

Original Research Article

Prevalence of HIV/AIDS in antenatal patients in a tertiary health care center

Harleen Oberoi, Kiranjeet Kaur*, Amrit Pal Kaur

Department of Obstetrics and Gynecology, Govt. Medical College, Amritsar, Punjab, India

Received: 18 February 2025

Revised: 17 March 2025

Accepted: 21 March 2025

*Correspondence:

Dr. Kiranjeet Kaur,

E-mail: kiranjeetkaur72@yahoo.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: India is way behind in its battle against HIV-AIDS. Human immunodeficiency virus is spreading at an alarming rate; statistics show that India has the third largest number of people living with the virus. According to National AIDS control organisation (NACO), the overall prevalence is 0.29% among the ANC clinic patients in India. HIV still has a stigma in this country, thus exact data and appropriate studies are not available to take relevant steps.

Methods: After taking written consent and explaining the protocols, 5-ml of blood samples are collected in Clot vials and tested for HIV virus by ELISA. Positive samples were again sent to the ICTC center for further testing. The "opt-out" approach to HIV testing is offered to all women as part of routine antenatal tests. Women who are tested positive are also tested for HBV and HCV by ELISA.

Results: Out of 40054 ANC patients tested in the last 5 years, 42 were tested positive for HIV which accounts for 0.12%. The coinfection rate of HBV and HCV was 0.007% and 0.017%. They were further classified based on specific criteria including age, education status, gravida, trimester in which they were detected and if they belonged to rural/urban household and co-infection with HCV and HBV.

Conclusions: HIV-AIDS a disease with less mortality but major morbidity if not controlled well with timely ART. Appropriate management must be instituted to reduce the consequences of HIV in pregnancy with preconception counselling and planning pregnancies when the viral load is minimum.

Keywords: ELISA, Human immunodeficiency virus, Viral load

INTRODUCTION

India is way behind in its battle against HIV-AIDS. Human immunodeficiency virus/Acquired immunodeficiency syndrome is spreading at an alarming rate in India and recent statistics show that India has the third largest number of people living with the virus.¹ This virus can spread by many routes: direct sexual contact, needle prick injury, blood transfusions, mother to child transmission which can happen both during pregnancy and during labour, and breastfeeding. Hence, it not only affects one family but generations to come becoming a silent epidemic.² Therefore, it becomes important to know the

prevalence and trend of the disease so that appropriate strategies can be implemented for the timely control and decrease the rate of transmission. According to the HIV sentinel surveillance(HSS) by National AIDS control organisation (NACO), the overall prevalence is 0.29% among the ANC clinic patients in India.³⁻⁵ Women who are planning on becoming pregnant or who are pregnant should be tested for HIV as soon as possible. The woman's partner should also be tested. Unless a complication should arise, there is no need to increase the number of antenatal visits. Special counselling about a healthy diet with attention given to preventing iron and vitamin deficiencies and weight loss as well as special interventions for

sexually transmitted diseases or other infections should be part of the prenatal care of HIV infected women.^{4,5}

HIV still has a stigma in this country, thus exact data and appropriate studies are not readily available for us to take relevant steps. We at Government Medical College, Amritsar are conducting this study to know the seroprevalence of HIV/AIDS infection in antenatal patients in the last 5 years and also, the incidence of coinfection with HBV and HCV.

METHODS

We performed this study at Government Medical College, Amritsar from January 2019 to December 2023. This was an analytical study. A total of 40054 antenatal patients were tested. After taking written consent and explaining the protocols to the patients, making sure the identities are unrevealed, 5-ml of blood samples are collected in Clot vials and tested for HIV virus by ELISA.

Inclusion criteria

All the antenatal women coming to our OPD and not previously tested for the virus were included.

Exclusion criteria

All the women not wanting to enroll in the study were excluded.

Positive samples were again sent to the ICTC center for further testing. Women tested positive were called and counselled. Counselling was done regarding continuation of pregnancy or MTP services available. They were advised ART starting the same day and also encouraged for the husband to undergo the test. The "opt-out" approach to HIV testing is offered to all women as part of routine antenatal tests during the first antenatal visit. The women in this approach have the right to decline the test anytime but then they should be tested any time after they are willing. Women who are tested positive are also tested for HBV and HCV by ELISA.

RESULTS

Out of 40054 ANC patients tested in the last 5 years, 52 were tested positive for HIV which accounts for 0.12% of the total ANC patients. They were further classified based on specific criteria including age, education status, gravida, trimester in which they were detected and if they belonged to rural/urban household.

Most of the antenatal women were asymptomatic and were incidentally detected positive during routine antenatal tests. They were explained the high risks, complications and the danger signs of full blown disease which could present as fever, fatigue, weight loss, loss of appetite, secondary infections and even the risk of developing tuberculosis.

Table 1: Classification of positive patients over the years.

Categories	Number of positive patients				
	2019	2020	2021	2022	2023
Age (in years)					
18-28	10	3	3	4	8
28-35	3	1	1	2	4
>35	5	-	1	4	3
Education status					
Uneducated	-	-	-	-	-
Schooling till 8 th	9	1	2	7	10
Schooling till 10 th	8	1	2	3	3
Schooling till 12 th	10	1	1	-	2
Graduation and above	-	1	-	-	-
Household					
Rural	15	4	3	8	10
Urban	3	-	2	2	5
Gravida					
Primi	12	3	4	7	8
2 nd Gravida	4	1	1	2	6
3 rd Gravida	2	-	-	-	1
4 th and above	-	-	-	1	-
Trimester in which detected					
1 st trimester	15	2	3	6	10
2 nd trimester	1	1	2	3	2
3 rd trimester	2	1	-	1	3

Continued.

Categories	Number of positive patients				
	2019	2020	2021	2022	2023
Co-infection					
HCV	2	1	1	1	2
HBV	1	-	2	2	-
Total patients positive: 52 (%)	18 (0.2)	4 (0.04)	5 (0.09)	10 (0.12)	15 (0.17)
Total ANC patients: 40054	8936	9139	5434	7985	8560

DISCUSSION

Prevalence rate of HIV infection among pregnant women in Amritsar has ranged from 0.95% in 2008 to 0.63% in 2012.⁶ In our study, over the last 5 years from 2019-2023, the seroprevalence of HIV was 0.12%, which shows a drastic decline in the overall prevalence in the city as well as the country with the epidemic well under control now.² There is also increased awareness about the disease and methods of its prevention in the general population in the recent years. Giri et al in their study from Loni, Maharashtra, have seen a significant decline of 0.75% (2008) to 0.22% (2011) in pregnant women.⁷ Incidentally, a recent study from North India by holy et al has found that seroprevalence of HIV among women attending the antenatal clinic was 1.03% which is much higher than suggestive in various studies.⁸ Thus, it is necessary to constantly monitor the trend of HIV prevalence in this group of patients so that appropriate action can be taken as and when required. In fact, a study by Joshi et al has demonstrated that addition of second HIV testing in women who initially test negative at 34 weeks of gestation may prove to be cost effective as they found four new HIV infections in 9097 women tested.⁹

We also observed that most of the positive patients in our study were between 18-28 years of age, belonged to a rural household, had primary education upto 8th class and were tested positive in the first trimester itself.

The coinfection rate of HBV and HCV were surprising, with HCV infection in 0.017% of the antenatal cases and HBV positivity in 0.007%.

With effective counselling, education, and awareness about HIV, prevalence among HIV infection in pregnant women can be controlled and with PPTCT, mother-to-child transmission of HIV can be further decreased. Thus, strategies to create awareness among couples about HIV would aid in decreasing the HIV seroprevalence in pregnant women.

Consistent and extensive data collection is required to determine the trend of HIV prevalence so as to have focused and effective planning and execution of HIV epidemic elimination policy aligned to the Global HIV strategies. Table 1 shows the trend of HIV prevalence in our study in antenatal women.

CONCLUSION

HIV-AIDS a disease with less mortality but major morbidity if not controlled well with timely ART. Appropriate management must be instituted to reduce the consequences of HIV in pregnancy, ideally starting with preconception counselling and planning pregnancies when the viral load is minimum. During pregnancy, an appropriate combined anti-retroviral (cART) medication is mandatory with very close monitoring of the viral load, cluster of differentiation 4 (CD4) cell counts, blood counts, liver and kidney function tests not only to decrease maternal morbidity but also to decrease the rate of mother to child transmission.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. World Bank Group. HIV/AIDS in India, 2010. Available at: <https://www.worldbank.org/en/news/feature/2012/07/10/hiv-aids-india>. Accessed 01 December 2024.
2. National AIDS Control Organization (NACO). India HIV Estimations 2015-Technical Report. Available at: <http://www.naco.gov.in/upload/2015%20MSLNS/HSS/India%20HIV%20Estimations%202015.pdf>. Accessed 11 June 2016.
3. Srikanth P, John TJ, Jeyakumari H, Babu PG, Mathai D, Jacob M, Cherian AM, Ganesh A, Zachariah A: Epidemiological features of acquired immunodeficiency syndrome in southern India. *Indian J Med Res*. 1997;105:191-7.
4. Shah I, Lala M, Damania K. Prevalence of HIV infection in pregnant women in Mumbai, India: Experience from 1993-2004 and 2008. *J Fam Medi Prim Care*. 2017;6(2):240-2.
5. National Portal of India. India Against AIDS: Aspiring for AIDS-free India, 2024. Available at: <https://www.india.gov.in/spotlight/india-against-aids-aspiring-aids-free-india>. Accessed 01 December 2024.
6. National AIDS Control Organization (NACO). India HIV Estimations 2015-Technical Report. Available at: <http://www.naco.gov.in/upload/2015%20MSLNS/H>

SS/India%20HIV%20Estimations%202015.pdf. Accessed 11 June on 2016.

7. Singh A, Mahajan S, Singh T, Deepti S. Socio-demographic and clinical profile of HIV/AIDS patients attending the ART centre of Amritsar, Punjab. *Int J Community Med Public Health.* 2018;5:2059.
8. Giri PA, Bangal VB, Phalke D. Prevalence of HIV among rural pregnant women attending antenatal clinics at Pravara Rural Hospital, Loni, Maharashtra, India *Int J Health Allied Sci.* 2012;1(1):13-5.
9. Sarkate P, Paranjpe S, Ingole N, Mehta P. Monitoring HIV epidemic in pregnant women: Are the current measures enough? *J Sex Transm Dis.* 2015;2015(1):194831.
10. Sibia P, Mohi MK, Kumar A. Seroprevalence of Human immunodeficiency virus among antenatal women in one of the institute of Northern India *J Clin Diagn Res.* 2016;10(9):QC08-9.
11. Joshi S, Kulkarni V, Gangakhedkar R, Mahajan U, Sharma S, Shirole D, et al Cost-effectiveness of a repeat HIV test in pregnancy in India *BMJ Open.* 2015;5(6):e006718.
12. Kunte A, Misra V, Paranjape R, Mansukhani N, Paddidri V, Gonjari S, et al. HIV seroprevalence and awareness about AIDS among pregnant women in rural areas of Pune district, Maharashtra, India *Indian J Med Res.* 1999;110:115-22.

Cite this article as: Oberoi H, Kaur K, Kaur AP. Prevalence of HIV/AIDS in antenatal patients in a tertiary health care center. *Int J Res Med Sci* 2025;13:1573-6.