

## CLINICO-EPIDEMIOLOGICAL PATTERNS OF HIV POSITIVE PATIENTS ATTENDING A TERTIARY CARE HOSPITAL

Sreemanta Madhab Baruah<sup>1</sup>, Rashmi Rajkakati<sup>2</sup>, John Kumar Das<sup>3</sup>, Trinayani Barua<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of General Medicine, Assam Medical College, Dibrugarh, Assam.

<sup>2</sup>Associate Professor, Department of Biochemistry, Assam Medical College, Dibrugarh, Assam.

<sup>3</sup>Postgraduate Trainee, Department of General Medicine, Assam Medical College, Dibrugarh, Assam.

<sup>4</sup>Postgraduate Trainee, Department of General Medicine, Assam Medical College, Dibrugarh, Assam.

### ABSTRACT

#### BACKGROUND

Clinico-epidemiological profile of the Human Immunodeficiency Virus (HIV) epidemic in India is varied and depends on multitude of factors including geographic location.

The aim of this study was to evaluate the clinico-epidemiological pattern of HIV positive patients in Assam Medical College and Hospital, Dibrugarh, a tertiary care medical centre.

#### MATERIALS AND METHODS

This is a retrospective observational study. The study sample included all patients with HIV infection registered in ART centre, AMCH from January to December, 2017.

#### RESULTS

Total 90 HIV/AIDS patients were registered during the period. 73.3% were in the age group of 21-40 year and male: female ratio was 1.9:1. Majority (41.1%) had completed up to secondary education and 78.8% cases belonged from urban background. Major route of transmission was heterosexual (76.7%), followed by MSM (12.2%). No case was found with IV drug abuse. Most strikingly 45.5% of our cases had HIV positive spouse. 47.8% cases were diagnosed incidentally (Stage 1). 17.8% of our patient had opportunistic Koch's, 6.7% had syphilis, 2.2% had hepatitis B and 38.3% of our patient had undiagnosed infections. 37.7% cases had CD4 count less than 200. Adherence to treatment was 85-95% (average) in majority of cases.

#### CONCLUSION

Lack of proper education is the major cause of exponential propagation of this chronic disease. Females are the worst sufferers from the inadvertent act of their male partner. There is need for early screening and increasing awareness in healthcare providers to make a diagnosis of HIV much sooner.

#### KEYWORDS

AIDS, MSM, ART, Opportunistic Infection, Koch's.

**HOW TO CITE THIS ARTICLE:** Baruah SM, Rajkakati R, Das JK, et al. Clinico-epidemiological patterns of HIV positive patients attending a tertiary care hospital. J. Evid. Based Med. Healthc. 2018; 5(43), 3008-3011. DOI: 10.18410/jebmh/2018/614

#### BACKGROUND

Acquired immune-deficiency syndrome (AIDS) is a fatal illness caused by a retrovirus known as the human immunodeficiency virus (HIV) which breaks down the body's immune system, leaving the victim vulnerable to a host of life threatening opportunistic infections, or neurological disorders, or unusual malignancies.<sup>1</sup> The Human Immunodeficiency Virus (HIV) infection is a global pandemic. HIV continues to be a major public health challenge in developing countries especially India. Globally

there are an estimated 36.7 million people living with HIV. As per the Technical Report on India HIV estimates 2015, the adult HIV prevalence in India was estimated as 0.26%. Assam is categorized as a low HIV Prevalence state with an estimated adult HIV Prevalence of 0.06% in 2015 which was 0.04% in 2007.<sup>2</sup> Assam is a highly vulnerable state for HIV transmission because it is the gate-way of the north-eastern states and is surrounded by three high prevalence states of Manipur, Mizoram and Nagaland.

Now it is almost three decades since the HIV/AIDS epidemic is evolved. The hospitalization has markedly decreased in HIV-infected who have access to ART.<sup>3</sup> Increased access to ART, care and support programs, community mobilizations activities has changed the face of epidemic. Though, ART does not cure HIV/AIDS, but effective ART regimens inhibit the efficient replication of the HIV virus, and reduce viremia to undetectable levels. Successes achieved by ART in terms of delaying the onset of AIDS have transformed the common perception about HIV from being a "virtual death sentence" to a "chronic

Financial or Other, Competing Interest: None.

Submission 04-10-2018, Peer Review 06-10-2018,

Acceptance 13-10-2018, Published 17-10-2018.

Corresponding Author:

Dr. Rashmi Rajkakati,

Department of Biochemistry,

Assam Medical College and Hospital,

Dibrugarh- 786002, Assam.

E-mail: johnkd83@gmail.com

DOI: 10.18410/jebmh/2018/614



manageable illness". The Government of India launched the free ART programme on 1 April 2004, since then more and more patients are put on ART treatment with rapid expansion of the programme.<sup>4</sup> However due to prevailing socioeconomic conditions, poor awareness & lack of facility for diagnosis in rural setup the incidence of HIV infection is highly underreported from the areas. Early diagnosis, ART, chemoprophylaxis and treatment of opportunistic infections are important for control of HIV replication, disease progression and ultimately containment of epidemic.

The prevalence of HIV in India is almost stagnant, and fewer new infections are coming up. More and more people with HIV are living longer due to increased access to care, support and treatment programs.<sup>3</sup> There is also the likely possibility that the clinical profile and reason for hospital visits may have been changed over last decade due to all these developments. However, very few studies have been conducted recently that studied the clinical profile of people living with HIV.<sup>5,6</sup>

The AIDS epidemic targets people in their most productive years who are strong young adults, which lead to disastrous economic, political, and socio-demographic consequences. It is now well known that the epidemiological and clinical features differ greatly from country to country. The epidemiological features depend upon the social and cultural practices of those people which may again vary from region to region. The clinical features and opportunistic infections of HIV infection may depend on the organisms and parasites endemic in that country.

Keeping these factors in mind we undertook this study in AMCH, Dibrugarh, a tertiary care hospital in upper Assam with the aim and objectives of-

1. To study epidemiological parameters of HIV positive patients.
2. To study clinical patterns of HIV positive patients.

**MATERIALS AND METHODS**

- Place of study: ART centre, Assam Medical College, Dibrugarh.
- Design of the study: Retrospective hospital based observational study.
- Study population: All HIV positive patients attending ART centre from January to December, 2017.

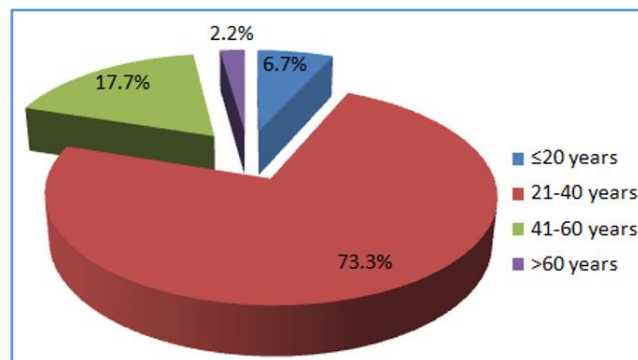
**RESULTS**

In this study, totally, 90 HIV/AIDS patients were registered during the year 2017. The distribution of the patients according to the age showed that most of the patients, 73.3% were in the age group of 21–40 years. Male patients (65.5%) were more when compared with female patients (34.5%). Most of the patients, 41.1% had completed up to secondary education, followed by college and above (26.7%), primary education (17.7%) and illiterates (14.4%). Majority of the patients were self-employed (57.7%), followed by unemployed (34.4%), serviceman (11.1%), drivers (5.5%), and student (2.2%). Socioeconomic status of the patients found that majority of the patients (72.2%) revealed family income of <5000 rupees per month Among

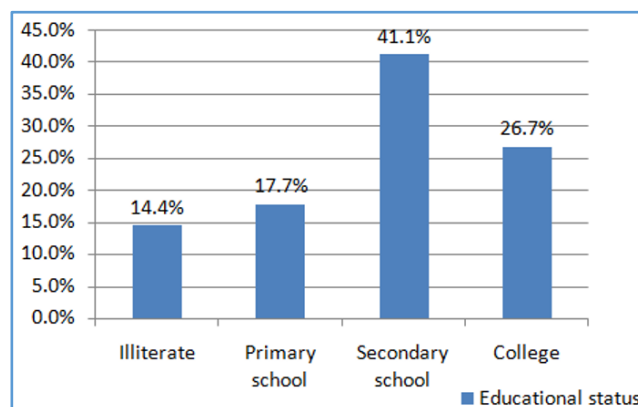
the patients studied. 72.2% were married and living with partner, 17.7% single, 8.8% widow/widower and 1.1% were divorce/separated. 78.8% cases belonged from urban and 21.2% from rural background.

The most common route of transmission was found to be heterosexual (76.7%), followed by MSM (12.2%), unknown about their route of transmission (2.2%) and parent to child (2.2%). 50.0% cases were addicted to alcohol, 26.7% were smoker and 5.5% were tobacco chewer. No case was found with IV drug abuse. Most strikingly 45.5% of our cases had HIV positive spouse.

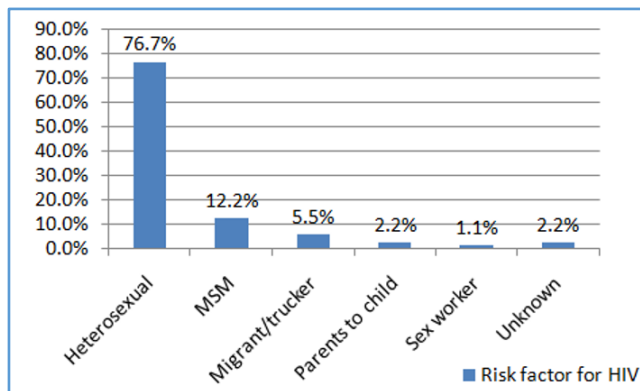
Maximum patient presented in WHO stage 1 (47.8%) followed by stage 2 (24.4%), stage 4 (14.4%) and stage 3 (13.3%). 17.8% of our patient had opportunistic Koch's, 6.7% had syphilis, 2.2% had hepatitis B and 38.3% of our patient had undiagnosed infections. Of the undiagnosed infections, 21.1% had upper respiratory infections, 13.3% had skin rash, 8.8% had AGE, 7.7% had fungal nail infection, 6.7% had UTI, 5.5% had pyogenic pneumonia and 5.5% had undiagnosed hepatitis. Of the opportunistic tuberculosis patients, 62.5% had extra-pulmonary tuberculosis and all pulmonary Koch's patients (37.5%) were sputum negative cases. 30.0% cases had CD4% between 101-200, 25.5% between 201-300 and 7.7% cases had CD4% less than 100. Adherence to ART is low in majority of cases, average ranging from 85 to 95%. In our study period, one patient expired due to HIV/AIDS.



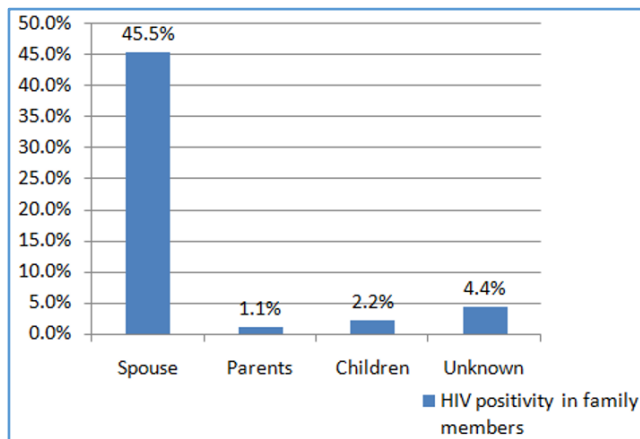
**Figure 1. Age Distribution**



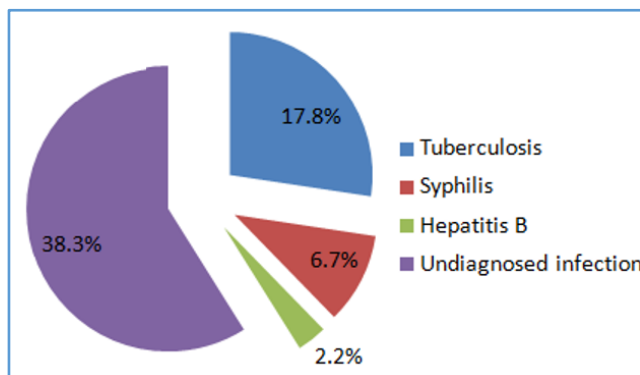
**Figure 2. Educational Status**



**Figure 3. Risk Factor for HIV**



**Figure 4. HIV Positivity in Family Members**



**Figure 5. Association with Other Infection**

**DISCUSSION**

The clinico-epidemiological profile of the HIV epidemic in India is varied and depends on multitude of factors including geographic location. Thus, epidemiological data on HIV/AIDS relevant to a specific region are important in providing vital information to plan future control programs in that specific region. We conducted this clinic-based retrospective observational study to describe the clinico-epidemiological patterns of HIV-infected patients over a period of one year, from January to December, 2017.

Male patients predominated the study group. Majority of patients were in economically productive age group. Similar observation was seen in the study conducted by Yogesh Shukla et al in central India.<sup>7</sup>

Low literacy rate and low socio-economic status are still continuing to be a major factor in propagation of HIV transmission. This is also seen in other studies conducted in different parts of the country.

Worldwide, the most common mode of transmission is through heterosexual route, particularly in developing countries. Predominant mode of HIV transmission in this study too was through heterosexual route followed by MSM. In the study conducted by Anvesh Singh Parmar et al in Madhya Pradesh, they found a similar result.<sup>8</sup> MSM category contributing to 12.2% as a route of transmission is eye opener in the setting of recent legalization of homosexuality (sec 377 IPC) which can have further bearing on transmission of HIV infection.

A major percentage of the HIV positive cases are addicted to alcohol or smoking in our study group which further increases the economic and mental burden in the family members.

Most of the females acquired the infection from their male partner. Rashmi Kumari et al conducted study in North India also published same result.<sup>9</sup>

Almost half of the patients were detected incidentally while screened for other diseases. Opportunistic infections were mainly upper respiratory tract infections, skin infections, AGE, tuberculosis etc. Similar findings were also noted in the study conducted by Umesh S. Joge et al in Maharashtra.<sup>10</sup>

CD4+ count was low in majority of cases in our study group which increases the chance of acquiring various opportunistic infections. Adherence to ART is also not satisfactory in the study populations.

Studies conducted in the North-Eastern states show IV drug abuse as a major cause of transmission of HIV infection contrary to our finding in our centre where we did not find any IV drug abuser case.<sup>11</sup>

With our finding of the study the following can be recommended-

Literacy rate should be increased and sex education should be an integral part of secondary education. Barrier method of contraception use should be counseled for spouse having HIV positivity. Counseling regarding safe sex practice and periodic health check-up should be encouraged to MSM group. Antenatal HIV testing and treatment if positive status should be a routine measure even in primary care to prevent parent to child transmission. Awareness regarding proper adherence and effectivity of HAART should be made understandable to affected individuals.

**Limitation of Our Study**

It was a retrospective study done in a single centre in a short period of time with a smaller population.

**CONCLUSION**

From our study of 90 HIV positive patients in our centre, the following can be concluded-

Young adults are mainly affected by this acquired immuno-deficiency disease. Lack of proper education is the major cause of exponential propagation of this chronic

disease. Females are the worst sufferers from the inadvertent act of their male partner. A social stigma is still prevailing among general population regarding HIV/AIDS. The other sociodemographic determinants were low educational level and poor economic condition. Laborers and drivers were most common occupations found to be affected and act as a link between high-risk groups and general population. Appropriate measures should be taken by all of us from this point to restrict HIV propagation.

### Acknowledgment

We highly appreciate the assistance provided by the technical staff of ART centre, AMCH, Dibrugarh. We are indebted to Nodal Officer of ART centre, Dr. Bipul Chandra Kalita, Associate Professor, Department of Medicine, AMCH for his co-operation in the study. We would like to thank Dr. Prajna Anirvan for his constant support throughout the study.

### REFERENCES

- [1] AIDS Epidemic Update. WHO/UNAIDS, 2010. Available at: <http://www.unaids.org/en/HIV-data>. Accessed on 10th June 2013.
- [2] <https://asacs.assam.gov.in/portlets/hiv-scenario-in-assam>.
- [3] Khan MA, Sharma S. Socio-demographic and clinical profile of people living with HIV/AIDS. *Asian Journal of Medical Sciences* 2013;3(2):1-10.
- [4] Sonani HP, Undhad AM, Savani GT. Clinical and socio-demographic profile of patients registered at ART centre, Smimer, Surat. *National Journal of Community Medicine* 2011;2(1):130-132.
- [5] Jacob KS, Eapen V, John JK, et al. Psychiatric morbidity in HIV infected individuals. *Ind J Med Res* 1991;93:62-66.
- [6] Deshpande JD, Giri PA, Phalke DB. Clinico-epidemiological profile of HIV patients attending ART centre in rural Western Maharashtra, India. *South East Asia Journal of Public Health* 2013;2(2):16-21.
- [7] Shukla Y, Rohit BK, Tiwari R, et al. Sociodemographic profile of people living with HIV/AIDS attending ART center in a tertiary-care hospital in central India. *International Journal of Medical Science and Public Health* 2015;4(10):1464-1467.
- [8] Parmar AS, Thakurai P. Clinical and epidemiological profile of people living with HIV/AIDS: a prospective study from Gwalior region Madhya Pradesh. *International Journal of Applied Research* 2018;4(4):401-404.
- [9] Kumari R, Kumar M, Mohapatra SC. Clinico-demographic profile of HIV patients at ART centre of a tertiary care referral hospital in North India. *Int J Community Med Public Health* 2017;4(9):3166-3173.
- [10] Joge US, Deo DS, Lakde RN, et al. Sociodemographic and clinical profile of HIV/AIDS patients visiting to ART Centre at a rural tertiary care hospital in Maharashtra state of India. *Int J Biol Med Res* 2012;3(2):1568-1572.
- [11] <https://medind.nic.in/haa/t04/i1/haat04i1p147>.