

STD Control: A Sentinel Surveillance of the STD Clinic Attendees

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ABSTRACT

Sexually transmitted disease (STD) poses a significant burden to the society. A substantial proportion of the Government STD clinic attendees in Hong Kong is still not using condom consistently during casual sexual encounters. A large proportion of these encounters occurs outside Hong Kong, mainly in Mainland China. As the viral STDs, for which effective cure is as yet unavailable, are assuming an increasingly important aetiological role in the STDs in our locality, the focus of the control strategies should also change from improvement in medical treatment and contact tracing to behavioural modification. One of the important target groups that STD control programmes should aim at is the travelers to China. Closer collaboration with the community clinicians and the Chinese Health Authority is needed in order to develop a more effective STD control programme.

Keywords: STD, condom, syndromic approach, Hong Kong

INTRODUCTION

The burden of sexually transmitted diseases is enormous, and this is particularly so in the developing countries. The World Health Organization (WHO) estimated that in 1995, 333 million new cases of syphilis, gonorrhoea, chlamydial infection, and trichomoniasis occurred. These included 12.2 million cases of syphilis, 62.2 million of gonorrhoea, 89.1 million of chlamydia, and 167.2 million of trichomoniasis.¹ The majority of new infections occurred in the region of southeast Asia (45.6%), followed by sub-Saharan Africa (19.7%), and then Latin America and the Caribbean (10.9%).¹ It should be noted that these four types of infections accounted for only a portion of infections acquired through sexual intercourse each year.

In the 1993 World Development Report, it was estimated that in 1990, in demographically developing countries, STDs excluding HIV accounted for 8.9% of the disease burden in women aged 15-45 years and 1.5% in men in the same age group. This ranked STDs,

excluding HIV, as the second major cause of lost disability-adjusted life years in women of reproductive age.¹ The vast majority of the disease burden from STDs is a result of the complications and sequelae that may follow infection.

The STD and HIV epidemics are interdependent. Similar behaviours, such as frequent unprotected intercourse with different partners, place people at high risk of both infections. It is also becoming clear that some STDs increase the probability of HIV transmission. Several cross sectional surveys have demonstrated a strong association between STDs and HIV infection.^{2,3} A randomized intervention study has demonstrated a substantial reduction of HIV incidence consequent upon improved treatment of STD.⁴ There is biological evidence that STDs increase shedding of HIV virus and that STD treatment reduces this shedding.⁵ Therefore the control of STDs should be a public health priority.

The local situation is reviewed here to see if any suggestions or recommendations can be offered in order to improve the STD control in this locality.

METHODOLOGY

A survey was carried out in November 1997. All new attendees at all the Government STD clinics (nine in total, distributed over the Hong Kong Island, Kowloon and the New Territories) were interviewed by trained

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health advisors, and a pre-consultation questionnaire was filled.

The services in our STD clinics are provided free of charge, and a referral is not needed. Any people thinking they might be at risk of STDs can seek advice, investigations, or treatment in our clinics. Other channels through which patients are referred to us include those by other medical professions (mostly obstetric and gynaecological patients) and those with reactive VDRL test result (Red Cross, pre-employment check and old age home pre-admission health check).

RESULTS

The survey was carried out in November 1997, shortly after China has regained sovereignty of Hong Kong, and a month after the start of the financial crash in South East Asia which also hard-hit Hong Kong. During this month, a total of 1565 questionnaires were completed. Of these, 1060 were from male patients and 505 were from female patients, constituting 67.7% and 32.3% respectively.

(I) Male attendees (Table 1)

For the male patients, their mean age was 37. Ninety four percents of them were Chinese; the remaining 6% consisted of other Asians, Caucasians and Blacks. Vaginal sex was the most common type of sexual practice. Of the 1060 patients, 90.6% of them admitted having sex with a casual partner within the past one year. Female commercial sex workers were the most frequently cited sex partners, comprising 82.3%. The remaining 17.1% of the patients had sex with someone whom they described as 'girl friends' (though their sexual relationship was not on a regular basis). These casual sexual encounters occurred most commonly in Mainland China (64%), followed by Hong Kong (30%), and other places like Macau or other Asian countries (6%). Condom was not used in 50.9% of these cases. Oral genital sex without a condom accounted for 26.8%. Anal sex or oral genital sex with a condom were uncommon sexual practices. Apparently, the usage of condom during sexual intercourse with casual sex partner was not a common practice. Only 38.1% of the patients claimed they always used a condom during casual sex, while 28.8% of them used them occasionally, and 33.1% of the patients claimed they never used condoms during sexual intercourse with their casual sex partners. Use of illicit drugs was not common among the studied population, with only 1.6% of the patients admitted having used them within the past one year.

Table 1. Male STD clinic attendees

	Nov-97
Number	1060
Age	16-76
Mean Age	37
50%	28-44
Race	
Chinese	94%
Others (e.g. Asian, White)	6%
Complaint	
Symptomatic	81.6%
Asymptomatic	18.4%
Sexual Orientation	
Heterosexual	98.7% (1046)
Homosexual	1.1% (12)
Bisexual	0.2% (2)
Regular Sex Partner	69% (732)
Condom use with regular sex partner in past 3 months	
Always	19.5% (143)
Sometimes	24.3% (178)
Never	56.1% (411)
Sex Practice with regular partner	
Vaginal sex with condom	33.2% (243)
Vaginal sex without condom	66.3% (485)
Anal sex with condom	0.3% (2)
Anal sex without condom	0.7% (5)
Oral genital sex with condom	0.3% (2)
Oral genital sex without condom	9.7% (71)
Casual sex in past 1 year	
1-few/yr	50.2% (532)
1-few/m	32.0% (339)
1-few/wk	8.4% (89)
none	9.4% (100)
Last casual sexual encounter	956
Type of sex partner	
Female CSW	82.3% (787)
Male CSW	0.2% (2)
Girl Friend	17.1% (163)
Boy Friend	0.4% (4)
Place of Contact	
Hong Kong	30.0% (287)
China	64.0% (611)
Others (e.g. Macau, Asia)	6.0% (58)
Last sex practice with casual partner	
Vaginal sex with condom	49.1% (469)
Vaginal sex without condom	50.9% (487)
Anal sex with condom	0.3% (3)
Anal sex without condom	0.0% (0)
Oral genital sex with condom	1.5% (14)
Oral genital sex without condom	26.8% (256)
Condom use with casual sex partner in past 3 months	
Always	38.1% (348)
Sometimes	28.8% (263)
Never	33.1% (302)
Illicit drug use in past 1 yr	
No	98.4% (1042)
Yes	1.6% (17)

Table 2. Female STD clinic attendees

	Nov-97
Number	505
Age	15-87
Mean Age	36
50%	28-43
Race	
Chinese	92.1% (465)
Others (e.g. Asian, White)	7.9% (40)
Complaint	
Symptomatic	61.7%
Asymptomatic	38.3%
Sexual Orientation	
Heterosexual	99.6% (503)
Homosexual	0.2% (1)
Bisexual	0.2% (1)
Sold sex in past 3 months	
Yes	13.3% (67)
No	86.7% (438)
Frequency of commercial sex	
times/wk	1-80
mean	13.4
Regular sex partner	91.5% (462)
Sex practice with regular partner	
Vaginal sex with condom	30.7% (142)
Vaginal sex without condom	66.7% (308)
Anal sex with condom	0.2% (1)
Anal sex without condom	0.2% (1)
Oral genital sex with condom	0.4% (2)
Oral genital sex without condom	5.4% (25)
Condom use with regular partner in past 3 months	
Always	13.9% (64)
Sometimes	33.8% (156)
Never	52.3% (242)
Frequency of casual sex in past 1 year	
1-few/yr	6.1% (31)
1-few/m	7.9% (40)
1-few/wk	14.9% (75)
none	71.1% (359)
Last casual sex encounter	131
Boy friend	43.5% (57)
Male client	55.7% (73)
Female client	0.8% (1)
Last sex practice with casual sex partner	
Vaginal sex with condom	59.5% (78)
Vaginal sex without condom	42.0% (55)
Anal sex with condom	0.8% (1)
Anal sex without condom	0.0% (0)
Oral genital sex with condom	6.1% (8)
Oral genital sex without condom	16.0% (21)
Condom use with casual partner in past 3 months	
Always	17.1% (48)
Sometimes	12.5% (35)
Never	70.4% (197)
Illicit drug use in past 1 yr	
Yes	4.2% (21)
No	95.8% (484)
Housewife	42.9% (217)
CSW	13.5% (68)

(II) Female attendees (Table 2)

There were 505 female patients who completed the questionnaires. The age range was between 15 to 87, with a mean of 36. There were a total of 217 (43.0%) housewives and 68 (13.5%) commercial sex workers. Regarding the ethnic background, 92.1% of the patients were Chinese, the remaining 7.9% were other Asians, Caucasians and Blacks. Of the 505 female patients, 146 (28.9%) of them admitted having casual sex during the past one year. Male clients were the commonest casual sex partners as reported, constituting 55.7%, while boy friends constituted 42.7%. Vaginal sex was the commonest sexual practice, with 59.5% of them using condoms while 40.5% were unprotected. Anal sex, with or without condom, and oral genital sex with a condom were uncommon sexual practices. During casual sex, 17.1% of the patients always used condoms, 12.5% used condoms occasionally, while 70.4% never used condoms.

Among the 68 patients who admitted having sold sex in the previous three months, their age ranged from 17 to 53, with a mean of 33.5. Their frequency of commercial sex ranged from once to eighty times per week, with a mean of 13.4 times per week. Over half of them (61.2%) always used condoms during commercial sex, while 34.3% used condoms occasionally and 4.5% claimed they had never used condoms during commercial sex.

Use of illicit drugs was not a common phenomenon among our female patients, with only 4.2% of our patients admitted having consumed illicit drug(s) during the preceding one year.

DISCUSSION

Sexually transmitted diseases and HIV infection are not notifiable conditions in Hong Kong and so the actual local prevalence and incidence are not known. Collection of data and outreach of prevention programmes are difficult because the highest prevalence of STDs is frequently found among socially marginalized or stigmatized groups. Further difficulties arise from the fact that many cases of STD may go undetected because of asymptomatic infection, and the tendency for some people to ignore mild, bearable symptoms. In addition, apart from the government-run STD clinics, patients can seek help from the private sector or other alternative health care providers who claim to be specialists in treating STDs. Patients can also obtain empirical over-the-counter treatment from drug stores. Supply of antibiotics without prescription is not an uncommon practice in the drug stores in Hong Kong. Unpublished data obtained from a mail questionnaire conducted by the Social Hygiene Service

in 1998 showed that the number of STD cases seen in the private sector was about four times that seen in the government STD clinics. If this was taken into account with the unknown number of patients seeking care from alternate health care providers and those who self-medicated, the actual incidence and prevalence of STDs in Hong Kong would be expected to be much higher than that reported by the STD clinics.

From the reported annual incidence of STDs in Hong Kong (Table 3), non-gonococcal urethritis / non-specific genital infection, genital wart, gonorrhoea, herpes genitalia and syphilis constituted the majority of the STDs in Hong Kong. From the figures, one can see that the trend of most of the diseases dropped from 1988 to 1990, but steadily increased since then, with the exception of gonorrhoea, which has remained more or less steady after 1990. This trend appeared to be continuing into 1998 as reflected by the STD quarterly surveillance report.⁶

This phenomenon is in contrast to that seen in other countries. In Norway, the number of reported cases of gonorrhoea fell from more than 10,000 in 1981 to less than 300 in 1993. In Costa Rica, Chile, Zimbabwe, and Thailand, steady and sustained declines in reported STD cases have also been documented following active prevention programmes.^{1,7} The Thai Government began an HIV-prevention programme in 1989. The Government bought and distributed condoms to many of the commercial sex workers in the country. Sanctions were carried out if any commercial sex establishment was found not use condoms consistently. A media campaign was also launched to advise people to use

condom when having sex with commercial sex workers. From 1989 to 1993, the use of condoms in commercial sex setting increased from 14% to 94%, according to surveys done with the commercial sex workers.⁷ At the same time the incidence of the five major sexually transmitted diseases dropped by 79% in men.⁷ Another survey done in Thailand from 1993 to 1996 found that the reported patronage of commercial sex by men declined by an overall average of 48% over the three-year period.⁸

There are some differences between Thailand and Hong Kong. For the Thai men, when they employ commercial sex, they usually do so within Thailand. So any prevention programme directed at commercial sex workers is within reach of the government. The government has a mean to deal with this core group. The Ministry of Health has the power to sanction and close down any brothel that is found not to be using condoms consistently. In Hong Kong no similar licence is issued to commercial sex workers, and the Health Department lacks the power to sanction any commercial sex workers not using condoms consistently during business. The problem is further compounded by the fact that there are many "indirect" sex workers whose occupations do not involve selling sex directly or primarily, such as those working in karaoke bars, massage parlour and saunas, and yet some of them do provide sexual services if required.⁹ There are females who come to Hong Kong from Mainland China on a travelling visa for three months. Some of them engage in the sex business during their stay in Hong Kong and then go back to China after their visas expire. There are no statistics about this "indirect" sex business, and it is

Table 3. Annual incidence and trends of STD in Hong Kong²⁰

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Syphilis										
Total (except congenital)	395	376	366	310	420	457	381	381	599	744
Primary	39	22	16	20	16	16	25	44	151	228
Secondary	12	17	11	12	17	12	13	30	44	66
Early latent	64	65	71	47	92	96	48	80	113	186
Late latent	262	238	254	223	273	329	287	220	289	258
All others	18	34	14	8	22	4	8	7	2	6
Gonorrhoea	4919	3075	2487	2996	2825	2754	2521	2300	2342	2412
Non-specific genital infection	2147	1745	1454	2374	2761	2790	2759	3602	3464	3492
Non-gonococcal urethritis	2672	2330	1980	1956	2532	2885	3431	4679	5899	6262
Chancroid	137	56	32	44	47	21	8	7	2	4
Lymphogranuloma venereum	32	19	8	12	10	7	5	2	3	1
Herpes genitalis	919	834	762	584	719	779	766	796	997	1113
Genital warts	2330	2007	1727	1810	1666	1898	2418	2955	3168	3124
Pediculosis pubis	474	397	304	314	309	298	357	408	456	454
Scabies	157	142	76	86	157	198	244	367	246	278
Other (unclassified)	602	1504	1257	1960	1797	1646	1918	2554	2713	2779
Total STD	14787	12491	10457	12446	13257	13786	14848	18115	19938	20724

difficult for any health prevention programme to reach these people. Our survey also found that about two-thirds of the commercial sex occurs in Mainland China in which the Hong Kong Government cannot reach.

So what can be done? There are a number of issues that merit attention.

Education

What do people in our communities really know about STD prevention? The paucity of knowledge is reflected by the low frequency of regular condom use in casual sex contacts shown in our study (male 38.1%; female 17.1%). Frequency among female commercial sex workers is higher at 60%, but is still unsatisfactory. Public health departments will need to assess the knowledge level of STD prevention in the general community and among high-risk groups; and identify the resources and programmes that can deliver the education and skill building in STD prevention. They can then exert leadership to organize community based health educators and out-reach workers into effective coalitions. These in turn can deliver integrated programmes that prevent STD and HIV infection.

Upon cooperation with the Education Department, schools can be influenced to provide effective sexual health and STD prevention education. This is especially important since our study showed that the attendees of the Government STDs were from a relatively young age group. However, there has often been strong resistance among school teachers and parents to carry out sex education at schools. With the modernization of the society, this concept is becoming more acceptable. Resources and help should be provided to school teachers to develop a curriculum on sex education, STDs and safe sex.

Private sector

There are a number of areas that need closer look in order to develop a more effective STD control programme. STD programmes in most local health departments were run in public STD clinics which act as bases. In contrast, STD programmes generally have invested little in developing relationships with community medical practitioners who have provided much of the STD care in the community.¹⁰

We do not know the degree of knowledge of the community clinicians in Hong Kong concerning the management of STDs. In a published study assessing the family physicians' treatment of pelvic inflammatory disease in the United States, it was found that half of the primary care physicians were unsure of or did not

follow the Centre for Disease Control and Prevention (CDC) guidelines.¹¹

Many persons with STD symptoms are often seen in STD clinics, but yet many more are seen by community clinicians. Guidelines for the diagnosis and treatment of STDs appropriate to the local settings should be readily available. The STD programme must maintain a resource of clinical expertise to guide clinical practice and to address complex STD diagnostic and treatment questions. STD programmes should also regularly disseminate new information about STD diagnosis and treatment to community clinicians.

In the private sector, thorough investigations may not always be available for STD patients. As a realistic compromise, a syndromic approach may be appropriate because the cost of the investigations may be greater than the empirical treatment. Furthermore, treatment will often need to be given in the clinic at first presentation before investigation results are available. The Mwanza (Tanzania) trial created a huge stir when its findings were published in 1995. In a very pragmatic way, the investigators tested the impact of syndromic management for STDs delivered in primary care clinics on HIV incidence. They showed a 42% reduction in HIV incidence, but without any substantial impact on STD prevalence.⁴ The key principles behind syndromic management are that it is not always possible to make an accurate aetiological diagnosis in patients with STDs in some settings, and that many patients with a STD have multiple infections.

Control strategies

Control strategies should also vary with different STDs. For bacterial STD like gonorrhoea, in which highly effective treatment is available, it should be targeted to provide efficacious medical treatments and carry out active contact tracing. Continual monitoring of drug sensitivity of the bacteria and development of effective antibiotics play a very important role in controlling such STD. However the tactic for control of viral STDs is different. For viral STDs which have a duration of infectivity that cannot be significantly shortened with the present available treatment, or where there is no effective curative treatment available, such as herpes genitalia, genital wart or HIV, control efforts must be based on decreasing transmissibility through behavioural modifications. These cannot rely solely on improvements in medical treatment or partner outreach.

Mutual sexual monogamy is definitely one of the most reliable form of safe sex. But for various reasons, some people want or need casual sex. There are still some people who do not have the concept of what

constitutes high-risk sexual behaviour. These may be some of the reasons why people do not use condoms during such sexual activities. In our survey, only about one-third of the male patients and one sixth of the female patients consistently used condoms during casual sex. A previous study in Hong Kong had found a similar condom usage rate among commercial sex workers and male STD clinic attendees in 1993.¹² Similar findings were also found in Singapore and the USA.^{13,14} Various reasons were quoted when these people were asked about the decision of not using condoms during casual sexual encounter. These included decreased sensation, unavailability of condom at the time, or no or low perceived risk of STD/HIV infection.¹⁵ The value of proper use of condoms in the prevention of STDs and HIV infections is well documented.^{16,17,18} One of the reasons for the drop in STD incidence in Thailand since 1990 is attributable to the '100% Condom Campaign' launched by the Ministry of Health in Thailand.^{8,19} Since the rate of condom usage during casual sex among our male patients is low, the public should be educated of the importance and benefits of proper condom use, and they should realize that STD is prevalent. Quoting scientific figures about the reduction of STD and HIV infection with proper use of condoms will increase the persuasiveness of the plea.

Problem unique to Hong Kong

An important issue that is identified in this survey is the spread of STDs brought about by travelers to and from neighbouring provinces of China. The actual frequency of male travelers from Hong Kong engaging in commercial and casual sex in China is not known. Our survey suggests that this is a common event, as two-thirds of our male patients have casual sex in China. This means that we cannot simply adopt the '100% Condom Usage' programme as used in Thailand. This is one of the important target groups in which the prevention efforts should be focused on. Hong Kong is now part of China, and one can safely predict that cross-border traffic will continue to increase. Education about the prevalence and sequelae of STDs, the benefits and proper use of condoms, and distribution of condoms aiming at this group will hopefully help to control the spread of STDs. Pamphlets and posters placed at cross-border check-points hopefully can target this potential risk group. Closer link and cooperation with the Chinese health authority in this area will be mutually beneficial.

Continual surveillance and monitoring

The STD prevalence and people's behaviour may change over time. In order to have an effective STD programme that can adapt to the changing pattern of the diseases, steps should be taken to monitor and

analyze STD trend more closely. Incidence of STD changes quickly in response to behavioural change. Periodic analysis of data from the STD clinics and a subset of private clinics could allow trends and important behavioural changes to be tracked and addressed. This requires ongoing collection of new data and periodic analysis, leading to summary report of current trends in risk behaviour and the current epidemic in Hong Kong. A central source for collection and review of epidemiological and behavioural data should be set up as soon as possible.

CONCLUSION

More emphasis should be put on the importance of proper and consistent condom use. The message should unequivocally be addressed to high risk groups, including those travelers to mainland China who engage in casual sexual activities there. Prevention plays the most important part in the control of STDs. Continual surveillance and monitoring is needed so that we can target the specific high risks groups and their behavioural change.

Learning points:

A syndromic approach to STDs may be appropriate because the cost of investigation may be greater than the cost of empirical treatment. Furthermore, treatment will often need to be given in the clinic at first presentation before investigation results are available.

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Web sites of Dermatology & Venereology in Hong Kong

The Homepage of the Hong Kong Society of Dermatology & Venereology
<http://www.medicine.org.hk/hksdv/>

Hong Kong Dermatology & Venereology Bulletin
(Official Publication of the Hong Kong Society of Dermatology & Venereology)
<http://www.medicine.org.hk/hksdv/bulletin.htm>

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Handbook of Dermatology & Venereology
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CME Online (Dermatology)
(CME Programme accredited by the Hong Kong College of Family Physicians)
<http://www.medicine.org.hk/cme/>