that even though the curative treatment for HIV is not available at present but, universal screening of antenatal patients, timely started HAART, timely performed caesarean section, avoiding breast feeding and followed by timely Nevirapine prophylaxis to neonates can reduce the perinatal transmission of HIV.

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