A tale of two cities: Brothel based female commercial sex work, spread of HIV, and related sexual health care interventions in India, using Bombay and Delhi as examples

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In the early 1980s, the belief that Asia might avoid the HIV/AIDS epidemic was widespread.1 Some believed all Asians to have a natural resistance to HIV infection.1 Others referred to traditional Asian morality: ‘Our younger generation still practice virginity until their nuptial day. The religious customs ... are protection against many social evils. It will be difficult even for HIV to penetrate this shield’, Dr K Abhlyambika, AIDS Programme Officer for Kerala, India, 1993.2

Beyond this avoidance of reality, the facts emerged: Since the first documentation of HIV infection in India in 1986,3 there has been an explosion in seroprevalence. By 1993, seroprevalence exceeded 60% among injecting drug users (IDU) in Manipur,4 and 50% among commercial sex workers (CSWs)5 in Bombay.6

Yet, in some parts of India, prevalence remains low, even among high-risk groups (HRGs).4-5 What is the potential for spread in these areas? How can it be contained?

To give substance to these questions, I describe the experiences of two major Indian cities, Bombay and Delhi, where progress of the epidemic has so far been very different. CSWs are believed to play a key role in the spread of HIV infection in these communities.6-9 I compare the rise in seroprevalence in this HRG and discuss factors which may have influenced past infection patterns and which may influence future spread.

I then describe and assess interventions that have been implemented to lessen the incidence of HIV infection in this HRG, and discuss considerations for future strategies in Bombay, Delhi, and in India in general. Reviewing the situation in Bombay, I consider whether the need to apply such interventions in Delhi is as urgent.

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From the beginning of serosurveillance studies in India, the group having the highest proportion of HIV antibody positive persons has been CSWs,7 with heterosexual intercourse as the major mode of transmission8 9 as shown in Figure 1.

However, the epidemic’s spread and impact have not been homogeneous,10 as Figure 2 illustrates.

In Bombay several hundred thousand female CSWs live and work in poor conditions, under the strict control of brothel-owners.11 Here, HIV prevalence has risen dramatically.6

Similar establishments exist in Delhi.13 Yet here, HIV prevalence amongst CSWs remains low. According to one study, it rose from 0.1% in 1988 to 0.2% in 1990,13 compared to a rise from 1.6% to 23% in Bombay during the same period.14

Figure 3 illustrates data compiled from this and other studies. This may be interpreted in one of two ways: either the curves are diverging, implying that the Bombay CSWs are more likely to become infected than CSWs in Delhi, or Delhi’s curve resembles an earlier part of Bombay’s, suggesting the same potential for later HIV spread as seen in Bombay.

If the first interpretation is correct, it implies that, provided important influences remain unaltered, Delhi CSWs will never experience the devastating spread of HIV infection that the CSWs of Bombay have suffered. If the second interpretation is correct, it emphasises the importance of learning from Bombay’s experience and intervening early at Delhi. In establishing which relationship is more likely, I consider various influences on sex work in Bombay and Delhi. Key factors include exposure to foreigners, number of clients, and condom use.

Several studies13 propose Delhi’s central location, far from international borders, as protective. A study by Singh et al in Delhi, in 1990, found few CSWs infected with HIV, and concluded ‘It would thus appear that HIV infection first reached coastal metropolitan areas in India ... from contact with expatriate Indians or other visitors from high HIV prevalence areas. From there the infection is slowly making inroads in our country...’.11 The contrast with Bombay is striking - India’s most affluent and industrialised city, with the country’s busiest international airport and seaport,16 Bombay is well situated to act as a nidus of HIV infection for other parts of India and the region.12

Analysis of the newer HIV-2 epidemic highlights the relevance of exposure to foreigners. In the early 1990s HIV-2 was spreading rapidly in Bombay and Goa,17,18 both frequented by many foreign visitors,16 but had yet to appear elsewhere.6

In a study on HIV prevalence amongst female CSWs in Tamil Nadu, India,19 the only significant difference between HIV seronegative and HIV seropositive CSWs was a greater degree of exposure to foreign customers among the latter: 37.5% HIV positive CSWs had received foreign clientele in the recent past, compared to 4.5% among the uninfected CSWs. The odds ratio (95% CI) for development of HIV seropositivity and exposure to a foreigner was 7.71 (4.16-11.20), after correcting for the influence of the city of origin.
Discrepancy in the number of clients using Bombay and Delhi CSWs might explain the difference in HIV seroprevalence amongst the CSWs, since greater frequency of unprotected sexual contact promotes spread of infection. However, studies by Singh et al and Bhave et al do not suggest a statistically significant difference between numbers of clients entertained by CSWs in Bombay and Delhi. (These studies are not directly comparable, since they were carried out at different times, and with different sampling and interview techniques. However, no similar studies are currently available, published or unpublished.) In the same two studies amongst CSWs, there appears to be significantly higher baseline condom use among CSWs in Delhi than amongst those in Bombay, which could explain some seroprevalence disparity, although as explained, the value of comparing these studies is limited. Simoes et al (1986) found a relationship between clients’ socio-economic group and price charged, but no significant association between these and HIV prevalence among the CSWs studied. So, differences in factors influencing sex work in Bombay and Delhi appear to be small. They may explain the delayed spread of HIV infection to and within Delhi, (e.g. Delhi’s lesser exposure to foreigners), but do not reliably suggest any long-term protection. Hence, of the first two models proposed - that either Delhi is protected or is likely to follow Bombay’s example, the latter appears most plausible. Without preventive measures, HIV seroprevalence amongst Delhi CSWs threatens to follow Bombay’s pattern.

The Indian Government’s initial response to the newly recognised HIV epidemic was to establish 30 HIV testing centres by early 1987. Other proposed activities, including counselling, were not implemented. There were attempts to 1) quarantine HIV-infected individuals, (National AIDS Prevention Bill ‘Quarantine Law’ passed in 1989) 2) deny HIV-positive persons access to health care 3) place CSWs in ‘vigilance homes’, to isolate them and restrict their movements.

Figure 1 Pie charts showing risk factors for 14,807 infections and 694 AIDS cases reported to the Government of India, up to 28 February 1994.

\[\text{Reported HIV (n=14,807)}\]

- Heterosexual: 16%
- Other: 5%
- Suspected AIDS/ARC: 2%
- Blood donor: 2%
- Blood recipient: 13%
- IDU: 44%

\[\text{Reported AIDS (n=694)}\]

- Heterosexual: 13%
- HIV contact: 13%
- Blood recipient: 57%
- IDU: 17%

\[\text{IDU} \text{ refers to intravenous drug use; ‘Blood recipient’ to a history of transfusion of blood or blood products.} \]
\[\text{For the HIV group risk factors: ‘Other’ includes unknown risk (18.7%), dialysis patients (0.8%), antenatal mothers (0.5%), and homosexual men (0.3%).} \]
\[\text{‘Suspected AIDS/ARC’ are patients referred to regional testing centres with clinical symptoms consistent with HIV-associated disease. Additional risk factor data are not available for these individuals.} \]
\[\text{‘Heterosexual’ includes data from female CSWs, patients in sexually transmitted disease (STD) clinics, and spouses of HIV-infected persons.} \]
\[\text{For those with AIDS: ‘HIV contact’ refers to the monogamous spouses of HIV-infected persons.} \]
Only 15% of HIV/AIDS related funds were given for awareness and education activities. Nonetheless, intervention studies in Delhi and in Bombay, begun in 1988 and 1991 respectively, had already begun to demonstrate the value of education: In Delhi, Singh et al assessed seropositivity, HIV/AIDS awareness, and condom use among 701 female CSWs. The methodology included pamphlet distribution, group discussion, and counselling of madams, pimps, CSWs, and nochis (young men who pose as CSWs’ husbands, providing emotional and physical security). These groups later became peer counsellors, and helped show a short video on AIDS and safer sex. The video, unique in India at the time, was made in Hindi, and with the participation of the CSWs themselves.

By the end of the intervention period, regular condom use by the CSWs had more than doubled, and seropositivity amongst the CSWs had not risen during this time. Seventy percent of the CSWs described themselves as ‘aware’ of HIV/AIDS, compared to 5% pre-intervention.

Although lacking a control group, Singh et al concluded that their work increased HIV/AIDS awareness and condom use among the female CSWs.

The following year, Bhave et al began a controlled intervention study in Bombay. They recruited 334 CSWs and 20 madams from an intervention site, and 190 and 17, respectively, from a similar control site, both in the red-light areas of Bombay. All CSWs were tested for antibodies to HIV-1 and HIV-2. Information on sexual practices, condom use, and madams’ rules was gathered by interviewer-administered questionnaire.

Combining the findings from both groups, only 10% of madams and only 24% of the CSWs had previously...
received information about AIDS, usually from friends. Ninety-nine percent of the CSWs wanted more health education; more than 95% favoured TV, video and personal or group teaching as the best methods of providing this.

The intervention group underwent a 6-month programme using educational videos, small group discussions and pictorial educational materials, and received free condoms. The control group did not. Following this programme there were significant improvements in all areas of HIV/AIDS-related knowledge investigated (including that HIV is transmitted through sex, that a person may look healthy and transmit HIV, and that condom use can prevent HIV transmission). Knowledge regarding correct condom use was also significantly improved, and there were significant increases in those reporting to use condoms.

However, a large proportion (96%) still expressed concern of losing business by insisting on condom use, and the madams in both groups still maintained that no client would be refused if unwilling to use a condom.

The behavioural changes that were seen in the intervention group were associated with significantly lower seroconversion rates. Compared to seroconverters, non-seroconverters were more likely to:

1) use condoms often or always (53% versus 30%; p < 0.05)
2) ask clients to use condoms (63% versus 33%; p < 0.05)
3) refuse clients who would not use condoms (31% versus 10%; p < 0.05)

Hence the importance of raised assertiveness regarding condoms and increased condom use.

Bhave and Singh employed similar techniques, including group discussion and the use of video, as preferred by the CSWs. Group sessions provide an opportunity to share experiences and knowledge, and remove the focus from single individuals, easing discussion. Singh also involved CSWs as peer counsellors/educators, as described. Whilst the tensions and rivalries in commercial sex may cause difficulties with peer education, it can be extremely effective, shared experiences enhancing mutual understanding and trust. Both Singh and Bhave also recognised the importance of educating madams, and Singh extended this to pimps and nochis.

A difference between the two interventions was the provision of free condoms in Bhave’s study. This is important since condom expense may deter CSWs from safer sex despite their raised awareness. At 1-5 rupees per condom, condom purchase would consume a considerable portion of a CSW’s earnings. In a study by Simeo et al., 57% of the CSWs charged their customers 5-10 rupees, (catering for the lowest socio-economic group) - little over twice the price of a condom. With perhaps seven clients a day/night, the expense to a CSW is considerable. Interventions like that of Bhave et al. which provide free condoms, as well as safer sex education, may be essential.

Much of the solution to condom provision and use lies in educating clients as to their importance, to encourage clients to agree to condom use, and to bring their own or to cover the cost in the fee for sex. K Gopalakrishna of Population Services International (PSI), claims ‘the client comes prepared to spend money and a little extra for condoms doesn’t matter as far as he’s concerned.’ Nor does the condom matter, if the client has not been convinced of its importance. However, in Bhave’s study, madams and CSWs expressed concern that insistence on condom use would result in financial loss, by driving clients away. Clients hold the purse, so ultimately the power. The need for client education is apparent.

However ‘clients’ are difficult to target. People only become clients when they visit CSWs, CSWs are therefore ideally, and uniquely, placed to educate them. But this has its own difficulties, including fear of losing custom, and perhaps of violence.

To increase the effectiveness of interventions directed at CSWs, the focus of activities must clearly be widened. CSWs must be involved in interventions for women. Women should have the right to take control of their lives, and to make their own reproductive health decisions. Women are often trapped in cycles of poverty and violence, and are therefore often the victims of violence.

One of the major problems is the stigma of CSWs working outside marriage. This is often seen as a way of earning money, but also as a way of maintaining social status. CSWs must be seen as being important, and their work must be recognised. Women must be encouraged to take control of their lives, and to make their own reproductive health decisions.

The aim should not be to abolish it or to penalise the CSWs, but to work with those involved. ‘In order to achieve... risk reducing practices, it is essential to... ensure the active participation of CSWs in prevention efforts’. Many countries deal with commercial sex by legislation against it. This forces CSWs to hide, which has

There is a need for more research into the effectiveness of interventions directed at CSWs. This can be achieved through the use of surveys, interviews, and focus groups. The results of these studies can then be used to develop more effective interventions.

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Despite these many possible considerations for future interventions, some believe that opportunities for effective intervention have already disappeared. Certainly, in some parts of India, such as Bombay, where HIV prevalence amongst commercial sex workers exceeded 50% in 1993, action has begun decidedly late.

In many other parts of India, as in Delhi, the opportunity for effective intervention still remains.

We have seen that whilst recent HIV seroprevalence levels among CSWs in the two cities differ markedly, Delhi appears in no way intrinsically less susceptible than Bombay. Thus, if action is not taken soon, it is highly likely that Delhi will experience Bombay’s pattern of HIV transmission.

Delhi must be targeted with improved and modified interventions, as discussed. Bombay, meanwhile, must not be forgotten. The Bombay to Delhi truck route is well travelled. As truckers visit CSWs in each city, so infection may spread. Wayside CSWs between the cities are also affected. Failure to intervene in Bombay affects Delhi, and vice versa. Interventions, or failure to implement them, can have effects far beyond the intended target group.

Excellent opportunities for intervention still remain in India, as shown by the example of Delhi. Through assessment of the strengths and shortcomings of earlier strategies, new interventions can be implemented with greater effectiveness than in the past. In this way, the dramatic spread in Bombay may be contained, and Delhi’s CSWs may be helped to avoid a similar fate.

References


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J Fam Plann Reprod Health Care 2001 27: 223-227
doi: 10.1783/147118901101195632

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