



IDENTIFICATION OF HUMAN IMMUNODEFICIENCY VIRUS IN TRANSGENDER INDIVIDUALS AT A TERTIARY CARE HOSPITAL.

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ABSTRACT Transgender individuals are a high-risk group for HIV infection, with a significantly high positivity rate among them. This study aims to observe the positivity rate of HIV in transgender individuals at our centre. Blood samples were collected from patients attending the Integrated Counselling and Testing Centre (ICTC) and subjected to HIV testing according to NACO guidelines, specifically Strategy III. The age and sex of the patients were noted. The HIV positivity rate at this centre is 5.84% overall, with rates of 5.92% in males and females together and 38.09% in transgender individuals. The mean age among transgender individuals is 26.2 years. Transgender individuals constitute a high-risk population due to their behavioural activities. It is crucial to identify and test this group for HIV infection, so that specific precautions can be implemented and early treatment can be initiated. By identifying HIV cases, transmission can be reduced through counselling and support.

KEYWORDS : HIV, transgender individuals, NACO**INTRODUCTION:**

Human immunodeficiency virus (HIV) causes a lifelong infection, attacking and destroying CD4 cells (immune cells) in the host. This weakening of the immune system leads to Acquired Immune Deficiency Syndrome (AIDS) and various other infections¹. AIDS was identified in the late 20th century, yet HIV remains a major global public health issue in the 21st century^{2,3}. As of the end of 2022, the World Health Organization (WHO) estimated that 33.1 to 45.7 million people are living with HIV³. HIV has multiple modes of transmission, with the sexual mode having a transmission risk rate of 0.1%. Despite this low risk, sexual transmission accounts for 88.9% of cases in India and 75% worldwide². In April 2022, the Centre for Disease Control and Prevention (CDC) reported that 2% of new HIV cases in the United States were among transgender individuals⁴.

National AIDS Control Organization (NACO) reported 8.82% HIV prevalence in transgender individuals and Hijras. Transgender individuals and Hijras are high-risk populations requiring specific care and prevention measures^{5,6}. Saravanamurthy et al⁶, reported 68% seroprevalence among Hijras attending an STI clinic in Mumbai, India, while Brahmam G.N.V et al⁷, reported an 18.1% seroprevalence of HIV in a similar study in South India. There are limited studies on this high-risk population, leading NACO to initiate National AIDS Control Program (NACP) – III for this purpose. This study aims to observe the seroprevalence in the transgender individuals (high-risk group) at a tertiary care centre.

MATERIALS AND METHODS:

An observational study was conducted at the Integrated Counselling and Testing Centre (ICTC) at a tertiary care centre in Hyderabad over a period of two years, from January 2022 to December 2023. Pretest counselling and relevant data were collected from all patients.

Inclusion Criteria:

All patients attending the ICTC centre and undergoing counselling.

Exclusion criteria: Patients not willing to undergo counselling and testing for HIV antibodies.

Sample Collection:

An adequate amount of blood sample was collected from each patient under strict aseptic conditions according to standard sample collection protocols. Serum was separated and subjected to immediate testing. If there was any delay, the serum was stored at 2-8°C.

Sample Processing:

HIV testing was conducted according to Strategy III NACO guidelines. The first test was the HIV combi AIDS test. If positive, the second test was the Merlin HIV I & II triline test, and the third test was

the HIV tridot Standard Q test. If all three tests were positive, the patient was considered HIV reactive. Post-testing, counselling was conducted and patients were referred to Antiretroviral Therapy (ART).

Statistics:

Complete data was entered into an Excel sheet, and percentages were calculated.

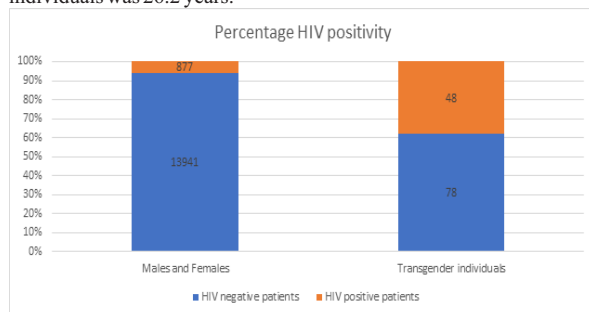
RESULTS:

A total of 15,844 patients were counselled and tested at ICTC over two years. Of the 15,844 patients, 14,818 (93.5%) were male and female patients, while the remaining 126 (0.78%) were transgender individuals as shown in table 1.

Table 1: Gender Distribution:

Total patients	Male + Female	Transgender individuals
15844 (100%)	14,818 (93.5%)	126 (0.78%)

Among the 14,818 patients, 877 (5.92%) were HIV reactive (among 877 patients, 358 (40.8%) were females, and 519 (59.2%) were males). Among the 126 transgender individuals, 48 (38.09%) were HIV reactive as shown in Figure 1. The mean age among transgender individuals was 26.2 years.

**DISCUSSION:**

Transgender individuals have been recognized as one of the high-risk groups for HIV/AIDS due to their behavioural activities. The main challenges for NACO in addressing this group are difficulties in measuring the population size, accessing them, social stigma, and lack of clarity in the population and among those working with them⁵. This group has been part of the community for centuries but has not received proper recognition. This observational study was conducted to observe the HIV positivity rate among transgender individuals. The overall positivity rate of HIV was 5.84%, with rates of 5.92% in males and females (93.5% of the study population) and 38.09% in transgender individuals (0.78% of the study population), highlighting a significant disproportion shown in Figure 1.

Sarah E. Stutterheim et al.⁸ conducted a systematic review and meta-analysis on transgender individuals worldwide regarding the burden of HIV. In their study, they classified transgender individuals as trans feminine and trans masculine, whereas this present study did not make such distinctions. In Sarah E. Stutterheim⁸ et al.'s study, 19.9% of trans feminine and 2.56% of trans masculine individuals were found to be HIV reactive.

CONCLUSION:

This study demonstrates a disproportionately high incidence of HIV among transgender individuals. As awareness and recognition of transgender individuals increase, it becomes crucial to identify, sensitize and test them for HIV. If they test positive for HIV, follow-up, proper counselling, and support should be provided.

Acknowledgments:

Mr. Raju and Mrs. Sravanthi served as counsellors at ICTC, and Mr. Khadeer and Mrs. Nagasri were the lab technicians at ICTC.

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