

HIV/AIDS and Indian youth – a review of the literature (1980 - 2008)

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Abstract

The main objective of this article is to provide a comprehensive overview of the situation regarding HIV/AIDS among youth in India, and explore the possible strategies that could be effective in combating the spread of this disease. India is in the grip of the HIV/AIDS epidemic, with an increasing number of infections being reported among youth, who comprise a quarter of the population but account for almost one-third of the HIV/AIDS burden. The prevalence in young women appears to be on the rise. Although the majority of youth are aware of the disease, a number of myths and misconceptions still prevail. Furthermore, or as a consequence, a higher percentage of young males report engaging in premarital sexual activity compared with females. Even though condom awareness is fairly high, condom usage is low. Of late, sex tourism and its implications for the HIV/AIDS epidemic present an increasing concern. Indian youth appear to hold negative attitudes towards HIV testing and people living with HIV/AIDS. Although a number of preventive and control programmes and policies exist, these need further strengthening and evaluation.

Keywords: Youth, HIV/AIDS, knowledge, sexual behaviour, condom.

Résumé

L'objectif principal de cet article est de fournir une synthèse détaillée de la situation relative au VIH/SIDA chez les jeunes en Inde, et d'étudier les stratégies possibles pouvant s'avérer efficaces pour lutter contre la propagation de cette maladie. L'Inde est en proie à une épidémie de VIH/SIDA, un nombre de plus en plus important d'infections étant rapporté chez les jeunes, qui représentent le quart de la population, mais quasiment le tiers des personnes touchées par le fléau du VIH/SIDA. La prévalence chez les jeunes femmes est en augmentation. Bien que la majorité des jeunes aient conscience de la maladie, de nombreux mythes et opinions fausses prévalent toujours. De plus, ou en conséquence, un pourcentage plus important de jeunes hommes que de jeunes femmes indiquent prendre part à une activité sexuelle avant mariage. Bien qu'ils soient conscients de l'importance du préservatif, son utilisation est relativement faible. Depuis peu, le tourisme sexuel et ses implications pour l'épidémie de VIH constituent une préoccupation de plus en plus importante. La jeunesse indienne semble adopter des attitudes négatives à l'égard du dépistage du VIH et des personnes vivant avec le VIH/SIDA. Bien qu'un nombre important de programmes et de politiques de prévention et de contrôle existe, il est nécessaire de les renforcer davantage et de les évaluer.

Mots clés: Jeunesse, VIH/SIDA, savoir, comportement sexuel, préservatif.

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'Only 35.3% of single girls in urban Maharashtra (India) know that they could get pregnant in their first sexual encounter. A mere 35.1% of unmarried boys consistently used condoms with pre-marital partners' – A Times of India Report, 15 Feb 2008.

In India, young people in the age group 15 - 24 years comprise almost 25% of the country's population; however, they account for 31% of the AIDS burden. (NACO; MOHFW 2007). Well-known factors such as peer pressure, increasing levels of social interaction with the opposite sex, and even household factors like broken homes and poverty, contribute to increased sexual activity and promiscuity (Jessor, 2000; Kirby, 2002; Romer, Black, Ricardo, Feigelman, Kaljee, Galbraith *et al.*, 1994). In a conservative society where sex-related issues constitute a taboo for discussion, young people are hindered from actively seeking counselling regarding sexual health. Social ostracism and disease-associated stigma have created an attitude of negativity and shame in the minds of especially young people. This results in lack of knowledge about self-protection measures, leading to a silent spread of the disease. Despite these worrisome statistics, some Indian states have banned sex education in schools, following protests from legislators that it would have a negative impact on the vulnerable minds of school students. Widespread ignorance about the disease is still prevalent, even among youth belonging to the affluent sections of society. According to an evaluation by Anand, Pandav and Nath (1999), it has been projected that an estimated 2.5 billion HIV-infected people in India would be likely to lead to an annual cost of 20.16 billion rupees (US \$ 386 870 407). This emerging pandemic in the young, who comprise the most productive age group, will certainly have an adverse impact on the country's economy.

The present paper aims to review the situational analysis of HIV/AIDS among youth in India regarding epidemiology, knowledge and behaviour regarding HIV/AIDS, the programmes and policies which address HIV/AIDS in the young, as well as recommend programme strategies to combat the spread of this dreaded epidemic in the country's future productive age group. A thorough literature review has been conducted by retrieving related studies using a Medline search and extracting the latest findings from the official websites of the national level surveys, which include the National Family Health Survey-3, the National Behavioural Surveillance Survey among youth, and current reports from the National AIDS Control Organisation.

Trends of HIV infection among youth

There are 2.5 million HIV-infected people in India, with the overall prevalence being 0.36%. The high-prevalence states include Andhra Pradesh, Karnataka, Maharashtra, Manipur,

Nagaland and Tamil Nadu. The highest HIV prevalence among these states is found in Manipur and Karnataka for young women, and in Andhra Pradesh and Manipur for young men (NACO; MOHFW, 2007). One youth is reported to be infected with HIV/AIDS almost every 15 seconds (Population Foundation of India, 2003). HIV prevalence in the 15 - 19-year age category is 0.04%, while it is 0.18% in the age group 20 - 24 years (National Family Health Survey, 2005-2006). HIV prevalence among youth is highest (1.9%) among the small number of women who are divorced, separated, or widowed. The credibility of these data figures is very high because the sources of data included an expanded and upgraded sentinel surveillance, spread over 1 122 sentinel surveillance sites and covering all districts in the country, as well as a household survey with a sample size of over 102 000 people for HIV testing. Thus, this new composite methodology represents probably one of the most recent and accurate systems in the world. A final estimation using the above data sources was made by means of the WHO/UNAIDS Workbook, which has been developed to estimate and build future scenarios of HIV prevalence in countries with low-level and concentrated epidemics. This Workbook consists of a series of Excel spreadsheets composed of point prevalence worksheets and epidemic curve worksheets (WHO/UNAIDS, 2007).

Women too are becoming increasingly vulnerable to HIV/AIDS. Of the 2.5 million infected with HIV, 1 million are women (NACO, 2007). Factors which contribute to this trend include socio-economic reasons, such as early marriage, violence and sexual abuse, and biological factors which make them more susceptible. According to a study by Gupta, Gupta and Singh (2007), on HIV sero-prevalence among pregnant women attending the antenatal clinic at a tertiary care hospital in New Delhi, it was observed that the majority of the sero-reactive pregnant women (41.9%) were in the age group 20 - 24 years. However, this was a hospital-based study and does not reflect a community-based trend of infection. The age of the spouse appears to influence the risk of HIV. According to the NFHS-3 findings, it was seen that young women whose first sexual partner was 10 or more years older than them were almost twice as likely to be HIV positive than other women. These figures represent a significant source of data, since the National Family Health Survey-3 was a nationwide community-based household survey. Even in high-risk groups it is the young who are more prone to infection. According to Sarkar, Bal, Mukherjee, Saha, Chakraborty, Niyogi *et al.* (2006), in West Bengal, HIV prevalence among young (under 20 years) brothel-based commercial sex workers was more than twice as high as among their older counterparts (13% compared with 5.4%). In contrast to the rising trend of infection among women, some studies report a decline in HIV seropositivity among women over the

years. The age-standardised HIV-1 prevalence in women aged 15 - 24 years in southern states declined from 1.7% to 1.1% from 2000 to 2004 (Kumar, Jha, Arora, Mon, Bhatia, Millson *et al.*, 2006). Even among primigravid pregnant women in Pune, HIV prevalence seems to have declined from 2.2/100 PYs (person-years) in 2002 - 2003 to 0.73/100 PYs (person-years) in 2006 (Gupte, Sastry, Brookmeyer, Phadke, Bhosale, Bollinger, 2007). Once again, these were clinic-based studies, with a specific focus on pregnant women. The overall pattern of the disease may have been different had the study been conducted in the general population of women.

Knowledge and behaviour pertaining to HIV/AIDS

Knowledge, myths and misconceptions

Various studies report differing findings about the youth's knowledge with regard to the existence of HIV/AIDS. According to the Behavioural Surveillance Survey 2006 (NACO, 2007), as many as 86% of youth surveyed had heard about either HIV or AIDS, or both. The Behaviour Surveillance Survey included 25 sampling units covering a total of 97 240 respondents, with equal representation given to urban and rural participants. However, according to the National Family Health Survey 2005 - 2006 reports, only 36% of male youths and 20% of females had a 'comprehensive knowledge about HIV/AIDS', which includes knowledge about condoms as a preventive measure, knowing that an AIDS-afflicted person can still look healthy, and rejecting two AIDS-related misconceptions.

While the above-mentioned statistics are derived from nationwide surveys, different studies conducted in different settings report varying results, which could be attributed to the variation in socio-cultural and socio-economic conditions across different states which characterise the nation's diversity. Some studies report an awareness level of more than 90% among college youth (Aggarwal & Kumar, 1996; Kumari, 2004; Lal, Vasan, Sarma & Thankappan, 2000). Other studies report an awareness level of as low as 5% (Mahajan & Sharma, 2005). Also, urban youth are better informed, compared with rural youth (Aggarwal & Kumar, 1996; Lal, Kumar, Ingle & Gulati, 1994; Sodhi & Mehta, 1997). Females display lower knowledge levels in comparison to males (Lal *et al.*, 2000; NACO, 2007; Pramanik, Chartier & Koopman, 2006; Bhende, 1994).

Several disease-related misconceptions have been encountered. Many students do not even know that AIDS is incurable (Aggarwal & Kumar, 1996; Agrawal, Rao, Chandrasekhar & Coulter, 1999; Banerji & Mattle, 2005; Lal *et al.*, 2000; Sodhi & Mehta, 1997). A number of false notions in relation to modes

of transmission have been elicited. These include modes of transmission of the virus, such as drinking water, sharing utensils, using common swimming pools and insect/ mosquito bites (Aggarwal & Kumar, 1996; Ganguli, Rekha, Gupte, & Charan, 2002; Meundi, Amma, Rao, Shetty & Shetty, 2008; Pramanik *et al.*, 2006). Another common misconception is that an HIV-positive person cannot have a healthy appearance (Sodhi & Mehta, 1997).

Studies indicate that for Indian youth, the mass media, especially television, constitutes a major source of information about HIV/AIDS (Banerji & Mattle, 2005; Ramachandran, 2004; Roth, Krishnan & Bunch, 2001; Sodhi & Mehta, 1997). Other studies have shown that the majority of youth have received knowledge from their teachers and peers, especially older friends (Banerji & Mattle, 2005; Mehra, Savithri & Coutinho, 2002; Patil, Chaturvedi & Malkar, 2002). For those residing in rural areas, textbooks constitute a major source of information (Aggarwal & Kumar, 1996).

Sexual behaviour and condom use

With the advent of globalisation and western acculturation, premarital sex is rapidly becoming common among Indian youth. Different research studies on sexual behaviour and condom usage report an array of findings. The median age for sexual intercourse for males as well as females is 18 years, with only 3% of the respondents acknowledging sexual intercourse before the age of 15 years (National AIDS Control Organisation, 2006). From the National Family Health Survey-3 reports, 10% of young men and 2% of young women admitted to having had sexual intercourse before age 15 years (National Family Health Survey, 2005-06). Similarly, 11.5% of boys and 1.5% of girls who were secondary school students in Kolkata stated to have had premarital penetrative sexual exposure without using condoms (Chakrovarty, Nandy, Roy, Sengupta, Chatterjee & Chaudhuri, 2007). In several surveys, 20 - 25% of Indian youth have expressed favourable attitudes towards premarital sex, with the rate being substantially higher among males, urban youth, and the more highly educated (Bhatt & Dhoundiyal, 1996). Out of 966 college students in the metropolitan city of Mumbai, 47% of male students and 13% of females reported ever having had any sexual experience with a member of the opposite sex, while 26% and 3%, respectively admitted to having had intercourse (Abraham & Anil, 1999). The lesser prevalence of premarital sexual activity in females can be attributed to the cultural importance given to virginity and the stigma associated with an out-of-wedlock pregnancy. Moreover, girls are subjected to stricter parental control (Mehra, Savithri & Coutinho, 2002; Ramakrishna, Karott & Murthy, 2003, Bhende, 1994). The trend of premarital sexual activity is as high in smaller/lesser

developed towns and rural areas as it is in larger urban areas, as observed from the proportion of adolescent girls from Ajmer, a small town in Rajasthan, reporting premarital sex to be as high as 23.3% (Goyal, 2005). Early sexual activity is prevalent in tribal communities as well. To cite an example, the age at marriage is very low among a migrant tribe from Eastern India, where 54% of women have had first intercourse before the age of 15 years, with the mean age being 15.8 years, and 19.5 years for men (Mishra, Swain & Babu, 2008). Pre- and extramarital relations, including multi-partnered sex is prevalent in this tribal community, and safe sexual practices are not reported, while the risk perception is very low.

At a national level, 83.8% of the youth were aware of condom use for protection against HIV/AIDS (NACO, 2006). Only 4 in 10 students from Delhi University used a condom sometimes during sexual intercourse (Sachdev, 1998). An awareness level as low as 11% regarding the preventive action of condoms has been recorded among married female youth in the state of Tamil Nadu (Ramachandran, 2002). More alarming is the reported condom usage rate of 7% by sexually active youth in a town in Assam state (Sen, 2007). Most notably, the lack of privacy in stores and the social stigma associated with condom use comprise the most significant barriers to condom usage (Roth, Krishnan & Bunch, 2001). A survey carried out among male urban slum youth in Delhi, which employed qualitative techniques such as focus group discussions, in addition to quantitative evaluation, revealed that boys as young as 17 years were found to be visiting brothels. It was also seen that sexual relationships tended to be secretive with limited condom usage (Mehra *et al.*, 2002). This is despite the fact that 92% of the youth indicated that there was easy availability of condoms in their respective areas, but once again, the low usage rate was attributed to lack of privacy in acquiring condoms. Sexual activity was found to be very high in homeless street children, putting them at risk of HIV/AIDS (NACO, 2006). In Bangalore, out of 121 street boys aged 9 - 23 years, 61% were sexually active, and 36% of them had initiated sex between 10 and 12 years of age (Ramakrishna *et al.*, 2003). The findings reported from this study give a projection of the rise in sexual activity among street youth in metropolitan cities.

Data on homosexuality among Indian youth are limited. According to the BSS-2006 findings, 3% of male youth have experience of having sex with men (NACO, 2006). Among a group of Chandigarh college students, 15% admitted to being sexually active, of whom 7.3% were homosexual. Among those who were homosexual, only 7% reported condom use (Kaur, Sahni, Bambery, Kumar, Chauhan, Chawla, Dilawari *et al.*, 1996). In Bangalore, 62% of the sexually active street boys indulged in anal sex (Ramakrishna *et al.*, 2003).

Yet another cause of concern is the emergence of sex tourism, in which the youth involved cater specifically to the needs of tourists. This social development appears to be especially prevalent in Goa, as evident from the finding that of 57 youth in the age group of 15 - 34 years who were involved in various types of tourism jobs in Goa, 23 claimed to be involved in sex tourism (Ram & Bhat, 2007). An important factor contributing to this practice is rural poverty and responsibility to support the family. Many of them engaged in very risky sexual behaviour, ranging from homosexual to group sex to multiple partners, or anal sex. Many of them also reported symptoms suggestive of a sexually transmitted infection, and often did not seek any treatment for the condition. The observations from this study may be representative of just the tip of an iceberg owing to the small sample size. Since the youth participating in this study were from the tourism sector, it is possible that youths outside this sector could also be involved in sex tourism.

Attitudes towards HIV testing and people living with HIV/AIDS (PLWHA)

As a result of the stigma associated with HIV/AIDS, there are unfavourable attitudes towards HIV testing. Only 3% of Indian youth reported to have ever undergone HIV testing (National Family Health Survey, 2005-06). Attitudes of Indian youth towards HIV testing appear to differ from those in other nations. When compared with university students from the USA and South Africa, American students had a significantly more positive attitude towards HIV testing and stronger intentions to go for HIV testing than South African and Indian students. The reason for this could be the importance given to HIV prevention and testing on US university campuses. Only 10% of Indian university students, compared with 25% of American students, claimed to have ever undergone an HIV test (Mehra *et al.*, 2002). It is also possible that, given lower HIV prevalence in the USA, students were answering a hypothetical question, while in India and South Africa HIV is far more of a reality. Alarming results, which reflect upon the severely discriminatory attitude of Indian youth, were elicited from a group of students from the state of Jharkhand, where 95.8% said that they would prefer not to have medical treatment in a hospital where HIV/AIDS patients are treated, while 76.4% said that they would like to terminate a friendship with a person found to be HIV positive (Kumari, 2004). Rural-urban differences also exist (Lal *et al.*, 1994). According to Mehra and colleagues (2002), a higher proportion of American and South African students held a positive attitude towards PLHWA compared with Indian students. Among college students in the state of Kerala (in South India), those from urban areas demonstrated a more favourable attitude towards AIDS (Lal *et al.*, 2000).

Attitudes may also be determined by educational background and medium of educational instruction. Thus it was observed that students pursuing science from Nagpur University in Central India held a fairly positive attitude towards people with AIDS compared with the arts and commerce students (Deshmukh, Wadhwa & Zodpey, 1998); and a significantly higher number of female students from English-medium schools in the city of Chandigarh seemed to hold a favourable attitude when compared with males from Hindi medium schools (Girish, Singh, Kohli & Kumar, 1998). An appreciable change in attitude has been documented in the latest youth behavioural surveillance study performed in 2006. According to the survey, 67.5% of youth were of the opinion that PLWHA should be allowed to stay in the community/village while 60.5% said that they were willing to share their food with PLWHA (NACO, 2007).

HIV/AIDS youth programmes and policies

India has taken an aggressive step towards HIV/AIDS control by implementing the third phase of its National AIDS Control Programme, which is designed to reverse the spread of HIV/AIDS by 2012. Its thrust areas include treatment of sexually transmitted infections, voluntary counselling and testing, and condom promotion. NACO has collaborated with Hindustan Latex Limited (HLL) on a Condom Vending Machine (CVM) Project. Under this initiative, it has been proposed to set up 11 025 vending machines in 42 districts in the six high-prevalence states and 24 districts of the four Empowered Action Group (EAG) States. An impressive condom gallery displaying all kinds of prophylactics along with their information has been set up in Ranchi in the state of Jharkhand. Recently, churches have co-operated with NACO's efforts by reaching out to youth and sensitising religious leaders.

School education has been described as a 'social vaccine', and it can serve as a powerful preventive tool. Initiatives to spread awareness among the youth are being vigorously undertaken by government, private and non-government organisations. In spite of all this, there is still a gap between the amount invested in developing a curriculum and the actual education that is imparted. Until now, most of the HIV/AIDS education has been 'scientific in nature', i.e. discussed in the biological context by teachers of science. However, for AIDS education to have a realistic impact, it is important that instruction be imparted in a straightforward, easy to grasp manner, keeping cultural issues in mind. In a spearheading effort, the NACO collaborated with UNICEF to scale up the school-based adolescence programme across 144 409 schools, with the objective to reach out to some

33 million students. Despite the challenge posed by the HIV/AIDS epidemic, sex education programmes have been banned in six states in India, including Maharashtra, Gujarat, Rajasthan, Madhya Pradesh, Chattisgarh and Karnataka (Voice of America, 2007). Incidentally, HIV prevalence is highest in the Mumbai-Karnataka corridor and in the Nagpur area of Maharashtra (Population Foundation of India, 2003). In the conservative state of Uttar Pradesh, teachers have protested against the programme by burning copies of the new syllabus.

Non-governmental organisations are playing an increasingly important role in spreading AIDS awareness. The Centre for Development and Population Activities (CEDPA) runs a programme known as 'UDAAN: Towards a Better Future' which strengthens AIDS education in the state of Jharkhand, by providing technical assistance and training for master trainers and teachers, and adding comprehensive life-skills curriculum to the existing AIDS education programme for schoolchildren (CEDPA, 2007). A number of help lines which provide counselling on reproductive and sexual health matters are in current operation, such as TARSHI (Talking About Reproductive and Sexual Health Issues) and JSK (*Jansankhya Stirtha Kosh* or National Population Stabilisation Fund). Street children and school dropouts are also being reached out to actively through the commendable works of institutions like Chetna (Gujarat), CARE (Madhya Pradesh), Sakshi (Kerala), the Butterflies Programme and Salaam Balak Trust.

Peer education is being given due importance. Some on-campus programmes, supported by the State AIDS Control Societies under NACO, include 'YUVA – Youth Unite for Victory on AIDS' and Red Ribbon Club (NACO, 2007). In collaboration with UNFPA, NACO has released a book titled *Quest on HIV & AIDS: A Handbook for Young People*, which deals with HIV/AIDS-related myths and misconceptions. Plans are underway to introduce HIV/AIDS education to children as young as five in pre-schools/nurseries (Peltzer, Nzewi & Mohan, 2004; Reuters, 2006). UNICEF (2007) has joined hands with health authorities and non-governmental partners to establish a cadre of HIV/AIDS peer educators in villages in different parts of the country. These peer educators are playing an important role in challenging the social myths and misconceptions associated with HIV/AIDS. With the revolution of technology, the Internet is increasingly being employed as a portal for disseminating information, through discussion forums, e-mail counselling and web information. Corporate companies and call centres have joined hands in the fight against HIV/AIDS by organising in-house AIDS awareness programmes for their employees, almost all of whom are young. The initial lead in this direction was taken up by the Confederation of Indian Industry (CII),

which began to incorporate HIV/AIDS prevention activities into its social development activities in the work place (Bhalla, 1997). A unique initiative has been undertaken by the West Bengal State AIDS Control Society, which has linked up with a DJ from Britain, who distributes messages on HIV/AIDS to the youngsters in Kolkata's discotheques (NACO, Nov 2005 - Feb 2006).

Conclusion and future considerations

The available literature indicates that although the overall awareness level about HIV/AIDS among Indian youth is fairly high (although individual studies show varying results depending upon study setting), high-risk sexual behaviour without condom use and the presence of certain misconceptions constitute a major area of concern. A small proportion of youth appear still to hold negative attitudes toward HIV voluntary testing and HIV-positive people. Even though an appreciable number of intensive HIV/AIDS-related programmes and policies are in existence, the effectiveness of these still needs to be evaluated. Youth stand at the centre of the HIV/AIDS pandemic in India regarding transmission, impact, vulnerability and potential for change – they also represent the window of hope and opportunity. Since most of the new infections occur in youth, any intervention in this age group is likely to have an impact on the disease trend. The key to HIV/AIDS control among youth lies in health education, behavioural change communication (BCC), and ensuring safe sex practices. Mass media, especially imparting HIV/AIDS education through TV spots, reality shows and drama, have been found to be most cost effective in bringing about desired behavioural change (Sood & Nambiar, 2006). The Government needs to respond to the desire for formal sex education, which has been expressed by the majority of students and teachers (Agrawal *et al.*, 1999; Indian Express, 1996). Teachers, who are crucial for the success of any sex education programme, need to be adequately trained to handle delicate and sensitive queries from students. HIV/AIDS related stigma may be overcome at the school level by laying down guidelines that no children be excluded from school or discriminated against in school because of their or their caregivers' HIV status.

Peer education is an effective and culturally appropriate way to disseminate comprehensive information on HIV/AIDS, especially in rural areas. It is not only the students, but also the parents and guardians and the community at large, who need to be sensitised towards sexual behaviour and HIV related issues. Programmes directed at convincing parents about the dire need

for sex education need to be designed and strengthened. Setting up adolescent-friendly health services (AFHS) in schools/colleges/neighbourhoods, which would provide high-quality care is of paramount significance, since this would facilitate proper treatment-seeking behaviour. The concept of AFHS is relatively new in India, with only a few such health services concentrated in the urban areas.

Efforts to diminish stigma will play a vital role in removing disease fear and its associated feelings of shame. This would enable the removal of obstacles which hamper voluntary testing and access to condoms, along with changing attitudes towards HIV-positive people. Innovative programmes targeted at out-of-school youth need intensive implementation, since these are the most neglected sections of society. Another significant step would be empowerment of female youth and making them aware of their sexual and reproductive health rights. This would go a long way toward curbing disease spread, especially to the unborn child. It is hoped that control of HIV/AIDS in the youth, who comprise tomorrow's future, would contribute to combating the spread of this dreaded disease, and thereby lower India's position of being the country with the third highest number of PLWHA.

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