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Seroprevalence of HIV in Women Attending Antenatal Clinic at Sultania Zanana Hospital, Gandhi Medical College Bhopal

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Abstract

Background: *Human Immunodeficiency Virus (HIV) infection is increasing at an alarming rate globally. Apart from heterosexual route, mother to-child transmission is the next most important route of HIV transmission accounting for over 90% of infections in children. The present retrospective study is undertaken to evaluate the effectiveness of implementation of PPTCT programme in SZH, GMC Bhopal.*

Material and Methods: *Pregnant women attending antenatal OPD from 2011 to 2015 were tested for HIV by Rapid Test which included pre and post-test counselling. Antiretroviral prophylaxis with nevirapine was given to seropositive mother-baby pairs during delivery.*

Results: *A total of 78582 ante-natal women were counselled and 99.98% (78574) of them gave consent for HIV testing. Seropositivity in these women was 0.08% (67 cases). The no. of positive deliveries (109) exceeded the no. of positive antenatal cases (67). 11 women opted for pregnancy termination, 69.7% were delivered through vaginal route. There were 90.82% (99) live births. 89.9% (89) mothers opted for exclusive breastfeeding. All the newborns received nevirapine prophylaxis.*

Conclusion: *PMTCT services - counselling and testing should be provided to all ANCs. EDD-based tracking, institutional deliveries, postnatal counselling to be encouraged along with complete MB pair coverage, capacity building of concerned staff regarding delivery of HIV+ve ANCs and exposed children tracking.*

Keywords: *Antiretroviral therapy, HIV, Nevirapine, Seroprevalence.*

Introduction

AIDS (Acquired Immunodeficiency Syndrome) caused by Human Immunodeficiency Virus (HIV) is a major threat to the global health and development. In India, Human Immunodeficiency Virus (HIV) epidemic now is in fourth decade and has the heterogeneity. The epidemic pattern had shifted from highest risk groups to bridge population and then to general population. The trend indicated HIV infection spreads from high risk behavior groups to general population. The principal mode of HIV spread is through heterosexual activity; however, the vast majority of children acquire the infection by mother to- child transmission (MTCT) which may occur during pregnancy, labor and delivery or through breast feeding. The vertical transmission of HIV infection without any intervention is reported in 25 to 35% of infants born to HIV positive women

in Asia[1]. Effective MTCT interventions can reduce vertical transmission to 1% or less[2]. In India during, 2010-2011, 6.6 million pregnant women were counseled and tested and 16,954 HIV positive women were identified[3].

HIV counseling and voluntary antenatal testing is an entry point cost effective intervention to detect HIV infection and to prevent transmission to the offspring.

Accordingly, the data generated from antenatal women has been used to monitor the trends in the general population and to predict to the seroprevalence in young women[4]. Identification of the women with HIV infection during pregnancy allows women to take an informed decision about continuing the pregnancy and timely appropriate interventions to decrease the risk of MTCT.

In view of the above facts, the present study has been carried out to determine the seroprevalence of HIV infection among antenatal women, obstetric interventions, follow-up of mother and child, infant feeding options and testing of infants at 18 months of age as per National AIDS control organization (NACO) guidelines[5].

Material and Methods

This descriptive study was conducted in department of obstetrics and gynecology of Government Medical College Bhopal, MP, India. Study design was retrospective in nature by collecting data of the ante natal care clinics of the hospital. The data was collected for 5 years from January 2011 to December 2015 from ANC register and hospital registration system. All pregnant women attending the antenatal clinic for consultation and those coming directly for delivery in the hospital were taken into consideration. Altogether 78653 mothers had enrolled in the hospital during the period of 2011 to 2015. Routine offer of HIV counselling and testing to all pregnant women enrolled into the antenatal care was done. Pregnant women were tested for HIV by Rapid test. All patients were again provided post-test counselling and positive patients referred to ICTC centre for ART. All the babies born to positive women received nevirapine prophylaxis for 6 wks. Mothers were counselled regarding breast feeding.

Results

During the study period out of 78653 new antenatal booking visits, 78582 women attended pre-test counselling and 78574 women consented for testing with acceptance rate of 99.98%. Out of 78574 women tested, 67 were found to be HIV-seropositive showing seroprevalence of 0.08% (table 1).

Table 2 shows the demographic characteristics among HIV seropositive women. The mean age of seropositive women was 24.32 years. All the women were booked for institutional delivery. Majority of seropositive women were primigravida, married, from rural areas with low socio-economic status, studied up to primary level and were housewife by occupation.

High risk behavior was not significantly noticed among them. Most of their husbands were migrant workers to other states.

Table 1: Year wise Antenatal women registered, counseled, tested, seropositive

YEAR	No. of ANC Registered	No. of ANC Counselled	No .of HIV Tested	No. of HIV Seropositive
2011	11537	11537	11537	11(0.09%)
2012	18098	18092	18084	12(0.06%)
2013	16313	16307	16307	14(0.08%)
2014	19156	19156	19156	20(0.10%)
2015	13549	13490	13490	10(0.07%)
Total	**78653**	**78582**	**78574**	**67(0.08%)**

Table 2: Demographic Characteristics of HIV seropositive women at SZH

Variables		No. of seropositive	Percentage
Age		24.32±3.83 (SD)	
Marital status	**Married**	65	97.01
	Unmarried	02	2.99
Parity	**0**	39	58.20
	1	17	25.37
>=2		11	16.41
Socioeconomic status	**Low**	58	86.56
	High	09	13.44
Residence	**Rural**	49	73.13
	Urban	18	26.87
Occupation	**Housewife**	60	89.55
	Others	07	10.45
Education	**Illiterate/ primary**	41	61.19
	Others	26	38.81
High risk behaviour	**Multiple partners**	02	2.99
	Single partner	65	97.01
Occupation of husbands	**Migrants**	41	61.2
	Others	26	38.8

Table 3: Utilisation of PMTCT Services at SZH, GMC Bhopal

Year	No. of positive deliveries	No. of vaginal deliveries	No. of LSCS	No. of live births	Still births	MTP	Exclusive Breast Feeding	Replacement Breast Feeding
2011	15	11	4	12	3	2	11	1
2012	19	14	5	16	3	2	15	1
2013	18	13	5	17	1	2	14	3
2014	28	20	8	26	2	3	23	3
2015	29	18	11	28	1	2	26	2
TOTAL	**109**	**76**	**33**	**99**	**10**	**11**	**89**	**10**

Table-3 shows the utilization of specific interventions offered to the HIV-seropositive women to reduce mother-to-child transmission of HIV. Out of 67 seropositive women, 11 had opted for medical termination of pregnancy. During these 5 years of study, total no. of positive deliveries were 109. Vaginal delivery took place in 76 cases (69.7%) and LSCS was performed in 33 cases (30.3%) only for obstetric indications. Out of 109 deliveries there were 99 live births and 10 were still births. All mothers during labour and all live born babies were given nevirapine. After counselling 89 women opted for exclusive breast feeding and 10 babies were given top feeds. Seropositivity of babies born to these mothers could not be calculated due to loss of patients to follow-up.

Discussion

HIV seroprevalence rate in antenatal cases in our study was found out to be 0.08%, which is similar to results 0.09% found by Swarn gupta et al but lower than the national average seroprevalence rate in antenatal cases of 0.35%[6]. Vellanki VS et al found seroprevalence of 1.12% and Kulkarni SK et al found 0.76%[7]-[8].This wide variability in HIV seroprevalence among antenatal women may be

attributed to the difference in health seeking and risk behaviors in different parts within and outside India which mostly depends on socio cultural milieu of the community.

Among HIV-seropositive pregnant women in this study, majority (97.01%) were married and 39 (58.2%) were primigravidae. Similarly, the study conducted by Giri et al had revealed 64% of HIV seropositive antenatal women were primigravidae[9]. We observed that, most of the HIV-seropositive antenatal women were from rural areas, low socio-economic background, studied up to primary level. High risk behavior was not noticed in most of them. Principal mode of transmission was heterosexual contact from their husband. Higher level of education and high socio-economic status could facilitate the spread of HIV awareness and increase the use of barrier contraceptives[10].

Strikingly, the present study depicted that majority (61.2%) of the husbands of these women were out migrants. Migration into the other cities enhances casual and commercial contacts, because of spousal separation and weaker social control[11]. More-ever migration increases the size of sexual networks by linking networks from different locations[12].

A threefold strategy is needed to prevent child from acquiring HIV infection from their mothers (i) by preventing HIV infection among prospective parents (ii) avoiding unwanted pregnancies among HIV seropositive women and (iii) preventing the transmission of HIV from HIV-seropositive mothers to their infants during pregnancy, delivery and breast feeding.

Table-3 shows the utilization of specific interventions offered to the HIV-seropositive women to reduce mother-to-child transmission of HIV. Out of 67 seropositive women, 11 (16.41%) opted for medical termination for pregnancy. A study, conducted in West Bengal showed 12.24% underwent MTP and another study showed 17.85% opting for MTP [13]-[14].

Since our centre is a tertiary referral centre in the province, the number of positive deliveries exceeded the no. of positive antenatal cases. Delivery by vaginal route took place in most of the cases (69.72%) and LSCS was performed only for obstetric indications in 30.28% of cases. Our results are comparable with study by Saini VK et al 10 who found 62.4% seropositive women delivered vaginally and 37.6% women delivered by LSCS [15].

HIV virus is transmitted through breast milk. Transmission rates for breast feeding mothers may be as high as 30-40%[16]. Breast feeding is not recommended for HIV infected women in developed countries, although WHO recommends breastfeeding with early weaning by 6 months for women living in developing countries where infectious diseases and malnutrition are the primary causes of infant death[17]. In our hospital pregnant mothers and their families were counseled about best feeding options for their infants. Where women can accept, afford, sustain, feasible and safe avoidance of exclusive breast feeding (EBF) is recommended. In our study, only 10.1% mothers opted for replacement feeding in the form of commercial formula or home prepared modified animal milk and rest 89.9% infants received exclusive breast feeding for 6 months.

Seroprevalence of babies could not be calculated as there was paucity of data at 18 months due to babies migrating and getting tested at another centres.

Conclusion

The HIV-seroprevalence rate among antenatal women was 0.08%. The dropout rates of the positive mothers and their babies are high. 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 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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