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RESEARCH LETTER

HIV IN INDIA: A SITUATIONAL ANALYSIS

Noella Maria Delia Pereira

Pediatric Centre of Excellence for HIV Care, Department of Pediatrics, Lokmanya Tilak Municipal Medical College & General Hospital, Sion, Mumbai, India

ABSTRACT

HIV is a country with third largest population of people living with HIV. Key populations responsible for transmission include sex workers, injectable drug users, men having sex with men and transgenders. Identifying states in India with the highest prevalence of people living with HIV as well as deaths related to HIV is important in deciding which states need measures to reduce the transmission of HIV and deaths due to AIDS. Allocating funds to reduce transmission from key populations to the general population as well as increasing awareness through education, screening for HIV through index testing and prevention of mother to child transmission are essential to reduce the incidence of people living with HIV as well as to reach the universal target of 95-95-95.

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India is a large country with a population of 1.43 billion which is around 17% of the world's population. Over 64% of this population lives in the rural areas and the remaining in the cities. The population has increased by 0.81% since last year and it is estimated to grow at this rate with a fertility rate of 2% and a median age of 28 years.[1] India is locked by land on three sides in the north and by water in the south. Migrants from the neighbouring countries like Bangladesh, Pakistan and Nepal add to the population of the country. Very often, it is these migrants who live in slums where access to health care is difficult, thus providing a means to the spread of the infection especially HIV, other sexually transmitted illnesses and tuberculosis. An interstate migrant population from rural to rural and rural to urban comprises the vast majority of the immigrant population.[2] Cities like Mumbai, Delhi and Kolkata harbour the largest internal migrant population. Many of these migrants live in slums with no access to clean water and given the high population density and cost of living, many resort to sex work, drug use, theft and crime.[3]

The GDP of India is $ 3.385 trillion with a growth rate of 7%.[4] Agriculture is the main occupation in India contributing 43% its GDP. With regards to healthcare, about 2% of the GDP is spent on healthcare expenditure which is a small percentage given India's large population and healthcare needs.

The healthcare infrastructure comprises Primary Health Centres, Community Health Centres and District Hospitals in the urban and rural areas along with a large number of private hospitals in the cities and towns. Most Government run centres offer free HIV testing and also serve as Anti- retroviral treatment (ART) centres. Health initiatives like Ayushman Bharat as well as the National Rural health Mission aim to provide equitable healthcare to the rural population of India.[5]

HIV care in India is mainly looked after by the National AIDS Control Organization based at the capital in New Delhi which is part of the Ministry of Health and Family Welfare, Government of India. They run 713 ART centres across the country providing free diagnostic testing, laboratory tests and treatment for HIV. Many of these centres live in large district and tertiary hospitals further providing free hospital admission facilities for sick patients with opportunistic infections and advanced HIV disease.[6] Funding towards HIV care is provided by the Government of India as well as international donors such as the World Bank, Gates Foundation, the United States Agency for International Development (USAID), Department for International Development (DFID), Global Fund to fight HIV, TB and Malaria and PEPFAR. Although now, India has moved towards funding its own National AIDS Control Programme which is in its 5th Phase versus relying on international donors.[7]

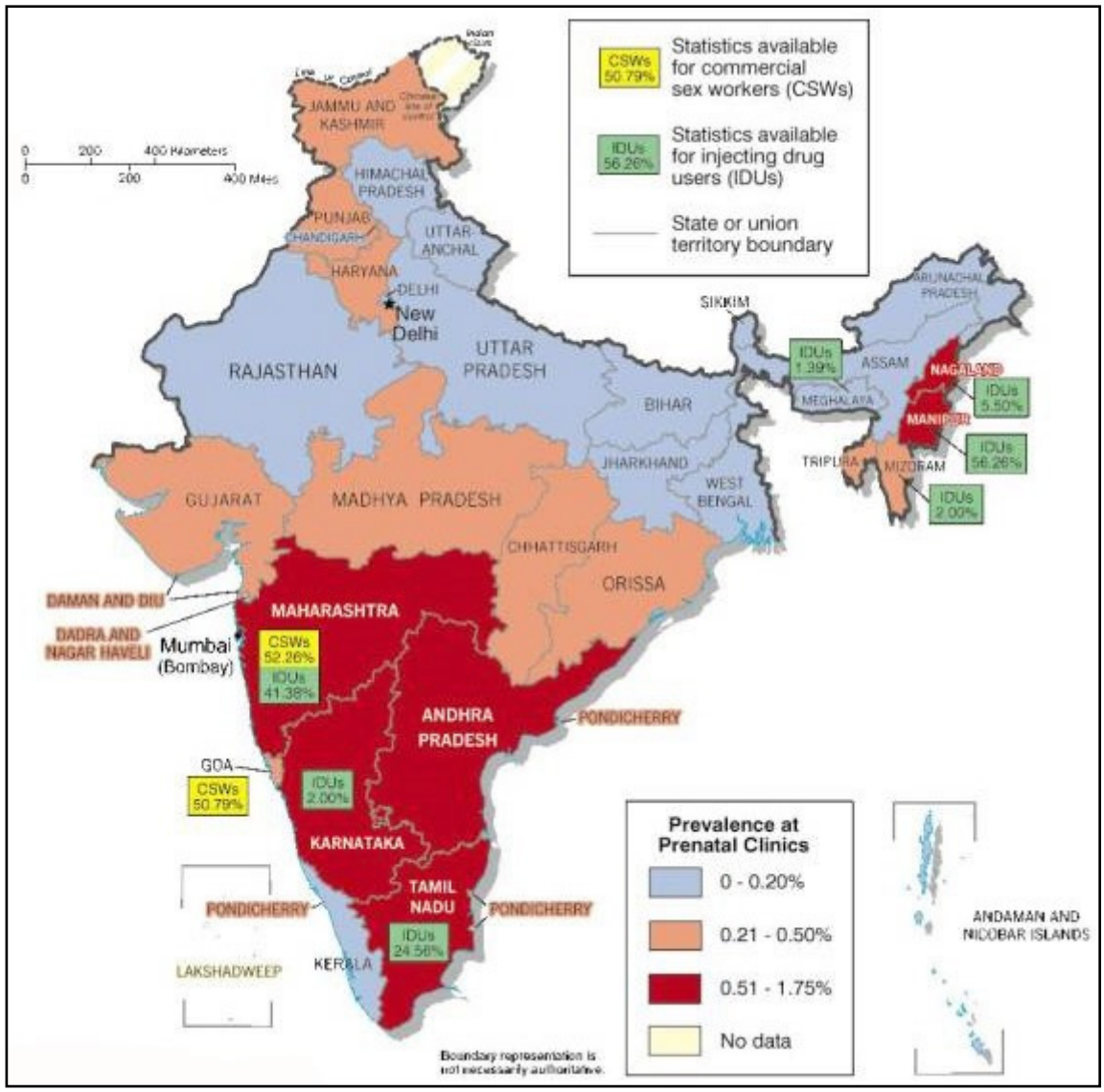
The key populations found to be responsible for the spread of HIV in India are female sex workers and their clients, men having sex with men, transgenders, people who inject drugs[8] along with the bridging population comprising truck drivers and migrants and the general population comprising spouses and regular partners.[7] The key drivers of infection are the female sex workers in the southern states of India and injecting drug users in the Northern states.

As per the NACO Estimates in 2021, nearly 24,01,284 people are living with HIV with a estimated prevalence of 0.21% in adults between the ages of 15-49 years. The north eastern states of Mizoram (2.7%), Meghalaya (0.42%), Manipur (1.05%) and Nagaland (1.36%) have a high prevalence along with the Southern states of Andhra Pradesh (0.67%), Karnataka (0.46%) and Telangana (0.47%). Although the number of people living with HIV (PLHIV) is highest in the state of Maharashtra (3,94,077), its prevalence is only 0.33% given the large population in this state.[9]

Address for Correspondence: Dr. Noella Maria Delia Pereira, 'Torrefiel', 127, Carter Road, Opposite Joggers Park, Bandra (West), Mumbai – 400050.

Email: noella_pereira@yahoo.com

Figure 1. HIV Prevalence among women attending Prenatal Clinics, Commercial Sex workers and Injecting Drug Users, 2001.[10]



Data from 2001[10] depicts a high prevalence of HIV in the southern states of Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu with a high proportion of female sex workers and people who inject drugs in South India and a high proportion of people who inject drugs in the North Eastern states of Nagaland and Manipur. The prevalence in Mizoram has risen since then to 2.7% while the prevalence in Maharashtra and Karnataka has dropped to 0.33% and 0.46% respectively in 2021.[9,10] This shows us that although a lot of work has been done to reduce the prevalence of HIV, a lot more work in these areas is still left to be done to end the epidemic.

Although India has shown a decrease of 46% in the annual new infection since 2010, this decrease has not been uniform throughout the country. States in India such as those in the north east like Arunachal Pradesh, Assam, Mizoram, Meghalaya and Tripura have shown an increase in the annual new HIV infections since 2010 as seen in Figure 2. A similar increase in AIDS related deaths is seen in Meghalaya, Arunachal Pradesh and Puducherry in the south with no percentage change in the number of deaths in Tripura since 2010[9] as seen in Figure 3. In 2019, the incidence: prevalence ratio of HIV in India was 0.029 and the incidence: mortality ratio was 0.88. Although these ratios depict that the national response to AIDS appears to be on track, it was found that 21 states in India had an incidence: prevalence ratio of more than 0.03 including seven of the north eastern states of Arunachal Pradesh, Assam, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. 18 states/Union Territories including Arunachal Pradesh, Assam, Bihar, Chattisgarh, Delhi, Gujarat, Jharkhand, Jammu & Kashmir, Meghalaya, Mizoram, Nagaland, Rajasthan, Sikkim, Tripura, Uttar Pradesh, West Bengal, Dadra and Nagar Haveli and Daman and Dui also had an incidence: mortality ratio of more than 1.[8] The total number of AIDS related deaths in adults and children reported in 2022 were 40,000.[11] and the deaths per 1,00,000 population was 3.08 in 2021 with a decline in deaths since 2010 of 76.74%.[9]

Figure 2. Percentage change in Annual new infections 2010 to 2021 in states/ union territories.[9]

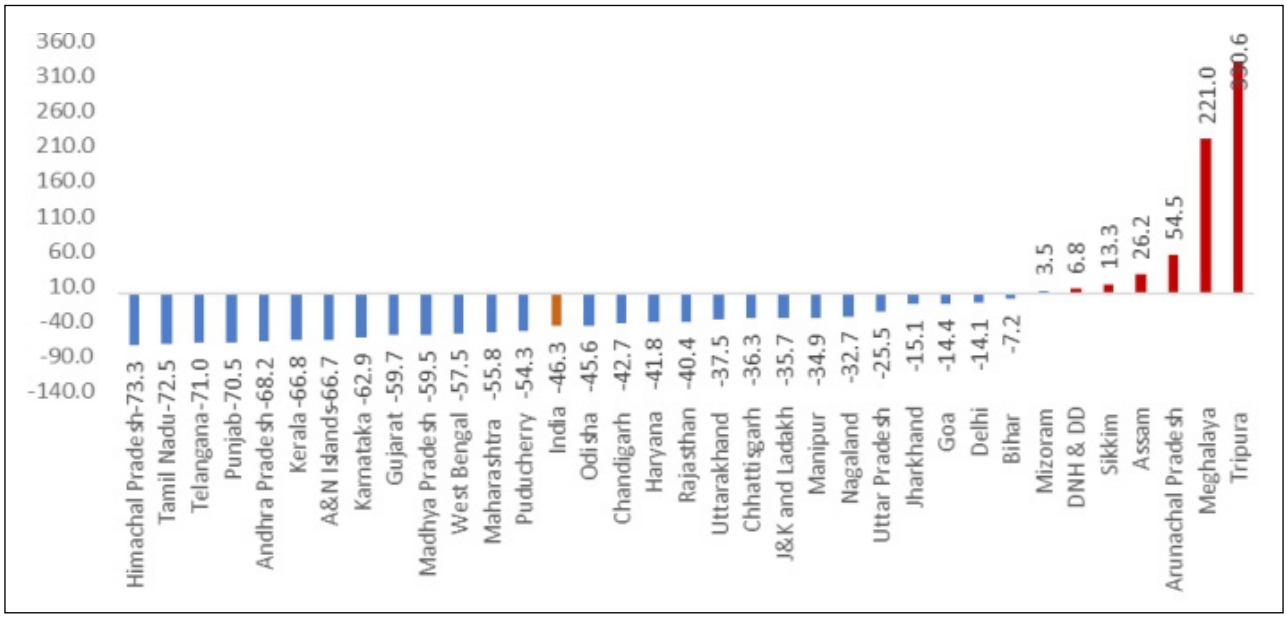
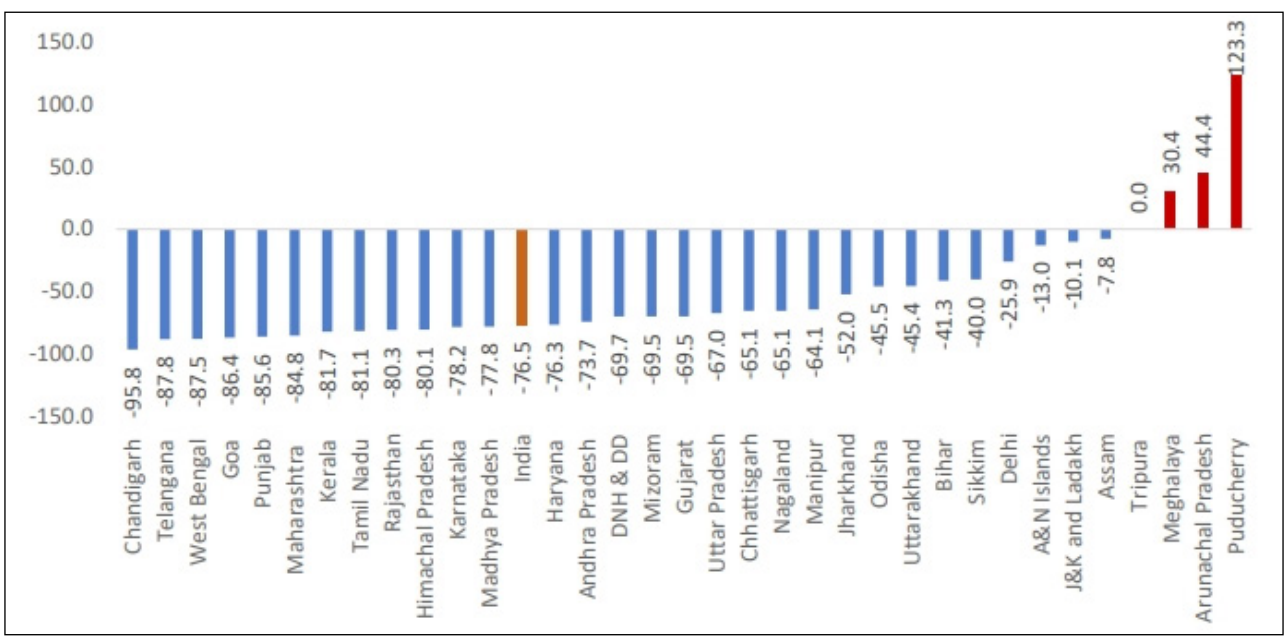


Figure 3. Percentage change in the annual new infections 2010 – 2021 in states/ union territories.[9]



The number of seropositive pregnant women in 2021 was found to be 20,612 and mother to child transmission rate of HIV was 24.25%. Although this rate has fallen since 2010, a change in the WHO guidelines for ARV prophylaxis in newborns and administration of anti-retroviral therapy to all pregnant women has helped decrease this rate over the last decade. Maharashtra, Bihar, Uttar Pradesh, Andhra Pradesh and Karnataka topped the Prevention of Mother to Child transmission (PMTCT) need in the country. This could be due to lack of access to diagnostic testing of pregnant women in some of these areas, lack of information about HIV, unregistered/ unbooked cases showing up to hospital directly in labour and home deliveries.[9]

With regards to the international target of 95-95-95, India falls short in all three areas. The percentage of people living with HIV who know their status was 77% in 2021 ranging from more than 95% in some states to a low 15% in union territories like Dadra and Nagar Haveli. On the other hand, the percentage of PLHIV who know their status and are on treatment was 84% and those on ART who are virally suppressed was 85%. Hence diagnostic testing and screening for HIV must be promoted to meet the universal target of 95-95-95.[9]

Another study by Shri et al[12] describes a gender disparity in the incidence of HIV in India. Although a declining trend in the incidence was seen over the period from 1990 to 2019, it was found that the decrease in the incidence of HIV was more among men than in women, with younger and older women having a higher incidence than their male counterparts. Reasons for this disparity could include women having low access to information about HIV, blood transfusion due to anaemia, pregnancy related complications

with low access to treatment and a higher biological susceptibility to HIV.[12]

Among the key populations, the prevalence of HIV among sex workers was 1.6% and 3.3% in men having sex with men of which 60% of them are on Anti retroviral therapy. Condom use was noted in 98% of sex workers. Amongst people who inject drugs, HIV prevalence was 9% with 90% knowing their HIV status with 93% practicing safe injecting practices. However in this population ART coverage was only 54% with only 23.4% opting for opoid substitution therapy.[11] HIV prevalence in prisoners and transgenders was 1.9% and 3.8% respectively with an ART coverage of 28% and 58.7% respectively. Condom use in transgenders was 96.4%. Another huge problem faced in India is stigma and discrimination. Nearly 30% showed avoidance behaviours towards people with HIV. Although it is changing, a lot of work needs to be done to remove the stigma and discrimination associated with HIV as it hampers access to healthcare. Intimate partner violence was also seen among 24% women aged 15-49 years much more among serodiscordent couples where the woman is seropositive. Women's need for family planning were met in 75.5%. Knowledge about HIV prevention in young people aged 15-24 years was a low at 26.17%. This could well be due to lack of sex education and stigma towards HIV leading to lack of open conversations about sexually transmitted illnesses. Cervical cancer screening among women living with HIV was only 35%. Lack of knowledge and awareness about cervical cancer among women living with HIV could be reasons for the lack of screening.[11]

Recommendations for funding and intervention

We suggest that funding should be allocated to the following areas warranting intervention:

1) Prevention of Mother to Child Transmission.

   Promoting and ensuring screening of mothers both in the first and again in the third trimester would ensure early detection of HIV in these women and prompt initiation of antiretroviral therapy along with exclusive breastfeeding. Thus, we can reduce the number of new infections in children. We should aim for a reduction of the MTCT rate from 24% to 10% in five years and elimination of MTCT in the next 10 years.

2) Health promotion and Education about HIV

   especially awareness about "U=U (Undetectable = Untransmissible)" in educational institutions, through talks, social media, press releases, etc. in various languages. This will reduce the stigma and discrimination and improve access to healthcare among the PLHIV as well as reduce intimate partner violence. Knowledge gaps in HIV should be reduced in the next 5 years. Monitoring and evaluation should be conducted through surveillance studies conducted every year.

3) Female Sex workers and their clients:

   Screening for HIV, increasing ART coverage and promoting condom use among female sex workers and their clients. Sending out field workers to perform screening of these women and encouraging them to access healthcare thus preventing spread of STIs. Reducing the prevalence of HIV from a current 1.9% to 0.5% in the next 5 years and increasing ART coverage from 84% to 95% should be our target.

4) People who inject drugs.

   Promoting safe injection practices, providing free needles and awareness and promotion of opioid substitution therapy among those injecting drugs. Linking with NGOs for this purpose. Increasing coverage of safe injecting practices to 100% and coverage of opioid substitution therapy to over 75% in the next five years. Monitoring through surveillance studies should be performed.

5) Prevention of HIV in young men and women.

   Preventing unwanted pregnancies, improving adolescent sexual and reproductive health, providing PrEP, promoting condom use among young people and educating them about safe sex practices. Increasing condom use and PrEP among young people to 90% in the next 5 years. Establishing 500 sexual health clinics in both urban and rural areas in the next 5 years could help reduce the incidence amongst adolescents and young people.

Thus we conclude that although India has achieved a decrease in new infections and deaths due to HIV since 2010, a severe disparity is seen among the various states of India. With the north eastern states harbouring injecting drug users being a key population and the southern states showing a large number of female sex workers, strategies to reduce the incidence of new infection through education about sexual and reproductive health, screening for HIV, strict adherence to ART, condom use and awareness of U=U along with elimination of stigma and discrimination can help us reach the universal target of 95-95-95.

Compliance with Ethical Standards
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