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Research Article

Seroprevalence of HIV in women attending antenatal clinic at KIMS hospital, Narketpally

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ABSTRACT

Background: To assess seroprevalence of HIV among antenatal women and the extent of utilization of therapeutic interventions to minimize the risk of mother to child transmission.
Methods: Pregnant women attending antenatal clinic of a medical college in a rural area of Nalgonda district of Andhra Pradesh, India from August 2006 to July 2009 were tested for HIV by Rapid Test which included pre and post test counseling. Antiretroviral prophylaxis with nevirapine was given to seropositive mother-baby pairs during delivery.
Results: Of the 5809 new antenatal booking visits 4848 attended pretest counseling and 4698 accepted HIV testing. Fifty three women were found to be seropositive. Sero-prevalence rate of HIV infection was 1.12%. Ten had opted for pregnancy termination. Out of forty three deliveries four were intrauterine deaths. All the newborns received nevirapine prophylaxis.
Conclusions: The seroprevalence of HIV infection among antenatal women is 1.12% which was high as the institute is located in Andhra Pradesh which is a known high prevalence state. Thirty one babies tested after 18 months of age were negative. Nine babies died before they reached 18 months of age.

Keywords: AIDS, Nevirapine, Perinatal transmission, Seroprevalence, Antiretroviral therapy

INTRODUCTION

According to the recent estimates there are 33.4 million (2008) people living with HIV/AIDS. The prevalence of HIV among the adult population was 0.34%. India is home to the third largest number of people living with HIV in the world. The average HIV prevalence among antenatal women in India is 0.48%.[1]

Andhra Pradesh has the largest number of people living with HIV/AIDS (21%). In 2002, the ANC prevalence rate was 1.25% and NACO has estimated that more than 400,000 people are living with HIV in Andhra Pradesh, the second highest number after Maharashtra state. This is 10% of the total HIV cases in India. Andhra Pradesh is a state in the southeast of the country with a total population above 80 million.[2] An overall decline in HIV prevalence among ANC clinic attendees is noted at all India level and in high prevalence states in south and northeast. In 2007 the HIV prevalence among ANC clinic attendees was 1% and 540,000 people are living with HIV.[3]

Prevalence of HIV among antenatal women is used by NACO as a surrogate measure of prevalence in adult population. AP State AIDS Control Society (APSACS) was formed on 24th September 1998. It introduced prevention of parent to child transmission services (PPTCT). Mother to child transmission is by far the most significant route of transmission of HIV infection in

children below the age of 15 years. Nearly five per cent of infections are attributable to parent-to-child transmission. An increasing number of women in the childbearing age, throughout the world are becoming infected with HIV and their children are also getting infected during delivery or breast feeding.[4] Definitive cure for HIV is still far from reach but prevention of further spread of disease is in our hands.

Hence, the study was planned to determine the seroprevalence of HIV infection in antenatal women, and to provide interventions in the form of enrolling maximum number of patients for pretest counseling, universal screening/testing for HIV AIDS, post-test counseling, obstetric interventions, follow-up of mother and child, and testing of infants at 18 months of age as per NACO guidelines. These structured interventions were meant to reduce the perinatal transmission of HIV/AIDS.

METHODS

The permission from head of the institution and clearance from the institutional ethics committee was obtained before starting the study. The study was undertaken in an Integrated Counselling and Testing Centre (ICTC) of a medical college in a rural area of Nalgonda district of Andhra Pradesh, India.

APAIDSCON is a consortium of 16 private medical colleges, one of which is Kamineni Institute of Medical Sciences Narketpally. APSACS has provided ICTC services for all private medical colleges under this consortium. PPTCT (Prevention of parent to child transmission) services have been introduced here from 1st August 2006. All women registered at our antenatal clinic are given group counseling regarding various routes of transmission of HIV, importance of antenatal testing for HIV status, interpretation of laboratory test results for HIV/AIDS, importance of SDNVP (single dose Nevirapine) prophylaxis, safe, affordable, and feasible infant-feeding practices, importance of follow-up after delivery, risk behaviour and safe sex practices.

These women had HIV serology performed by Rapid Test after receiving counseling and taking written informed consent. Subsequently post-test counseling was provided to all those tested. Those who were found to be HIV positive were retested with using two other kits and declared seropositive as per NACO testing (strategy 3). These women were motivated by individual counseling regarding the vertical transmission and importance of their delivery under the PPTCT programme for prevention of the same. All sero positive women were counseled during the post test to get CD4 count test. If CD4 count was < 250, women were refereed to ART center and were started on antiretroviral therapy. Women with CD4 count more than 250 received nevirapine prophylaxis at onset of labour.

For those who wanted to have termination of pregnancy (MTP) after post-test counseling, the procedure was carried out. In case of continuation, single dose of Nevirapine 200 mg, for all pregnant HIV positive women was given at the onset of labour. Caesarean section was done for obstetric indication only. Delivery was conducted with universal precautions and after the birth of the neonate, Single dose nevirapine syrup (2mg/kg body weight) was given within 72 hours. All the mothers were counseled in detail about the merits and demerits of breastfeeding.

The mothers and the babies were asked to come for the follow up visits every six months after birth till the 18 months of age of the baby. As the maternal antibody against HIV crosses the placenta and enters the baby through breast milk, the testing of the baby for the presence of HIV infection was scheduled at the 18 months age of the baby. A positive antibody test at 18 months of age of the baby indicated that the baby was infected.

RESULTS

The total number antenatal women who were HIV tested was 4713 out of the 5809 new antenatal booking visits and 4883 who attended pretest counseling (Table 1). A steady increase (65-100%; mean, 83.4%) was noticed in the number of women enrolled for the pretest counseling among women attending the antenatal clinics.

There was a progressive increase from 62% to a peak of 99.59% (mean 80.81%) in the number of women tested for the presence of HIV among those enrolled for the pretest counseling. Among them fifty three were detected as HIV positive. HIV seroprevalence rate was seen to decline from 1.4% to 0.93% (mean 1.12%), in antenatal women.

20% of the seropositive women were below 20 years and 60% of them were of 21-25 years of age and 20% were of 26-30 years. Most of the patients (84.9%) belong to low socio economic status and 52.83% were illiterate. Primiparas were 53.83%. 45% of their husband had multiple sex partners, 53.2% of wives had multiple sex partners and 1.2% is a commercial sex worker. Only one (3.7%) patient had CD4 count less than 250 and was started on antiretroviral therapy and her CD4 count improved to 342 at the time of delivery. Two (7.54%) women had not got their CD4 count. The mean CD4 count was 346.15±112.68.

Regarding the therapeutic interventions, the majority had opted for continuation of pregnancy while ten had their pregnancy terminated. Out the forty three, twenty nine (67.4%) delivered at our hospital, ten women delivered in government institutions, two in other institutions and two at home. Out of the forty three deliveries twenty nine had vaginal delivery and fourteen had caesarean delivery (Table 2).

Table 1: Women coming in antenatal clinic.

Antenatal HIV testing	2006-2007	2007-2008	2008-2009	Total
Number of women registered	2750	1342	1717	5809
Number of women counseled	1814 (65.9%)	1317 (98%)	1717 (100%)	4848 (83.45%)
Number of women accepted HIV test	1712 (62%)	1276 (95%)	1710 (99.59%)	4698 (80.87%)
Number of women who attended post test counseling	1197	1155	1667	4019
Number of women found positive	24	13	16	53
Seroprevalence	1.4%	1.01%	0.93%	1.12%
Spouses of positive women accepted HIV test	14	8	14	36
Number of spouses found HIV positive	11	7	11	29

Table 2: Deliveries and live birth.

	August 2006 to July 2007	August 2007 to July 2008	August 2008 to July 2009	Total
Number of deliveries of HIV positive women	14	9	20	43
Number of live births to HIV positive women	13*	9	18	40
Number of vaginal deliveries	12	10	7	25
Number of LSCS	2	1	11	14
Birth weight				
<2 kg	1	1	0	2
2-3 kg	11	7	16	34
>3 kg	1	1	2	4

*One twin delivery

Table 3: Infant feeding Options.

Breast Feeding	10
Top Feeding	30

Out of the forty three deliveries there were forty live births (One women had a twin delivery) and four intra uterine deaths. All mothers with live born babies who had institutional deliveries received nevirapine during labour. Forty babies born live got the nevirapine. Birth weight of two (5%) babies was less than 2 kg, Thirty four babies (85%) weighed two to three kg and four (10%) weighed more than 3 kg. Ten (25%) women opted for breast feeding and thirty (75%) babies were given top feeds after counseling (Table 3). Nineteen (44%) of the seropositive women underwent tubectomy. 67.92% of their spouses were found positive.

Regarding the follow up of the babies up to eighteen months of age nine babies died before eighteen months. All the thirty one babies who reached 18 months of age were negative for HIV. One mother died 3 months after delivery.

DISCUSSION

In our hospital the seroprevalence of HIV was 1.12%, 1.4% in 2006 and 1.01% in 2007 and 0.93% in 2008 amongst the antenatal women. This was similar to a study

done in Andhra Pradesh by Achanta et al.[4] Seroprevalence in urban setup in Kolkata was 0.63%[5] and in West Bengal as a whole was 0.16%.[6] In India it ranges from <1% to 5.9%. Higher prevalence rates are reported in other South East Asian countries like Thailand (8%) and Myanmar (7%).[7]

Most of the patients (84.9%) belong to low socio economic status and 52.83% were illiterate with a similar but declining trend noted among the illiterates (43.44%) noted at the same centre (2011).[8]

The present study depicted that strikingly a large number of women did not attend the concerned institutions during their deliveries. We could collect the delivery records in different institutions. 67% (29) women delivered in our institute. The fear of social stigma and discrimination may play a role which compels the women to hide their identity as HIV positive and to choose some other place for confinement or may be home delivery.

Ten (18.86%) women opted for MTP. A study, conducted in West Bengal[6] showed 12.24% underwent MTP and another study showed 17.85% opting for MTP.[9]

The caesarean section rate in the present study was 32.55% (14/43), one study by Bal Runa et al it was only 4.65%.[9] Evidence shows that performing a caesarean section prior to the onset of labor can reduce the risk of infection up to fourfold because it minimizes the exposure of the child to maternal body fluids.[10]

In our study, 83.73% babies were born at term whereas one study[4] showed that 92% infants of the HIV positive mothers were born at term and another study[5] showed 77.3% babies of the HIV positive mothers were born preterm.

Of the 39 mothers having live born babies, 37 mothers as well as their babies got nevirapine as per schedule. Two mothers who delivered at home did not get nevirapine. We started educating women about self administering of SDNVP if they go into labour during antenatal counseling from the experience of these two mothers in the first year and hence could cover all the mother baby pairs in the subsequent years.

The present study is the analysis of the first few years data of our PPTCT program. Proper health education regarding HIV and AIDS may alleviate the social stigma and the adherence rate would definitely be much better in subsequent years. To prevent this sort of dropouts in future, the first thing required is more intense and more thorough post-test counseling. The women must be convincingly assured that the confidentiality about their HIV status would be maintained at the optimum level. The benefits of nevirapine therapy should be emphasized to every positive mother during their antenatal visits.

At the end of the study, 31 babies reached 18 months of age and were HIV negative compared to 8% transmission rate by Achanta et al. However they have emphasized on exclusive breast feeding for first 6 months we have given the option to the women on the type of breast feeding. Where women can afford and safely practice top feeding it can be encouraged though the sample size of babies on top feeds is small in our study to come to a conclusion. So we still continue to give the women the option of exclusive breastfeeding for first 6 months.

Previous studies have concluded that 90% of all pediatric infections were acquired maternally and that universal screening and SDNVP were effective in reducing mother-to-child HIV transmission in resource-poor centers. The single most important initial intervention in the program is enrolling as many women for pretest counseling.[8]

The protection rate against the vertical transmission of HIV is however quite encouraging in our study. This encouraging level of protection against the vertical transmission of HIV would be a strong tool of our future propaganda and would definitely raise the confidence level of the HIV positive mothers.

CONCLUSION

The vertical transmission rate of HIV is very low in our PPTCT program and is on a declining trend. The interventions in PPTCT to significantly reduce perinatal transmission of HIV/AIDS can be successful if they are integrated with Maternal and Child Health (MHC) services. The protection from MTCT by nevirapine is encouraging. The drop out rates of the positive mothers and their babies are high. The mainstay of the PPTCT program is to counsel and offer HIV testing for all women registered for antenatal check-ups, improving institutional delivery rates among HIV positive women, administering SDNVP to mother-baby, safe delivery provided by the obstetrics unit with universal precautions, and good follow-up services to mother and baby.

What is of utmost importance is implementation of these strategies to prevent the acquisition of a lifelong infection which is largely preventable, thereby negating not only an important burden of mortality and morbidity, but also tremendous social stigma.

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