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HONG KONG STD/AIDS Update

a quarterly surveillance report

Contents

Editorial

Have We Done Enough to Prevent Tuberculosis Disease in HIV Infected People?

Mycobacterium Tuberculosis (TB) constitutes one of the diagnostic criteria for AIDS under the 1993 Centers for Disease Control and Prevention (CDC) revised classification system for HIV infection and AIDS surveillance for adolescent and adult. In Hong Kong, we have adopted the same classification with a slight modification after taking into account of our local disease pattern. The Scientific Committee on AIDS, one of the three committees of the Advisory Council on AIDS, recommended in 1995 the inclusion of pulmonary or cervical lymph node TB, only if the CD4 is less than 200/uL. This is important because of the high prevalence of TB in our population as compared with the U.S. population (113.7/100,000 vs. 8/100,000) in 2000. For surveillance purposes it is necessary to combine with an additional indicator in order to better reflect a state of severe immunosuppression.

Since 1995, the notification rate for TB in Hong Kong had risen steadily from 100.9/100,000 population to 113.7/100,000 population last year. During the same period, the reported HIV infection cases also followed a similar trend of rise. However, the reported number of AIDS cases resulted from TB infection remained to be more or less the same (18, 13, and 19 cases in 1998, 1999, and 2000 respectively). A number of reasons could explain such observations, including:

(1) Some of the HIV cases with TB were not being reported - this might have happened but the number involved should not be significant because the majority of patients with HIV infection attend either one of the 2 treatment centers (Queen Elizabeth Hospital and Kowloon Bay Integrated Treatment Centre) and there is a well established channel of reporting from these clinics; and

(2) Some TB cases with HIV infection were not being picked up - although the number of HIV cases with TB infection not diagnosed by the above 2 specialist centers should be very low, it is possible that some of the TB cases co-infected with HIV infection attending other services were not known. Because not everyone was encouraged to undergo HIV antibody tests and therefore not sure whether they were infected with the virus or not. This assumption is further

confirmed by examining the number of HIV positivity rates among patients attending TB & Chest clinics from voluntary blood testing as compared with the unlinked anonymous screening of urine samples during 1995 to 2000, it reveals a consistent differentiation with a much higher rate obtained in the latter (between 1/2 log and 1 log difference)*. It must however be pointed out that interpretation of such data should be done with due caution because only a handful of positive cases were identified in this system. On the other hand, this should serve as a reminder to achieving better take-up rate of HIV antibody testing for those who have diagnosed TB infections no matter they are diagnosed in the public or private sector.

Diagnosing TB in HIV infected patients requires a high index of suspicion because of the often atypical presentations. Although TB culture remains the gold standard of diagnosis, it usually takes more than six weeks to have the results. Clinical assessment, chest X-ray, and sputum smear are the mainstays of investigation for the diagnosis. Another problem facing most clinicians looking after HIV patients is the management of latent TB. It is important to diagnose and treat the infection so it will substantially reduce the risk that TB infection progresses to disease. Unfortunately, Bacille Calmette-Guerin (BCG) vaccination on all newborns in Hong Kong has hindered the use of Tuberculin Skin Test (TST) as a diagnostic aid by many physicians; hence compromising the delivery of appropriate therapy for their patients. It is worth noting that the Advisory Council for the Elimination of Tuberculosis and the Advisory Committee on Immunisation Practices in the U.S. have made known that the effect on TST by BCG will have been significantly waned by ten years' time. Therefore, the use of TST in adult should not be attected. However, it should be reminded that the interpretation of TST is not at all straightforward especially in a high TB prevalence setting unless a conversion to positive from a previous negative result or a strongly positive TST is evident. In the case of positive TST, a search for active TB should be done before diagnosing and treating of latent TB.

Treatment of latent TB infection should form part of the measures to curtail the progress into TB disease particularly among HIV positive cases. Special consideration should be given to the choice of drugs because of possible drug interactions with antiretroviral agents. Using isoniazid as a first-line treatment is recommended because of its potent bactericidal properties, lesser interaction with protease inhibitors and safer administration during pregnancy, not least by the proven effectiveness in large randomized controlled trial performed overseas.

The intertwining relationship between HIV infection and TB is recognised since the very beginning of the HIV epidemic. Although there have been some progresses made, health care professionals should now re-focus on earlier diagnosis of both TB and HIV infections. Timely medical help can then be offered to the infected, and consequently this will effect better control on both diseases.

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* Department of Health. Seroprevalence of HIV infection in Hong Kong. Hong Kong STD/AIDS Update, Vol.7, No.2, June 2001: 9-19.

Reported HIV/AIDS Quarterly Statistics

3rd Quarter (July - September) 2001

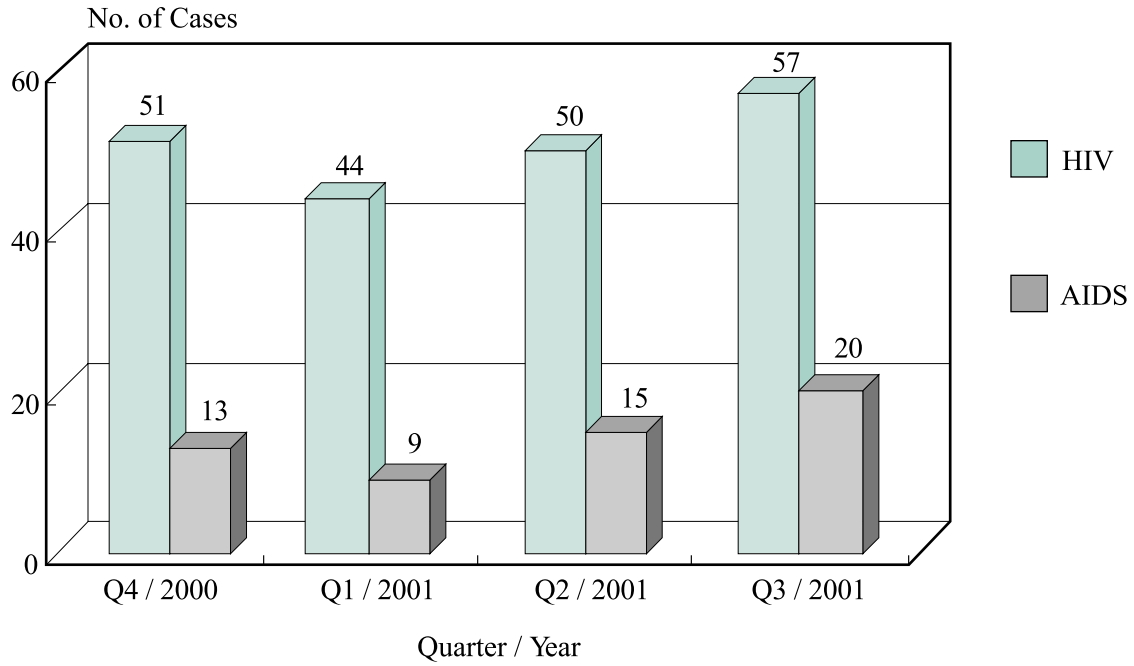
	This Quarter		Cumulative	
	HIV	AIDS	HIV	AIDS
Sex				
Male	39	16	1386	476
Female	18	4	307	68
Ethnicity / Race				
Chinese	36	18	1167	422
Non-Chinese	21	2	526	122
Asian	*14*	*1*	*264*	*64*
White	*4*	*0*	*186*	*54*
Black	*1*	*0*	*17*	*2*
Others	*2*	*1*	*59*	*2*
Age at Diagnosis				
Adult	56	20	1658	534
Child (age 13 or less)	1	0	35	10
Exposure Category				
Heterosexual	33	18	966	358
Homosexual	11	0	326	94
Bisexual	1	1	80	28
Injecting drug use	3	0	43	9
Blood / Blood product infusion	0	0	68	19
Perinatal	1	0	14	6
Undetermined	8	1	196	30
Total	**57**	**20**	**1693**	**544**

Sexually Transmitted Diseases Reporting at Government Social Hygiene Service

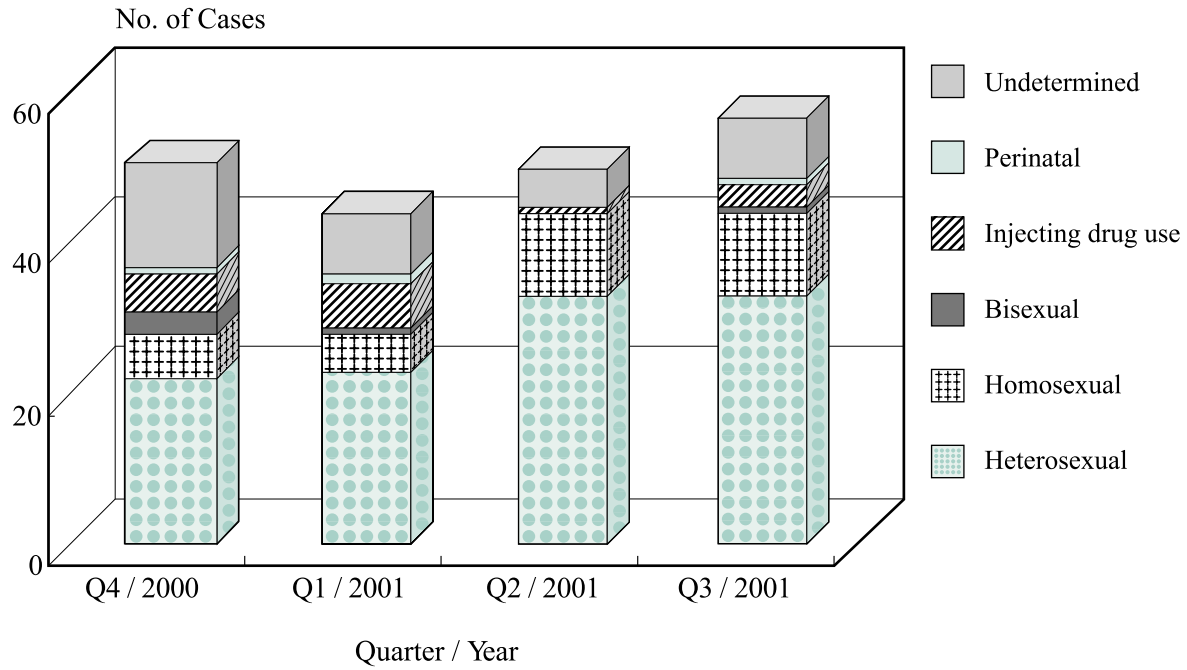
3rd Quarter (July - September) 2001

	This Quarter	Same Quarter Last Year
Syphilis		
Primary	50	79
Secondary	21	25
Early latent	78	91
Late latent	156	110
Late (cardiovascular/neuro)	0	0
Congenital (early)	0	0
Congenital (late)	0	2
Total	**305**	**307**
Gonorrhoea	824	882
Non-gonococcal Urethritis (Male)	1704	2056
Non-specific Genital Infection (Female)	1944	1710
Genital Wart	851	947
Herpes Genitalis	381	375
Pediculosis Pubis	93	107
Trichomonas	237	265
Genital Ulcer	107	244
Chancroid / Lymphogranuloma Venereum	0	0
Others	700	897
Total	**7146**	**7793**

Hong Kong HIV / AIDS Voluntary Reporting
in recent 4 Quarters

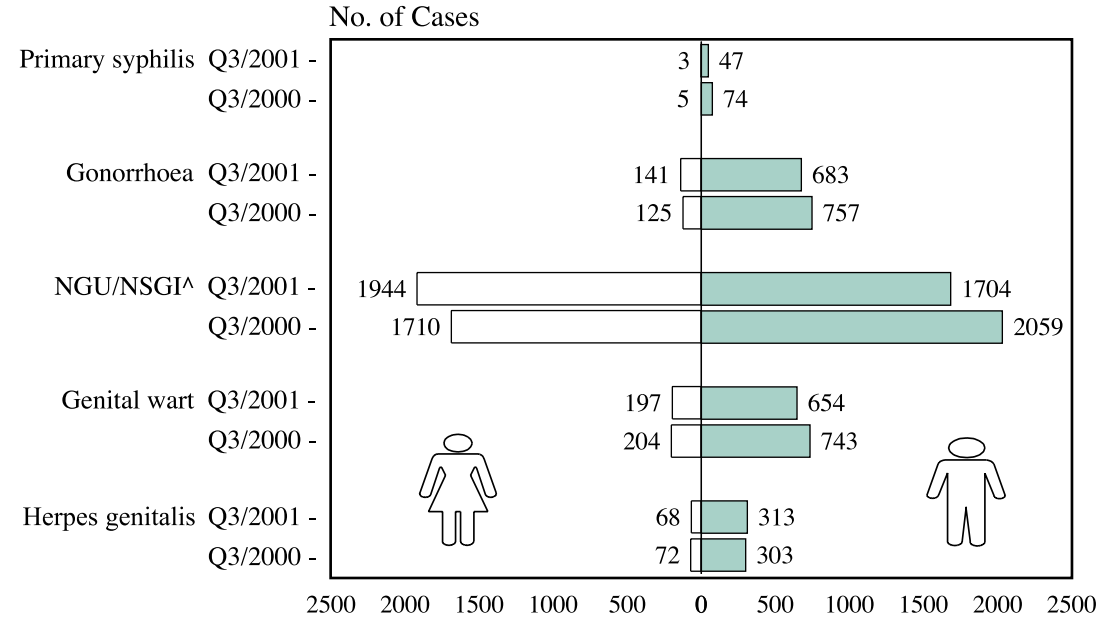


Hong Kong HIV Voluntary Reporting
By Exposure Category in recent 4 Quarters



Sexually Transmitted Diseases Reporting at GSHS*

By sex (3rd Quarter, 2000 & 2001) Hong Kong

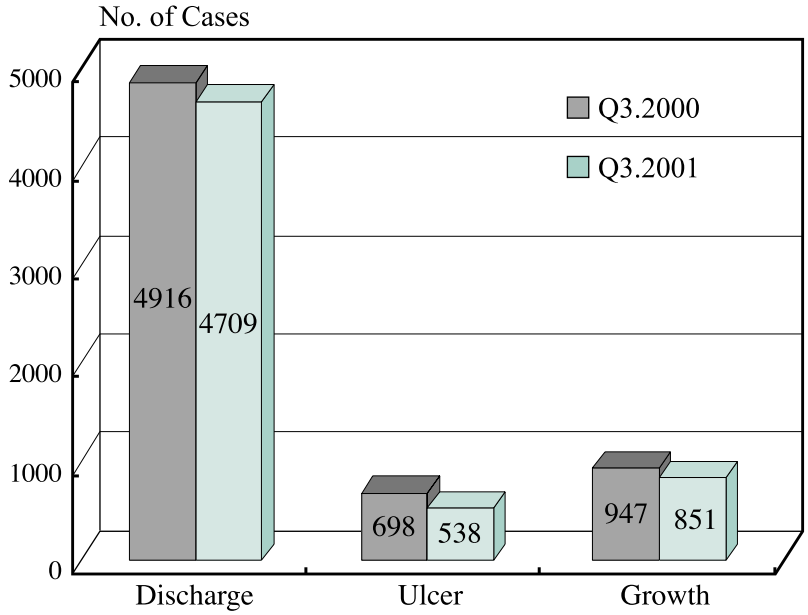


* GSHS : Government Social Hygiene Service

^ NGU/NSGI : Non-gonococcal urethritis / Non-specific genital infection

Syndrome Presentations of STD in GSHS*

(3rd Quarter, 2000 & 2001) Hong Kong



Diseases included under the various syndrome :

Discharge :
- Gonorrhoea
- Non-gonococcal urethritis
- Non-specific genital infection
- Trichomonas

Ulcer:
- Chancroid
- Primary syphilis
- Herpes genitalis
- Non-specific genital ulcer

Growth: Genital wart

* GSHS: Government Social Hygiene Service

Behavioural Surveillance - a Year 2000 Update Report

Introduction

Behavioural surveillance is a relatively new concept in the HIV/AIDS surveillance mechanism. In Hong Kong it was piloted as part of a research project titled *AIDS Scenario and Surveillance Research* project between 1994 and 1998.[1] Internationally, it is considered as one arm of the "Second Generation HIV Surveillance", and a complement to biological surveillance and other sources of information, the latter include also case surveillance, death registration, STD and TB surveillance.[2] Today, the way that behavioural surveillance operates varies from one country to another. The common feature is that it is becoming an important tool in understanding HIV epidemiology.

The Behavioural Surveillance System in Hong Kong is now one part of the HIV/AIDS Surveillance Programme managed by the *Special Preventive Programmes* (SPP) of the Department of Health. The other components are HIV/AIDS case reporting, serosurveillance and STD surveillance. A yearly report of each of these surveillance programmes has been published in turn in the *Hong Hong STD/AIDS Update* since late 2000.

This is the second annual report on behavioural surveillance which contains a revised layout of the programme and surveillance methodology, results updated as of 2000, and an evaluation of the results in context of the HIV situation in Hong Kong.

Layout of the Behavioural Surveillance Programme

As explained in the first report, the Behavioural Surveillance Programme is a virtual system that integrates information collected from different sources, based on the collation of results for a selected number of indicators relating to HIV risk.[3] The major difficulties of regularly collecting behavioural surveillance information are the limited number of well-defined population groups, poor access to consistent channels for data collection, and the lack of standard definitions for HIV related risk behaviours. Despite these limitations, the HIV Surveillance Office of SPP has been deriving behavioural information from 7 population groups in the past years [Table 1].

Another complexity of the system is the missing data from some population groups for 2000. In some cases the definitions for certain behaviours have undergone modification, making trend analysis impossible. Some adjustments have been made to figures collected in the past years so as to make comparison possible. The following are the discrepancies in the methodology used in 2000 compared to those in the previous years:

(a) The template for behavioural surveillance at the Social Hygiene Clinics (government STD service) has been overhauled. In the past, only sex with regular and casual partners were distinguished. Beginning from 2000, there is differentiation into regular, commercial and casual sex. The evaluation of condom use is also standardised by its classification into four levels - always, usually, sometimes, never - thus replacing the previous format of three levels. Only staff-administered surveys are now conducted on a yearly basis.

Table 1. Data Sources and Behavioural Indicators for Behavioural Surveillance 2000

Source	Sexual Behaviours	Drug-taking Behaviours
AIDS Counselling Service (ACS)	- Median no. of sex partners in men - Recent history of commercial sex - Condom use in men - No. of sex partners and Condom use in MSM	
Social Hygiene (STD) Clinics	- Recent history of commercial sex - Condom use in heterosexual men	
Methadone Clinics (DRS-M)		- Proportion of injectors - Practice of needle-sharing
Shek Kwu Chau Treatment and Rehabilitation Centre (DRS-SKC)		- Proportion of injectors - Practice of needle-sharing
Central Registry of Drug Abuse (CRDA)		- Proportion of injectors in all drug users - Proportion of injectors in new drug users
Street Addict Survey (SAS)		- Proportion of injectors - Practice of needle-sharing
Prisoners in Correctional Services Department (CSD) – behaviour before imprisonment	- Condom use for commercial sex	- Proportion of injectors - Practice of needle-sharing Proportion using new needles

(b) At the AIDS Counselling Service, the questions now specify vaginal, anal and oral sex, rather than considering sex in a general way in the past. Comparison with previous results is obviously no longer possible.

(c) No new data are available from the Community Research Programme on AIDS (CRPA-T travellers survey, CRPA-H household survey) for the year 2000, while those for 1999 have become available in the year 2001.

(d) The template for the prisoners' survey has been substantially revised. Prisoners were asked about their injection practice (if any) in the one-year period before imprisonment, instead of four weeks. Injection now specifically includes the intravenous and intramuscular routes so as to avoid confusion. In the evaluation of sexual activities,

regular, commercial and casual partners are distinguished. Only condom use for commercial sex before imprisonment is now regularly collected.

Evaluating the Intensity of Sexual Activities

A study in 1996 revealed that 56% of boys and 61% of girls between the ages of 14 and 17 had their sexual debut. Clients of the AIDS Counselling Service constitute an information source for the average number of sex partners of men. The median number of regular, commercial and casual sex partners is 1, 2, and 1 respectively for the year 2000, similar to the figures for 1997 to 1999 (Figure 1).

Engagement in commercial sex is a commonly used surrogate for high risk sexual activitie (Figure 2). The percentage of the populations reporting a positive history of commercial sex in 2000 has not differed significantly from that in the past years. It is 77.5% in adult men attending the AIDS Counselling Service (76.4% in 1998 and 74.2% in 1999), and 70.2% in male clients of the Social Hygiene Clinics (91.3% in 1998 and 78.3% in 1999). In the latter case, the decline may reflect behavioural change or a change in the profile of clients using the service. In the general population the telephone service run by the *Community Research Programme on AIDS* recorded a 12.2% in adult male respondents in 1999, compared to that of 14.0% in 1998. There is no available data for 2000.

Condom Use in Heterosexual and Homosexual Activities

Consistent and correct use of condom is a reflection of effective safer sex practice that protects individuals from HIV infection. The AIDS Counselling Service provides a convenient sample population for evaluating condom use in men (Figure 3). We define regular condom use as the practice of "always" or "usually" (over half the time) using condom for sexual activities. In 2000, whereas 81.1% of the male clients are regular condom users for commercial sex, it's only 55.9% for regular partners and 59.3% for other (non-commercial and non-regular) partners. Another way of evaluating condom use is to see if it is used for the last sexual act. The difference between the three kinds of partners become less obvious - 47.5%, 43.2% and 35.1% respectively. This is not surprising as the last sex is more likely to be associated with a higher risk and is often the reason for bringing the client to an HIV service. A comparison with the figures in 1999 reveals a relatively lower rate of condom use for the last commercial sex act in 2000 (47.5% vs. 71.6%). This is largely methodological because of the specific inclusion of vaginal, anal and oral sex in the assessment in 2000. Two hundred and thirty-eight clients (accounting for 49.4% of the population) actually had oral sex in the last commercial sex act, and condom use was reported in only 26.9%. If oral sex is excluded the condom usage rate for commercial sex becomes 75.5%, a figure not too different from the 71.9% in 1999, when oral sex might not have been considered by a client in the evaluation of condom use.

The practice of regular condom use (using the same criteria as in the last paragraph) is evaluated in heterosexual men attending the Social Hygiene Clinics (Figure 4). In 2000, 30.9% of the clients use condom regularly with regular partners in the preceding six months, compared to 59% for commercial sex. These figures are generally lower than the equivalents for clients of the *AIDS Counselling Service*. It is speculated that clients of the *Social Hygiene Clinic* are those who have not been practising safer sex recently (and hence present with an STD), which therefore differs

from the *AIDS Counselling Service* that looks after people who are more concerned about HIV and hence come forward for advice irrespective of the level of risk behaviours. The proportion of regular condom user is higher in 2000 than 1999. It must be cautioned that the grading of condom use has changed from the three levels before 1999 to the standard four levels in 2000, which therefore makes comparison meaningless. Condom use for the last commercial sex is 62.7% in 2000, higher than the 33.8% in 1999 (Figure 5). Again, the change in the definition may be the reason for the discrepancy. After all, the implication of the condom usage rate for the last sexual act for a person with STD remains to be established.

The Surveillance Office has been using the data from the *AIDS Counselling Service* to evaluate the trend of high risk sexual activities in men having sex with men (MSM) (Figure 1 and 6). Knowingly this may be a biased sample of MSMs who self-present themselves because of a perceived risk of infection instead of a common risk factor. The median number of sex partners has been ranging from 2 to 4 over the last years. In 1999 and 2000 the figure is 2 and 3. The proportion of regular condom users is 47.8% for regular partners and 59.6% for casual partners in 2000, compared to 28.3% and 59.6% respectively in 1999. The proportion reporting condom use for the last sex is 13.4% for regular partners and 22.7% for casual partners in 2000. The corresponding figures for 1999 were higher at 27.5% and 52%. The reason for the discrepancy is also likely to be methodological. The specific inclusion of oral sex in 2000 has significantly brought down the figures. If excluded, the positive condom usage rate would rise to 62.7%. These fluctuations aside, the condom usage rate has remained relatively constant in each group.

Drug-taking Behaviours and HIV Risk

Five sets of figures contribute to the dataset on behavioural risk factors associated with drug use. These are: (a) newly admitted or readmitted drug users of the methadone clinics (an outpatient based service), (b) newly admitted or readmitted drug users of the *Shek Kwu Chau Treatment & Rehabilitation Centre* (an inpatient service), (c) Street addicts reached by the *Pui Hong Self-Help Association,* (d) *Central Registry of Drug Addicts (CRDA),* new clients or all clients, (e) prisoners in institutions managed by the *Correctional Service Department (CSD).* The last group was included because about a third (35%) of the prisoners have a history of drug use.[4] Two main questions are asked in evaluating the risk behaviours of drug users - the proportion that has been injecting recently, and the proportion of injectors that has shared needles.

The proportion of injectors varies from one population group to another in the following order - *Shek Kwu Chau* (73.2%), *CRDA* all clients (54%), *CSD* (53.5%), *CRDA* new clients (30.7%), and methadone clinics (21.6%). The reason for this pattern has been explained elsewhere,[5] which is largely related to duration of drug addiction. New drug users often begin with inhalation and are less inclined to inject. The high level in *Shek Kwu Chau* may reflect the high proportion of inpatients who have been on drug for a long time. The mean duration of drug use in the latter case was 19.9 years, versus 2.7 years for new clients of CRDA and 14.1 years for all clients of CRDA [Table 2]. The age of drug users also varies, from 40.7 in *Shek Kwu Chau,* 27.9 in methadone clinic, 23.1 in CRDA (new clients) and 32.4 in CRDA (all clients) [Table 3]. These differences have persisted over the last ten years. The age of initiating drug use is about the same in different groups [Table 4].

Table 2. Mean Duration of Drug Users

	Year									
	1991	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
SKC	14.7	14.1	13.7	13.4	14.0	15.6	17.8	18.3	19.2	19.9
CRDA (new)	4.1	3.2	3.4	3.2	3.1	2.9	3.4	3	3.6	2.7
CRDA (All)	17	16.1	15.3	15.1	14.6	14.8	15.1	15.3	16.2	14.1

Table 3. Mean Age of Drug Users

	Year									
	1991	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
Methadone Clinic	29.6	27.5	26.3	26.5	25.0	26.3	26.2	26.8	28.7	27.9
SKC	36.4	36.2	36.1	35.9	36.4	37.4	38.9	39.3	40.3	40.7
CRDA (new)	25.5	23.8	23.2	22.3	23.2	23.8	24.4	24.4	24.8	23.1
CRDA (All)	36.3	35.3	34.2	33.7	33.1	33.4	33.6	33.8	34.6	32.4

Table 4. Mean Age of Initiating Drug Users

	Year									
	1991	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
SKC *	21.7	22.1	22.4	22.5	22.3	21.9	21.2	21.0	21.1	20.9
CRDA (new)	21.4	20.6	19.8	19.1	20.1	20.9	21	21.4	21.2	20.4
CRDA (All)	19.3	19.2	18.9	18.6	18.5	18.6	18.5	18.5	18.4	18.3

** assuming that the respondents have been on drug continuously without interruption*

For each community group, the frequencies of drug injection are all similar to those in the previous years. There is however, an increase in the proportion of injectors (15.5% to 21.6%) in the methadone users from 1999 to 2000, but a decrease in prisoners (75% to 53.5%) in the corresponding period. The reason for the observation in methadone clinics is not clear, while that in prisoners may be more methodological as the questionnaire has been altered in this round.

The needle-sharing rates are available from methadone clinics (9.4%) and *Shek Kwu Chau* (5.3%) for 2000, which are very similar to the figures for the previous years. For prisoners, 47.4% of the responders reported having shared needles in the one-year period before imprisonment. This is a heterogeneous group, and the response may have been affected by the alteration made to the questions. It was 8% in 1999 when the period referred was shortened to four weeks. Finally, unsafe sex could be another risk factor linking HIV to the drug-taking communities. In 2000, 40.8% of the respondents in the prisons give a history of commercial sex during the preceding one year before imprisonment while 82.9% use condom for the last commercial sex.

Linking Behavioural Surveillance with HIV Epidemiology?

There are three main uses of behavioural surveillance - (a) functioning as an early warning system for changes in epidemiology, (b) explaining changes in HIV epidemiology, and (c) informing programme design and help in evaluation.[6] Of the three, the explanation of HIV epidemiology is relatively more important. Behavioural surveillance on its own may not be able to function as an effective warning signal for an impending epidemic because of the low infectivity of the virus, lack of a consistent and sustainable system for collecting HIV related risk behaviours, and technical difficulty in the standardisation of the surveillance mechanisms. On the other hand, programme design and evaluation are often separate processes managed by other agencies. Their linkage with a behavioural surveillance system is an attractive idea but requires considerable efforts and understanding of all parties concerned.

The following conclusions can be drawn from the behavioural surveillance results in 2000:

(a) Markers on both sexual and drug-taking behaviours have remained constant for individual population group over the last years;

(b) Condom usage rate is generally higher for sex between commercial partners versus regular partners;

(c) Regular condom use is more commonly practised in populations without apparent risk (>50%), compared to those with risk, for example STD patients (<50%).

(d) Injection rate is highest in drug users with a long history of drug use, and lower in methadone users;

(e) Needle-sharing rate is low (<10%) in drug users admitted for inpatient or outpatient treatment.

How could behavioural surveillance results explain the HIV situation in 2000 in Hong Kong? Let's examine some of the key epidemiological features in Hong Kong. The overall HIV prevalence has remained low at less than 0.1% in almost all populations tested. Sexual transmission accounts for a majority of infections known to the surveillance programme. Despite the rising importance of heterosexual infections (83.2% for 2000), the prevalence in homosexual men is at least three to five times that of heterosexual men. Concurrently, less than 5% of the reported infections in 2000 is attributable to injecting drug use. The behavioural patterns described in the last paragraphs cannot be the evidence for a low HIV prevalence. There is no "threshold" of behavioural risk level above which HIV could explode. The trend could however explain the relatively "stable" situation in the last ten years. The behavioural data do not support the presence of an impending epidemic in the populations studied.

It must be cautioned that there are indications for a rising HIV rate in drug users. Unlinked anonymous screening of methadone users reveals a yearly positive rate of less than 0.1% up 1997, rising gradually to 0.27% in 2000. The number of reported cases has also risen from not more than 3 per year before 1998, to 6 in 1999 and 9 in 2000.[7] The behavioural data do not support a major change of drug-taking behaviours in the sampled populations. It can be argued that the existing behavioural surveillance system has not been able to pick up the signals of changes in the level of risk. This very phenomenon reinforces our belief that behavioural

surveillance could not easily function as an alert system on a population level. The current rise might have been a spilt-over effect from sexual transmission rather than a result of behavioural changes. With a higher HIV prevalence in many cities in the Pearl River Delta Region, there may be the tendency for a parallel increase in Hong Kong, though this might not necessarily be related to needle-sharing. This growing critical mass of HIV positive users is a subject of concern as needle-sharing is definitely practised in these population, albeit at a relatively low rate. Outbreaks in drug-taking communities may occur as a result.

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Figure 1. Median number of sex partners in the previous year among men attending AIDS Counselling Service the previous

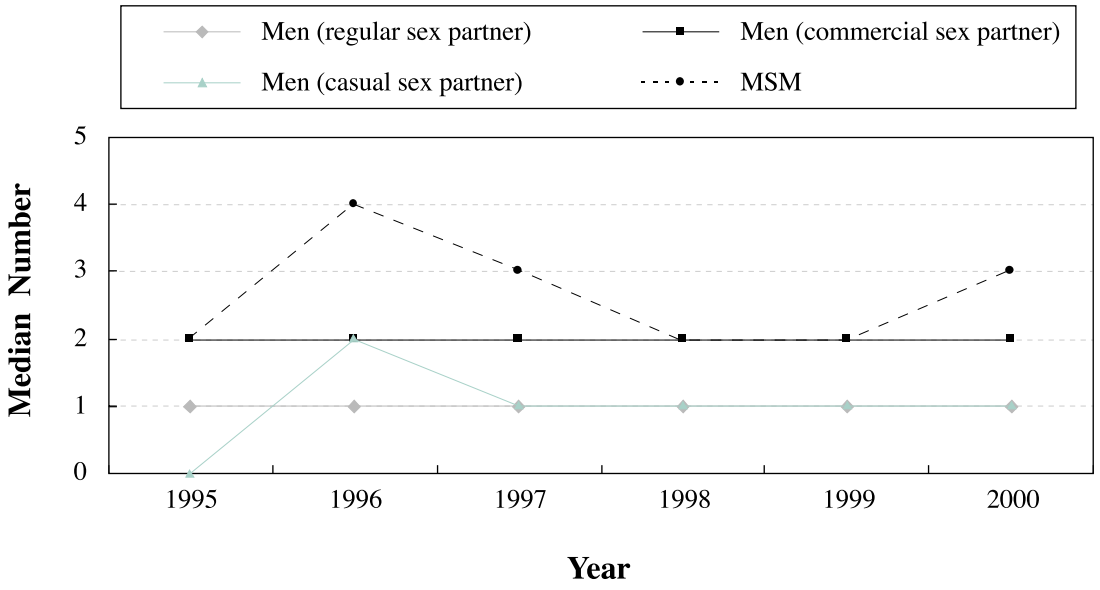


Figure 2. Recent history of commercial sex

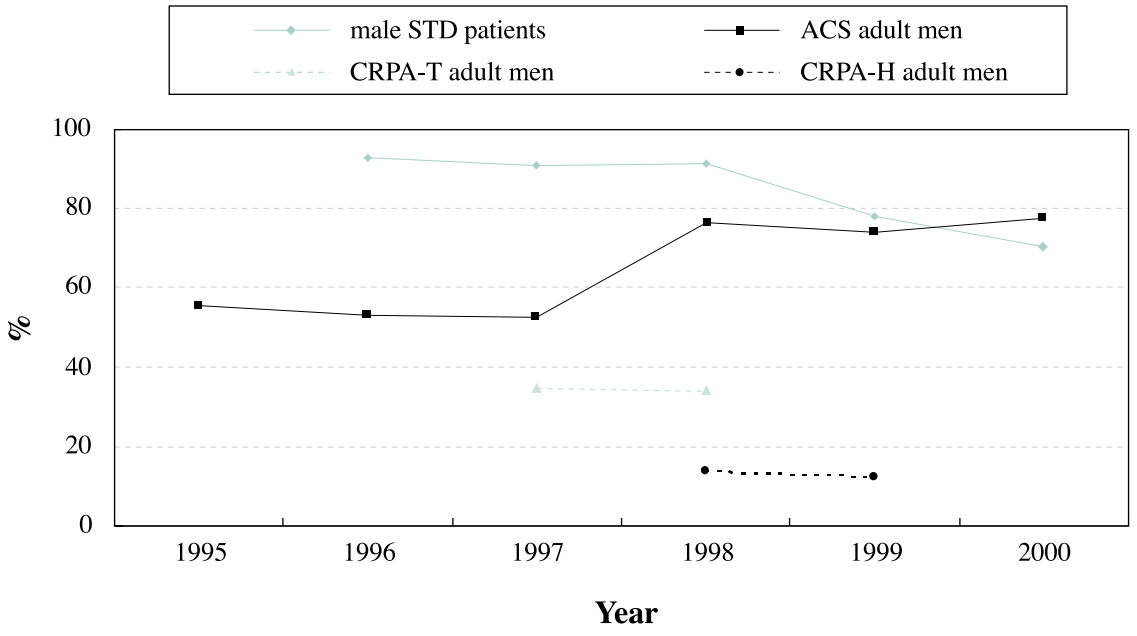


Figure 3. Condom use among men attending AIDS Counselling Service

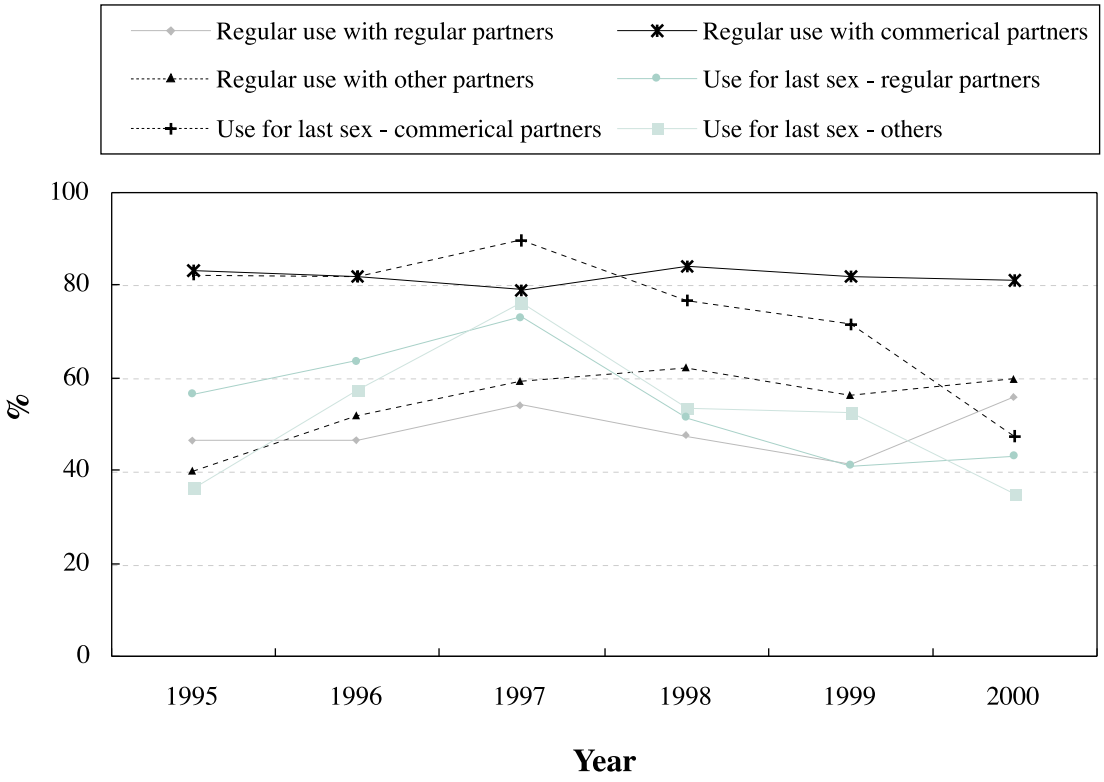


Figure 4. Regular condom use in heterosexual men

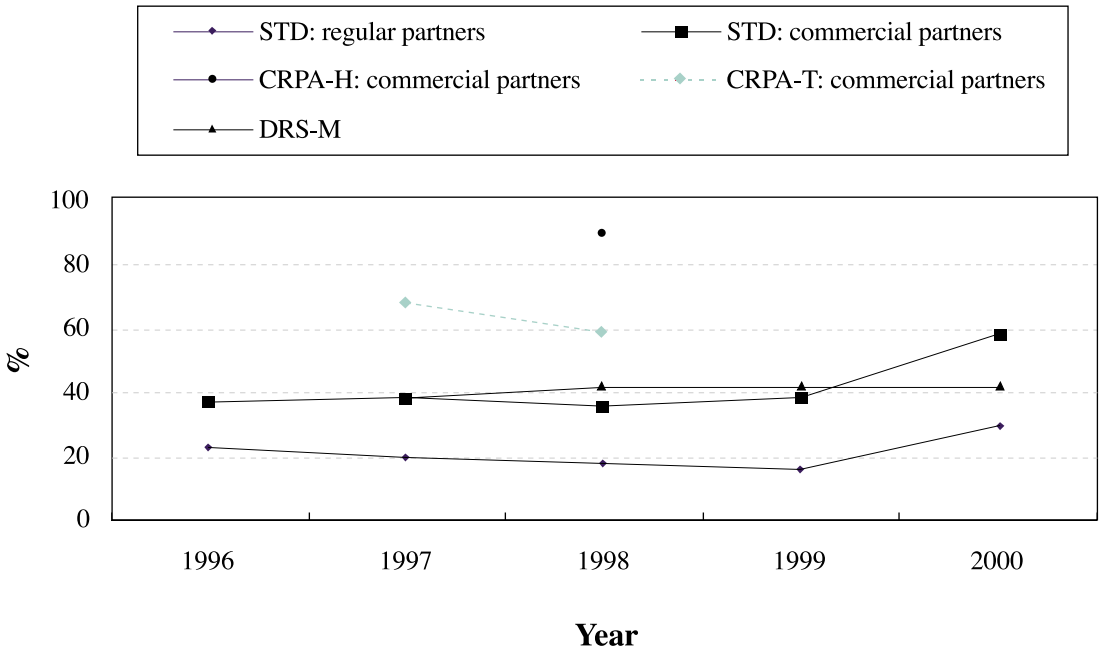


Figure 5. Condom use for last sex in heterosexual men

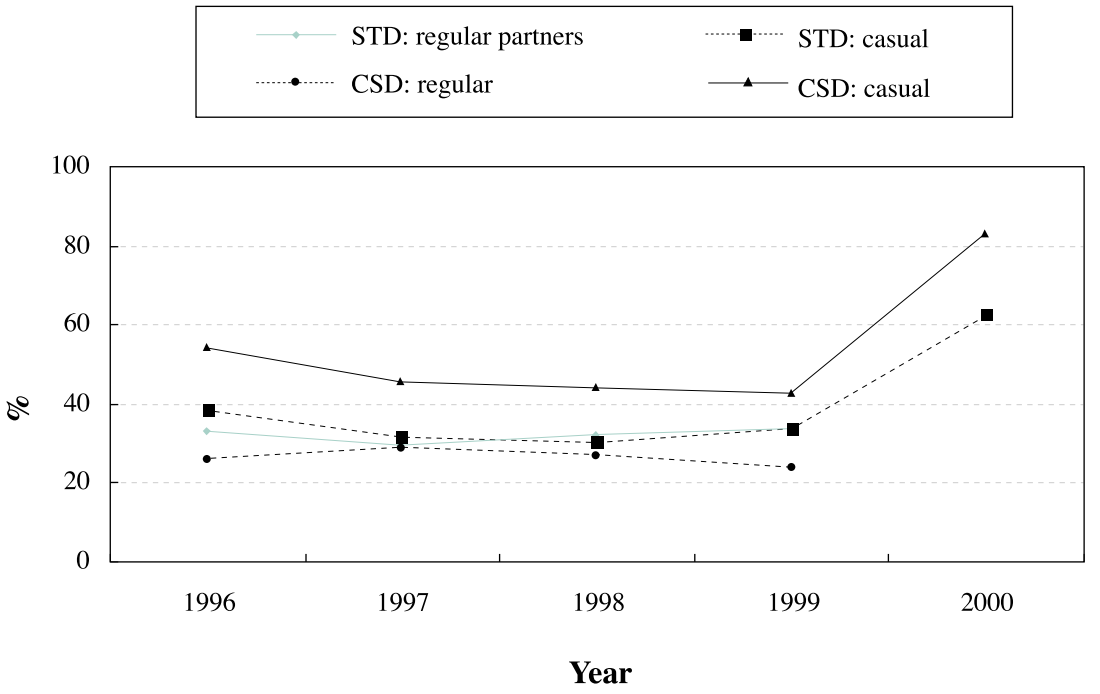


Figure 6. Condom use among MSMs attending AIDS counselling service

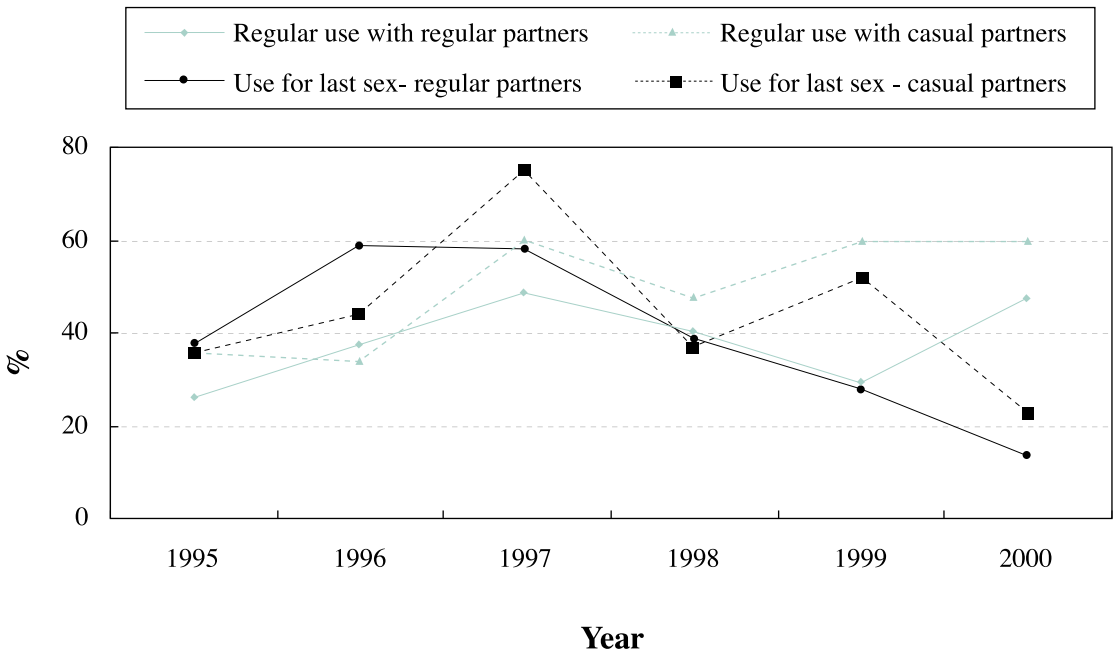


Figure 7. Proportion of injectors

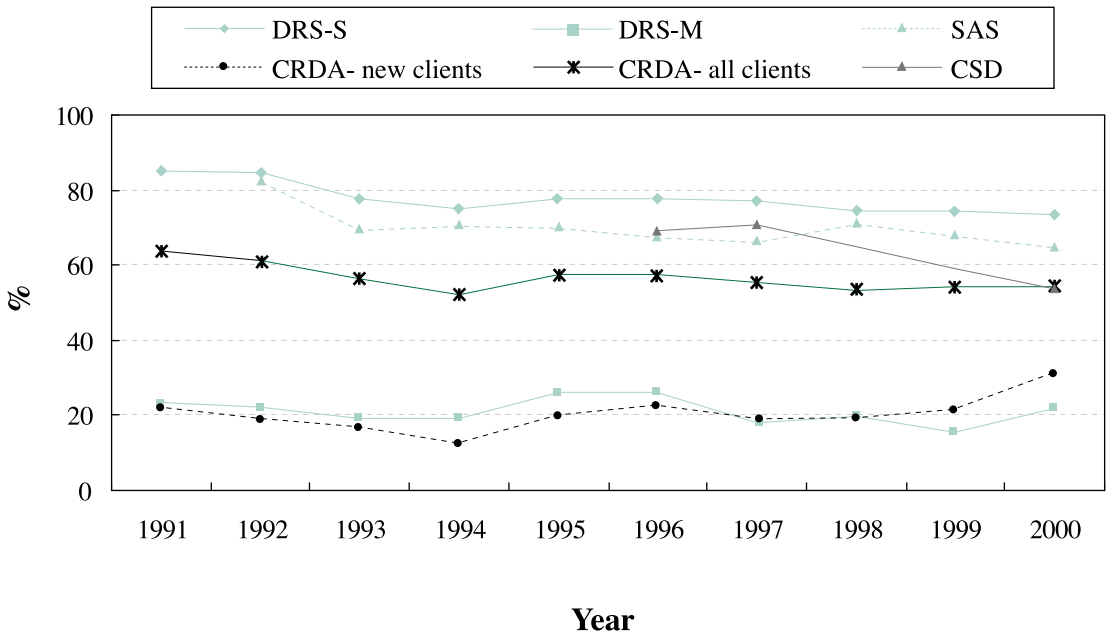
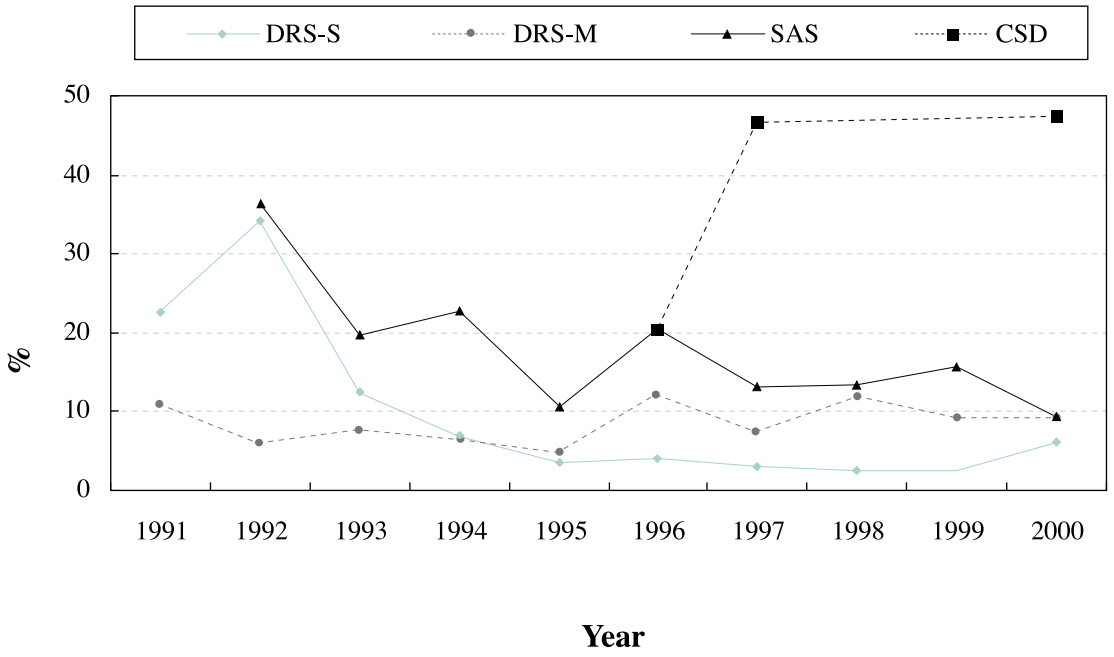


Figure 8. Proportion of needle-sharers



Universal Antenatal Human Immunodeficiency Virus (HIV) Testing in Hong Kong

A new programme provided for all pregnant women attending the antenatal clinics of the Hospital Authority and the Maternal and Child Health Centers of the Department of Health was implemented in September 2001. It is an improvement of the existing service by offering Human Immunodeficiency Virus (HIV) test as part of the routine antenatal blood testing to all clients, without making any prior judgment by the clinic staff on who have higher or lower risk of the infection. Education and counseling on preventing HIV infection and transmission are also provided for all expectant mothers as an integral part of this programme.

Leading Up to this Programme

This Universal Antenatal HIV Testing programme is seen by many local health workers as the first step in realizing effective HIV prevention for both women and their children. As we know, HIV is transmitted through the routes of (1) sexual intercourse, either heterosexually or homosexually; (2) blood transmission, in Hong Kong mainly as a result of needle-sharing among injecting drug users; and (3) vertical transmission, that is from infected mothers to their children during pregnancy and parturition, or via breast-feeding. Seeing more women infected with HIV is a matter of concern, especially that the infection not only can spread sexually but also be passed on to the next generation. There were 1693 reported cases of HIV infection in Hong Kong as of the end of September 2001, of whom 307 are females. The rate of female HIV infection is rising sharply in recent years with a male to female ratio of 4:1 in 1996 going up to 3:1 in 2000. The fact that most of the HIV infected women (87.3% (268/307)) are in their childbearing age (16 - 49) should raise the alarm bell for the health care professionals and the policy makers alike.

The Scientific Committee on AIDS (SCA), one of the three committees of the Advisory Council on AIDS (ACA), has taken note of this trend. In 1999, the prevention of mother to child HIV transmission (MTCT) was identified as one of the pressure areas that needed to be looked into. A working group was then formed within the SCA to make recommendations to the Council with respect to the prevention strategy based on all available scientific evidence and guidelines both locally and internationally. With the many experts of relevant fields working on the topic by considering all aspects of possible strategies to reduce MTCT in our local setting, a consensus had finally been reached. The Universal HIV Counseling and Testing by an opt-out approach was recommended. This was then passed to the ACA which subsequently endorsed and recommended it to the Government. In addition, a Consensus Conference was held by the medical community and was attended by local and overseas experts to discuss on the implementation of such strategy before the programme was finally introduced.

Effects of Universal Antenatal Testing

Reducing MTCT

It is estimated that between 15 and 30 HIV positive pregnancies will be picked up through the programme in each year. This is a projection based on data from the Unlinked Anonymous Screening in newborns, a local study conducted at Kwong Wah Hospital in 1999, the total number of births, and the HIV voluntary reporting system. Assuming a 20% risk of MTCT (estimated to be around 15 to 40% if without appropriate treatment and a 67% reduction in MTCT after intervention as in PACTG 076), it

would translate into 3 to 6 HIV positive babies in a year. With the implementation of Universal Antenatal Testing and the use of appropriate antiretroviral and measures during and after the pregnancy, it is anticipated that less than one or no baby will contract the virus through this route of transmission.

Care of the HIV infected Women

Most people do not know that they are infected with HIV because of no or minimal symptom during the early stage of infection. Undergoing HIV antibody test is the only way to confirm the infection. With progressive improvement of monitoring and treatment on HIV diseases in recent years, benefits of having early diagnosis are now evident. Universal Antenatal HIV Testing will facilitate the access to such a test and therefore an earlier diagnosis. This will have an impact to many HIV infected women, in such a way that better quality health care can be provided to them and therefore reduce the risk of passing the virus to their partners.

Focus of Managing HIV Infected Children

With the diagnosis of HIV infection during early pregnancy and the use of appropriate treatment and measures for the expectant mothers, it is expected that the burden of treating HIV infected children will lessen. The focus of management in paediatric HIV disease will be shifted from one that looking after infected children to mainly monitoring and following up those children who had been exposed to the antiretroviral during antenatal period (i.e. the HIV negative children whose HIV positive mothers had received intervention to prevent MTCT during their pregnancies).

Education on the HIV Prevention and Health Promotion to the Public

Another important aspect of the Universal Antenatal HIV Testing Programme is to provide a channel of promoting HIV prevention and delivering health information. All health care professionals taking part in this programme are familiar with the HIV prevention and means of reducing MTCT, they can provide information and counseling to pregnant women at the crucial time when the women are concerned of their own health as well as their fetus.

Measuring Outcomes of the Programme

A number of components are considered and included into the monitoring and evaluation process in order to ensure that the programme is being implemented efficiently and effectively.

1. Process evaluation on the preparatory work: This includes all the documentation in the forms of logbooks and checklists for all the activities organized in preparing the Universal Antenatal HIV Testing programme.

2. Statistical Returns: Recognising that success of the programme relies on the collaboration from all parties concerned. Regular statistical returns are required from all the services participating the programme to be collated for analysis. It will cover areas such as the testing coverage and infection rate.

3. Case Registry: This is an anonymous system providing information on outcomes of the pregnancies as well as any subsequent problems with the babies. The importance of such information cannot be understated, as it will provide the necessary information for further research and service planning.

4. Questionnaire Surveys: Qualitative and quantitative surveys on the understanding and acceptance of the programme as well as the difficulties encountered and improvement suggested will be conducted at intervals to allow further refinement of the programme.

The Unique Feature of this Prevention Strategy

Measures to prevent HIV transmission are closely related to its routes of transmission. Reducing sexual transmission can be achieved by promoting the use of condom; Alleviating the problem of blood transmission through needle-sharing among injecting drug users can be realized by the adoption of harm reduction strategy; and preventing MTCT in Hong Kong can be accomplished by having an Universal Antenatal HIV Testing programme together with appropriate intervention for the infected women. They are specific to the roots of transmission in controlling a communicable disease. MTCT prevention strategy is effective because intervention and care could be directly provided to those in need, in this case the infected mother-to-be.

Dr. Kelvin Low

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