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Research Article

Prevalence of HIV in antenatal women at GMERS Medical College Sola, Ahmedabad

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ABSTRACT

Background: Estimating the seroprevalence of HIV in a low risk population such as pregnant women provides essential information for an effective implementation of AIDS control programmes, and also for the monitoring of HIV spread within a country. Few studies are available from Gujarat, India showing the current trend in HIV prevalence in the antenatal population; which led us to carry out this study at a tertiary care hospital in GMERS medical college, Sola, Ahmedabad, India.
Methods: This is a retrospective study. Total 8224 antenatal patients, who attended for first time at antenatal OPD at GMERS Medical College, Sola between April 2012 to March 2014, were included in the study. HIV testing was done by RAPID method after taking informed consent and pre-test counselling as per NACO guideline.
Results: Out of total 8224 antenatal patients 7921 (96%) patient opted for HIV testing. Seroprevalence of HIV is found to be 15/7921 (0.19%). 7044/7921 (88.93%) women attended post-test counselling. 12/15 (80%) HIV positive women accepted post-test counselling.12/15 (80%) spouses accepted testing for HIV. 8/12 (66.66%) spouses of HIV positive women were also found to be HIV positive.
Conclusions: The seroprevalence of HIV infection in antenatal women is low.

Keywords: HIV, Seroprevalence of HIV, Pregnant women, Pre- and post-test counselling

INTRODUCTION

First detected in USA in early 80s HIV is now global health problem with presence in majority of the world. It is transmitted mainly by sexual contact and blood and also by mother to child transmission. Maternal transmission of HIV can occur transplacentally before birth, peripartum by exposure to blood and body fluid at delivery, or postpartum through breastfeeding.[1]

Prenatal identification of HIV infected women is crucial for the delivery of optimal care to both mother and fetus. Universal screening of all pregnant women is cost effective and has clearly demonstrated reductions in HIV maternal-fetal transmission even in low prevalence setting.[2-4]

Identification of HIV infection antenatally allows the infected woman to make an informed decision about continuing the pregnancy and about interventions to decrease the risk of mother to child transmission. Other benefits include the appropriate management of the infected woman and the opportunity to identify infected partners or to decrease the risk of transmission to uninfected partners.

Currently, women are encouraged to deliver normally and breastfeed their babies while taking antiretroviral drugs. This approach increases the HIV-free infant survival (WHO 2010).

According to an estimate from the national HIV sentinel surveillance [United Nations General Assembly Special

Session (UNGASS), 2010]; 2.4 million Indians are HIV positive.[5] In view of our large population pool of one billion plus, a mere 0.1 per cent increase in the prevalence rate will raise the number of person living with HIV by one half million.[6]

From June 2003 the Gujarat State Aids Control Society (GSACS) has added HIV in antenatal screening package.

METHODS

This study was carried out in GMERS Medical College, Sola, Ahmedabad associated hospital. This study was hospital based study which included 8224 pregnant women who attended the antenatal clinic of GMERS medical college, Sola Ahmedabad from April 2012 to March 2014. For the antenatal women first pre-test counselling was done by expert HIV counsellor and informed written consent was taken, and blood sample was collected. Five millilitre of blood was collected from each patient accepting HIV testing by venepuncture into plain container. Blood was allowed to clot for 30 minutes at room temperature and serum was separated after centrifugation at low speed. The sample was tested for HIV antibodies as per NACO guidelines. The first antibody test was RAPID test. If the initial result is positive than it is confirmed using rapid test three times, if all 3 tests are positive than patient is declared as HIV positive.

After the HIV test result is known, post-test counselling was done and result declared. Positive test results disclosed only after post-test counselling of patient. Counselling was private, and kept confidential. The HIV positive pregnant women get their CD4 count done, and tested for any other infection. Proper antenatal care was given; hospital delivery is advised for them following universal precautions.

RESULTS

Data was collected and analyzed from total of 7921 pregnant women who had accepted testing (out of total 8224 antenatal women) during the period of two year from April 2012 to March 2014. Total 15/7921 (0.19%) pregnant women were found HIV positive. 7044/7921 (88.93%) women attended post-test counselling. 12/15 (80%) HIV positive women accepted post-test counselling. 12/15 (80%) spouses accepted testing for HIV. 8/12 (66.66%) spouses of HIV positive women were also found to be HIV positive. Those who tested negative were advised repeat testing after 3 months and use of barrier contraception in the meantime (Table 1).

In this study we found the average age of the HIV positive women was 23.6 ± 3.3 years and gravidity 1.53 ± 0.49, parity 0.6 ± 0.48 (Table 2).

In this study majority of HIV positive cases were attending the antenatal clinic in second trimester (53.30%), followed by third trimester (26.60%) and first trimester (20%) (Figure 1).

Table 1: Antenatal HIV testing uptake.

Antenatal HIV testing uptake (N=7921)	Total No.	Percentage (%)
New ANC register	8224	-
Women who accepted testing	7921/8224	96.32
HIV positive women	15/7921	0.19
Women who attended post-test counselling	7044/7921	88.93
Number of HIV positive women who attended post-test counselling	12/15	80.00
Number of partners of HIV positive women who accepted testing	12/15	80.00
Number of spouses testing positive	8/12	66.67

Table 2: Maternal demographic characteristics.

Maternal demographic characteristics	
Age (Mean ± SD) years	23.6 ± 3.36
Gravidity (Mean ± SD)	1.53 ± 0.49
Parity (Mean ± SD)	0.6 ± 0.48
First trimester	3 (20%)
Second trimester	8 (53.30%)
Third trimester	4 (26.60%)
Literate women	10 (66.67%)
Literate husbands	14 (93.33%)

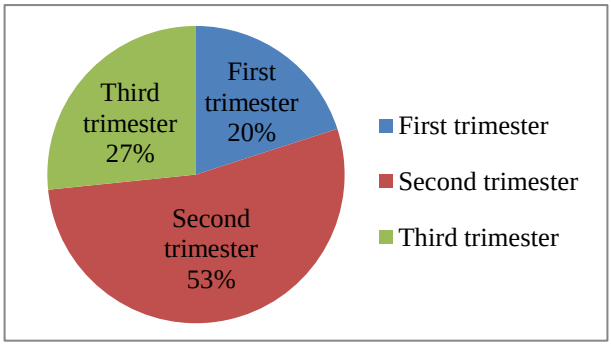

Figure 1: Trimester of booking for delivery.

DISCUSSION

HIV infection has grown into a major global public health problem during the last few decades. In this short period, whatever has surfaced is just the tip of the ice-berg. Since the perinatal transmission of HIV is very high viz., approximately 30%, one important means of early detection of disease is by estimation of seroprevalence of HIV infection among asymptomatic antenatal women. Prenatal screening for HIV infection has important clinical and public health implications. HIV seropositive women may elect to terminate their pregnancy, and at

that time contraception or sterilization can be offered to them. Pre- and post-test counselling may educate pregnant women about methods to prevent HIV infection, and its transmission.

All seropositive women should counselled regarding various modes of transmission of HIV, signs and symptoms of AIDS, their treatment and prevention of further transmission of HIV infection including perinatal transmission. They should also counselled about proper disposal of their bio wastes, safe sex practices, use of barrier contraceptives, and should discouraged from further child bearing. Petry and Kingu[10] advocate counselling of women attending antenatal clinic regarding prevention of HIV. Because prenatal care is often the sole contact that women have with health services, pregnancy may be the only opportunity to diagnose HIV infection, and to institute measures to prevent perinatal transmission and disease progression. Therefore, counselling and testing for HIV infection should be offered routinely to all pregnant women.[11]

In our study the Seroprevalence of HIV in pregnant women is 0.19%. This is lower than the different studies carried out in different parts of India (Table 3).

Table 3: Shows rate of prevalence of HIV in pregnant women in different studies from different parts of India.

Name of study	Area of India	Prevalence rate
Ashtagi GS et al.[7]	Belgaum	0.70%
Gupta S et al.[6]	Delhi	0.88%
Parameshwari S et al.[8]	Namakkal district	0.77%
Celentano DD et al.[9]	Maharashtra	1.23%
Present study	Gujarat	0.19%

In the present study, out of 7921 women who attended pre-test counselling it was observed that only 7044 women had undergone post-test counselling. There are many reasons for this non-compliance. Patients have misconceptions that they are not at risk. There is always an element of fear of the test result being positive. Inadequate emphasis regarding the importance of post-test counselling during the pre-test could be another reason for non-attendance at post-test counselling.

Our socio-economic status, traditional social ills, cultural myths on sexuality and a huge population of marginalized people make our population extremely vulnerable to HIV/AIDS.[6] In a country of over one billion population and 5.2 million HIV positive adults in the 15-49 years of age groups, India is now faced with multiple HIV epidemics. Heterosexual contact remains the major mode of transmission, thereby resulting in a growing population of women having HIV.[6]

In our study, the mean age of antenatal women screened was 23.6±3.3 years (range 15-49 years) and most of the women were of parity one or two. This is consistent with the findings of previous studies.[12,13]

Average duration of marriage was found to be 2.5 years. It has been well substantiated that most women in India are infected with HIV through their husbands.[14,15]

It is well known that women are less likely to visit a public antenatal clinic if they are older, have high parity, are illiterate, or are poor[16,17] making this a vulnerable group.

Our study shows that the prevalence of HIV infection among antenatal women has not reached to an alarming state in this part of the country. But this is the time to take actions so that not only mother to child transmission can be prevented but also new infections can be prevented among prospective parents. In order to reduce prevalence of HIV infection in pregnant women and in the absence of protective vaccine, it is important to educate & aware them about HIV infection in order to safeguard our future generations. The detection of HIV through antenatal testing would result in a decrease in paediatric HIV infection and AIDS. Free ART for women who are seropositive will help to control the disease progression and rate of vertical transmission.

There is a need to spread more awareness and information about HIV testing in the antenatal clinic setting. Efforts should be consolidated to further stem the HIV scourge among pregnant women. Mechanisms to improve post-test counselling coverage rates need to be considered, depending on availability of staff and infrastructure.

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