International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622

www.gynaecologyjournal.com
2019; 3(3): 88-91
Received: 19-03-2019
Accepted: 21-04-2019

Lakshmi Subburaj
NTC Hospitals, Madurai, Tamil Nadu, India

Raj Kumar K
NTC Hospitals, Madurai, Tamil Nadu, India

Correspondence
Lakshmi Subburaj
NTC Hospitals, Madurai, Tamil Nadu, India

Pregnancy outcomes of HIV seropositive patients in rural Tamil Nadu

Lakshmi Subburaj and Raj Kumar K

DOI: https://doi.org/10.33545/gynae.2019.v3.i3b.17

Abstract
Background: Perinatal transmission of HIV affects nearly 5,00,000 infants globally every year, most of them living in developing countries. The risk of transmission of HIV 1 virus from pregnant mother to baby has been reported to be between 21% and 43% in developing countries. This mandates the need for screening all antenatal women for prevention HIV transmission. This study was carried out to estimate the prevalence and outcome of HIV in pregnant mothers in rural Tamil Nadu.
Methods: All pregnant women attending ANC clinics during the study period were included in the study. A total of 5311 antenatal women participated in this cross sectional study. Routine investigations were carried out and HIV was analysed by two rapid tests and one Elisa test. Manufacturer protocol was followed. Seropositive samples were further confirmed by western blot technique. Those samples with reactivity to any key antigen were considered positive.
Results: Among 5311 antenatal women tested 26 of them were found to be seropositive for HIV. The seroprevalance rate of HIV is 0.49%. Most of the seropositive subjects belonged to the age group of 26-30 yrs (n=15) and were of parity one or two and belonged to low socioeconomic status (n= 20) and were illiterates. Among the patients, 11 had normal delivery and 8 of them had LSCS. All newborn were screened for HIV DNA PCR and was given nevirapine as single dose. PCR done on all these babies were negative.
Conclusion: As the period of pregnancy may be the only time available to screen women for HIV infection, and to prevent prenatal transmission routine prenatal counselling and testing is mandatory.

Keywords: ELISA, HIV, antenatal screening, counselling

Introduction

HIV has almost single handedly caused a radical change in the way of the world thinks about medicine and STD s in general. It is clear that the syndrome of immunosuppression leading inexorably to death has caused massive shifts in health care allocations, psychosocial activities, and research endeavours in the industrialized world of the 1980's and 1990's. In India there are about 5.7 million persons living with HIV/ AIDS [1]. Since the first case of AIDS was reported in India in 1986, the epidemic has grown steadily [2]. There is considerable heterogeneity in the epidemic pattern within the country; most states report HIV prevalence of less than 0.5% among antenatal clinic attendees, while four states have prevalence among antenatal clinic women of 1% or more [2]. Heterosexuality is felt to be the predominant mode of transmission in the southern states and accounts for 85% of the infections in the country on the whole, although intravenous drug use plays a large role in driving the epidemic in the north eastern states [1].

Perinatal transmission of HIV affects nearly 5,00,000 infants globally every year, most of them living in developing countries. The risk of transmission of HIV 1 virus from pregnant mother to baby has been reported to be between 21% and 43% in developing countries [3]. This mandates the need for screening all antenatal women for prevention HIV transmission.

While the HIV epidemic in India was initially thought to be concentrated in large urban areas such as Mumbai and Chennai, there is increasing evidence that the epidemic is now becoming established in rural areas also. There are lots of studies from the northern parts of the country regarding prevalence rates of HIV in antenatal women but few studies are reported from rural areas in southern states. An insight into the prevalence and outcomes of pregnancy among HIV infected women will enable policy makers to formulate specific action plans to combat the morbidity and mortality associated with this infection.

Objectives

This study was carried out to

1. Estimate the prevalence of HIV/AIDS among pregnant mothers in a rural district of Tamil Nadu.
2. Evaluate the outcome of pregnancy among seropositive mothers

Materials and methods

Study setting

This study was carried out as a community based cross sectional study in the rural primary health centre in ____ area of Madurai district between January 2006 and December 2006.

Study participants

All pregnant women attending ANC clinics during the study period were included in the study. A total of 5311 antenatal women participated in the study

Data collection

After explaining in detail about the study, informed consent was obtained from all the participants. Detailed obstetric history was elicited. General and obstetric examinations were carried out by the principal investigator. Routine investigations including haemoglobin concentration, blood grouping and typing, and VDRL test were done. All women were counselled regarding test for HIV About 3ml of blood was collected and serum separated. It was analysed on the same day by two rapid tests and one Elisa test. Manufacturer protocol was followed. Seropositive samples were further confirmed by western blot technique. Those samples with reactivity to any key antigen were considered positive.

Post-test counselling

Post-test counselling was done in all sero-positive women regarding various modes of transmission of HIV infection and prevention of further transmission to other individuals and to their offspring. All seropositive women were given intrapartum dose of nevirapine during delivery and newborn were given nevirapine as a single dose of 2 mg/kg within 72 hours of birth. After delivery neonatal sera samples were collected for RT PCR. The mean duration for collection of samples was 3 days. Rapid tests were repeated at one and half years on these children and results were recorded.

Data analysis

Data was entered and analyzed using Microsoft Excel spreadsheet 2010. The prevalence of HIV/AIDS was expressed in percentages. The outcome of pregnancies were also expressed in percentages.

Results

Among 5311 antenatal women tested 26 of them were found to be seropositive for HIV. The seroprevalance rate of HIV is 0.49%. The spouses of the antenatal women were also counselled for HIV testing but only 50.1% of them gave consent for testing rest were not willing for the test. Total number of positive spouses were 31(1.16%). Among them 21 persons (0.78%) had their wife positive and 10 (0.37%) of them had their wife negative for HIV. Six of the antenatal women had HIV positive with their spouse tested non-reactive. All of them had extramarital relation within the family with one unmarried women having history of multiple sexual partners. The principal mode of transmission of HIV in all seropositive subjects was heterosexual behaviour of the husbands. Heterosexual promiscuity of the husbands was the common risk factor in all seropositive women.

Most of the seropositive subjects belonged to the age group of 26-30 yrs (n=15) and were of parity one or two and belonged to low socioeconomic status (n= 20) and were illeterates (n=16) and were residing in rural areas (n=18) and two of them were unmarried. (Table 1)

Among 26 seropositive women one was lost to follow up and rest delivered in our hospital. Twenty two of them were diagnosed in third trimester and two each in first and second trimester. Three women opted for Medical Termination of Pregnancy (MTP), three of them had Intra Uterine Death (IUD) and rest carried till term. One women was lost to follow up. In the remaining 19 women 11 had normal delivery and 8 of them had LSCS. All of them received intrapartum nevirapine. All newborn were screened for HIV DNA PCR and was given nevirapine as single dose. PCR done on all these babies were negative (Table 2).

Rapid tests repeated at one and a half years were also negative for these babies. None of the women had AIDS complex.

In this study, 26 patients were found to be seropositive. Among these patients, majority were over 25 years of age (57.7%) and belonged to lower socio economic status (76.9%). Majority of them were illiterate 16 (61.5%) and belonged to rural areas (69.2%) and were married (92.3%). (Table 1)

Table 1: Background Characteristics of the Study Participants

S. No	Characteristics	Frequency (n=26)	Percentage (%)
1.	Age (in years)		
	<25	11	42.3
	>25	15	57.7
2.	Socioeconomic Status		
	Lower	20	76.9
	Upper	6	23.1
3.	Education Status		
	Illiterate	16	61.5
	Literate	10	38.5
4.	Residence		
	Urban	8	30.8
	Rural	18	69.2
5.	Marital Status		
	Single /Unmarried	2	7.7
	Married	24	92.3

The outcome of pregnancy among seropositive patients is given in table 2. Majority of the participants were diagnosed during the third trimester (84.6%) and delivered at term (73.1%). However, 11.5% of the participants underwent medical termination of pregnancy and 11.5% of the participants had intra uterine death. All the newborns were screened for HIV at birth and all were found to be negative of HIV (100%).

Table 2: Pregnancy outcome among the seropositive patients

S. No	Parameter	Frequency (n=26)	Percentage (%)
1	Time of diagnosis of HIV		
	1st Trimester	2	7.7
	2nd Trimester	2	7.7
	3rd Trimester	22	84.6
2.	Outcome of Pregnancy		
	MTP	3	11.5
	IUD	3	11.5
	Term Delivery	19	73.1
	Lost to follow up	1	3.9
3.	Type of Delivery (n = 19)		
	Normal Delivery	11	57.9
	LSCS	8	42.1
4.	HIV Status of the Newborn		
	Positive	0	0
	Negative	19	100

Discussion

The HIV epidemic is highly heterogeneous, so understanding the epidemic patterns at local levels is important for developing effective program responses. Approximately 5-10% of all cases of HIV are children. Majority of children acquire infection through mother either during pregnancy, delivery or by breast feeding [4]. Hence prenatal screening for HIV infection has important clinical and public health implications. HIV seropositive women when diagnosed positive may elect to terminate their pregnancy when contraception or sterilization can be offered to them.

The seroprevalence of HIV was estimated to be 0.49% in asymptomatic antenatal women in rural area in this study. The estimated prevalence of HIV in antenatal women in Tamil Nadu estimated was 0.25% for 2006 [5]. The prevalence of HIV in our district in Antenatal clinical attendees is 0.5%. Majority of seropositive women were found to be in age group of 26-30 yrs and were of parity one or two. This is consistent with previous studies [6-8]. Most of the seropositive women were illiterates as in previous studies [9, 10]. Some studies have shown no significant difference in socioeconomic status in positive and negative subjects [8]. However, our study was done on a small sample.

The primary mode of transmission among the seropositive subjects was heterosexual promiscuity of husband. None of them had history of drug use or addictions. This is different from the studies conducted in developed countries where the principal mode of transmission in drug use [11-13]. Among 5311 antenatal women tested only 2664 (50.1%) of their spouses were willing for the test. Total numbers of positive spouses were 31 (1.16%). Among them 21 persons (0.78%) had their wife positive and 10 (0.37%) of them had their wife negative for HIV which shows the plight of women as simple child bearers and rearers. This also highlights the inability of women to control the factors that put them in risk of acquiring the disease. Social and cultural determinants make women depend on men and hence they become incapacitated to protect themselves from sexually transmitted diseases [14, 15].

Among 26 seropositive women one woman was lost to follow up, twenty two of them were diagnosed in third trimester and two each in first and second trimester. Three women opted for MTP, three of them had intrauterine death and rest carried till term. In the remaining 19 women 11 had normal delivery and 8 of them had LSCS. All of them received intrapartum nevirapine. DNA PCR was done on all newborns at birth and at one and half years and all the offspring were negative. Both normal and caesarean deliveries had same perinatal outcome. There is no precise data available on percentage of infants getting affected. [16] But then as the study group is small this cannot be evaluated based on this.

Conclusion

Women are sexually, economically and biologically more vulnerable to acquire the HIV infection as well as they bear a great responsibility in providing care to HIV infected family members. As prevalence of HIV infection in pregnant women is high and in the absence of protective vaccine, it is important to educate them about HIV infection in order to safeguard our future generations. Timely detection and effective counselling can prevent further pregnancies and consequent transmission of HIV infection to the offspring. It is also important to understand the role of migration in sustaining a rural epidemic.

An HIV epidemic as heterogeneous and diverse as India's will require a response that is both comprehensive in terms of coverage of vulnerable populations, and is of sufficient scale to address the epidemic in the vast rural areas where the majority of the population lives, and which as yet are largely neglected by prevention. As the period of pregnancy may be the only time available to screen women for HIV infection, and to prevent prenatal transmission routine prenatal counselling and testing is mandatory. Moreover, large studies are needed on vertical transmission to neonates.

References

1. Joint United Nations Programme on HIV/AIDS (UNAIDS). Report on the global AIDS epidemic Geneva: UNAIDS, 2006.
2. Solomon S, Chakraborty A, D'Souza Yepthomi R. A review of the HIV epidermic in India. AIDS Educ Prev. 2004; 16(A):155-169.
3. Wording group on mother to child transmission of HIV. Rates of mother to child transmission of HIV 1 in Africa, America and Europe; results form 13 perinatal studies. J Acquired Immune Def Sun Retroviral. 1995; 8:506-10.
4. Saharam S, Lodha R, Agrawal R, Deorari AK, Paul VK. Ind Paediatrcs. 2008; 75(4):359-62.
5. National AIDS control organization (NACO). Ministry of health and family welfare. Govt of India. HIV/AIDS, Epidemiological surveillance and estimation report for, 2006.
6. Mercuey D, Helps BA, Copas A *et al*. Volountary universal antenatal testing. Br J Obstet Gynaecol. 1996; 103:1129-33.
7. Magazani K, Laleman G, Perriens JH *et al*. Low and stable

HIV serprevalence in pregnant women in Shaba province, Zaire J Acquir Immune Defic Syndrome. 1993; 6:419-23.
8. Perry D, Reid M, Thame M *et al*. Human Immunodeficiency virus infections seroprevalence and risk factor study among pregnant women attending the antenatal clinic at the university hospital of west Indies, Kingston, Jamaica, West Indian Med J. 2002; 51:80-3.
9. Thilagavathi Subramanian, Gupte MS, Ezhil R. AIDS: An understanding in rural women of South India. Indian J of Sexually transmitted diseases. 2007; 28:10-4.
10. Mehrotra Ragini, Pourush Shaily, Bhargave Anudita, Varma Manju, Ghosh UK. Seroprevalence of HIV in antenatal women. J Obstet Gynecol India. 2005; 55(4):333-335.
11. Lindgren S, Bohlin A, Forsgren M *et al*. Screening for HIV-1 antibodies in pregnancy; Results from the Swedish National Programme. BMJ. 1993; 3(7):1447-51.
12. Landesman S, Mink off H, Holman S *et al*. Serosurvey of HIV infection in parturinets. Implications for HIV testing programme of pregnant women JAMA. 1987; 285:2701-3.
13. Barbacci M, Repke JT, Chaisson RE. Routine prenatal screening for HIV infection. Lancet. 1991; 337:709-11.
14. Julie H, Elizabeyh Women R. The HIV epidemic and human rights: A tragic imperativae. UNDP. 1993; 8:5.
15. Chuttani C, Guinpta SP, Chattuvedi TV. Awareness and knowledge about AIDS among rural population in India. CARC calling. 1990; 3:4.
16. Blanche S, Rouzioux, Moscato ML *et al*. Prospective study of infants born to women seropositiv for HIV type 1. New England Journal of Medicine. 1993; 320:1643-8.