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Review Article

AIDS Control in India - Is it in the Right Direction?

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Abstract

India has made significant progress in controlling the spread of HIV/AIDS since the beginning of the HIV epidemic. The current programme, National AIDS Control Programme IV (NACP-IV), aims to diagnose and reduce annual new HIV cases by 50%. Through comprehensive HIV treatment, education, care, and support for the general population as well as building on targeted interventions for the key affected groups and those at a high risk of HIV transmission, the current programme focuses on increasing awareness and behaviour change, from a national response to a more decentralized response, and to increasing involvement of NGOs and networks of People living with HIV (PLHIV). The program has set various targets and milestones over the years, this is a comparison of the NACP targets and achievements according to NACO along with a few gaps in India till 2021.

Keyword: HIV; NACP; NACO; PLHIV; Gap Analysis; Targets; Achievements

Abbreviation

AIDS: Acquired Immune Deficiency Syndrome; ART: Anti-Retro Viral Therapy; DNH&DD: Dadra and Nagar Haveli and Daman Diu; FSW: Female Sex Worker; HIV: Human Immunodeficiency Virus; ICMR: Indian Council of Medical Research; NACO: National AIDS Control Organization; NACP: National AIDS Control Programme; PLHIV: People Living with HIV; SDG: Sustainable Development Goal; STD: Sexually Transmitted Diseases; STI: Sexual Tract Infection

Introduction

Communicable diseases have long been parasites to the Indian population. With the increase in population, morbidity and mortality due to these infectious diseases also increased. Noticeable portions of whole village population got washed away once some endemic was set in. It has been 36 years since first few cases of HIV and AIDS were detected in India in 1986 among FSW in Chennai [1]. Initially people thought HIV/AIDS to be unlikely to cause a major threat to them. But later, realizing the problem, the Indian Council of Medical Research in collaboration with the Directorate General of Health Services and the State Health Authorities initiated a national surveillance for HIV infection in 1986 (ICMR, 1991) [2].

The early studies brought into light that commercial sex workers, hemophiliacs, STD clinics patients and professional blood donors contributed majorly in the HIV infected population (John., *et al*. 1987; Singh., *et al*. 1991; Banerjee., *et al*. 1989). Blood products were found to be contaminated with HIV (Tripathy., *et al*. 1991). Later, hemophiliacs were found to be infected with

HIV (Singh., *et al*. 1991). In 1991 an explosive outbreak of HIV-1 seropositivity revealed the intravenous drug use among the people of Manipur, India (Naik., *et al*. 1991). 269 cases from Tamil Nadu and Maharashtra in 1993 were reported (NACO, 1993). All these were expected to develop AIDS by the year 1995.A large number of data revealed that only a fraction of total PLHIV were aware of there status. The people who were detected had reached the advanced stage and thus couldn't survive more than a year from diagnosis [2].

Since the beginning of the HIV epidemic, India has achieved significant strides in controlling the disease. Early on, the National AIDS Control Organisation (NACO) realized that the advanced laboratory monitoring and specialist physician management of the western paradigm were not possible in India. The NACO established antiretroviral treatment (ART) centers, which offered one of the largest free ART programmes in the world, as well as HIV testing and counselling locations across the nation beginning in 2004. Through comprehensive HIV treatment, education, care, and support for the general population as well as building on targeted interventions for the key affected groups and those at a high risk of HIV transmission, the current programme, National AIDS Control Programme IV (NACP-IV), aims to diagnose and reduce annual new HIV cases by 50% [3].

The outcomes of the AIDS response are astounding. However, there is still a far too big a gap between what has been accomplished thus far and the objective of ending the AIDS epidemic. Too many nations have large populations, frequently the most marginalized, are being abandoned. Resources are frequently insufficient and not being exploited to their full potential. Human rights breaches, stigmatization, and discrimination are pervasive and continue to be significant obstacles. The current rate of response is insufficient to stop an epidemic that is continually changing. The number of new HIV infections will rise, increasing the number of people living with the virus and driving up the cost of HIV treatment well into the future [4].

National AIDS control programme in India

After reporting the first case, the government of India established a National AIDS Control Program (NACP). The scope of this NACP was increased to focus on blood safety, prevention among high risk population, raising awareness in the general population and improving surveillance.

A semi-autonomous body, the National AIDS Control Organization (NACO), was established under the Ministry of Health and Family Welfare to implement this program. This "first phase" of the National AIDS Control Program lasted from 1992-1999 [5].

Over time, the focus has shifted from raising awareness to behaviour change, from a national response to a more decentralized response and to increasing involvement of NGOs and networks of People living with HIV (PLHIV).The NACP I started in 1992 was implemented with an objective of slowing down the spread of HIV infections so as to reduce morbidity, mortality and impact of AIDS in the country [5].

It achieved some of its objectives, notably increased awareness. Professional blood donations were banned by law. Screening of donated blood became almost universal by the end of this phase. However, performance across states remained variable. By 1999, the program had also established a decentralized mechanism to facilitate effective state-level responses, although substantial variation continued to exist in the level of commitment and capacity among states. Whereas states such as Tamil Nadu, Andhra Pradesh, and Manipur demonstrated a strong response and high level of political commitment, many other states, such as Bihar and Uttar Pradesh, have yet to reach these levels [5].

In November 1999, the second National AIDS Control Project (NACP II) was launched to reduce the spread of HIV infection in India, and (ii) to increase India's capacity to respond to HIV/AIDS on a long-term basis. it began in 1999 and ended in March 2006. Under this phase, India continued to expand the program at the state level. Greater emphasis was placed on targeted interventions for the most at-risk populations, preventive interventions among the general population, and involvement of NGOs and other sectors and line departments, such as education, transport and police. Capacity and accountability at the state level continues to be a major issue and has required sustained support. Interventions need to be scaled up to cover a higher percentage of the population, and monitoring and evaluation need further strengthening. In order to induce a sense of urgency, the classification of states has focused on the vulnerability of states, with states being classified as high and moderate prevalence (on the basis of HIV prevalence among high risk and general population groups) and high and moderate vulnerability (on the basis of demographic characteristics of the population) [5].

While the government's response has been scaled up markedly over the last decade, major challenges remain in raising the overall effectiveness of state-level programs, expanding the participation of other sectors, and increasing safe behavior and reducing stigma associated with HIV-positive people among the population [5].

NACP III was launched in July 2007 with the goal of Halting and Reversing the Epidemic over its five-year period. The Third Phase of NACP of program has dramatically scaling up targeted interventions in order to achieve a very high coverage of the most at-risk groups. Under this phase, surveillance and strategic information management also receive a big boost. Partnerships with civil society organizations was at paramount in the implementation of the program with special focus on involvement of community in the program planning and implementation [5].

On completion of NACP III, government of India has realized their strengthens and with the help of development partners and donor agencies, NACO designed the program activities for NACP IV.

NACP IV, launched in 2012, aims to accelerate the process of reversal and further strengthen the epidemic response in India through a cautious and well-defined integration process over the next five years. The focus of this phase will be primarily on scaling up prevention through NGOs and sustaining the efforts and results gained in last 3 phases and integration with the health systems response to the epidemic e.g. through provision of ART, STI services, and treatment of opportunistic infections through the National Rural Health Mission [6].

NACP IV covers the following five components-

- Component 1: Intensifying and Consolidating Prevention services with a focus on HRG and vulnerable populations
  - Scaling up coverage of TIs among HRG
  - Scaling up of interventions among other vulnerable populations
- Component 2: Expanding IEC services for (a) general population and (b) high risk groups with a focus on behavior change and demand generation
- Component 3: Comprehensive Care, Support and Treatment
- Component 4: Strengthening institutional capacities
- Component 5: Strategic Information Management Systems (SIMS) [7]

Progress of India in achieving the elimination HIV&AIDS

To achieve the third Sustainable Development Goal (SDG), which aims to ensure healthy lives and promote wellbeing for all people of all ages, it is essential to end the AIDS epidemic by 2030 [4].

The primary indicator used to assess the effectiveness of the HIV/AIDS response in the SDG era is the HIV incidence rate per 1000 people who are not affected [8].

Typically, the number of new HIV infections and AIDS-related fatalities have decreased by 23% and 39%, respectively, globally between 2010 and 2019 [9].

According to the recently published India HIV Estimation 2019 report, since the epidemic's peak in 2000, the estimated adult (15-49 years) HIV prevalence trend in India has been dropping, and more recently, it has stabilized. In 2019, this indicator's estimate ranged from 0.17 to 0.29 percent. (see Figure 1). HIV prevalence was estimated to be 0.24% (0.18-0.32%) for adult males (15-49 years) and 0.20% (0.15-0.26%) for adult females in the same year [10].

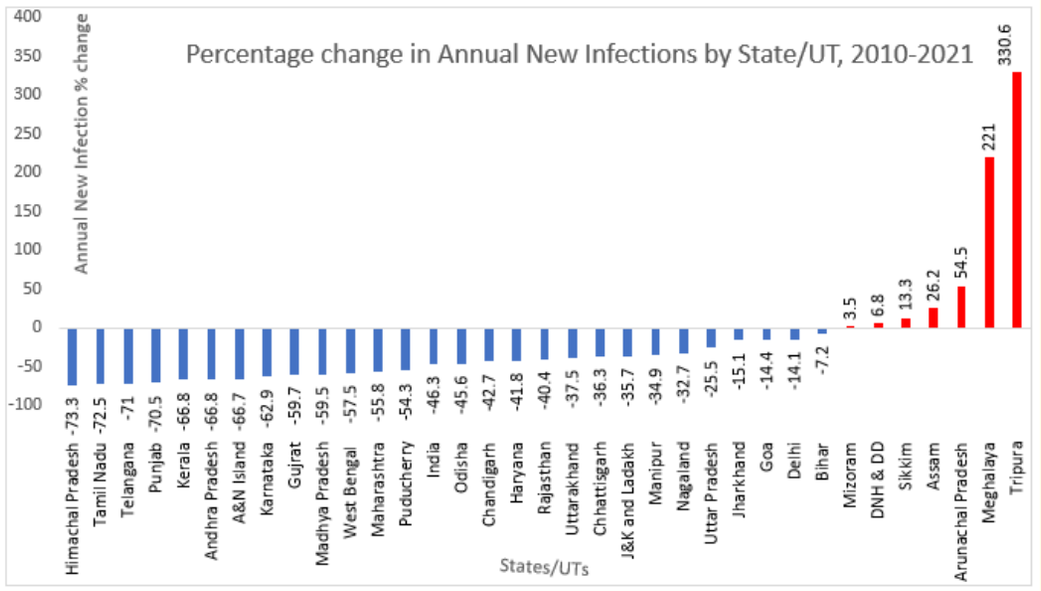

Figure 1: Annual new infection percentage change in different states/UTs in India.

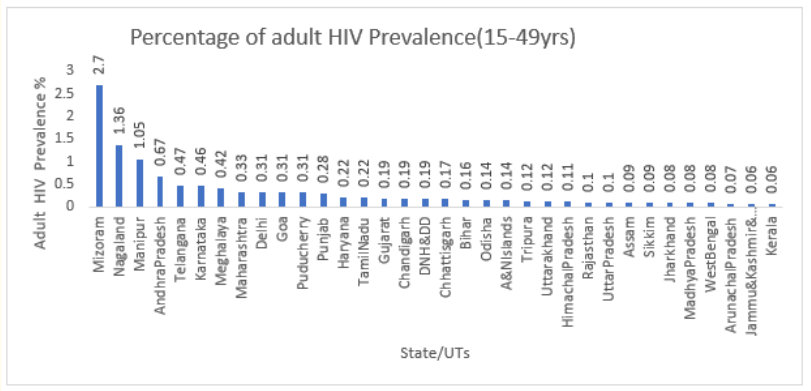

Figure 2: Adult HIV Prevalence percentage in different states/UTs in India.

Since the epidemic's peak in 2000, when prevalence was projected to be 0.55% nationally, it has decreased to 0.32% nationally, 0.21% nationally, and 0.21% nationally in 2021. Adult HIV prevalence is highest in the states in the north-east area (2.70% in Mizoram, 1.36% in Nagaland, and 1.05% in Manipur), then in the south (0.67% in Andhra Pradesh, 0.47% in Telangana, and 0.46% in Karnataka). Estimates place the number of HIV-positive individuals (PLHIV) at about 24.01 lakh. The top three states with the highest percentage of PLHIV are Maharashtra, Andhra Pradesh, and Karnataka [11].

In India, there are expected to be 62.9 thousand annual new infections (ANI) in 2021. From 2010 to 2021, ANI decreased nationally by 46.3%. Most States have a dropping tendency, with Telangana (almost 71% decline), Tamil Nadu (about 72% decline), and Himachal Pradesh (approximately 73% decline) experiencing the fastest declines. The northeastern States of Tripura, Meghalaya, Arunachal Pradesh, Assam, Sikkim, Mizoram, and the Union Territory of DNH&DD are all predicted to be on the rise. 41.9 thousand AIDS-related deaths (ARD) are anticipated in India in 2021. Nationally, it has been predicted that ARD will decrease by 76.5% between 2010 and 2021. All States and UTs, with the exception of Puducherry, Arunachal Pradesh, Meghalaya, and Tripura, are showing a downward trend. Chandigarh, Telangana, and West Bengal are predicted to have experienced the greatest drop in ARD [11].

The predicted number of HIV-positive individuals (PLHIV) in 2021 was 24.01 lakh. Adults (15+ years) are thought to be responsible for 97% (23.31 lakh) of all infections, whereas kids (0-14 years) are thought to be responsible for 3% (0.69 lakh). Seven percent (1.70 lakh) of all PLHIV cases were thought to be among young persons (15 to 24 years old) (Figure 3). Adult male and female populations made up 55% and 45%, respectively, of the total estimated infections, according to sex disaggregation [11].

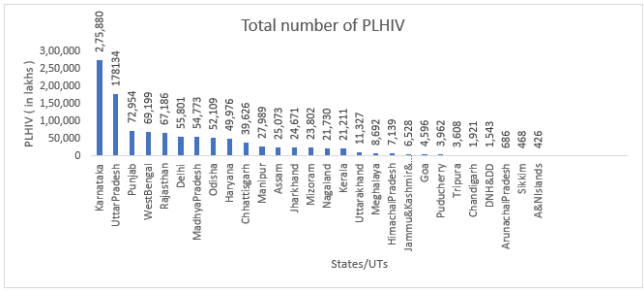

Figure 3: Total number of PLHIV (in lakhs) in different states/ UTs in India.

The NACP phase-V goals of achieving an 80% decline in annual new HIV infections and AIDS related deaths from 2010 to 2026 and advancement towards the Sustainable Development Goal of "ending the AIDS epidemic as a public health threat by 2030" still need to be met, even though there has been success in reversing the trends of the HIV epidemic and reducing the number of new HIV infections and AIDS related deaths during the period 2010-2021 [11].

Comparison of National AIDS Control Programme targets with achievements

The program has set various targets and milestones over the years, this is a comparison of the NACP targets and achievements according to NACO in India till 2021 (Table 1).

S. NO.	Objective	Target	Achievements
1	Reduce new infections	75% by 2020	by 37% from 2010 to 2019.
2	Achieve 90-90-90 targets, (90% of people living with HIV diagnosed, 90% of diagnosed people on antiretroviral therapy (ART), and 90% of people on ART achieving viral suppression)	2020	As of 2019, 79% of people living with HIV were diagnosed, 62% of diagnosed people were on ART, and 53% of people on ART achieved viral suppression.
3	Reduce AIDS-related deaths	50% by 2020	37% from 2010 to 2019
4	Increase access to condoms and harm reduction services	-	The availability of free condoms has increased from 5 condoms per person per year in 2007 to 10 condoms per person per year in 2019.
5	Reduce stigma and discrimination against people living with HIV/AIDS	-	The government has implemented various measures to reduce stigma and discrimination, including legal protection, awareness campaigns, and sensitization of healthcare workers. However, stigma and discrimination continue to be a significant barrier to HIV prevention and treatment in India

Table 1: NACP IV achievements [11-14].

Barriers in achieving the goal

Despite so many steps being taken the we still are behind the targets. The efforts made to end this HIV endemic need to fill in the small gaps that in turn results in a major increase in the graphs. Out of many, two important missing links from the cycle of elimination is discussed below.

Shortage of ART drugs

In 2018, there were reports of ART drug shortage in some parts of the country due to delayed procurement and distribution of drugs by the government. This shortage affected the supply of some critical drugs such as tenofovir, lamivudine, and efavirenz, leading to difficulties in accessing treatment for people living with HIV/AIDS. More recently, in May 2021, there were reports of ART drug shortage in some parts of India due to the disruption in the supply chain caused by the COVID-19 pandemic. The lockdowns and restrictions on movement had affected the transportation of drugs and medical supplies, leading to a shortage of ART drugs in some regions [15]. Also a shortage of ARV drugs in ART Centers was witnesses in August 2022 [16] and the HIV patients are compelled to protest for the issue. Again shortage was reported on 4th march 2023 [17].

The short supply of HIV drugs can have serious consequences for people living with HIV/AIDS. Viral rebound caused by ART interruptions increases the risk of medication resistance and treatment failure. People with HIV are more vulnerable to opportunistic infections and diseases, if they lack access to medicines. Thus, increase in mortality and morbidity with increased medical expenses.it also results in reduced adherence to the drug regime and an increase in the risk of HIV transmission [18].

Short supply of ART medicines forced them frequent visit at ART center caused increased pocket expenditure. Participants mentioned about fear of disclosure of HIV positive status psychologically created negative influences on client's mind which might reluctant to access HIV services [19].

A 6-month interruption of supply of antiretroviral therapy (ART) drugs across 50% of the population of people living with HIV who are on treatment would be expected to lead to a 1·63 times (median across models; range 1·39-1·87) increase in HIV-related deaths over a 1-year period compared with no disruption [20].

Missing Advertisements and awareness campaigns:

Since the 1960s, mass media-delivered health interventions, also known as public communication campaigns or social marketing campaigns [21-23] have been an important strategy for many health behavior change.

Mass media-based interventions have been an integral part of HIV prevention since the mid-1980s, when many nations began sponsoring national campaigns, and community-based groups began developing local interventions. Using the mass media within an HIV prevention intervention provides such advantages as wide reach, standardization and repetition of messages, and the ability to use different content formats, including entertainment, news, and short advertisements or announcements [24].

According to the project director of Assam, the campaign's focal points should be the risk categories. Compared to the 1990s, the fear psychosis associated with HIV/AIDS is decreasing. Nowadays, there aren't many awareness programmes on television. Resources must be mobilized, and awareness levels must rise. People in rural Assam don't want to admit to having HIV. He believed that more than 20 years ago, Assam received its first report of an AIDS case. But even today, widespread understanding of HIV/AIDS is appalling, especially among people between the ages of 15 and 49, according to a National Family Health Survey (2015-16) research published [25].

Authorities stated on that Telangana's men are lagging behind their counterparts in other states in terms of comprehending the hazards of HIV/AIDS, with the percentage of males with HIV awareness declining from 51% in 2015-16 to a concerning 32% in 2019-20. In the same time frame, the proportion of men who believe that regularly wearing condoms reduces their risk of developing HIV fell from 81% to 75%. It's interesting to note that in 2019-2020, 30.7% of Telangana women learned about the connection between contraception and STDs. The number of males who are aware of the advantages of utilizing contraceptive techniques to prevent (HIV/AIDS) has declined by 20% over the last five years, according to data encompassing several facets of awareness. In the past five years, there has been a 6.2% decline in the proportion of men (15-49 years old) who are aware that regular condom usage can lower the risk of contracting HIV/AIDS (75.3). However, 9.2% of women, or 68.9%, became aware of the same concern during the period. Experts call for a public awareness campaign on this subject because men's lack of knowledge will lead to more women experiencing violence [26].

Conclusion

Overall, while India has made significant progress in controlling the spread of HIV/AIDS, there is still much work to be done in achieving the targets set by the NACP. The comparison highlights and brings in picture some of the areas that needs special attention. The government and various stakeholders continue to work towards reducing new infections, improving access to treatment, and reducing stigma and discrimination. To secure the population-level decreases in HIV incidence required to eradicate AIDS by 2030 and to assure fairness in the global AIDS response, gaps and discrepancies in testing and treatment coverage across nations, sub-national territories and population categories, must be closed.

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