

## Prevalence of HIV in Blood Bank at CCM Medical College

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### ABSTRACT

**Purpose:** Prevalence of HIV in Blood Bank at CCM Medical College.

**Methods:** This is an observational study of blood donor in blood bank at CCMC Kachandur Durg (C.G.). The Study was carried out from to January 2014 to March 2017. Total 817, 2117, 3488 and 958 donors donate blood at CCMC blood bank out of 2, 3, 13 and 7 are HIV positive cases found in 2014, 2015, 2016 & upto March 2017 respectively.

**Results:** A total 7380 number of donors were studied in the study period i.e. 2014 to March 2017. In same period we found 25 donors are HIV positive. Out of 2 HIV positive cases found in 2014, 3 HIV positive cases found in 2015, 13 HIV positive cases found in 2016 and 7 positive cases found in upto march 2017. The age group of donor ranged from 18 to 60 years. Mean age of males in HIV positive patients was  $34.57 \pm 8.21$  and mean age of female was  $30.04 \pm 5.58$ . The percentage of HIV positive cases in 2014 was 0.244, in 2015 the percentage was 0.14, 0.372% positive cases found in 2016 and in upto march 2017 total 0.730% cases found at CCMC blood bank from 2014 to March 2017. Among 25 HIV positive cases 19 cases suffers from fever, 16, 21 and 18 cases followed by weight loss, pallor and cough respectively. And 9, 6, 6, 3 and 11 cases suffering from diarrhea, oral thrush, Icterus, lymph node and Hepatitis B respectively.

**Conclusion:** HIV infection is one of the major infectious diseases in the Chhattisgarh & being chronic & lifelong is nature. Its impact is high compared to other disease. Prevention is the best strategy for reducing the human & economic toll from HIV. The largest impact on the HIV epidemic a comprehensive approach is needed for HIV prevention, there is high frequently of behavioral risk factors, together with unawareness & too little health infrastructure, thus creating an impending risk for the rapid spread of HIV.

**Key words:** Prevalence, HIV, Blood Bank, Infection.


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### INTRODUCTION

#### History of HIV/AIDS in India

In the beginning of 1986, despite over 20,000 reported AIDS cases worldwide. India had no reported cases of HIV/AIDS. There was reorganization, through that this would not be the case for long, & concerns were raised about how India would cope once HIV/AIDS cases started to emerge. As per published report in medical journal in 1986, in India lacks of scientific laboratories research facilities equipment & medical personal to deal with HIV later on India's first case of HIV was diagnosed in Chennai, Tamil Nadu. It was noted that contact with foreign visitors had played a role in initial infections among sex workers and HIV screening centers were set up across the country there visitors to be screened for HIV. In recent days HIV screening was carried out in blood bank.<sup>1</sup> In 1987 a national AIDS control programmed was launched to co-ordinate national responses. It covered surveillance, blood screening & health education.<sup>2</sup> End of year 1987, out of 52907 who had been tested, around 135 HIV positive people were found. "HIV infection is now common in India; exactly what the

prevalence is, it is not known but it can be stated without any fear of being wrong that infection is widespread. It is rapidly spread into those segments that society in India does not recognize as being at risk". In 2001 the government adopted the national AIDS prevention & control policy. During that year PM of India referred to HIV/AIDS as one of the most serious health challenges facing the country.<sup>3</sup>

HIV had now spread extensively throughout the country. In 2015 NACO reported 77.4% sex workers c<sup>-</sup> HIV prevention activities of this kind. Indian has the third largest HIV epidemic in the world. In 2015, HIV prevalence in India was 0.26% (2.1 million peoples living with HIV) and in same year 68,000 people died from AIDS related illnesses.<sup>4</sup> The HIV epidemic in India is driven by heterosexual sex which accounted for 87% of new infection in 2015. The epidemic is concentrated among key affected populations such as sex workers. The five states in India with highest HIV prevalence i.e. (Manipur, Mizoram, Nagaland, Andhra Pradesh & Karnataka) are in the south or east of the country.<sup>5</sup>

The spread of HIV/AIDS is a major concern in India. In Chhattisgarh state 80% population not heard about HIV/AIDS & 60% average in India. Awareness of AIDS particularly low among women who are living in rural area, not exposed to media and illiterate women. In Chhattisgarh only 4% of women who know about AIDS received information about the disease from a health worker.<sup>6</sup> In the present study we have described the incidence of HIV in blood donor at CCM Medical College Blood bank.

**MATERIALS AND METHODS**

This is an observational study of blood donor in blood bank at CCMC Kachandur Durg (C.G.). The Study was carried out from to January 2014 to March 2017. Total 817, 2117, 3488 and 958 donors donate blood at CCMC blood bank out of 2, 3, 13 and 7

are HIV positive cases found in 2014, 2015, 2016 & upto March 2017 respectively.

**Sample Collection:** 2 ml serum sample or 5ml blood collected at the time of bleeding in day clean plain tube from donor after that HIV assay carried out by using ELISA technique.

**Data Analysis:** The data were collected and analyzed by using SPSS software package 21.0 version. The data were expressed in percentage. The chi Square test will be used for comparison of categorical variable I the p<0.05 was considered statically significant.

The study was initiated after taking the approval of the institutional human Ethics committee. As per protocol identities of the HIV positive subjects were kept confidential and name, personal identities were not disclosed in any concerned documents.

**Table 1: Shows mean age of male & female in HIV positive patients among 25 cases.**

	Age in Year
Male	34.57 ± 8.21
Female	30.04 ± 5.58

**Table 2: Following table shows the yearly incidence of HIV positive cases.**

Year	No. of Donor	HIV Positive Cases	Percentage
2014	817	2	0.244%
2015	2117	3	0.141%
2016	3488	13	0.372%
March 2017	958	7	0.730%

**OBSERVATIONS AND RESULTS**

A total 7380 number of donors were studied in the study period i.e. 2014 to March 2017. In same period we found 25 donors are HIV positive. Out of 2 HIV positive cases found in 2014, 3 HIV positive cases found in 2015, 13 HIV positive cases found in 2016 and 7 positive cases found in upto march 2017. The age group of donor ranged from 18 to 60 years.

Table 1 shows that mean age of males in HIV positive patients was 34.57 ± 8.21 and mean age of female was 30.04 ± 5.58.

Table 2 shows the percentage of HIV positive cases in 2014 was 0.244, in 2015 the percentage was 0.14, 0.372% positive cases found in 2016 and in upto march 2017 total 0.730% cases found at CCMC blood bank from 2014 to March 2017.

Table 3 shows that among 25 HIV positive cases 19 cases suffers from fever, 16, 21 and 18 cases followed by weight loss, pallor

and cough respectively. And 9, 6, 6, 3 and 11 cases suffering from diarrhea, oral thrush, Icterus, lymph node and Hepatitis B respectively.

**Mode of Transmission**

The predominant mode of transmission was heterosexual contact and 6 patients transmission history was not clear. There was no history of intravenous drugs abuse or homosexual made of transmission.

**Associated Opportunistic Infection**

The most common opportunistic infection was tuberculosis seen in 17 patients following by hepatitis B infection. The most common presenting complaints were pyrexia of unknown origin seen in all HIV positive patients following by diarrhea, weight loss and cough shown in table 3.

**Table 3: Shows distribution of HIV positive cases according to symptoms and sign.**

Symptoms	2014		2015		2016		2017	
	No of cases	%	No of cases	%	No of cases	%	No of cases	%
Fever	2	100	2	66.6	10	76.92	5	71.42
Weight loss	2	100	1	33.3	9	69.23	4	57.14
Diarrhea	0	00	1	33.3	6	46.15	2	28.57
Cough	1	50	2	66.6	11	84.61	4	57.14
Oral thrush	1	50	0	00	4	30.76	1	14.28
Pallor	2	100	2	66.6	12	92.30	5	71.42
Icterus	0	0	1	33.3	3	23.07	2	28.57
Lymph nodes	0	0	0	00	2	15.38	1	14.28
Hepatitis B	1	50	1	33.3	5	38.46	4	57.14

## DISCUSSION

Results of the present study showed several facts about HIV in the CC M Medical Kachandur, Durg. A majority of infected blood donor belonged to the lower socioeconomic state, with income lower than 5000 Rs. Per months. The predominant mode of transmission was heterosexual, contact (100%) with comparison to study by Wig N. et. al<sup>7</sup> and Harminder singh<sup>8</sup> transmission was 44.2% and 78.8% heterosexual 1.4% & 0.0% intravenous drug use & 17.4 % & 5.5% iatrogenic respectively.

Most vulnerable age group was between 31 to 42 years with more males affected than females similar findings were observed by Naik et. at.<sup>9</sup> We found some donors are from tribal population. In our study we observed tribal people have sexual practice that differ from its cultures. The early age of marriage, forced migration due to unemployment, heavy trucker movement in iron region & exposure to commercial sex workers. All these factors contributed to spread HIV. Similar findings observed by Harminder singh.<sup>8</sup>

This is the HIV related hospital based study at CCM Medical College blood bank in which to assess the risk for the transmission and spread of HIV. During study period, we found that knowledge and awareness about HIV was very low. In Chhattisgarh state national organization had very poor presence.

### Treatment for HIV Infected Patients

HAART a form of treatment involving antiretroviral drugs (ARVs), which significantly delay the progression from HIV to AIDS. It has been available in modern countries from 1996. Unfortunately in India only 95,000 HIV positive cases (less than 15%) receiving ARVs treatment at the end of 2006.

In India some people assess the drugs through private health facilities, which dominate on health care sector, but majority of people cannot afford to by treatment. Ironically India is a major provider of cheap generic copies of ARVs to all countries over the world. While ARVs treatment is free uptake remains low & requires a dramatic scaling up especially in the wake of the new 2013 as per WHO treatment guidelines.

## CONCLUSION

HIV infection is one of the major infectious diseases in the Chhattisgarh & being chronic & lifelong is nature. Its impact is high compared to other disease.

Prevention is the best strategy for reducing the human & economic toll from HIV. The largest impact on the HIV epidemic a comprehensive approach is needed for HIV prevention, there is high frequently of behavioral risk factors, together with unawareness & too little health infrastructure, thus creating an impending risk for the rapid spread of HIV.

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