HIV Infection and AIDS: Indian and Global Scenario

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Abstract

Acquired immuno-deficiency syndrome (AIDS) also called "slim disease" has evolved from a mysterious illness to a global pandemic which has infected millions of people across the world. On the verge of the fourth decade of AIDS epidemic,the world has turned the corner; it has halted and begun to reverse the spread of HIV/AIDS infection. Although the prevalence of HIV infection is increasing worldwide as people living with HIV/AIDS (PLHA) are living longer due to effective antiretroviral therapy (ART), due to which new HIV infection and AIDS related deaths were decreased in the last ten years. India ranks 3rd in the world in terms of the number of HIV infected people , although ART and preventive measures are being taken to curb the spread and transmission of HIV/AIDS in high risk groups. Nevertheless, highly sustained economic, social and political motivation is required to reduce the burden of HIV/AIDS in India and worldwide.

Introduction

Acquired immuno-deficiency syndrome (AIDS) is one of the most destructive illness humankind has ever faced. It causes profound social, economic and public health consequences and has become one of the world's most serious health and development challenge. The first case of AIDS was reported in

1981 and since the beginning of the pandemic more than three decades ago, approximately 30 million HIV infected people worldwide have succumbed to AIDS-related illnesses [1].

Global Problems

During early 1980s, AIDS was an emerging illness, and since then it has alarmingly grown in number and evolved into a global pandemic. As per the United Nations Programme on HIV and AIDS (UNAIDS) 2014, the total numbers of people living with AIDS worldwide stands at 36.9 million, of which 34.3 million are adults, 17.4 million are females and 2.6 million are children. During 2014, the total number of newly infected people with HIV was 2 million, out of which 1.8 million were adults while 0.22 million were children. Total deaths from AIDS during 2014 were 1.2 million of which 0.15million were children [2].

Maximum prevalence of AIDS is reported in the Sub-Saharan Africa and Asia, with both the regions contributing around 85% of toral cases worldwide followed by Latin America and Eastern Europe. As per UNAIDS, about 5,600 people got infected with HIV everyday of which about 66% hailed from Sub-Saharan Africa;, 600 were children under 15 years of age;, 5000 were adults , of whom almost 48% were women and about 30% were young people (15-24 years of age) [2].

Global Trends in Last Decade

The number of HIV infected population has jumped from 31.7 million in 2003 to 35.3 million in 2013, as a result of continuing new infections, people living longer with HIV and population growth. The global prevalence rate which was 0.8 % in 2013 has levelled since 2001. The number of people newly infected with HIV has declined in the last decade, contributing to the stabilization of the epidemic. The estimated numbers of children acquiring HIV in low- and middle-income countries have also decreased since the year 2000: from 5,36 ,000 in 2000 to 3,20 ,000 in 2012. The number of AIDS-related deaths has also declined in the last decade. The number of AIDS-related deaths fell down from a peak of 2.2 million in the mid-2000s to 1.6 million in 2012, due to the more widespread availability of antiretroviral treatment (ART), since its introduction in 1996. By the end of 2009, since the advent of Highly Active Antiretroviral Therapy (HAART) in 1996, it is estimated that HAART has saved an estimated 14.4 million life-years worldwide. In 2012, 62 % of pregnant women living with HIV in low- and middle-income countries received the medicines they needed to prevent transmission of HIV to their babies. In the 22 top priority countries of the Global Plan, to eliminate new HIV infections among children, overall mother-to-child transmission rates have declined from an estimated 26 % in 2009 to 17 % in 2012. In the low- and middle-income countries, the availability and uptake of HIV testing has increased considerably in recent years. Yet, a large proportion of people infected with HIV are still unaware of their HIV status. Approximately 9.7 million HIV cases in low- and middle-income countries were receiving ART, a 50% jump over 2010 [2].

In America, the Caribbean countries and the Western the Europe, cases of new HIV infection has remained relatively stable since 2001 while in Eastern Europe and Central Asia, it has increased since 2008. There has been 25% drop in new cases in Eastern Asia during last decade [2].

The number of new HIV infections globally declined 19% over the past decade. In 15 high

burden countries, HIV prevalence declined more than 25% among young people aged 15-24 years. These declines are largely attributable to the expanded and improved HIV programmes related factors like access to antiretroviral therapy in low- and middle-income countries which increased from only 0.4 million people in 2003 to 5.25 million receiving the therapy by end 2009;, significant reductions in the price of first-line antiretroviral medicines enabling low-income countries to provide a year of antiretroviral therapy at a low cost; and as high as 53% of pregnant women living with HIV gaining access to antiretroviral medicines in 2014 to prevent transmission of HIV to their infants, up from 45% in 2008 [2].

Indian Scenario

National adult (aged 15–49 years) HIV prevalence is 0.26% in 2015. The prevalence rate among males stands at 0.30%, while among females it is 0.22%.

Among the States/Union Territories, in 2015, Manipur has shown the highest estimated adult HIV prevalence of 1.15% followed by Mizoram (0.80%), Nagaland (0.78%), Andhra Pradesh & Telangana (0.66%), Karnataka (0.45%), Gujarat (0.42%) and Goa (0.40%). Besides these States, Maharashtra, Chandigarh, Tripura and Tamil Nadu have shown estimated adult HIV prevalence greater than the national prevalence (0.26%), while Odisha, Bihar, Sikkim, Delhi, Rajasthan and West Bengal have shown an estimated adult HIV prevalence in the range of 0.21– 0.25%. All other States/UTs have levels of adult HIV prevalence below 0.20%.The adult HIV prevalence at the national level has continued its steady decline from an estimated peak of 0.38% in 2001-03 through 0.34% in 2007 and 0.28% in 2012 to 0.26% in 2015. Similar consistent declines are noted both in males and females at the national level [3].

The total number of people living with HIV (PLHIV) in India is estimated at 21.17 lakhs in 2015 compared to 22.26 lakhs in 2007.

Children (aged < 15 years) account for 6.54%, while two fifth (40.5%) of total HIV infections are seen among the females. Undivided Andhra Pradesh and Telangana have the highest estimated number of PLHIV (3.95 lakhs) followed by Maharashtra (3.01 lakhs), Karnataka (1.99 lakhs), Gujarat (1.66 lakhs), Bihar (1.51 lakhs) and Uttar Pradesh (1.50 lakhs). These seven States together account for about two thirds (64.4%) of total estimated PLHIV in India. The estimated number of PLHIV in India has been more or less stable during 2013-15 [3].

India is estimated to have around 86,000 new HIV infections in 2015 showing a 66% decline in the number of new infection cases from 2000 and a 32% decline from 2007- the year being set as the baseline in the National AIDS Control Programme (NACP). Children (aged<15 years) accounted for 12% of total new infections while the remaining cases of new infections were among the adults. Andhra Pradesh & Telangana, Bihar, Gujarat and Uttar Pradesh currently account for 47% of total new infections among adults in 2015. New infections among adults have declined by 50% or more during 2007-2015 [3].

Since 2007, when the number of AIDS-related deaths started to show a declining trend, the annual number of AIDS-related deaths has declined by 54%. In 2015, 67,000 people died of AIDS-related causes nationally. This decline is consistent with the rapid expansion of access to ART in the country. It is estimated that the scale-

up of free ART since 2004 has saved cumulatively around 4.5 lakh lives in India until 2014 [3].

It is estimated that around 35,000 HIV-positive pregnant women needed prevention of parent--to-child transmission services (PPTCT) in 2015. The overall number of pregnant women needing PPTCT has declined in the country from 52,000 in 2007 to 35,000 in 2015 [3].

Nearly, 13.45 lakh PLHIV needed ART in 2015. This includes 12.71 lakh adults and 75,000 children. These results reaffirm, in no uncertain term the country's success story in responding to the HIV/AIDS epidemic. India has successfully achieved the 6th Millennium Development Goal (MDG) of halting and reversing the HIV epidemic. Between 2000 and 2015, there is a reduction of 66% against a global average reduction rate of 35% in new HIV infection cases. By 2007, AIDS-related deaths started to decline, falling by 54% from 2007 to 2015 against a global average decline of 41% during 2005-15 [3].

Trends in Modes of Transmission

As strategized in National AIDS Control Program (NACP) - IV, prevention will continue to be the core strategy as more than 99% of the people are HIV negative. The epidemic continues to be concentrated in subgroups of population that are likely to engage in high-risk behaviour, making them vulnerable to HIV infection. Such groups are referred as high risk groups (HRGs). In India, Female Sex Workers (FSW), Men who have Sex with Men (MSM), Transgender (TG) and Injecting Drug Users (IDU) have been identified as the core HRGs. Further, it has been observed that two other population groups, long distance truckers and migrant workers play a key role in the spread of HIV infection [4].

Considerable decline in HIV prevalence has been recorded among FSW at the national level (5.06% in 2007 to 2.67% in 2011) and in most of the states where long-standing targeted interventions have focused on behaviour change and increasing condom use. Declines have been achieved among MSW (7.41% in 2007 to 4.43% in 2011) also, though several pockets in the country have shown higher HIV prevalence among them with mixed trends [4].

Prevalence of HIV in pregnant females is 0.35% (2012-13), migrants is 0.99 % ,truckers is 2.59 % and transgender is 8.82% (2011) . In some of the North Eastern States, Injecting Drug Use (IDU) has been identified to be the major vulnerability fuelling the epidemic. Stable trends have been recorded among Injecting Drug Users at the national level (7.23% in 2007 to 7.14% in 2011) [4].

Unprotected sex (88.2% heterosexual and 1.5% homosexual) is the major route of HIV transmission followed by transmission from parent to child (5%) and the use of infected blood and blood products (1%).While injecting drug use is the predominant route of transmission in north eastern states, it accounts for 1.7% of HIV infections whereas 2.7% account for unknown causes [5].

The majority of the reported AIDS cases (83%) have occurred in the sexually active and economically productive 15 to 44 year age group followed by 13.5% in the age group of > 45 years and 3.5% in the under-15 year age group.

It is reported that HIV prevalence and incidence is more among the urban population in most parts of the country. However in Maharashtra and Tamil Nadu, HIV prevalence is found to be higher among the rural population [6].

Programmes for Prevention of HIV/AIDS and Unmet Needs

Targeted Interventions (TI) are meant for prevention of HIV infection among high risk groups in defined geographical area. Coverage of TI for high risk groups in India is still not satisfactory. As per National AIDS Control Organization (NACO)'s 2015 estimates, the targeted interventions (TI) coverage of FSW is 80.18% followed by IUD 74.58%, MSM 68.35% and transgender 25.71%. Under the TI projects, the attendance of HRGs has improved in reproductive tract infection (RTI) /sexually transmitted diseases (STD), clinics but their numbers treated is still very low. During 2014-15, among HRGs 8.53% truckers and 7.1% migrants were treated for STI/RTI while treatment of FSW, MSM, TG, and IDU remained quite low, ranging from 1.92% to 2.8%. At Integrated Counselling and Testing Centre (ICTC) during 2014-15, HIV testing was better in MSM (70.96%),FSW (69.93%), IDU (66.81%) and TG (52.92%) as compared to migrants (14.93%) and truckers (8.68%), while HIV positivity remained quite low around 1% or less. Condom distribution was highest among FSW, followed by MSM, while the same was unsatisfactory among TGs and IDUs. In order to reduce HIV transmission among IDUs, under targeted intervention, syringes and needles were distributed to IDUs. During 2014-15, 71% of all IDUs could return syringes and 64% could return needles [7].

As of March 2014, 425 ART centres, 870 link ART centres,10 centres of excellence, 37 ART Plus centres , 224 care and support centres and 7 paediatrics centres of excellence were functioning in the country [8].

Conclusion

In the high-risk groups, HIV prevalence has been declining significantly due to targeted interventions. However, India still continues to be in the category of countries with concentrated epidemic. Although HIV prevalence have begun to decline in high HIV burden states but pockets of high HIV transmission still continue. However, new areas of high prevalence are emerging in low prevalence states. Economic losses due to HIV/AIDS are tremendous, putting high burden on the country. Hence, prevention of transmission is only the key factor to reduce the socio-economic loss pertaining to HIV infection / AIDS. Apart from that, discrimination and stigma is quite high which must be curbed in every domain of life of HIV-infected people, creating a positive environment for them, thereby enabling them to gain access to the best possible health care and occupational opportunities.

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