



ORIGINAL RESEARCH PAPER

Medical Microbiology

SEROPREVALENCE OF HIV AMONG GENERAL POPULATION ATTENDING AT A TERTIARY CARE HOSPITAL IN CHURU, RAJASTHAN, INDIA

KEY WORDS: AIDS, HIV, ICTC, NACO, ART

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ABSTRACT

India has the greatest number of HIV infections in Asia and the second highest total number of infected persons globally. The aim of this study was to determine the prevalence of HIV/AIDS among general population in Churu and also determine sex ratio in which HIV infection is more. A hospital based retrospective study was conducted on data of samples received from January 2025 to December 2025. Testing and reporting was done according to algorithm for HIV testing strategy by NACO. This is a study included 7218 patients who attended ICTC centre of DB Hospital attached PDU Medical College Churu, RAJASTHAN. A total of 7218 patients were tested and out of which 82 were seropositive for HIV, with a prevalence rate of 1.13 %. Out of these 82 cases 55 were males (67.07%), 27 were female (32.92%). All positive patients were followed up. First HIV counselling & testing was done. Positive patients were sent to ART (Anti-Retro viral Therapy) Centre for free drugs.

INTRODUCTION

In 1983 Luc montagnier and colleagues from Pasteur Institute, Paris isolated a Retrovirus from a West African patient with persistent generalised lymphadenopathy which is a manifestation of AIDS (Text book of microbiology). The first case of HIV was reported in India in 1986. Later in 1986, the Government of India established a national AIDS control committee under the ministry of Health and Family welfare to formulate a strategy for responding to HIV- Aids prevalence [UN AIDS]. HIV prevalence has been increasing among pregnant women in many regions with in the country, hence India launched a National AIDS Control Programme in 1987 [NACO Annual Report]. The National AIDS Control Programme (NACP) started in 1990 lays maximum emphasis on the widespread reach of information, education and communication on HIV/AIDS prevention (Laghave et al., 2015). Six Indian states with high HIV and AIDS prevalence are Manipur (1.4%), Andhra Pradesh (0.90%), Mizoram (0.81%), Nagaland (0.78%), Karnataka (0.63%) and Maharashtra (0.55%). Prevalence of HIV infection among pregnant women in India is reducing. The prevalence of AIDS in India has declined in 2015 (0.26%) as compared to 2001-2003 (0.38%) (NACO, 2016). According to National Aids Control Organization (NACO) the national adult HIV prevalence in India is 0.36% (Harsha Kumar)

Near about half of a century is going to be completed since detection of Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) epidemic (Takalakar et al., 2010). A person once infected and becoming HIV positive does not mean that he is suffering from AIDS. The virus continues to involve and damage the immune system of the body and infected person may develop serious infectious disease known as AIDS. Disease spreads from infected individual to healthy persons through blood transfusion, prick of infected needle, barber shop and sex partnership (Beelen and Nel, 2014). Spread of the disease can be minimized by protective measures against above mentioned predisposing factors. Globally an estimated 100 million people have been found to be infected with HIV since detection of the disease (UNAIDS, 2006).

OBJECTIVE

The main aim of this study to determine the prevalence of HIV infection.

To determine the Male:Female ratio in reactive samples.

MATERIALS AND METHODS

This is a retrospective study done in ICTC of DB Hospital

attached PDU Medical College Churu, RAJASTHAN, January 2025 to December 2025. Blood samples were collected after pre test counselling and informed consent. The samples were tested for HIV antibodies as per NACO guidelines. The first antibody test done was ELISA. If the initial result was positive, it was confirmed using two other supplemental tests. Interpretation was also done by using algorithm for HIV testing. Strategy III involves (a) all samples tested with one ELISA / rapid test; (b) reactive samples from the first test tested with different antigen or principle; (c) reactive samples from the second test are again retested with third system of different antigen or principle. After HIV test results were known post-test counselling was done and the results were declared. Confidentiality of the data was maintained.

Table.1 Percentage of HIV seropositive and HIV seronegative patients in total samples (n=7218)

Serial no.	HIV status of patients	Total no. of patients	Percentage
1.	HIV seropositive	82	1.13 %
2.	HIV seronegative	7136	98.86%

Table.2 Sex wise distribution of HIV seropositive patients (n=82)

Serial No.	Sex	No. of HIV seropositive	Percentage
1.	Male	55	67.07%
2.	Female	27	32.92%

RESULTS AND DISCUSSION

The present study was undertaken from January 2025 to December 2025 in the ICTC (Integrated Counseling and Testing Centres) Department of Microbiology, DB Hospital of PDU Medical College Churu, RAJASTHAN.

During the study period a total of 7218 serum samples were processed which referred to us for HIV testing from various medical, surgical O.P.D's and wards of DB Hospital of PDU Medical College, Churu and from Shekhawati zone also, and out of 7218 samples, 82 cases were diagnosed HIV seropositive.

In the present study table 1 shows percentage of HIV seropositive and HIV seronegative patients in total samples. During the study period 7218 serum samples were processed from IPD and OPD patients. Of these were 82 (1.13 %) seropositive and 7136 (98.86%) were seronegative. In present study all the samples were reactive for antibodies to HIV-1 virus. None of the samples were reactive to HIV-2 virus. So we used the term HIV positive for samples reactive for HIV-1 virus.

Table 2 shows sex wise distribution of HIV seropositive patients. Out of 82 seropositive patients 55 were males (67.07%), 27 were females (32.92%).

The present study has documented prevalence and risk factor of HIV infection among a large no. (7218) of patients attending ICTC Department of Microbiology, DB Hospital of PDU Medical College Churu, RAJASTHAN.

Out of 7218 patients 82 (1.13%) were HIV seropositive patients and 7136 (98.86%) were HIV seronegative. No sample was found positive for HIV-2. So present study shows seropositivity of 1.13% among the general population in Churu.

Different authors have reported different seropositivity rates, ranging from 1.58% to 9.60%. So present study findings were in concurrence with Shyamala et al. in 2019 in Hyderabad 1.58%. In 2019, Anshu Mittal et al., (2016) in Jaipur (5.03%), Sharma Rashmi (2009) in Ahmedabad (4.8%). The HIV prevalence in our study (1.13%) is quite similar to that reported by another study in Hyderabad 1.58%. (However it is higher than the estimates provided by studies conducted in Ahmedabad (4.8%), Jaipur (5.03%))

In 1986, the first known case of HIV was diagnosed by Dr. Suniti Solomon, and her student, Dr. Selappan Nirmala amongst female sex workers in Chennai, Tamil Nadu (Sternberg et al., 2005; Pandey et al.,

In India 90% of the reported cases of HIV are aged between 15 and 40 years and belong to low socioeconomic groups [Monica Malta et al., 2016]. It is essential to strengthen then all testing protocols to include referral of HIV positive clients to well established treatment, care and support facilities. Few hospitals and physicians provide health care for people living with HIV/AIDS, partly because of reluctance among health care personnel to deliver treatment to this population. The reasons for this reluctance include personal values and prejudices, and inaccurate perception of occupational risk entailed in health care, and the belief that HIV negative patients will refuse to share health care facilities with people living with HIV.

Programmes that provide services require to be implemented on public health services throughout the country, in order to decrease the vulnerability of the populations to HIV infection. The study of seroprevalence of HIV helps to draw up preventive steps in decreasing the prevalence of HIV infection. Establishing relevant guidelines and aware people about HIV, encouraging protective measures, counseling and creating more awareness among individuals in the community should be done. From this study it is concluded that HIV/AIDS is not common in our country. Public awareness about disease, its modes of transmission and preventive measures are necessary to decrease the prevalence and spread of this disease.

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