WORLD HEALTH ORGANIZATION

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STI
HIV

CONSENSUS REPORT ON STI, HIV AND AIDS EPIDEMIOLOGY: **VIET NAM**

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National Institute of Hygiene and Epidemiology, Hanoi, Viet Nam

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SUMMARY

There has already been extensive HIV spread among injecting drug users (IDUs) in Viet Nam. But the country is still at the early phase of a heterosexual HIV epidemic, with low HIV prevalence among sex workers (CSWs) and very low HIV prevalence among the general population.

By 13 August 1998, 9 941 HIV-positive cases had been reported by 59 of the 61 provinces in Viet Nam. Of these reported infections, 65.3% were among injecting drug users, and mainly among males. A total of 1 207 AIDS cases had been reported, 641 of them died.

The results of sentinel surveillance show that HIV prevalence rates vary greatly from province to province, and from population group to population group. There has been a rapid spread of HIV infections among IDUs. Until 1996, the prevalence of HIV infection among IDUs was only high in the southern provinces. However, since 1997 there have been explosive increases in HIV prevalence among IDUs in some northern provinces. HIV infection among CSWs and STI patients has been low except in some southern provinces, especially in the Mekong Delta area and on the border with Cambodia. Sexual transmission of HIV in the south appears to be more extensive than in the north of the country. HIV prevalence rates among antenatal attendees and army conscripts are still rather low, ranging from zero to less than 1.2%.

By the end of 1997, in Viet Nam 64 000 to 78 000 HIV infections were estimated cumulatively. Among them, 3000-5000 have developed AIDS and 2000-4000 have died of AIDS. It is projected that by 2000, the cumulative number of HIV infections will reach about 135 000-160 000. Among them, 14 000-21 000 will have developed AIDS and 10 000-15 000 will have died of AIDS.

There are limited reliable data on STI prevalence. A few surveys of sex workers revealed high prevalence of STIs, up to 50%, in some surveys. It is estimated that more than one million new cases of STI occur every year in the general population, with a predominance of Chlamydial infections. Gonococcal antimicrobial resistance has increasing rapidly in the past few years, with rates of resistance as high as 80 % for penicillin noted in 1997. Resistance to quinolones was noted for the first time in 1997.

INTRODUCTION

The consensus meeting on estimations and projections of STI, HIV and AIDS was held in Hanoi on 21 August 1998. The meeting was attended by 47 experts from Viet Nam and abroad (Annex 1). The meeting participants reviewed and endorsed available epidemiological data.

OCCURRENCE OF HIV AND AIDS

REPORTED HIV INFECTIONS AND AIDS CASES

Methodology

The WHO definition is used for AIDS diagnosis. New HIV infections and AIDS cases are reported to the provincial centres of preventive medicine. Data are then transmitted to the Pasteur Institute in Ho Chi Minh City in the south of the country, the Pasteur Institute in Nha Trang in the centre and the National Institute of Hygiene and Epidemiology (NIHE), Hanoi, in the north. All data are finally transmitted to the NIHE in Hanoi, analysed by the HIV/AIDS subcommittee and reported to the Ministry of Health.

Results

The first case of HIV infection was reported in December 1990 in Ho Chi Minh City. There were no reports of HIV infections in 1991. Only 11 HIV infections were reported in 1992. In 1993 there was an outbreak of HIV infection among injecting drug users in the central and south regions, especially in Nha Trang and Ho Chi Minh City. By 13 August 1998, a cumulative total of 9 941 HIV positive cases had been reported by 59 of the 61 provinces in Viet Nam.

The majority of HIV infections have been reported among IDUs (65.3%), followed by sex workers (4.5%) and STI patients (2.9%). The majority of reported HIV infections (84.7%) are among males. HIV infection is mainly occurring in young adults: 34.7% are 20-29 years old, 32% are 30-39, and 21.3% are 40-49 years old. The proportions

of female and younger age-groups among reported HIV infections are increasing. And among reported HIV infections, females are younger than males.

Annual reported AIDS cases have roughly doubled each year since 1994. By the end of 1997, 1 207 AIDS cases had been reported of which 641 had died. The sex, age and exposure category distributions for AIDS cases have been broadly similar to those for HIV infection. The main clinical manifestation of AIDS in Viet Nam has been tuberculosis.

HIV SENTINEL SURVEILLANCE

Methodology

Sentinel surveillance for HIV infection was begun in early 1994 in eight provinces and was expanded to an additional four provinces in 1995 and a further eight provinces in 1996. The 20 sentinel provinces are: Lang Son, Lao Cai, Bac Thai, Ha Noi, Hai Phong, Nam Ha, Thanh Hoa, Ha Tinh, Hue, Da Nang, Binh Dinh, Nha Trang, Dac Lac, Dong Nai, Vung Tau, Ho Chi Minh City, An Giang, Song Be, Can Tho and Kien Giang. Populations monitored are STI patients, commercial sex workers (CSWs) and massage girls, injecting drug users (IDUs), tuberculosis patients, antenatal clinic attendees and military recruits. One to two sentinel sites are selected for each sentinel population in each sentinel province. Details of sites used, sampling and testing strategies and sample sizes are given in Annex 2. Cross-sectional surveys are repeated every six months (in March and in September) for CSWs, IDUs and STI clinic attendees and every 12 months for other groups.

Results

The results of sentinel surveillance show that HIV prevalence rates vary greatly between provinces, and between population groups. The aggregated prevalence rates have increased in all sentinel populations significantly. It is clear that in Viet Nam, HIV infection is predominantly and rapidly being transmitted among IDUs. Until 1996, the prevalence of HIV infection among IDUs was high only in the southern provinces, but since 1997 there have been explosive increases in HIV prevalence among IDUs in some northern provinces.

HIV infection among CSWs has been low except in some southern provinces in the Mekong Delta area and on the border with Cambodia. Rates in 1997 reached about 2.8% (23/834) in Ho Chi Minh City, 12% (47/387) in Kien Giang, 4.7% (12/253) in Can Tho and 3.7% (19 out of 512) in An Giang province. Sexual transmission of HIV in the south of the country thus appears to be more extensive than in the north. HIV prevalence among patients with STI has remained quite low, ranging from zero to 3.6% in 1997 with an aggregate rate of 0.6%. HIV prevalence among STI patients

in many provinces (except for Ho Chi Minh City, Can Tho, Vung Tau, An Giang and Kien Giang), has been less than 1%. Nevertheless, aggregated prevalence in this population was three times higher in 1997 than in 1996 (Annexes 3 and 3a). HIV prevalence rates among antenatal clinic attendees and army conscripts are still rather low, ranging from zero in many provinces to less than 1.2% in others, with an aggregated rate of 0.12% in 1997. The majority of HIV infections among low-risk populations were found in the southern provinces.

The limitations of the sentinel surveillance system are summarized in Annex 4.

ESTIMATION OF HIV PREVALENCE

Methodology

Estimates of HIV prevalence were made for the regions (Northern, Central and Southern) and then combined to make national estimates.

The distinct epidemics among IDUs and among the general adult population through heterosexual transmission were also recognized by estimating prevalence separately for these two groups. HIV prevalence among IDUs was estimated directly from the sentinel surveillance prevalence data, using estimated numbers of IDUs obtained from Ministry of Labour and Social Affairs, with provincial adjustments (Annex 5).

Prevalence among the general population was obtained by combining prevalence measured in antenatal women, CSWs and STI clinic attendees. The numbers of CSWs (Annex 6) were similarly obtained from the Ministry of Labour and Social Affairs with provincial adjustments. Estimates of the number of people with STIs was derived from provincial reports to the National Institute of Dermatology and Venereology, with a multiplier adjustment to account for cases seen in the private sector or underreported (Annex 7). Uncertainties in the population sizes of IDUs, CSWs and people with STIs led to the development of three estimates, resulting in low, medium and high estimates of HIV prevalence.

Results by province are combined across ecological and administrative regions using population-weighted averages. For those provinces without sentinel sites, estimates of prevalence to be used in regional estimation are obtained from other provinces within the same region. Annex 8 gives full details on the methods used.

Results

Annexes 9, 10, 11 and 12 show the HIV prevalence estimated for 1997 in the three regions. Separate estimates are shown for IDUs and the general adult population, for all three estimates of the population sizes. By the end of 1997, there were an estimated

64 000 to 78 000 cumulative HIV infections. Among these infections, 3 000-5 000 people would have developed AIDS and 2 000-4 000 would have died of AIDS. An estimated 50 % of HIV infections are in the southern provinces.

HIV AND AIDS PROJECTIONS

Methodology

There have been several different initiatives aimed at projecting the future course of the HIV epidemic in Viet Nam. In 1994, UNDP projected that there would be about 570 000 HIV infections in Viet Nam by 2000. In 1995, an assessment by the National Institute of Hygiene and Epidemiology projected about 350 000 HIV infections by 2000. In 1996, the AIDS Division, Ministry of Health, estimated that there would be about 300 000 infections by 2000. These estimates were based on average rates of HIV infection from sentinel surveillance, and did not consider the heterogeneity of HIV rates and risk in different provinces. It also did not provide for a range of estimates or province-specific estimation.

For this report, all available data about HIV and AIDS in Viet Nam were used. After discussion, EPIMODEL, a computer programme developed by WHO for the estimation and projection of HIV and AIDS cases, was applied. The input parameters to obtain HIV and AIDS estimates and projections using EPIMODEL were as follows:

- The year when extensive spread of HIV transmission started: 1993
- The estimated number of HIV infections in 1997:
  - + lowest: 64 000
  - + average: 70 000
  - + highest: 78 000
- Continuing transmission after 1997

Specific technical parameters within EPIMODEL were:

- The position on the HIV epidemic curve in 1997: 249
- The shape of the HIV prevalence curve: exp. 3
- The mean progression rate from HIV to AIDS: 10 years

Three scenarios of HIV infection and AIDS cases were obtained based on the three estimates of the number of people living with HIV infection in 1997.

Results

Annexes 13, 14, 15, 16 show the EPIMODEL projections for HIV and AIDS up to 2000. AIDS case projections up to 2000 should be robust if the HIV prevalence estimate for 1997 is accurate. Projection of HIV incidence after 1997 was based on extending the slope of the estimated HIV incidence curve that was constructed based on annual HIV prevalence estimates up through 1997. All of the assumptions of HIV prevalence estimates and trends used in EPIMODEL have to be constantly reviewed and revised, especially as additional data becomes available. For more details on the use and limitation of EPIMODEL, see Annex 17. By 2000, the cumulative number of HIV infections is expected to reach about 135 000-160 000. Of these, 14 000-21 000 people are expected to develop AIDS and 10 000-15 000 are expected to have died of AIDS.

OTHER SEXUALLY TRANSMITTED INFECTIONS (STI)

STI REPORTED CASES

Methodology

Every six months, the 61 provincial Dermatology and Venereology hospitals or centres report diagnosed STI cases to the National Institute of Dermatology and Venereology. However, it is estimated that these centres reports only about 10% of all STI cases, since most STI patients are seen by private practitioners or pharmacists who do not report these STI cases.

Results

In 1997, 53 provinces reported 71 000 new cases of STI, an increase of almost 50% in comparison with 1996.

STI SURVEYS IN SELECTED POPULATIONS

Surveys performed among female sex workers have documented high STI prevalence. The prevalence rate for the period 1995-1996 was close to 40% for syphilis, between 3% and 11% for gonorrhoea and 19% for trichomoniasis.

A survey conducted in 1995 among female patients to maternal and child health/family planning (MCH/FP) and other health facilities in two cities, found low prevalence rates in Hanoi (syphilis 0.2%,

gonorrhoea 0.3%, chlamydia 2.2%). Rates were slightly higher in Ho Chi Minh City (syphilis 0.5%, gonorrhoea 0.7%, chlamydia 2.5%).

The limitation of these surveys is that they are not comparable. Also, the study protocols may vary substantially and are essentially concentrated in two areas, Ho Chi Minh City and Hanoi.

ESTIMATES FOR OTHER STIS

Methodology

Data used in this process were gathered using point prevalence surveys. These surveys were either documented as published scientific reports, or in national and international scientific journals.

Only reports published between 1990 and 1997 were reviewed. Findings from surveys which were well designed and had good laboratory support were used.

Data were used to develop estimations for the most common and curable STIs, namely syphilis, gonorrhoea, chlamydia and trichomoniasis. Only data obtained from subgroups considered to represent the general population and the population of sex workers were used. When several different infection rates were available for a given STI, a mean figure was identified to be used for the estimation. Prevalence figures were calculated assuming that the STI infection rates could be extrapolated to the adult population 15-49 years or the general population and to sex workers population.

The rates observed in the surveys have been applied to the general population or the population of sex workers.

Estimated Prevalence for Selected STIs

General population

1997	Gonorrhoea	Syphilis	Chlamydia	Trichomoniasis	Total
Prevalence (Number of cases)	130 000	130 000	650 000	N/A	910 000
Prevalence Rate in Population 15-49	0.5%	0.5%	2.5%	N/A	
Prevalence Rate in Total Population	0. 16%	0.16%	0.84%	N/A	

Sex workers

1997	Gonorrhoea	Syphilis	Chlamydia	Trichomoniasis	Total
Prevalence (Number of cases)	20 000	70 000	10 000	40 000	140 000
Prevalence Rate	10 %	35 %	5 %	20%	

A limitation with these estimates is that the observed rates are extrapolated to the general population or the population of sex workers while the sample tested might not fully represent this population. Also, although repeated episodes of STIs might occur in the same individual within a one-year period, no adjustment of the estimation was made to reflect this.

GONOCOCCAL ANTIMICROBIAL SUSCEPTIBILITY

Monitoring of the Gonococcal antimicrobial sensitivity is in place in Viet Nam since 1992 and done by the National Institute of Dermatology and Venereology. The resistance of Gonococcus to penicillin has been increasing rapidly in the past few years with 80% to 90% of strains resistant. More recently, the emergence of resistance to quinolones has been noted (3% to 7% between 1994 and 1997).

RECOMMENDATIONS

1. These STI, HIV and AIDS estimates and HIV and AIDS projections should be viewed as the national consensus figures for 1997. These figures should be updated within one year.

2. The STI Subcommittee should: be reinforced; hold regular meetings; and be given the responsibility for STI surveillance in Viet Nam.

3. Work should be undertaken to develop better methods for estimating populations at risk of HIV infection (i.e. injecting drug users, direct and indirect sex workers, and STI patients) and for better understanding of the dynamics of drug use, prostitution and STIs.

4. There is a need to improve the information base for developing HIV and AIDS estimates and projections. This work should include establishing behavioural surveillance systems, and integrating STI surveillance. This work should include:

- The establishment of an STI sentinel surveillance system, to collect reliable estimates of incidence and prevalence of most STIs. This should be established on a syndromic basis as well as etiological diagnosis for syphilis, gonococcal, chlamydial and trichomonas infections. Sentinel populations should include both high (IDUs, direct and indirect CSWs, STIs patients) and low risk populations (antenatal attendees, army recruits); and

- behavioural surveillance to collect information on behavioural variables and characteristics. This information will help to predict the course of the epidemic.

In addition, quantitative surveys of the heterosexual risk behaviour of the most sexually active age group (15-49) need to be carried out.

5. In order to improve the quality of HIV sentinel surveillance, sentinel provinces should follow strictly the recommended methods for surveillance, paying particular attention to reducing potential biases.

6. The current estimated incidence and prevalence of HIV infection in Viet Nam are still relatively low. Therefore it is recommended that HIV sentinel surveillance should be carried out only once a year.

7. Where possible, the sample size of high-risk groups should be increased to about 300 per site. If needed the sample collection period can be extended to three to four months. Special precautions should be taken to minimize duplicate sampling of the same person.

8. Surveys among sex workers and IDUs should attempt to recruit beyond the detention centres.

9. In the provinces where the prevalence of HIV among antenatal clinic attendees is consistently greater than 0.5%, additional sites, particularly in the rural ANC population, are needed.

10. The current number of sentinel sites (20) seems adequate.

11. There is no need to include tuberculosis patients in all provincial sentinel sites. A larger number of tuberculosis cases (about 800) may be substituted from Hanoi and Ho Chi Minh City.

12. Blood donor data should be routinely collected and analysed as part of the annual HSS review and presentation.

13. Consideration should be given to strengthening AIDS case reporting.

14. Estimations and projections should be regularly reviewed as additional data becomes available.

ANNEXES