HIV in Bangladesh: Recent Scenario

World AIDS Day is commemorated around the globe on 1 December. Along with other countries of the world, Bangladesh also observed the Day by re-affirming its promise to confront the AIDS epidemic. Widespread inequalities in gender and other dimensions of life have made Bangladeshi women particularly vulnerable to HIV/AIDS. Conforming to the theme of this year's World AIDS Day –"Women, Girls, HIV and AIDS"–ICDDR,B restates its pledge to address the structural dynamics of the AIDS epidemic through research and action. The Centre is committed to address inequality, respect diversity, and fight discriminations.

On the eve of World AIDS Day 2004, the Government of Bangladesh released the summary results of the Fifth Round of HIV Surveillance on 22 November.

The data from the 5th round of the serological surveillance confirm the fears from the previous 4th round that there is an impending epidemic among the injecting drug users (IDUs) in Central Bangladesh, and one neighbourhood in that city is already experiencing an epidemic.

The HIV epidemic in Bangladesh, from an epidemiological perspective, is evolving rapidly. While still a low-prevalence country for overall HIV rates, a small pocket of IDUs under second-generation surveillance has shown an HIV prevalence increase from 1.4% to 4% to 8.9% (in one locality) over the past three years. Simultaneously, data from the recent Behavioural Surveillance Survey (BSS) indicate an increase in risk behaviours, such as sharing of injecting equipment and a decline in consistent condom use in sexual encounters between IDUs and female sex workers. BSS data also indicate that the IDU population is well-integrated into the surrounding urban community, socially and sexually, thus raising grave concern about the spread of HIV infection

Over the rounds, the total HIV prevalence remained below 1% (Table 1).

Table 1: HIV prevalence over the rounds

Surveillance round	Numbers tested	HIV (%)
First round (1998-1999)	3886	<1% (0.4)
Second round (1999-2000)	4634	<1% (0.2)
Third round (2000-2001)	7063	<1% (0.2)
Fourth round (2002)	7877	<1% (0.3)
Fifth round (2003-2004)	10445	<1% (0.3)

Bangladesh is a low-prevalence nation for HIV and therefore, according to the guidelines of the second-generation surveillance system for HIV, surveillance should concentrate on selected groups of individuals who are known to be most at risk of HIV and some of the population groups that may bridge the epidemic into the general population. Therefore, during all rounds of surveillance conducted so far in Bangladesh, including the 5th round, the population

ICDDR,B observed the International Candlelight Memorial Day on 16 May 2004 by lighting candles on the entrance circle of the Centre. The Day is observed worldwide to remember those who died of AIDS, those who are living with AIDS, and to raise awareness about AIDS

groups selected were confined to those considered to be most vulnerable and some bridging populations.

The most at-risk populations: injecting drug users

Injecting drug users had the highest rate of HIV infection with 4% prevalence in Central Bangladesh and in one neighbourhood of Central A, 8.9% of IDUs were HIV-positive. While HIV prevalence in IDUs increased significantly in one specific area (Central Bangladesh), there were no changes between the 4th and the 5th round in the rest of the country. Bangladesh, therefore, still remains a low-prevalence nation for HIV. Furthermore, active syphilis rates declined significantly in IDUs over the rounds in Central Bangladesh. However, hepatitis C virus (HCV) prevalence in IDUs remained high.

HCV prevalence was high among IDUs from most sites. The highest rates were recorded in IDUs from Northwest B2. The HCV rates were surprisingly low in two sites: Northwest F and Central H. In Central A where HIV prevalence was 4%, HCV prevalence was 59.2%. Overall, out of a sample of 1619 IDUs, 54.2% tested positive for HCV (Table 2).

The 5th round BSS showed that needle/syringe sharing continued to be routine among IDUs, especially among those in Central A region. However, sharing was comparatively lower in the Northwest region than in Central A region. Most IDUs used other modes of taking drugs before they started injecting. A large proportion of IDUs had commercial and

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Table 2. Prevalence of hepatitis C virus among injecting drug users

Study populations, geographical location (numbers tested)	Hepatitis C virus n (%), 95% CI
Injecting drug users:	239 (59.2), 54.2 – 64.0
NEP, Central A (404)	32 (29.9), 21.4 - 39.5
NEP, Central E (107)	7 (5.7), 2.3 - 11.5
NEP, Central H (122)	264 (67.0), 62.1 - 71.6
NEP, Northwest A (394)	184 (77.0), 71.1- 82.2
NEP, Northwest B (239)	43 (55.1), 43.4 - 66.4
NEP, Northwest B1 (78)	39 (83.0), 69.2 - 92.4
NEP, Northwest B2 (47)	7 (8.2), 3.4 - 16.2
NEP, Northwest F (85)	17 (29.8), 18.4 - 43.4
NEP, Northwest F1 (57)	45 (52.3), 41.3 – 63.2
NEP, Southeast D (86)	
Total (1619)	877 (54.2), 52.3 - 57.2

non-commercial female sex partners, and condom use was infrequent. A proportion of IDUs (4.3-6.7%) sold blood last year. IDUs were highly mobile. IDUs from other cities travelled to Central A where they injected drugs. Injecting drugs while abroad was more commonly reported by IDUs from Northwest B and B1 regions (10-12%).

A considerable proportion of heroin-smokers injected in the last six months and most shared needles/syringes during their last injection. More than half of the heroin-smokers had commercial and non-commercial female sex partners last year, and they had multiple sex partners. Condom use, both in the last sex act and consistently in the last month, was very low with both commercial and non-commercial partners.

Comparison over previous surveillance rounds: injecting drug users

Over the rounds of the serological surveillance, there has been a significant rise in HIV prevalence ($p=0.007$) in Central A as shown in Fig 1. The changes are also significant between the 2nd and the 4th rounds ($p=0.042$) and between the 2nd and the 5th rounds ($p=0.043$) of surveillance (Fig. 1).

Among the street-based sex workers from Central A region, significant declines in active syphilis rates were observed over the five rounds ($p<0.001$) (Fig 2). Between the 4th and the 5th round in Southwest A region, a significant decline in active syphilis rate ($p=0.01$) was also observed. However, the changes in the active syphilis rates were not significant for the hotel-based sex workers in Central A region.

HIV prevalence was low in males who have sex with males (MSM), male sex workers (MSW), Hijras, and partners of Hijras. In Central A region, changes in the active syphilis rates in MSM and MSWs over the rounds were not significant.

Almost all of the MSWs and Hijras reported that they had new clients in the last week. Some MSW sold sex to females last month. Hijras reported more clients in the last week than MSWs while condom use was low in this group.

All groups of sex workers reported violence in the last year. Both being raped and beaten was most commonly reported by Hijras and female street-based sex workers from Central A region. Violence was reported to have been committed by both police and mastans.

Comparison over the surveillance rounds: MSM

In Central A region, changes in the active syphilis rates in MSWs were insignificant

Fig 1. HIV in IDUs over the rounds of serological surveillance in Bangladesh

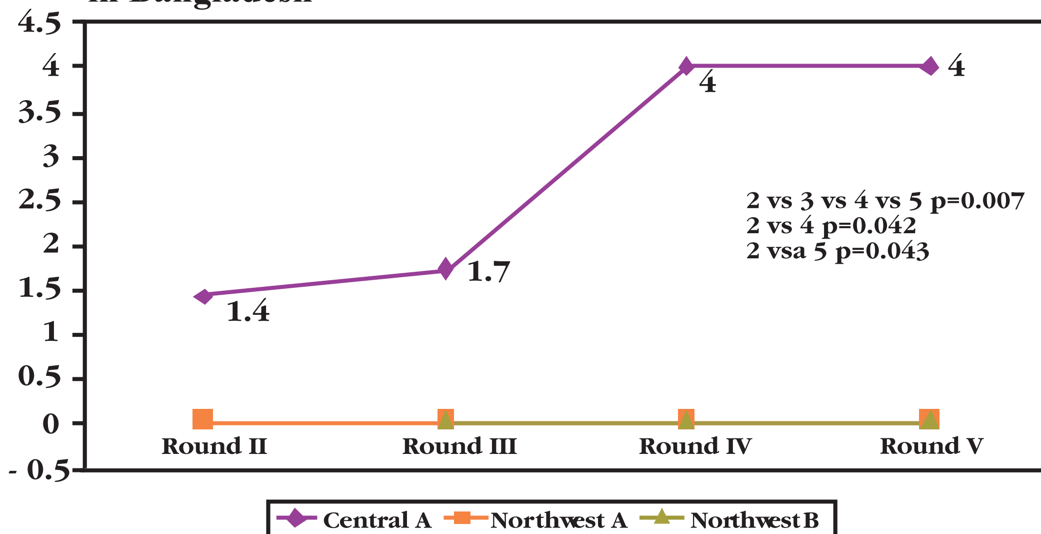
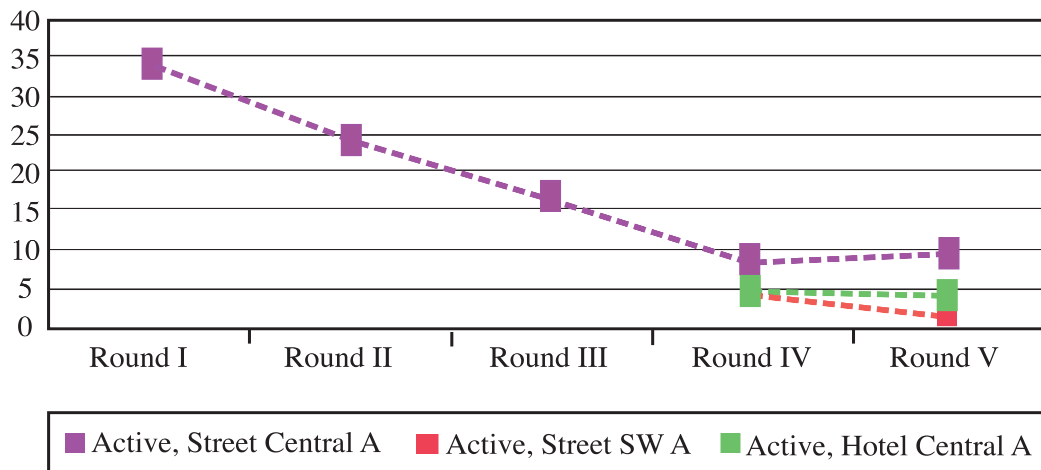
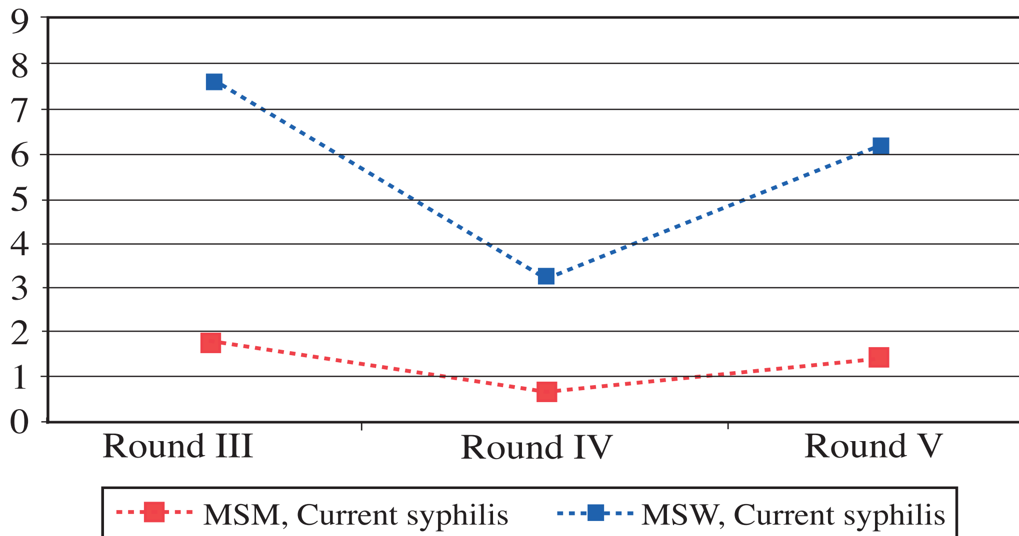


Fig 2. Syphilis in street- and hotel-based sex workers over the rounds of serological surveillance



over the rounds of serological surveillance (Fig 3).

Fig 3: Syphilis in MSWs from Central A region over the rounds of serological surveillance



The relatively low level of HIV in Bangladesh today does not guarantee low prevalence tomorrow. Experience teaches us that early epidemics do not show their magnitude at first and place few demands on the health sector. All the risk factors which give birth to explosive HIV epidemics are present in Bangladesh today. In the absence of good quality and high coverage intervention programmes, HIV prevalence may jump to very high levels within months. Once HIV prevalence crosses the 10% level, epidemics become very difficult to control. Policy makers and programmers within the Government of Bangladesh, bilateral agencies, national and international NGOs have a key role to play in recognizing the urgency of the situation and taking immediate action. The surveillance was conducted by ICDDR,B on behalf of the Government of Bangladesh and was funded by the Government of Bangladesh, DFID, IDA, and Family Health International. Family Health International also provided technical support to the behavioural surveillance.

Contributed by HIV/AIDS Programme

Interview with Dr Fatema Parveen Chowdhury

Glimpse interviewed Dr Fatema Parveen Chowdhury, Director, Centre for Medical Education and Line Director, National AIDS/STD Programme (NASP) and Safe Blood Transfusion Programme (SBTP) of the Government of Bangladesh, to know the recent status of HIV/AIDS infection in the country as revealed in the last (5th round) surveillance. In her response, she also covered information on syphilis.

Glimpse: *Bangladesh has recently completed the 5th round of HIV surveillance. What were the significant findings of the surveillance and what was the role of ICDDR,B in the surveillance?*

Dr Fatema Parveen Chowdhury: Although HIV prevalence rate (0.3%) is still less than 1% in Bangladesh, protective behaviour like consistent condom use and not sharing needles/syringes is still far from optimum. Syphilis shows a declining trend but did not decrease significantly. HIV is found among the heroin-smokers, and risk behaviours are common among them. There is widespread violence among male and female sex workers. injecting drug users (IDUs) of central region have a tendency of mobility within and outside the country.

ICDDR,B conducts the serosurveillance in coordination with different stakeholders, including NASP.

Glimpse: *How would you compare the findings from the 4th round with those from the 5th round? Did the last round reveal an increasing trend in the prevalence of HIV/AIDS in the country?*

Dr Parveen: The 5th round surveillance did not reveal any significant rise in HIV among IDUs countrywide but a cluster of IDUs in the central region of Bangladesh has a higher HIV prevalence. HIV prevalence rates are similar in all groups to those of the 4th round. Syphilis rates have not declined in sex workers since the 4th round. Sharing of injecting equipment (needles/syringes) has increased in Central A but not in other sites. In the 5th round, HIV was detected in 0.8% of heroin-smokers. Female sex workers have similar numbers of clients per week except for those in hotels of Central A where numbers have declined. Consistent condom use in female sex workers has remained similar in all sites other than the streets of Central A where condom use has increased considerably. Although consistent condom use is shown to have increased in male sex workers, active syphilis rates have risen, and consistent condom use has declined in Hijras; syphilis rates are similar. Sex workers along border-areas are considerably mobile and sell sex across the border.

IDUs from other cities travel to Central A and inject drugs.

Glimpse: *What attempts or steps, in your opinion, can avert the suspected HIV/AIDS epidemic in Bangladesh?*

Dr Parveen: The following steps, in my opinion, should be taken to avert the suspected HIV/AIDS epidemic:

(1) Maintain the nationwide coverage of targeted interventions to keep the momentum for achieving sustained behaviour change.

(2) Strengthen the national programming capacity.

(3) Quality improvement of targeted interventions through continued monitoring and technical assistance.

(4) Develop standardized protocols for targeted interventions and the general population.

(5) Continue and strengthen the emerging Government-NGO coordination mechanism.

(6) Introduce capacity development elements, like VCT, ARV treatment.

(7) Integrate HIV/AIDS into tuberculosis control, family planning, RTI/STI and MCH care programmes.

(8) Undertake comprehensive initiatives to promote human rights of the marginalized group and people living with HIV and AIDS.

(9) Males having sex with males, external migrant workers, and other vulnerable groups should be included in the targeted interventions.

Glimpse: *ICDDR,B established a voluntary counselling and testing centre called JAGORI in its Dhaka campus. Do you think services rendered by JAGORI are useful?*

Dr Parveen: JAGORI is providing voluntary counselling to different groups of people. It is the most comprehensive counselling centre in the country equipped with appropriate human resources. Along with providing services, it is acting as a model site of VCT centres for large-scale replication.

Dr Tahmeed Ahmed Receives Gold Medal from Bangladesh Academy of Sciences

Bangladesh Academy of Sciences (BAS) awarded their Dr Sultan Ahmed Choudhury Gold Medal to Dr Tahmeed Ahmed, a prominent scientist of ICDDR,B for his outstanding contribution to medical science. Dr Tahmeed is now Acting Head of the Nutrition Programme.

The gold medal was presented to Dr Ahmed by Professor Dr Iajuddin Ahmed, Hon'ble President of the People's Republic of Bangladesh in a ceremony held at Hotel Sonargaon on 16 March 2004.

Dr Ahmed was rewarded for his work in child nutrition. While reading the citation in the ceremony, Professor Dr M Shamsher Ali, Vice President of the Bangladesh Academy of Sciences, specifically lauded the research of Dr Ahmed in reducing mortality among children with severe malnutrition and in disseminating the results of the study done in ICDDR,B both within Bangladesh and in other countries of the world where childhood malnutrition is a major public-health problem. In his speech as Special Guest at the ceremony, Dr Moyeen Khan, Hon'ble Minister for Science, Information and Communication Technology, Government of the People's Republic of Bangladesh, also lauded the efforts of Dr Ahmed in improving the management of childhood malnutrition.

For his work in the area of child nutrition, Dr Ahmed had earlier received the International Health Research Award for 1999 from the Ambulatory Pediatric Association in the Congress of the Pediatric Societies of America.

In response to a query, Dr Tahmeed Ahmed explained his work at the Centre. After joining the Clinical Sciences Division of the Centre in 1985, he undertook training in paediatrics at the Dhaka Children's Hospital and the University of Tsukuba Hospital, Japan. One of his major responsibilities at the Centre is to take care of children with severe malnutrition and infectious illnesses, including tuberculosis and pneumonia. These are the illnesses that cause most of the childhood deaths in the world. His field of research is principally focused on the management of these illnesses. His initial work included development and implementation of a standardized management protocol for severely-malnourished children with diarrhoea, and a diet protocol for rapid catch-up growth during nutritional rehabilitation using low-cost, effective diets. These initiatives have been successful, and the results have already been implemented in other centres within and outside Bangladesh. The research initiatives have also resulted in training opportunities for health professionals within and outside the country. Dr Ahmed works closely with the World Health Organization to train health professionals in various regions of the world, including Afghanistan, Uganda, and Cambodia, on the management of severe malnutrition. However, a lot more needs to be done to further improve and simplify the management of children with severe malnutrition, he said.

Dr Tahmeed Ahmed receiving the BAS Gold Medal from the Hon'ble President of Bangladesh Professor Dr Iazuddin Ahmed

Currently, Dr Ahmed is concentrating his research efforts on issues that include rationalizing the use of antimicrobials, simplifying the provision of micronutrients, sustainable domiciliary and community management of severely-malnourished children, and the management of childhood tuberculosis.

Glimpse congratulates Dr Tahmeed Ahmed on being awarded the gold medal.