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THE DECLINING TREND OF HIV PREVALENCE IN INDIA AND ASSOCIATED FACTORS

Medical Science

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ABSTRACT

India has been fighting HIV/AIDS since decades and with sustained efforts it has been able to reduce the adult prevalence of the same. National AIDS Control Program has played a major role in estimating the burden of the disease, fund allocation, prioritization and advocacy. Year after year the prevalence is declining but along with certain peculiarities. This commentary tries to throw light on this trend and the possible associated factors.

KEYWORDS

HIV, Prevalence, India, NACP, Declining trend.

The HIV/AIDS epidemic still remains a major public health concern in the World Health Organization (WHO) South-East Asia region. The region, comprising 11 member states, is home to a quarter of the world's population and has the second largest HIV burden after sub-Saharan Africa [1]. The first cases of HIV infection in India were detected in 1986 among female sex workers in Chennai. A rapid increase followed in many states. The current national prevalence is about 0.26% compared with a global average of 0.2%, but the figure in most high-risk groups including female sex workers is much higher (up to 7%) [2]. The National AIDS Control Program (NACP) was started in1992, with the objective of understanding the HIV disease burden and epidemiological trends [3,4]. The program has undergone evolution since its conception and each phase brings with it certain changes. Though the prevalence of HIV has largely seen a downward trend since years, some trends are noticeable due to different factors. State-specific adult HIV prevalence is estimated using WHO/UNAIDS Workbook restructured in 2006 for Indian epidemic situation. It includes five sub-populations viz., intravenous drug users (IDU), men having sex with men (MSM), female sex workers (FSW), long distance truckers and the general population represented by the antenatal clinic attendees. The number of adult HIV positives among each risk group in a state is derived as the product of the respective population size and the HIV prevalence. The national estimate for adult HIV prevalence is derived as the percentage of total infections across the states over the national population. There is evidence in some places that longstanding prevention programs may be working as ANC trends are declining. In other areas, increasing trends are worrisome [5]. The details of the rise and fall of HIV prevalence in India and in various states from 2003 to 2015 has been depicted in ***Table 1***.

The following part of the article tries to throw light on peculiarities of state wise prevalence of HIV and the possible driver forces.

Year-wise trends of HIV Prevalence:

2007: The overall HIV prevalence among different population groups in 2007 continues to portray the concentrated epidemic in India, with a very high prevalence among High Risk Groups – IDU (7.2%), MSM (7.4%), FSW (5.1%) & STD clinic attendees (3.6%) and low prevalence among ANC clinic attendees (Population adjusted - 0.48%) [6]. The highest number of PLHA is in Andhra Pradesh and Maharashtra, with nearly half-a-million PLHA each. The four South Indian states contribute 60% of all PLHA in the country and along with West Bengal, Gujarat and Uttar Pradesh, they contribute 80% of PLHA in India. Though Manipur and Nagaland have the highest HIV prevalence in the country, due to small population size, the estimated number of PLHA in these two states is less than 25,000.

2008-2009: The 2008/2009 HIV estimates highlighted the declining trend of annual AIDS deaths post 2004. Approximately 172,000 people died of AIDS related causes in 2009 in India [7]. The decline is directly attributable to the wider access to ART, made available with roll out of free ART in 2004 and the ability for the National AIDS Control Program to cover treatment needs for HIV and AIDS, co-infections and provide care services.

2010-2011: For the first time, HSS 2010-11 estimates showed that all states have shown less than 1% HIV prevalence among ANC clinic attendees [8]. New sentinel sites were set up at migrant destination points during HSS 2010-11. Amongst the 34 Indian States/Union Territories the epidemic is a defined as a concentrated non-IDU epidemic in all states with the exception of Manipur and Nagaland where the epidemic is defined as a concentrated IDU epidemic. An overall decline in HIV prevalence among ANC clinic attendees has been noted at national level, in all high prevalence states and some low prevalence states. Higher ANC prevalence in rural than urban population, higher prevalence among pregnant women with migrant spouses and very low levels of HIV among HRG, coupled with evidence generated beyond HSS, point towards possible role of migration in the spread of epidemic in some low prevalence states of North India [8]. As new sites are set up only in the last round of HSS, there is no reliable data on trends of HIV among migrants.

Other key initiatives taken up during HSS 2010-11 were expansion of HRG and bridge population sites, setting up of rural composite ANC sites at PHC level, Dried Blood Spot (DBS) method, introduction of bi-lingual data forms with instructions for the first time (data forms translated into Hindi & 7 regional languages), development of web-based (SIMS) Application for HSS with separate modules for data entry, data monitoring, lab monitoring & field monitoring, ensuring external quality assurance mechanisms through online reporting and special focus on strengthening field supervision.

2012-2013: In year 2012-13, it was seen that the HIV epidemic in the country continues to be heterogenic, especially in terms of its geographical spread [9]. The declining trend among ANC clients, considered as a proxy for general population, is consistent with India's story of large scale implementation and high coverage during NACP-III. The year 2012-13 marks the transition of the National AIDS Control Program (NACP) from Phase III to Phase IV. Various strategic improvements in implementation of HSS were made like introduction of informed consent at HRG sites, standardization of training protocols, development of 4-tier supervisory structures, focus on supportive supervision and action-oriented monitoring, increased focus on quality in all aspects specially testing and initiation of epidemiological investigation into unusual findings.

2014-2015: In year 2014-15, the novelty introduced in HSS was measuring syphilis sero prevalence along with HIV [10]. Overall the Syphilis sero-positivity was low at 0.14% (90% CI; 0.13-0.15). Seven states recorded Syphilis sero-positivity above the national average with Madhya Pradesh (0.98%) having the highest sero-positivity followed by Meghalaya (0.48%), Rajasthan (0.34%), Arunachal Pradesh (0.28%) and Nagaland (0.21%). Telangana (0.08%) and Punjab (0.07%) recorded Syphilis sero-positivity slightly lower than national average.

Management of HIV in India has significantly improved with many international and local programs supporting prevention and treatment [11]. However, there are areas in India where women and children living with HIV endure a myriad of medical, psychological and social

challenges. In conclusion, despite progression by India in advancing towards prescribed national targets—and as reflected from 2008/2009 India HIV estimates—much remains to be done for halting and reversing HIV considering that in absolute terms; a large proportion of India's populous is infected or affected with HIV. A proliferation of the epidemic must be thwarted with zero new infections made as the principle target.

Conflict of interest: None

Table 1: State wise HIV Prevalence amongst ANC Clinic Attendees over the Years

STATE	2003	2004	2005	2006	2007	2010-11	2012-13	2014-15
All India	0.80	0.95	0.9	0.6	0.48	0.40	0.35	0.29
Andaman & Nicobar	0.5	0	0	0.17	0.25	0.13	0	0.06
Andhra Pradesh	1.25	1.63	1.75	1.26	1	0.76	0.59	0.35
Arunachal Pradesh	0	0.2	0.46	0	0	0.21	0.26	0.06
Assam	0	0	0	0	0	0.09	0.16	0.18
Bihar	0	0	0	0.5	0.25	0.17	0.33	0.37
Chandigarh	0.5	0.5	0	0.25	0.25	0	0	0.25
Chhattisgarh	0.58	0	0.25	0	0.25	0.43	0.51	0.41
Dadra & Nagar Haveli	0.25	0	0.25	0	0.5	0	0	0
Daman & Diu	0.33	0.38	0.13	0	0.13	0.13	0.13	0.25
Delhi	0.13	0.38	0.25	0	0.25	0.3	0.4	0.25
Goa	0.5	1.13	0	0.5	0.18		0.25	0.08
Gujarat	0.25	0.13	0.25	0.5	0.25	0.46	0.5	0.56
Haryana	0.41	0	0.13	0.13	0.13	0.19	0.17	0.25
Himachal Pradesh	0	0.13	0.13	0	0	0.05	0.04	0
Jammu & Kashmir	0	0.08	0	0	0	0.06	0.07	0.05
Jharkhand	0	0	0.13	0	0	0.45	0.19	0.18
Karnataka	1.25	1.25	1	1	0.25	0.69	0.53	0.36
Kerala	0	0.33	0.25	0.13	0.38	0.13	0.03	0.05
Lakshadweep	0	0	0	0	0			
Madhya Pradesh	0	0.25	0.25	0	0	0.32	0.14	0.13
Maharashtra	0.75	0.75	1	0.75	0.5	0.42	0.4	0.32
Manipur	1	1.38	1	1.25	0.75	0.78	0.64	0.6
Meghalaya	0.35	0	0	0	0	0.05	0.26	0.16
Mizoram	0.97	1.5	0.81	1	0.75	0.40	0.68	0.81
Nagaland	1.13	0.95	1.5	0.93	0.6	0.66	0.88	1.29
Odissha	0	0.5	0.25	0.5	0	0.43	0.31	0.24
Pudducherry	0.13	0.25	0.25	0.25	0	0.13	0	0.13
Punjab	0	0.25	0.13	0	0	0.26	0.37	0.32
Rajasthan	0	0	0.13	0	0.13	0.38	0.32	0.32
Sikkim	0.25	0	0.25	0.1	0.09	0.09	0.19	0.13
Tamil Nadu	0.5	0.67	0.5	0.25	0.25	0.38	0.36	0.27
Tripura	0	0.25	0	0.42	0.25	0	0.19	0.19
Uttar Pradesh	0	0.25	0	0	0	0.21	0.2	0.21
Uttarakhand	0	0	0	0	0	0.25	0.27	0.12
West Bengal	0.5	0.5	0.84	0	0	0.13	0.19	0.11

[Source: Original]

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