

**A STUDY ON ANTENATAL PREVALENCE AND VERTICAL TRANSMISSION OF HIV****Dr. Sunanda Joshi<sup>1\*</sup>, Dr. Nalini Mittal<sup>2</sup>**<sup>1</sup>Senior Resident (Microbiology), Babu Jagjiwan Ram Memorial Hospital, New Delhi.<sup>2</sup>Consultant and Head of Department (Microbiology), Babu Jagjiwan Ram Memorial Hospital, New Delhi.**\*Corresponding Author: Dr. Sunanda Joshi**

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**ABSTRACT**

HIV is a major burden for developing countries. In India, of the estimated 1.8-2.9 million people living with HIV 39% are women. In 2005, AIDS claimed an estimated 2.4-3.3 million lives; more than 500,000 of which were children. Vertical Transmission rates ranging from 15% and 20% have been reported in the USA and Western Europe in untreated populations. This study is a retrospective study based on a data and information collected from 2011 to August 2016. 37906 pregnant females attending the ANC clinic were screened. Out of 37906 pregnant females screened 59 were found to be HIV positive. Only 54 were further followed. 4 babies were found positive by DBS. One positive baby expired after the first visit. These 3 are later confirmed positive by Antibody test as per the NACO guidelines. ANC positive rate in this study is 0.15%. Vertical transmission rate of HIV in our study was 6.81%. We found that in spite of vaginal delivery the HIV transmission rate was comparatively very low in our study. Almost all HIV infection that occur in children, are a consequence of vertical transmission. Routine HIV testing of all pregnant women is mandatory. Our data was insufficient to select vaginal delivery as a preferred method of delivery but calls for further studies.

**KEY WORDS:** Human Immuno deficiency Virus, Acquired Immuno deficiency syndrome, National AIDS control organisation.

**INTRODUCTION**

HIV is a major burden for developing countries. In India, of the estimated 1.8-2.9 million people living with HIV 39% are women with a national average antenatal prevalence being 0.48%.<sup>[1]</sup> This population needs constant monitoring since treatment is not only life saving for women but also controls their viral load, thus plays a direct role in reducing HIV transmission to the child.

Three major routes of transmission of HIV are sexual, blood borne and vertical.<sup>[2]</sup> Enormous steps are being taken to reduce the vertical transmission of HIV. In 2005, AIDS claimed an estimated 2.4-3.3 million lives; more than 500,000 of which were children.<sup>[3]</sup>

Vertical Transmission rates ranging from 15% and 20% have been reported in the USA and Western Europe in untreated populations.<sup>[3]</sup> In India the risk of transmission of HIV from infected pregnant women to her children is estimated to be around 20-45%.<sup>[4]</sup> Use of ART and sdNVP/syNVP to mother-baby pairs has shown to be quite effective in reducing the transmission as low as 10%.<sup>[4]</sup>

The Prevention of parent-to-child transmission of HIV/AIDS (PPTCT) programme was started in India in the

year 2002.<sup>[4]</sup> Still after 15 years we face huge challenges in controlling the vertical transmission of HIV due to certain practices like breast feeding, home deliveries and no access to Antiretroviral therapy, ignorance etc.

**MATERIALS AND METHODS**

This study is a retrospective study based on a data and information collected from 2011 to August 2016 at Microbiology department of a peripheral hospital, New Delhi. From 2011 to 2016, 37906 pregnant females attending the ANC clinic were screened for HIV infection. 59 ANC females were found positive for HIV infection and were followed. After delivery the positive mothers were counseled to bring their child for HIV testing and were screened for HIV infection by DBS-DNAPCR followed by E/R/S method at the age of 18 months as per NACO guidelines. Only after 18 months HIV status of the child was finalized. After delivery the positive mothers were counseled to bring their child for HIV testing and were screened for HIV.

**RESULT**

Out of 37906 pregnant females screened 59 were found to be HIV positive. Only 54 were further followed. Out of 54 exposed babies, 45 were delivered by normal vaginal delivery in hospital. 6 by caesarian section and 3 were delivered at home. Precautions like late rupture of

membrane and vaginal cleaning by antiseptic agents were taken during vaginal delivery. Patients received HAART according to the NACO guidelines. Two home delivered babies were lost during the study .4 babies were found positive by DBS One positive baby expired

after the first visit. These 3 are later confirmed positive by Antibody test as per the NACO guidelines. Number of ANC positive and hospital deliveries each year is shown in Table 1.

**Table 1**

Year	Total ANC tested	Total ANC positive/percentage	Number of ANC delivered in hospital/percentage
2010	5187	10/0.19%	9/90%
2011	5227	13/0.24%	11/ 84.61%
2012	5129	5/0.09%	5/100%
2013	5705	13/0.22%	11/ 84.61%
2014	5302	9/0.16%	8 / 88.88%
2015	6649	6/0.09%	6/100%
2016 (up till August)	4707	3/0.06%	3/100%

## DISCUSSION

ANC positive rate in this study is 0 .15%. Similar rates by M.Mustafa from a study from Hyderabad from showed seropositivity rate of 0-1.1 per thousand in pregnant women.<sup>[5]</sup> Similar rates (ranging from 1-5 per thousand) have been reported by ICMR in India<sup>[6]</sup> A study at Vellore has reported a seropositivity rate of 0.4 to 1 per thousand in expectant mothers<sup>[7]</sup> While studies conducted at Miraj and Bombay in Maharashtra and Manipur have reported a much higher seropositivity of 4.5, 2.5 and 0.8% respectively.<sup>[8]</sup>

Vertical transmission rate of HIV in our study was 6.81% which is much lower as compared to other data from world<sup>[3]</sup> and India<sup>[4]</sup> After 2014 no children were found to be positive in our study. Routinely vaginal deliveries are carried out in our hospital for HIV positive females (on ART or received Nevirapine) unless there is an indication for Caesarean section. We found that inspite of vaginal delivery the HIV transmission rate was comparatively very low in our study. Also, in resource-poor settings such as India, the cost of Elective Caesarian Section is very high and is borne by the government. Incidence rates for postpartum morbidity and mortality are higher for delivery by Caesarean section as compared to vaginal delivery .Also there is a lack of skilled manpower and infrastructure. So vaginal delivery with proper precautions can be used as a preferred method of delivery . Similar finding was also stated in the study by K Mukherjee in which they preferred vaginal delivery in HIV positive females.<sup>[9]</sup> As the sample size of this study is small we require more studies to test our finding.

Breastfeeding is usually the healthiest choice for both infants and mothers. However, HIV transmission can occur during breastfeeding. In India formula feeding is not affordable by all so the children are advised to breast fed to avoid malnutrition. In our study we found that breast feeding did not add a lot in the transmission of HIV as all the children were breast fed. Whether breast

feeding can be avoided in a country like ours remains a debatable topic.

## CONCLUSION

Almost all HIV infection that occur in children, are a consequence of vertical transmission all measures should be taken to halt this spread. Routine HIV testing of all pregnant women is mandatory and strict universal precautions should be followed in patient care. Proper health education and counselling should be done. Our data was insufficient to select vaginal delivery as a preferred method of delivery but calls for further studies.

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