

# Prevalence of Human Immunodeficiency Virus (HIV) Amongst the Patients Coming for Dental Treatment at Rural Dental Hospital Loni

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## ABSTRACT

Dentists are doing dental procedure in oral cavity and are therefore coming in contact with blood and saliva which may be infected. HIV epidemic is not yet contained and prevention in populations most at risk needs to be enhanced and expanded; Hence HIV testing should be done in all patients undergoing dental procedures. The growth of HIV, unless contained, could have serious consequences for social development. National development response to began in 1992 and has shown early success rate in some states. This study is undertaken to find out the prevalence of HIV amongst the patients coming for dental treatment at Rural Dental Hospital, Loni a tertiary care hospital in rural Maharashtra. This will help in enhancing access and uptake of care and treatment services, ensuring systems and capacity for evidence based programming and building in country technical and managerial capacity.

**Keywords:** HIV, blood screening, transmission, Epidemic.

## INTRODUCTION

HIV is the Human Immunodeficiency Virus which infects the Immune System and in advanced stage leads to AIDS i.e. Acquired Immune Deficiency Syndrome. HIV causes immune system to become vulnerable to other infections. HIV estimation has become a standard tool for understanding the epidemic. Majority of India's population lives in rural areas. <sup>[1]</sup>

HIV Prevalence is the percentage of the population living with HIV. HIV Epidemic is defined by the prevalence of HIV in general population. HIV epidemic is not yet contained and prevention in populations most at risk needs to be enhanced and expanded; Hence HIV testing should be done in populations. The growth

of HIV, unless contained, could have serious consequences for social development. National development response to began in 1992 and has shown early success rate in some states.

There is either a generalized or concentrated epidemic. In generalized epidemic HIV Prevalence was 1% or more in general population and in concentrated or low level epidemic HIV prevalence was below 1% in general population but exceeded 5% in a specific risk population like injecting drugs users or sex workers. [According to Global HIV estimate 2011 Google] India was the 3<sup>rd</sup> country with highest number of HIV patients. <sup>[2]</sup> [Report of Global AIDS estimate 2012]

According to India's National AIDS Control Organization [NACO] the bulk of HIV infections in India occurs during unprotected heterosexual intercourse. [3]

Various modes of HIV transmission are [4]

- By infective means by injecting drug with contaminated injecting equipment and blood of an infected person.
- Accidentally with needles or sharp instruments
- Via Unprotected Sexual intercourse with infected persons.
- Occupational exposure where blood, saliva and gingival fluids from all dental infected patients and dental procedures.
- Via transfusion of infected blood, blood product, semen and body fluids containing infected blood.
- From infected mother to her infant during birth.
- Via organ transplant from an infected donors.
- While examining oral lesions of infected persons.

HIV does not spread by casual contact, working with them at home, office or public places and also by using the common equipment, and sharing rooms or toilets with infected persons. In HIV due to decreased immunity secondary bacterial or viral pathogens invade the host magnifying the morbidity and decrease the number of effective living years. Till date there is no cure. AIDS Vaccines is not a reality and anti retro virus are used only in advanced stage.

In Dentistry all dental procedures are done in oral cavity and are therefore coming in contact with blood or saliva which may be contracted with infected saliva. Hence Dental procedures do require HIV Testing. This study is undertaken to find out the prevalence of HIV amongst the patients coming for dental treatment at Rural Dental Hospital, Loni a tertiary care hospital in Rural Maharashtra.

**Aim:** To find out the prevalence of Human Immunodeficiency Virus (HIV) positivity amongst the patients visiting for dental treatment in Rural Dental Hospital Loni

**Objectives:**

1. To find out the percentage of dental patients who are already HIV positive
2. To find out the percentage of male and female HIV positive patients

## **MATERIALS AND METHODS**

This is a descriptive cross sectional study.

Carried out in Rural Dental College Dept. Of Prosthodontics.

### **Population and Sampling**

All patients coming for any dental treatment from June 2015 to June 2016 in Rural Dental Hospital Loni in rural Maharashtra and were willing for participation were enrolled for study after their consent.

### **Inclusion Criteria:**

1. All patients coming for any dental treatment in Rural Dental Hospital Loni
2. All patients of either sex with age group above 15years.
3. All patients who are willing to do HIV test.
4. All known patients who are HIV positive.

### **Exclusion Criteria:**

1. Patients below 15years.
2. Patients not willing to go for HIV test.

### **Study Conduct**

All patients satisfying above inclusion and exclusion criteria were recommended to undergo HIV detection with the consent of the patient at CCL Laboratory in Rural Medical Hospital, Loni. Data was collected from the patients who were advised for HIV test and ready for HIV test were assessed for the following criteria:

### **Demographic data**

Age:

Sex:

Address:

Occupation:

Chief complaint:

Dental department treating the patient:

Dental procedure required Surgical/Non surgical:

Contact number:

HIV test result:

**Study duration: 1 year**

**Data collection**

Reports were obtained from June 2015 till June 2016. A total of 1500 patient's data was collected from the age group varying from 20 years to 75 years of age

## RESULT

A total of 1500 patient's data was collected from July 2015 to July 2016 of which the following results were obtained

| No. of patients: July 2015 -2016 | Detected with HIV | Prevalence |
|----------------------------------|-------------------|------------|
| 1500                             | 79                | 5.2%       |
| Male                             | 46                | 3.06%      |
| Female                           | 37                | 2.4%       |

## DISCUSSION

First instance of HIV in India was detected in Chennai in the southern state of Tamilnadu in 1986. [5] The National AIDS Control Programme was started in 1987 and focused mainly on surveillance in perceived high-risk areas, blood screening and health education. [6] The growth of HIV, unless contained, could have serious consequences for social development. National development response began in 1992 and has shown early success rate in some states. The India HIV estimates 2008-2009 indicate a slowdown in the AIDS epidemic. The National AIDS Control Organization (NACO) estimated that adult HIV prevalence in India was 0.88% in 2005, which translates into about 5.2 million people infected with HIV, or one in eight of worldwide HIV cases. [7] This National adult HIV prevalence, or the number of adults living with HIV as a proportion of the total population, has declined by 0.05% points from 0.36% (0.29-0.45%) in 2006 to 0.31% (0.25-0.39%) in 2009. Though the estimation of 2008-2009 has utilized EPP and Spectrum tool against UNAIDS/ WHO workbook and Spectrum in 2006, the results of 2008-2009 round of estimates match perfectly with previously announced estimates. However, the results of 2008-2009 rounds of estimates cannot be directly compared with the previous years because

the methodology and data used to produce the estimates have gradually changed as a result of ongoing enhancement of knowledge on the epidemic. [5,6]

Adult HIV prevalence is either stable or declining in the high-prevalence states whereas the trend is varying across the low-to-moderate prevalence states. Among the high-prevalence states, the HIV prevalence has declined in Tamil Nadu between 2006 and 2009 to reach levels of 0.37% in 2008 and 0.33% in 2009. Manipur shows a declining trend over the past 4 years. Andhra Pradesh, Karnataka, Maharashtra and Nagaland show either a plateau or a slightly declining trend over the time period 2006-2009. Thirty-nine per cent of all HIV infections are estimated to be among women. This amounts to 0.93 million women with HIV in India. [8,9] Efforts have been made to improve data both in terms of quality and representativeness as well as the methodology matching to epidemics. For instance, in 2006 with the expansion of sentinel surveillance to all districts. [10] sero-survey as a part of third round of National Family Health Survey (NFHS-3)2 and the observation that there is a common practice of referral of HIV-positive/suspected cases to public hospitals and a preferential use of public hospitals by people in the lower socio-economic strata causing overestimation of the HIV burden in India, [11,12] many of the assumptions are replaced with evidence based information.

This study was undertaken to find out the prevalence of HIV amongst the patients coming for dental treatment at Rural Dental Hospital, Loni a tertiary care hospital in rural Maharashtra. The data collected since July 2015 to July 2016 showed that the total prevalence rate of PLHIV (people living with HIV) amongst 1500 patient data collected, 79 of them were detected HIV positive so prevalence was 5.2%, prevalence in male was 3.06% and female was 2.4%. HIV prevalence is either stable or declining in the high-prevalence states whereas the trend is varying across

the low-to-moderate prevalence states, till date there are no cure. AIDS Vaccines is not a reality and anti retro virus are used only in advanced stage, still more research needs to be done and more means for properly educating the people regarding HIV has to be carried out specially in the under privileged rural areas so that we can achieve a decline in the prevalence rate of PLHIV in India.

## CONCLUSION

Most adolescents do not know their HIV status. Although most adolescents know about HIV testing, the proportion who reported ever having had an HIV test remains low, yet this is a critical step towards access to HIV care and treatment. It is observed that access and coverage vary greatly in HIV prevalence across the country. This study was undertaken to find out the prevalence of HIV amongst the patients coming for dental treatment. The data collected since July 2015 to July 2016 showed that the total prevalence rate of PLHIV (people living with HIV) amongst 1500 patient was 5.2 %, and prevalence in male was 3.06% and in female was 2.4%.

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