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Original Research Article

Prevention of Transmission of HIV from Mother to Child -An Institutional Observational Study

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Abstract: Vertical HIV transmission from mother to child accounts for more than 90% of paediatric AIDS. Prevention of mother to child transmission programme (PMTCT) provides, for both enrolment of infected pregnant women and their families in to antiretroviral therapy and prevention of HIV transmission from mother to child. Without any interventions up to 25-35% of children born to HIV positive mothers will be infected. This can be reduced to less than 1% with judicious PMTCT strategies. This study is thus aimed to assess the risks of HIV transmission and its predictors among HIV exposed infants who had follow up at PMTCT clinic, RIMS, Kadapa. Seroprevalence of HIV in our study was 0.29% and majority of seropositive women were primigravidae. Majority of them are married, house wives, from rural areas with low socioeconomic status and poor literacy rates. All 43 live infants of HIV positive mothers received antiretroviral prophylaxis. After counseling only 3 infants received replacement feeding and the rest 40 decided to feed their infants only breast milk. out of 24 babies who had already attained the age of 18 months, only 2 babies were confirmed as HIV seropositive. The records showed that these 2 babies had home deliveries and both infants and their mothers have not received ARV prophylaxis and the babies are exclusively breast fed for 6 months. There is requirement of increased awareness and opt – out HIV testing in all women during every pregnancy, appropriate prenatal care, ARV medication, institutional delivery, ARV prophylaxis , education on avoidance of breast feeding to minimise MTCT. Enhancement of commitment, support and judicious PMTCT regimens results in significant decline of HIV positive children.
Keywords: seropositive, HIV mothers, vertical transmission, primigravidae, antiretroviral prophylaxis.

INTRODUCTION

The HIV pandemic created an enormous challenge to the survival of mankind worldwide. About 37 million people are living with HIV worldwide and every day an estimated 5,400 people are newly infected globally. India has the third highest number of people living with HIV in the world. An estimated 2.3 million people are living with HIV in India by the end of 2015 [1]. Besides the dominant heterosexual transmission, vertical HIV transmission from mother to child accounts for more than 90% of pediatric AIDS [2]. Prevention of mother to child transmission programme (PMTCT) provides, for both enrolment of infected pregnant women and their families in to antiretroviral therapy and prevention of HIV transmission from mother to child [3]. This programme involves all Government health clinics and hospitals, includes an outpatient approach for HIV screening, provision of antiretroviral therapy during pregnancy, safer modes of delivery and safe infant feeding practices. Without any interventions up to 25-35% of children born to HIV positive mothers will be infected. This can be reduced to less than 1% with judicious PMTCT strategies [3]. Provision of baseline information about risks and predictors of HIV incidence is of immense importance.

Aim of the study

This study is thus aimed to assess the risks of HIV transmission and its predictors among HIV exposed infants who had follow up at PMTCT clinic, RIMS, Kadapa.

Source of the data- Institution based retrospective follow up study was carried out among mothers and infants who were registered at PMTCT, RIMS, Kadapa.

Inclusion criteria

- All records of pregnant women with HIV, enrolled between January 2014 to December 2015 at PMTCT clinic were included in the study.

- Data accessed from the records include age sex, marital status, parity, education, occupational status of mothers, mode of delivery, antiretroviral prophylaxis and infant feeding practices.

Exclusion criteria

The records of the infants transferred in from other sites were excluded.

RESULTS

During the study period from January 2014 to December 2015, a total of 17,624 pregnant women were registered and counseled. Out of which 17,317 accepted for both counseling and testing and the rest 307 did not agree for HIV testing. From 17,317 antenatal women those who accepted HIV counseling and testing only 50 were HIV seropositive and remaining 17,267 were HIV negative thus showing a seroprevalence of 0.29% (Table 1).

Age distribution of seropositive antenatal mothers varied from 18– 35 years. Majority of seropositive women were primigravidae. Majority of them were married women, house wives from rural areas with low socioeconomic status and with poor literacy rates (Table 2).

Out of 50 seropositive women, 1 opted for medical termination of pregnancy and 2 pregnant women have not delivered yet. Among 47 antenatal women 2 had home deliveries. Out of 45 who opted for institutional delivery, majorities 39 were delivered through vaginal procedure, and the rest 6 had cesarean section. Among 45 institutional deliveries, 2 infants were stillborn, rest 43 were live births. All 43 live infants received antiretroviral prophylaxis. After counseling only 3 infants received replacement feeding and the rest 40 decided to feed their infants only breast milk. Out of 24 babies who had already attained the age of 18 months, only 2 babies were confirmed as HIV seropositive. The records showed that these 2 babies had home deliveries and both infants and their mothers have not received ARV prophylaxis and the babies are exclusively breast fed for 6 months (Table 3).

Table-1: Seroprevalence Rate of HIV among Antenatal Women in a Tertiary Care Centre, Kadapa

YEAR	NO OF CASES REGISTERED AND COUNSELLED	NO OF HIV TESTED	NO OF HIV POSITIVES
2014	8876	8752 (98.6%)	29 (0.32%)
2015	8748	8565(97.6%)	21(0.24%)

Table-2: Demographic Characteristics of Antenatal Seroposotive Women

SNO	VARIABLES		NO OF SEROPOSITIVES	PERCENTAGE
1	Parity	Primi	34	68%
		Multi	16	32%
2	Marital status	Married	50	100%
		Unmarried	0	0%
3	Socioeconomic status	Low	47	94%
		High	3	6%
4	Residence	Rural	44	88%
		Urban	6	12%
5	Occupation	Housewives	41	82%
		Others	9	18%
6	Education	Illiterates	46	92%
		Primary level and others	4	8%
7	Contraceptives	None	38	86%
		Condoms	8	16%
		Others	4	8%

Table-3: Utilisation of PPTCT Services in RIMS, Kadapa

SNO	INTERVENTIONS	NO. ANTENATAL WOMEN OR INFANTS
1	Medical termination of pregnancy	01/50
2	Home deliveries	02/50
	Live births in home deliveries	02/02
3	Institutional deliveries	45/50
	vaginal	39/45
	Cesarean	6/45
4	Still births	2/45
	Live births	43/45
5	Total no of live births (home and hospital deliveries)	45/47

DISCUSSION

Prevention of mother to child transmission of HIV is a major public health challenge. Counseling and testing services are key points to comprehensive HIV/AIDS care and treatment. Appropriate and timely interventions can reduce the risk of mother to child transmission to <1% [4]. In our study the overall acceptance rate of testing after counseling with opt- out approach was 98.5%. This emphasizes on need for good counseling skills by the counceller to achieve both counseling and testing to 100%. In our hospital the overall seroprevalence of HIV among pregnant women was 0.29%. seroprevalence in various studies done so far in India showed wide variability from 0.17% - 1.12% [5]. This wide variability in seroprevalence in antenatal women may be attributed to difference in health seeking and risk behaviors in different parts of country that in turn depend on socio cultural milieu of community. This wide variability in seroprevalence in antenatal women may be attributed to difference in health seeking and risk behaviors in different parts of country that in turn depend on socio cultural milieu of community. In this study majority of seropositive antenatal women were primigravida as the percentage of primigravidae coming to institutional delivery is more compared to multigravidae as there is strong belief in the community that delivery process is easy and safe in multigravidae, so they usually prefer home delivery. In this study we observed that majority of seropositive women were from rural areas with low socioeconomic background with poor literacy rates as these women are less likely to screen and enroll themselves to antenatal care or health institutional delivery and thereby less likely to benefit from PMTCT interventions. Up to 20% of Infants breast fed by seropositive mothers are at risk of acquiring HIV infection.

In our hospital pregnant mothers and their families were counseled about risks and benefits of different feeding practices and best feeding options are advised. Where women can accept, afford, sustain, safe avoidance of breast feeding is recommended. Follow up of babies after birth in order to get them tested at 18 months is difficult task in rural settings considering their ignorance, migration and social factors. 24 babies can be traced at the age of 18 months and among them two were confirmed to be seropositive infants. Records of these babies showed that both mothers of these seropositive infants had poor adherence to Antiretroviral therapy, both of them had home deliveries and babies have not received ARV prophylaxis and are exclusively breast fed.

CONCLUSION

HIV seroprevalence among antenatal women at tertiary centre kadapa was 0.29%. In our study the PMTCT programs reduced the mother to child transmission rate to 8.3%, but still the rate of transmission is high in comparison to ideal goal of < 1%. The risk of HIV infection was higher among those from rural areas, low socioeconomic states, poor literacy rates and having less access to PMTCT clinics. To minimize MTCT there is requirement of increased awareness and opt – out HIV testing in all women during every pregnancy, appropriate prenatal care, ARV medication, institutional delivery, ARV prophylaxis, education on avoidance of breast feeding. Enhancement of commitment, support and judicious PMTCT regimens results in significant decline of HIV positive children [6].

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