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Management of Sexually Transmitted Infections

*Report of an Intercountry Workshop
Yangon, Myanmar, 16-20 July 2001*

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1. INTRODUCTION

Sexually transmitted infections (STIs) are a public health problem of major significance globally. The South-East Asia Region is no exception. In this Region, the incidence of acute infections is believed to be high in many countries although the precise magnitude of the problem is still not clear. It is well known that failure to diagnose and treat STIs at an early stage results in serious complications, including infertility, foetal wastage, ectopic pregnancy, cancer and death. The epidemic of infection with the human immunodeficiency virus (HIV) that causes AIDS has now brought the control of STI into sharper focus, particularly because it is well established that STIs, especially those which cause ulcers, greatly increase the risk of HIV transmission.

STIs may be diagnosed in a number of different ways, including, clinical diagnosis, syndromic diagnosis and etiological diagnosis. Making a clinical diagnosis is based on the clinician's prior experience; however, it is far too inaccurate a method to be of practical use. Making a syndromic diagnosis is based on taking a history and examining the patient and identifying the pattern of symptoms and signs. In this method, the patient is treated for all the common causes of the STI-related syndrome. It is fairly easy to recognize STI related syndromes. In the syndromic management approach, a diagnosis can be made and the patient can be effectively treated at the same visit. However, there is some degree of over-treatment. Etiological diagnosis is the most accurate method of making a diagnosis. In this method, the etiological pathogen is identified by carrying out laboratory tests. However, methods for laboratory diagnosis of STIs are not available at all health facilities providing STI care in the Region, and conducting laboratory tests is time-consuming, expensive, and requires sophisticated equipment and experienced personnel trained in carrying out the tests. The results of laboratory tests, particularly bacterial culture tests, cannot be made available at the same visit and patients have to return a few days later, thus leading to a delay in commencing treatment. Carrying out laboratory tests is not feasible in many settings where patients must travel long distances to receive health care. Even if they return, the probability of developing complications is increased and the period of infectivity is prolonged by the delay in therapy. Few health institutions in

developing countries have the laboratory facilities required for accurate etiological diagnosis.

Persons with STIs will seek care in facilities that are accessible and where the care received is acceptable, effective and affordable. Services that are non-stigmatizing and non-discriminating are often more acceptable to persons with STIs. The health care-seeking behaviour of persons with STIs varies from place to place within the Region. Persons may also seek care in the informal sector or may well engage in self-treatment. Though healthcare seeking behaviour is not clearly understood, it is felt that a large proportion of persons with STIs seek care in the private sector. It is therefore imperative that private medical practitioners be skilled enough to provide high quality effective care for persons with STIs. The provision of high quality STI care is possible through the STI syndromic case management approach.

In the light of this, the World Health Organization promotes diagnosis of STIs on the basis of recognizing a pattern of symptoms and signs (also called syndromes) and the provision of the most effective therapy during the patient's first contact with a health care provider. This syndromic approach provides health workers in low-resource settings with a practical tool to make a diagnosis and provide effective treatment. The syndromic case management approach is simple, inexpensive, and a rapid approach to managing persons with STIs and can be implemented on a large scale by different cadres of health professionals. The approach allows for a diagnosis to be made and effective treatment to be provided at the patient's first visit to a health facility.

In the above context, an Intercountry Workshop on Management of STIs was held in Yangon, Myanmar from 16 to 20 July 2001. The objectives of the workshop were:

- (1) To discuss the latest issues related to treatment and control of STI;
- (2) To review the guidelines developed for conducting an STI prevalence study;
- (3) To promote public private partnership for STI prevention and control;
- (4) To identify future needs for STI prevention and control at all levels of health care, and
- (5) To prepare national plans of action for STI prevention and control addressing both the public and the private sectors.

The workshop was organized by WHO's South East Asia Regional Office (SEARO) in collaboration with support from the Ministry of Health, Government of the Union of Myanmar. The workshop was attended by participants from the public and private sectors from all Member Countries of the Region except DPR Korea and by staff from WHO headquarters, SEARO and the WHO country office. The list of participants is at Annex 1. Dr Myint Shwe (Myanmar) and Dr Anuradha Kapur (India) were nominated as Chairperson and Rapporteur respectively. The workshop was opened by H.E. Professor Kyaw Myint, Deputy Minister of Health, Myanmar and the address of Dr Uton Mughtar Rafei, Regional Director, SEARO, was read out, by Dr Agostino Borra, WHO Representative to Myanmar. The programme of the workshop is at Annex 2.

The workshop proceedings are summarized below. Keynote presentations were made by WHO staff while representatives of the public and the private sectors from each country gave an overview of the STI situation in their respective countries.

2. OVERVIEW OF STI EPIDEMIOLOGY

2.1 Global Epidemiology of Sexually Transmitted Infections

STIs are a major global cause of acute illness, infertility, long-term disability and death, with severe medical and psychological consequences for millions of men, women and infants.

WHO estimated that 340 million new cases of syphilis, gonorrhoea, chlamydia and trichomoniasis occurred throughout the world in 1999 in men and women aged 15-49 years.

In 1990, WHO estimated that over 250 million new cases of STIs had occurred that year. The estimation was based on a modified Delphi technique, which was chosen due to the limited information available on the incidence and prevalence of STI available at that time from many regions, including sub-Saharan Africa and some parts of Asia.

In 1995, using a revised methodology, the number of new cases of STIs was estimated to be 333 million. The estimation for 1999 was made using the same methodology as that for 1995. Data for the estimation were collected by searching published and unpublished information on prevalence and incidence, both in the literature and in the WHO country files for STIs.

The WHO estimates, although based on a comprehensive survey of available information, are affected by the quantity and quality of prevalence and incidence data from the different regions, and the knowledge on the duration of infection.

Interpreting the data from prevalence studies and comparing results is further complicated by the nature of the populations studied. Few studies are community-based and the majority of data come from studies carried out in specific populations, such as STI or antenatal clinic attendees. Other limitations are the small samples sizes, the different diagnostic approaches and study designs used.

Data from epidemiological surveys show that within countries and between countries in the same region, the prevalence and incidence of STIs may vary widely, between urban and rural population, and even in similar population groups. These differences reflect a variety of social, cultural, and economic factors, as illustrated by the HIV epidemic, and also differences in the access to appropriate treatment. In general, the prevalence of STIs tends to be higher in urban residents, in unmarried individuals, and in young adults. STIs tend to occur at a younger age in females than in males, which may be explained by differences in patterns of sexual activity and in the relative rates of transmission from one sex to the other.

Global estimates

WHO estimates that 340 million new cases of STIs occurred worldwide in 1999. The largest number of new infections occurred in the region of South and Southeast Asia, followed by sub-Saharan Africa and Latin America and the Caribbean. However, when related to the population size, the highest rate of new cases per 1,000 population occurred in sub-Saharan Africa.

Table 1: Estimated prevalence and annual incidence of curable STIs by region

Region	Population 15-49 years (million)	Prevalence (million)	Prevalence per 1,000	Annual incidence (million)
North America	156	3	19	14
Western Europe	203	4	20	17
North Africa and Middle East	165	3.5	21	1
Eastern Europe and Central Asia	205	6	29	38
Sub Saharan Africa	269	32	119	69
South and South East Asia	955	48	50	10
East Asia and Pacific	815	6	7	22
Australia and New Zealand	11	0.3	27	18
Latin America and Caribbean	260	18.5	71	151
Total	3040	116.5	1.3	340

Figure 1: Estimated new cases of chlamydial infections among adults, 1999

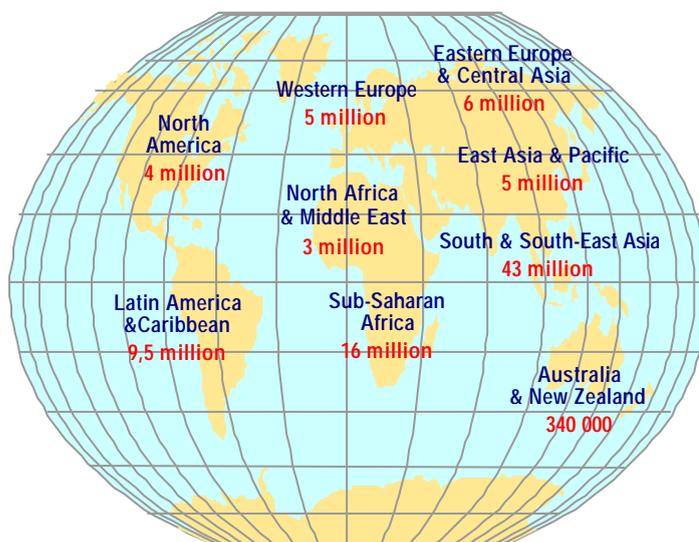


Figure 2: Estimated new cases of gonorrhoea infections among adults, 1999

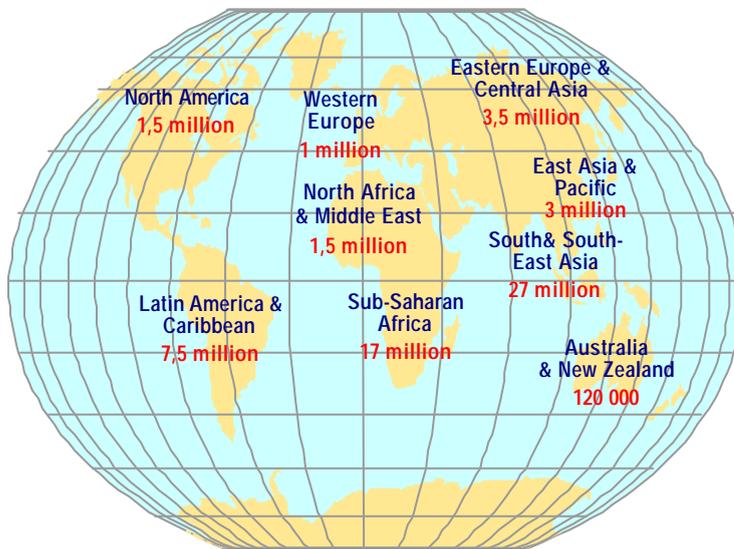


Figure 3: Estimated new cases of syphilis amongst adults, 1999

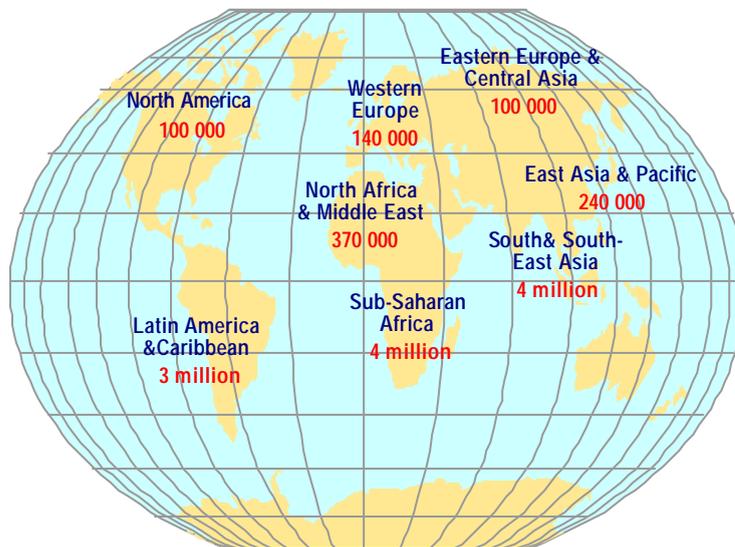


Table 2: Estimated new cases of trichomoniasis among adults in 1995 and 1999

Region	1995		1999	
	Female	Male	Female	Male
North America	4.23	3.78	4.29	3.90
Western Europe	5.76	5.30	5.52	5.09
North Africa and Middle East	2.22	2.32	2.25	2.35
Eastern Europe and Central Asia	5.17	4.90	6.75	6.36
Sub-Saharan Africa	15.35	15.07	16.19	15.93
South and South East Asia	35.87	39.56	36.36	40.06
East Asia and Pacific	4.53	4.83	4.61	4.91
Australia and New Zealand	0.32	0.29	0.32	0.29
Latin America and Caribbean	9.10	8.52	9.50	8.79
Total	82.55	84.57	85.78	87.68

2.2 Regional Overview

The prevalence of STIs is not uniform between countries and within each country. Data are available only from the public sector. There is no provision for the collection of data from the private sector and hence the figures given here are at best a very rough approximation of the true numbers. Most studies have been carried out in health facilities and among persons either at high risk of infection or among those seeking care for STIs or suspected STIs. Community-based studies are small in number and limited.

In a community-based study carried out amongst women in Tamil Nadu, India, it was shown that the prevalence of gonorrhoea and chlamydial infection was 3.7% and 3.9% respectively, while the prevalence of syphilis was 0.3% and that of trichomoniasis 5.1%. Amongst high-risk groups in Tamil Nadu, syphilis was commonly found, while in Kerala, India,

trichomoniasis was the commonest STI encountered. A study carried out amongst sex workers in Tamil Nadu revealed that 75% had at least one STI and that multiple infections occurred commonly. Studies in other high-risk groups revealed a prevalence of syphilis of 5% among prisoners and sailors, 10% among homosexual men and 25% among long-distance truck drivers.

Syphilis is highly prevalent amongst the general population in Myanmar; the prevalence rates ranging between 10 per 100 000 population to 25 per 100 000 population. Amongst pregnant women in Myanmar, the syphilis seropositivity rates have remained between 0.3 and 0.4% over a 10-year period from 1991 to 2000.

Viral STIs seem to be occurring increasingly frequently throughout the Region while the prevalence of bacterial STIs remains fairly constant. This has been evident in both Sri Lanka, as assessed by a review of the records of an STI clinic in Colombo. Amongst blood donors in Sri Lanka, syphilis seropositivity has remained fairly constant at 0.2 to 0.6%.

Promoting 100% condom use amongst establishment-based sex workers in Thailand has led to a tremendous decrease in the annual incidence of STIs during a 13-year period from 1987. Promoting and distributing condoms in peer-led education programme amongst sex workers in Sonagachi, Kolkata, India, had a perceptible effect on the incidence of syphilis but not of HIV.

There is no information on the healthcare-seeking behaviour of persons with STI in the Region, nor is there an accurate and regular STI reporting system. The magnitude of the STI epidemic is not known. In addition, there is no information on the number of cases of STIs treated in the private sector in the Region. There is a need to have this information in order to institute and implement prevention activities such as promoting safer sexual behaviour and safer sexual activity and providing high quality STI care in the public and private health sectors.

2.3 Country Situation and Experiences

Participants from the public and private sectors of nine countries in the South-East Asia Region shared their experiences regarding STI prevalence and STI control activities in their individual countries. Summaries of individual country presentations are given below.

Bangladesh

Details of STI prevalence and incidence are not available for Bangladesh. Only a small number of studies have been carried out in the country. Patients with STI, particularly men, usually seek care in the private sector or at health facilities run by non-governmental organizations, such as CARE, BRAC Action, Poricharja, and also at facilities run by Bangladesh Medical Association, Bangladesh Private Medical Practitioners Association, Bangladesh Dermatological Society, some private medical colleges such as Salim Medical college.

Though no official data exist, it is felt that STIs occur fairly commonly and that the common STIs encountered include syphilis, gonorrhoea, chlamydial infection, trichomoniasis, genital herpes and chancroid. One study estimated that 2.5 million persons in the country are infected with STIs. Non-gonococcal urethritis is the commonest STI seen in men. The large majority of persons with STI are thought to be young persons and a large proportion of these become infected after having sex with a sex worker. Guidelines for the management of STIs do exist, but these are used almost exclusively in the public sector. In the private sector, STIs are managed by medical practitioners according to their own experience.

Bhutan

There is no private health sector in Bhutan and all persons with STIs seek care at either public sector-based facilities or in the informal sector. Self-medication also occurs. STIs continue to be problematic with gonorrhoea being the most common STI. By the end of April 2001 the number of HIV-positive cases were 22 and all are in the age group of 15-35 years. The following initiatives have been implemented in order to control STIs in the country:

Outreach programme

Activities of the outreach programme include:

- behavioural surveillance

- targeted preventive interventions
- counselling and health education to targeted groups
- institutionalizing STI/HIV cases
- support at the District level

Use of syndromic management guidelines on STI (revised version)

STI/HIV counselling services

- strengthen counselling services
- training of one tutor from RIHS (Health School) for specialized counselling course
- training of health workers, especially nurses in short course counselling

National HIV sentinel surveillance every two years

Development of IEC strategic plan for STI/AIDS

India

Persons with STIs may seek care in the formal health sector comprising the private and public sector-based facilities, in the alternate health sector and in the informal sector. Many patients engage in self-medication and antibiotics are available on an over-the-counter basis widely throughout the country.

One study in Chennai showed that STIs commonly encountered include hepatitis B (5.3%), trichomoniasis (5.1%), chlamydial infection (3.9%), gonorrhoea (3.7%), HIV infection (1.8%), syphilis (0.3%), and chancroid (0.1%).

The National Programme for STD control started in 1946 as a pilot project; in 1949, this became the National STD Control Programme. This was in existence till 1991. In 1992, the STD Control Programme was amalgamated into National AIDS Control Organization (NACO). At present five Regional STD Reference Centres are situated in Delhi, Chennai, Hyderabad, Nagpur

and Kolkata. In addition, there are 504 STD clinics in medical colleges and hospitals throughout the country.

The strategies in the HIV/STI Control Programme are: effective programme management, IEC, good STI case management, improved access to STI facilities, early diagnosis and treatment using syndromic case management approach, early detection and prompt treatment of STIs in high-risk groups through targeted interventions, and capacity building. In all, 520 targeted interventions aimed at high-risk groups have been initiated by non-governmental organizations (NGOs) in different states in the country.

Achievements of the HIV/STI control programme include: completion of an STI facility survey, strengthening of five STD referral and research centres, production and distribution of training materials, provision of laboratory services in 504 STI clinics and training of 18 600 doctors and 10 000 paramedical workers. During the Family Health Advisory Campaign (FHAC) in June 2000, 1.86 million cases of reproductive tract infections (RTI) and STI were detected. A community-based STI prevalence survey has been planned by NACO.

The Indian Medical Association (IMA), which has a membership of 150 000 doctors mainly in the private sector, is committed to controlling STI in India. Besides working closely with NACO, IMA has an ongoing distance learning continuing medical education component dealing with STI control through syndromic management. A pilot project is being finalized by IMA in which experts will train a group of master trainers who will then further impart training to the doctors in their zones throughout the country.

Indonesia

Data on the prevalence of STIs and the common conditions treated at health facilities are not available as reporting is incomplete and irregular.

STI care is available in both the public and private sectors. In the public sector, STI care is provided at specialist clinics where essentially patients are managed after some laboratory tests are carried out. Recently, the Ministry of Health has endorsed the syndromic case management approach for the management of STIs. In the private sector, STI care is provided by private

general practitioners and private specialists such as urologists and dermatologists. In general, most persons attending the clinics for STI care are seen by medically-qualified health professionals.

The STI control programme in Indonesia can be categorized in four areas: prevention, STI care services, effective STI care, and additional activities.

A programme for the prevention and control of STIs was initiated in Indonesia in 1996, when the Director-General of Communicable Disease Control and Environmental Health started to advocate promotion of condoms for all sexual encounters in sex establishments. In 2001, the Director General of Community Health made another commitment that the Ministry of Health will support the 100% Condom Use Programme where the implementation was endorsed by the local government.

Maldives

STIs are of low prevalence in the country. In 1991, 74 STD cases were reported; in 1999, the number increased to 308. Cases of STIs include gonorrhoea, hepatitis B, and genital herpes. The prevalence of the Syphilis is extremely low. The case of HIV was found in 1991. Till now, 11 cases have been reported; 6 of these have died.

The country does not have a separate programme for STI; STI control is incorporated in the National HIV/AIDS Programme. The NAP Unit was formed in 1995. Syndromic management approach is applied in all health care facilities except in the regional hospitals and the Indira Gandhi Memorial Hospital where laboratory facilities are available.

Myanmar

The prevalence of major STIs per 100 000 population in 2000, as reported by government STI clinics are: syphilis -12.6; gonorrhoea - 4.2; non-gonococcal urethritis - 5.4; and chancroid -1.8.

The government considers STIs as a sixth priority disease in the National Health Plan (1996-2001). The National AIDS/STI Prevention and Control Programme is working with its 39 teams in the country together with the UN

agencies, and with national and international NGOs to accomplish its activities. STI control strategies of the AIDS/STI programme are to prevent sexual transmission of HIV and to strengthen monitoring, evaluation and surveillance activities.

The STD Control Programme started in Myanmar in 1951. The National AIDS and STI Programmes were combined in 1994 and STD syndromic management started in 1995. The National AIDS/STD Programme has planned to expand syndromic management training to all townships, establish VCT for HIV in all AIDS/STD clinics, expand VDRL testing among pregnant women in all townships and set up laboratory facilities for gonococcal culture and antibiotic susceptibility testing in all STD clinics in the future.

Nepal

Data on STI prevalence are not available as the report of STI is not in place, nor has any survey been carried out.

There are many factors affecting the management of STI. Limited health care services as well as limited availability of appropriate drugs and difficulty in identifying and reaching infected persons are major constraints.

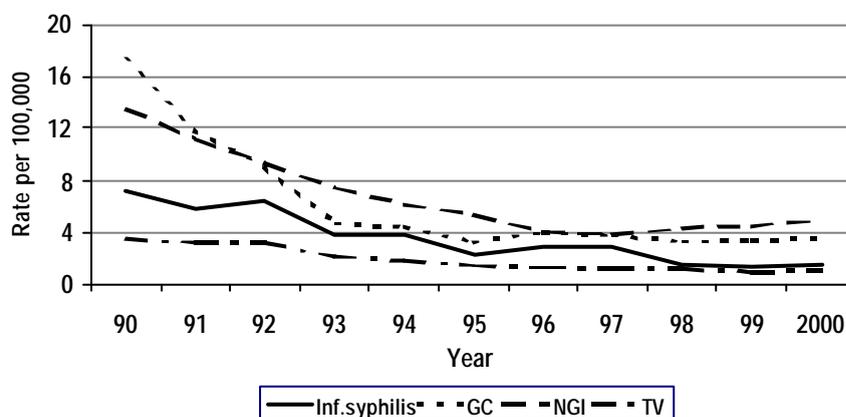
The Ministry of Health, in close coordination with international agencies, NGOs and the Nepal Medical Association, is conducting different training programmes. The Ministry of Health also published National Guidelines on STD Management and gave notice to different family planning clinics to provide condoms and other family planning methods to all health care seekers.

Sri Lanka

The STI burden in Sri Lanka is not known with certainty. Community-based STI data are not available. Lack of reporting from the private sector is a major constraint. Data are available from the government STI clinics only.

During the year 2000, 9152 new patients were registered in the STI clinics. 6345 new episodes of STIs were reported and of them 21% were due to genital herpes. Genital herpes is the commonest reported STI. The incidence has increased from 5.5 per 100 000 in 1993 to 7 per 100 000 in 2000.

Reported incidence of bacterial STD Sri Lanka 1990- 2000



Bacterial STIs show a decline. Infectious syphilis cases recorded a decrease from 3.7/100 000 in 1993 to 1.4/100 000 in 2000 and gonorrhoea declined from 4.7/100 000 in 1993 to 3.5/100 000 in 2000.

STI services are provided by the public and private sectors. Around 10-15% of persons with STIs attend government STI clinics while the rest go to the private sector.

The national STD/AIDS Control Programme (NSACP) of the Ministry of Health is responsible for the control of STI. NSACP has a central STI clinic in Colombo and 19 STI clinics in provincial hospitals.

Pregnant women have been screened for syphilis since 1952, but congenital syphilis continues to be reported. Ninety per cent of pregnant women deliver in health care institutions.

With the assistance of the World Bank, the Ministry of Health has developed and strengthened the infrastructure, provided equipment and vehicles and STI drugs and condoms. Medical and public health staff have been trained. NSACP has developed national guidelines on STI management. In addition, it has also modified WHO's seven modules on STI syndromic management and produced a single module adapted to the Sri Lanka situation. NSACP has trained some of the general practitioners in syndromic management.

NSACP is burdened with training of medical staff due to the rapid transfers. STI drugs are not available at all levels. There is a shortage of laboratory technicians. Partner notification and management is also not satisfactory.

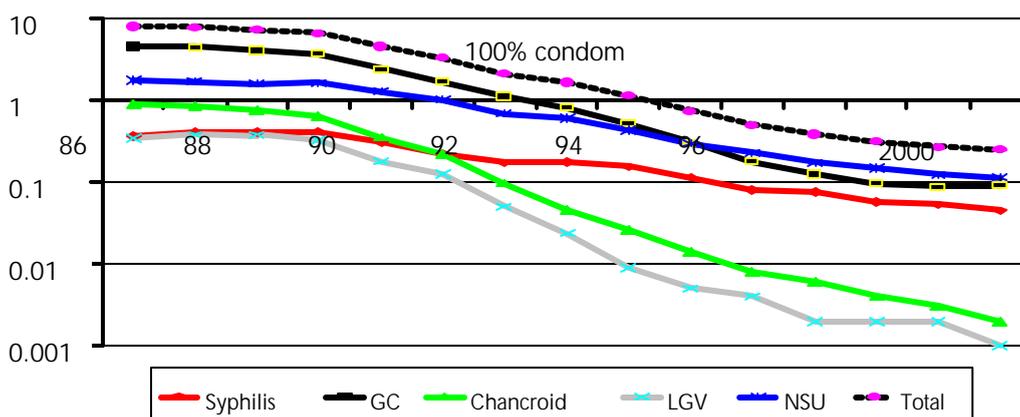
Thailand

The prevalence of major bacterial STI in Thailand has decreased since 1989. The incidence rate of venereal diseases (gonorrhoea, non-specific urethritis, syphilis, chancroid and lymphogranuloma venereum) markedly decreased from 7.85 cases/1000 population to 0.25 cases/1000 population. There was a slight increase in gonorrhoea cases in 2000. Control measures that have been implemented include: health education, use of condom during commercial sex and contact tracing.

Measures that contributed to the decline of STI prevalence include 100% condom use programme, comprehensive STI management, counselling, promoting health seeking behaviour, community participation and syndromic management of STIs.

In 2001, the government plans to reform the health care system in the country in order to promote good health for all. Thus there will be changes in the surveillance systems, health care service systems, and budget allocation systems.

Prevalence of STDs in Thailand
(1986 - 2000) incidence rate/ 1000 pop



In all countries of the Region, there is a serious lack of data on the prevalence of STIs, the pattern of STIs and the trend in STI incidence. Participants agreed on the need to collect data on a regular basis and that a uniform system of data collection should be instituted in both the public and private sectors.

3. MANAGEMENT OF STI

3.1 Diagnosis and Treatment

A large number of organisms, including bacteria, viruses, fungi and arthropods, may be sexually transmissible and may cause illnesses. Bacterial, fungal and parasitic infections are readily treatable with appropriate antimicrobial therapy. However, no cure is currently available for viral infections. HIV infection is an STI and its transmission is facilitated by the presence of other STIs. An important strategy in the control of HIV infection is the rapid and effective treatment of treatable STIs.

STI care in most countries of the Region is available in the private and the public sectors. In addition, STI care may be available in the informal sector. Though the health seeking behaviour of persons with STI is not clearly understood, it is felt that the majority of patients with STI seek care in the private sector. However, care provided by the private sector may not be according to the national policies or guidelines.

There are essentially three ways to make a diagnosis of STI: clinical diagnosis, etiological diagnosis and syndromic diagnosis. Clinical diagnosis is dependent on the previous experience of the clinician and is not a reliable method as mixed infections are often missed and patients treated clinically are both at risk of developing complications and are likely to spread infection as they may have received incomplete treatment. Etiological diagnosis is dependent on laboratory testing. It is the most accurate method but requires technical expertise and laboratory equipment. There may be a delay in instituting appropriate therapy as laboratory tests may take some days to become available. Making a syndromic diagnosis is the easiest method and is dependent on recognizing patterns of symptoms and signs. This latter method does not require laboratory testing and a diagnosis can be made and the patient treated during the same visit.

The STI-related syndromes are syndromes of urethral discharge, vaginal discharge, genital ulcers, lower abdominal pain in women, acute inguinal lymphadenitis (bubo), acute scrotal swelling, and purulent neonatal conjunctivitis. These are easily recognizable after a history is taken and an examination is carried out.

High quality accessible and acceptable STI care may be provided through the syndromic case management approach. Comprehensive STI case management includes:

- making a diagnosis of STI;
- providing appropriate antibiotics for the STI syndrome;
- providing education regarding the nature of the infection, treatment compliance, and risk reduction through behavioural change and condom use;
- promoting and providing condoms;
- counselling according to risk;
- partner referral and treatment;
- follow-up examination.

All patients with STI should be treated appropriately and the opportunity should be taken of the STI consultation to provide education, counselling and condoms. The World Health Organization recommends that all persons with STIs should be treated initially through the syndromic case management approach and that this method of managing patients should be available at all health facilities in the public and private sectors. To this end, WHO has developed and distributed guidelines for syndromic management of STIs. As a large majority of STI patients seek care from the private sector, this sector can play a significant role in the management of STIs.

3.2 Prevention and Care of STI

The objectives of an STI programme are to interrupt the transmission of infection to prevent development of complications and sequelae and to reduce the risk of HIV infection.

Successful implementation of STI prevention and care, like other health issues, heavily depends on the stage of development of health system'. A step-by-step approach to implementation of activities is advisable.

The first step, the basic level, includes:

- STI case management integrated in PHC;
- Basic STI surveillance;
- Promotion of early recourse to health services, and
- Targeted health promotion to STI patients.

The second step is to cover the following activities:

- Minimum laboratory in case management, extended coverage, screening for syphilis, STI counselling;
- STI surveillance (prevalence, resistance, aetiologies);
- Control of congenital syphilis STI case management integrated in PHC;
- Basic surveillance (case reporting);
- Promotion of early recourse to health services in clinics area, and
- Targeted health promotion to STI patients.

When the second set of activities are implemented, and there are sufficient human and financial resources, a comprehensive programme should be considered, including:

- using the laboratory in clinical management, extended coverage, screening for chlamydia and voluntary counselling and testing for HIV;
- full surveillance;
- promotion of early recourse to health services provided by general practitioners;
- primary prevention conducted by general practitioners;

- minimum laboratory in case management, extended coverage, screening for syphilis, STI counselling;
- STI surveillance (prevalence, resistance, etiologies);
- control of congenital syphilis STI case management integrated in PHC;
- basic surveillance (case reporting);
- promotion of early recourse to health services in clinics area, and
- targeted health promotion to STI patients.

3.3 WHO Guidelines on STI Case Management

WHO has recommended the syndromic management of STIs and has prepared guidelines for this purpose. Based on the experiences of the countries, the guidelines have been reviewed and revised. Issued in June 2001, the new WHO STI guidelines are meant to be used by all clinicians providing STI care in the private and public sectors. The guidelines describe the comprehensive case management of persons with STIs through the syndromic approach. The guidelines include:

- Introduction
- Treatment of STI-associated syndromes
- Treatment of specific infections
- Key considerations underlying treatments
- Practical considerations in case management
- Children, adolescents and sexually transmitted infections

The introduction covers the background, rationale for standardized treatment recommendations, principles of case management, syndromic management, risk factors for STI-related cervicitis and criteria of selection of drugs.

The second section covers treatment of STI-associated syndromes, presenting new flow charts to guide the management of persons with STIs-

related symptoms or signs. In the section dealing with treatment of infections, the new recommended treatment for each specific STI agent is specified. Key considerations underlying the treatment covers the choice of antimicrobial regimens, comments on individual drugs, antimicrobial resistance in *Neisseri*, *gonorrhoeae* and *Haemophilus ducreyi*.

In the section "Practical considerations in case management" the public health package is described, clinical considerations are made and the areas of education for primary prevention, education and counselling during STI consultation, notification and management of sexual partners and access to services are covered.

The last section deals with children and adolescents covering sexual assault, susceptibility and clinical presentations. The guidelines are to be used in the public and private sectors and provide a standardized approach to STI management.

4. STI SURVEILLANCE

There are no reliable data on STI burden in the Region. This information is necessary for planning STI prevention and control activities and for the purpose of advocacy. Currently, there is no standardized method of collecting data on STIs in the Region. There is a great need for this to be developed and implemented. STI data may be collected anonymously from all health facilities providing STI care. A large proportion of patients with STIs seek care in the private sector and therefore it is important to obtain data from this sector as well.

4.1 Reporting, Monitoring and Evaluation

An important aspect in the control of STIs is the reporting of cases that occur. An assessment of the size of the epidemic is necessary for planners so that they may be able to provide human and material resources needed to cope with the problem. Estimating the size of the epidemic periodically will give an indication of a change in the trend of the epidemic and also whether interventions for the control of STIs are making an impact.

Reporting of STIs in the Region is limited to the public sector. Even here, reporting is weak, incomplete and irregular and hence highly deficient. There is no reporting from the private sector.

When estimates are being made and the effect of interventions are being assessed, it is important to consider that persons with STIs receive care at all levels of the health system, including the private and unaccredited sector. Therefore, attempts should be made to capture data from private sector-based health facilities.

Ideally, reporting of cases of STIs should be universal when all health centres in the public as well as in the private sector routinely and regularly report cases. In this method, all health centres submit returns of clinic attendances on a monthly basis. The returns need not provide detailed information regarding every patient but should provide essential information. The information is collected on tally sheets and collated locally and then transmitted to a central unit. If reporting is complete and regular, then the system of universal reporting is the ideal method of finding out the real magnitude of the problem. The system is dependent on the commitment and concerted effort of all health officers.

Reporting from sentinel sites is also a useful method of assessing the size of the epidemic. Sentinel sites are chosen randomly and should represent both urban and rural settings in the public as well as the private sector. Details of all cases of STIs treated at the identified sites are obtained in a standard format. Details from sentinel sites may include age, sex, marital status, clinical diagnosis, etiological diagnosis and response to treatment. Any other important information may also be collected. Again, the system is dependent on the health worker who fills out the forms. The completed forms are usually collated and analyzed at the central level - usually at the Epidemiology Unit of the Ministry of Health and then quarterly reports are sent out from the central level so that the front line health worker can use the information locally.

A number of infections are diagnosed after laboratory tests have been carried out. In the system where reporting occurs from the laboratory, the laboratory that makes the diagnosis reports the number of cases diagnosed on a monthly basis to the central epidemiology unit. This method is useful when all laboratories conscientiously report conditions diagnosed. This system of reporting is used in many countries for reporting the number of cases that have been found to be HIV positive. As it is, the rule that a laboratory

diagnosis of HIV infection is necessary prior to offering the patient counselling for the infection, the diagnosis of HIV infection is usually made only after a blood test is carried out. Laboratories usually submit to the Ministry of Health the number of tests that have been found to be positive. Apart from age and sex of the patient, no other details are submitted. The details reported in this system could be made as elaborate as one would like.

All health facilities should report the cases of STI that are treated in both the public and the private sectors. The reporting system need not be a complex one. As part of the health information system, most public health facilities already report the number of cases that are seen at the clinics. Data on the number of cases of STIs treated may be collected using tally sheets that are filled out each day by each health worker. At the end of a specified period of time, the sheets are collected by the clerk and collated. At the end of each month, the monthly totals are recorded and sent to the epidemiology unit of the Ministry of Health through the district, provincial or city medical officers. At the epidemiology unit, the information is entered into the computer and reports sent out each quarter.

The tally sheet has a list of diagnoses against which appear columns for age groups and sex. Within the columns are a large number of circles. Each time a health worker sees a patient, a line is placed through one of the circles in the appropriate column against the appropriate diagnosis. STIs may be reported syndromically from health facilities and etiologically from laboratories. The system is entirely dependent on health worker motivation. All health workers should be trained in the proper use of the tally sheet. The information obtained would be invaluable.

4.2 STI Prevalence Study

As reliable data about the magnitude of STIs in the Region are not available, it is necessary to collect reliable data through an initial, well-designed prevalence study. The initial study will provide baseline data while subsequent studies and surveillance will provide data for monitoring.

The main objectives of STI prevalence study are to determine the prevalence of selected STIs in specific population sub-groups; to determine antimicrobial sensitivity pattern of selected STI pathogens; to generate data for

designing control measures and developing STI case management protocol; and to provide baseline data for monitoring the trends of STI. In the study, priority is given to curable STIs such as syphilis, gonorrhoea, chlamydia and trichomoniasis. Other STIs, such as HIV, chancroid and genital herpes as well as endogenous infections, bacterial vaginosis and candidiasis can also be added.

The sites for the study should be selected on the basis of acceptability by the government and local authorities; commitment and availability of staff; capability to conduct the study in the clinic and the laboratory; and number of available study subjects. The study should preferably be conducted in urban as well as rural areas and in the public as well as the private sector, in order to achieve wider representation.

Although a community-based study would be ideal, it would be very difficult and complicated to conduct such study. Hence, for the sake of convenience and access, it is suggested to conduct the study in women attending antenatal, family planning and gynaecology clinics. A cross-sectional observational study with convenient consecutive sampling is suggested. The criteria for including the subjects in the study are sexually active age (15 to 49 years), first-time visitors to the clinic for the present event in order to avoid double counting, non-use of antibiotics during the past two weeks in order to avoid interference with culture and sensitivity, and voluntary participation after informed consent.

The study consists of interview and history taking, physical examination, and collection of specimens for laboratory tests for selected STIs. Simpler laboratory tests have been recommended as far as possible. Adequate attention should be paid to training of staff, transport of specimens and provision of supplies.

A small STI prevalence study has been carried out among long distance truck drivers in Bangladesh. In India, a number of studies have been carried out among various population sub-groups, especially commercial sex workers and truck drivers. A community-based nationwide study is being planned and will be carried out by five regional STD centres. In Myanmar, a study was carried out among attendees of the maternal and child health clinic near Yangon. In Sri Lanka, a study being carried out by the College of Obstetricians and Gynaecologists is nearly complete and results will be available soon. In

Thailand, a study was conducted among pregnant women in the north-eastern part of the country.

The draft guidelines for conducting STI prevalence study, prepared by SEARO, was reviewed by the participants. The generic protocol for submitting the proposal for STI prevalence study, based on SEARO's form for submitting a research proposal, was distributed at the workshop. It was agreed that the participants upon return to their respective countries, the participants would consult with other colleagues to prepare the proposal for STI prevalence study and subsequently submit it to WHO/SEARO for support.

5. PUBLIC-PRIVATE PARTNERSHIP IN STI PREVENTION AND CONTROL

As a large majority of STI patients, 60-70% or more, seek care from the private sector, this sector has an important role to play in prevention and control of STI. However, little effort has been made to involve the private sector in STI prevention and control. At the same time, treatment being provided by the private sector may not conform to national policies or standard regimens. The private sector usually does not participate in the reporting system. Hence, there is a need to have regular dialogue between the public and private sectors.

Most of the STI patients prefer to seek care from the private sector because it offers better and more personalized services, is more sympathetic to the needs of the patients, is more convenient in location and timing, ensures privacy and confidentiality, and provides a greater sense of responsibility, care and compassion. However, the quality of care provided by the private sector needs to be examined, the treatment regimen being followed may not be the most effective one and the treatment package as a whole may not be followed. It is essential to ensure that the private sector follows the national guidelines on prevention and control, implements full treatment package, uses the standard drug regimen, encourages the patients to complete treatment, and follows the standard recording and reporting system. On the other hand, the public sector should ensure that the private sector retains the patients and receives assistance in the diagnosis of difficult cases, supply of drugs and recording and reporting. The public sector should

also ensure confidentiality of the cases reported and provide briefing and orientation on national policies and guidelines. The private sector should also be involved in the planning and policy-making processes.

Inclusion of the STI drugs in the Essential Drug List, ongoing coordination between the public and private sectors on a regular basis and provision of some sort of incentives to the private sector were emphasized by the participants during discussions.

6. THE WAY FORWARD

6.1 Future Needs for STI Prevention and Care at Various Health Care Levels

Private Sector

Though no real data exist regarding healthcare-seeking behaviour of persons with STIs, it was felt that more than 70% of persons with STIs seek care in the private sector. The private sector comprises qualified allopathic practitioners, qualified practitioners of alternative systems of medicine, pharmacists and unqualified practitioners, including quacks. Participants in this group agreed that in order to implement control interventions successfully, it is necessary to work within the parameters of the legal framework for medical and other practitioners and that there should be greater participation of the private health sector in policy-making. Finally, participants felt that activities identified for implementation should receive sustainable funding.

The following needs for STI management and control in the private sector were identified:

(a) *Managing persons with STIs through the syndromic case management approach*

It was felt that managing patients through this approach provided patients with the full 'package' of care. It is an ideal way to make a diagnosis and

provide treatment at the first visit. However, it was felt that there was a need for the following:

- Training in syndromic case management
- Standardized management guidelines that are widely distributed
- Ensuring the existence of a functioning referral system for persons not responding to the first line treatment
- Ensuring the availability of drugs, condoms, and IEC material
- Developing and implementing systems for efficient record-keeping.

(b) STI reporting

There is no system for reporting of cases of STIs treated in the private sector. However since the majority of cases are treated in the private sector there is a need to develop and implement systems that would provide valuable information on the STI caseload of private medical practitioners. The following needs were identified:

- Training in the reporting of episodes of STIs as syndromes.
- Setting up of a system of collecting data from medical practitioners – there is a need for centrally-based collectors who would be involved in distributing and collecting tally sheets.
- Practitioners who do report cases should be provided with some incentives such as timely quarterly reports, information on recent updates, information on changes in clinical practice regarding STI management based on evidence, continuing medical education.
- Provision of free or low cost drugs to practitioners involved and cooperating with the central authorities.
- Provision of IEC material for display and distribution.
- User-friendly reporting forms and tally sheets .
- Provision of self-addressed envelopes for posting the forms to the central collecting agency with a pre-paid postage facility.

(c) Capacity building

For successful integration of STI management and control activities within the private sector, the following needs were identified:

- Training – all health care providers should receive in-service training in STI syndromic management in the form of short courses. Training should include:
 - Clinical management
 - Record keeping
 - Reporting of STIs
 - Provision of education and counselling
 - Referral mechanisms, including when and where to refer patients
 - Training of laboratory personnel in etiological diagnosis of referred cases
 - Training specialists in the provision of high quality care.
- Equipment – there is a need to ensure that practitioners have the necessary equipment to carry out a physical examination and provide education and counselling in privacy.
- Laboratories should be properly equipped in order to carry out tests reliably and efficiently.

(d) Increasing public awareness regarding STIs

A concerted public health education programme promoting primary prevention of STIs through behaviour change needs to be undertaken. The lack of knowledge about STIs in general and the prevention of STIs in particular was seen as a major shortcoming in many countries of the Region. There is a need for:

- public education regarding STI prevention;
- education of students at schools and colleges
- implementing targeted education programmes addressing youth in- and out-of-school;

- training teachers and educators in delivering messages on safer sexual behaviour and activity;
- using the media for defusing myths, promoting condom use, and shedding of inhibitions, and
- advocacy through religious and community leaders.

Public sector

This group felt that the majority of persons that seek care in the public sector belong to the lower income groups and are often from the marginalized sections of the population and hence may be at a greater risk of being infected. Group members agreed that special initiatives should be directed towards the marginalized sectors of society and it was very strongly felt that comprehensive STI management and control services should be fully integrated within all public sector-based health facilities. The group felt that there should be greater prioritization by policy-makers when allocating resources for STI control.

The following needs for STI management and control in the public sector were identified:

(a) Decentralize the service delivery system

There is a need to decentralize and integrate STI management and control activities within the primary health care and reproductive health care facilities in the public sector. STI care and control services should be fully integrated with other health programmes. Fully integrated services will reduce the level of stigmatization and will be more acceptable. With the provision of STI services at all primary care facilities, there will be greater accessibility of services. There is a need to:

train all health care providers in syndromic management of STIs including,

- making a syndromic diagnosis;
- provision of appropriate treatment for the STI syndrome;
- educating and counselling patients on risk reduction;

- promoting and providing condoms, and
- partner referral and treatment.

Upgrade health care facilities in the public sector so that,

- privacy and confidentiality can be assured;
- patients can be treated without loss of confidence in the system;
- patients can be examined – provision of examination couches, gloves, specula, light sources and sterilizing equipment, and
- patients can be managed comprehensively – provision of drugs, condoms and IEC materials.

(b) Information, education and communication

There is a need to educate the general public on the prevention of STIs and their interrelationships with HIV infection and on good health care-seeking behaviour. There is a need to:

- develop culturally-sensitive preventive messages and distribute them through the media;
- educate and inform the general public on safer sexual behaviour and practices through radio and television messages;
- promote early health seeking;
- inform the public as to where services for STI management are available, and
- develop interventions targeting groups at high risk for infection, such as youth, migrant labourers, transport industry employees, persons separated from their families, and sex workers.

(c) Improve STI reporting

There is a great need to improve reporting of STIs from the public sector. The group felt that there did exist a system of reporting of all other conditions and that this should be examined and strengthened. There is a need to

- strengthen the existing reporting system;

- train clinicians on reporting systems;
- establish a network for reporting;
- develop a simple reporting form for all conditions and include STI reporting within this, and
- ensure that regular (monthly) reporting takes place and that information gathered be collated and analysed, both locally and at the state level, and that quarterly reports be produced at the state level and circulated widely.

(d) *Strengthen specialized STI clinics at tertiary care centres for the purposes of managing referred and complicated cases*

The group felt that there was a need to develop referral centres so that patients managed according to the clinical management flow charts may be referred whenever necessary. There is a need to develop these centres so that research may be conducted here and complicated cases and referred cases may be managed. These centres can be used to train clinicians in the syndromic management of STIs. This will require:

- upgrading of some tertiary-level facilities;
- training of service providers and specialists at these centres;
- equipment and laboratory staff, and
- Budgetary allocation to maintain these centres.

(e) *Capacity building*

The following needs were identified:

- Training of all health care providers in syndromic management of STIs, including those working in formal and informal sectors
- In-service training of medical officers
- Training of counsellors
- Training of trainers, school teachers, government officials, people living with HIV and AIDS

- Strengthening laboratory capacity so that they are able to provide a diagnostic service for referred cases of STIs, monitor the antimicrobial susceptibility pattern of STI pathogens, and be involved in research activities.

6.2 National Plans of Action for STI Control

Meeting as country groups, participants identified STI control activities that needed implementation in their countries. A large number of activities were identified. It was evident from discussions that in many countries the private health sector had not been involved in STI control initiatives. Participants from the private sector showed a great willingness to be involved in STI control activities. Tentative plans of action were developed during the course of the workshop. The action plans will need to be further developed and finalized at the country level. The following activities were identified by most of the participating countries:

(1) Guidelines for the management of STIs

The existing STI management guidelines need to be reviewed and revised. The new guidelines distributed by WHO would be a good resource for STI management and the local treatment relating to recommendations would be modified to reflect the new regimens included in the WHO document. Activities identified include:

- review and revision of STI management guidelines;
- printing and wide distribution guidelines, and
- training of clinicians in the private and public sectors in the use of the guidelines.

(2) Training

Training in the syndromic case management approach was an activity identified by all participating countries. Participants felt that there was a need to train of health workers in their respective countries in using materials produced by WHO. Most countries felt that doctors, nurses, paramedical workers and pharmacists should be trained and that there is a need for training of trainers and for the development of a training plan. In addition,

most countries felt that there was a need to train counsellors specifically to counsel persons with STIs. Some countries felt that undergraduate and postgraduate training curricula of doctors and other health care providers should be revised to incorporate teaching on the syndromic diagnosis and management of STIs. In general, it was felt that all health care providers should be trained in effectively managing persons with STIs. Activities identified include:

- developing training materials;
- training trainers;
- developing training plan, and
- training providers.

(3) Reporting of STIs

All countries felt that their existing systems in the public sector did not adequately address STI reporting. They also agreed that reporting from the private sector did not take place at all. However, all participants stated that private practitioners should report cases, but that a simplified reporting system, such as the one using tally sheets as described during the workshop would be usable. There is a need to develop the reporting system and to train private practitioners to report cases. Activities identified include:

- development of a reporting system and guidelines for reporting;
- identifying pilot sites in the public and private sectors for testing the reporting mechanisms;
- reviewing and modifying guidelines, and
- implementing data collection from other sites.

(4) Research

The prevalence of STIs in the countries of the Region is not known. Participants felt that there was a need to conduct prevalence studies in their respective countries. Research activities identified include:

- conducting an STI prevalence study;

- monitoring gonococcal antimicrobial susceptibility, and
- identifying risk factors for cervicitis in women.

(5) Educating the public

Public health education on the prevention of STIs through behavioural change and condom use needs to be carried out in many countries in the Region. In order to address this aspect, the following activities were identified:

- Development of appropriate, culture sensitive and acceptable health education messages;
- Promoting condom use, and
- Early and appropriate health seeking behaviour.

(6) Targeting groups at greater risk of infection

Groups at greater risk of infection need special attention in most countries of the Region. Targeted interventions have not been performed to any great extent in most of the countries. Activities identified include:

- targeting sex workers – to promote health care-seeking behaviour and condom use;
- targeting migrant labourers – promoting safer sexual behaviour and practices, and
- targeting youth-in and out-of-school – promoting safer sexual behaviour, abstinence and delaying sexual debut.

7. RECOMMENDATIONS

The meeting made the following recommendations:

- (1) As a large majority of STI patients seek care from the private sector, this sector has an important role to play in STI prevention and control and should be considered as an equal partner in the national STI programme.

- (2) In order to assess the magnitude of STI in the country and to support syndromic case management, an STI prevalence study should be carried out among selected population sub-groups that are easily accessible.
- (3) In order to monitor the trend of STI and to develop STI interventions, STI surveillance should be developed in all countries and regular reporting established for both the public and the private sectors.
- (4) The national guidelines should be reviewed and revised in the light of the new WHO guidelines on STI case management.
- (5) The plan of action prepared during the workshop should be finalized and should be implemented after mobilization of the required resources.
- (6) Training of medical practitioners in the private and public sectors in syndromic case management of STIs should be undertaken in order to improve the quality of STI care at all health care levels.

Annex 1

LIST OF PARTICIPANTS

Bangladesh

Dr Ahammed Ali
Senior Consultant
Skin and Venereal Diseases Department
Shaheed Suhrawardy Hospital
Sher-e-Bangla Nagar, Dhaka
Tel: 9119457 (Office), 8620353 (Chamber)
E-mail ahammeda@shapla.net

Dr Ehsanul Kabir
Assistant Professor
Skin and Venereal Diseases Department
Shahid Mansur Ali Medical College & Hospital
Plot No.1/C, Road No.19, Sector-11
Uttara, Dhaka – 1230
Tel: +88-02-8917978/8921290-1
Fax: + 88-02-9125655
E-mail: bmch@bangla.net

Bhutan

Dr Pema Rinzin
Dermatologist
Jigme Dorji Wangchuk National Referral
Hospital
Thimpu
Tel: +9752-322920
E-mail rigxin@hotmail.com

India

Dr Vinay Aggarwal
Hony. Joint Secretary
Indian Medical Association (HQs)
I.M.A. House, Indraprastha Marg
New Delhi
Tel: +91-11-337-0009/8819/8680
Fax: +91-11-3379470
E-mail: inmedici@ndb.vsnl.net.in
Mobile: 9811050403

Dr Anuradha Kapur
Hony. Asstt. Secretary
Indian Medical Association (HQs)
I.M.A. House, Indraprastha Marg
New Delhi
Tel: +91-11-337-0009/8819/8680
Fax: +91-11-3379470
E-mail: inmedici@ndb.vsnl.net.in

Dr Tarun Kapur
Central Council Member
Indian Medical Association (HQs)
I.M.A. House, Indraprastha Marg
New Delhi
Tel: +91-11-337-0009/8819/8680
Fax: +91-11-3379470
E-mail: inmedici@ndb.vsnl.net.in

Dr Sanjiv Malik
Hony. Secretary General
Indian Medical Association (HQs)
I.M.A. House, Indraprastha Marg
New Delhi
Tel: +91-11-337-0009/8819/8680
Fax: +91-11-3379470
E-mail: inmedici@ndb.vsnl.net.in

Dr Ashish Sabharwal
Hony. Joint Secretary, A.K.N Sinha Institute
Indian Medical Association (HQs)
I.M.A. House, Indraprastha Marg
New Delhi
Tel: +91-11-337-0009/8819/8680
Fax: +91-11-3379470/ 9811155001-mobile
E-mail: inmedici@ndb.vsnl.net.in
mediexpo@mantraonline.com

Dr Ranjit Singh Virk
Consultant (Epidemiology)
National AIDS Control Organization
9th Floor, Chandralok Building
36 Janpath, New Delhi – 110 001
Tel: +91-11-332-5343, Extn.63
Fax: 91-11-3731746
E-mail: ranjitsv@mantramail.com

Indonesia

Dr Saiful Jazan
Chief
Sub-Directorate of HIV/AIDS & STIs
Directorate General. of CDC & EH
Ministry Of Health & Social Welfare
Jakarta
Tel: +62-21-424-7608, Ext. 134
Fax: +62-21-420-7807

Maldives

Ms Nasra Ahmed
Project Officer
Department of Public Health
Ministry of Health
Male
Tel: +960-327236, 776082
Fax: +960-314635
E-mail dphinfo@dhivehinet.net.mv

Myanmar

Dr Myint Swe
Assistant Director (STD)
Department of Health
Ministry of Health
Yangon
Tel: +95-1-246704
Fax: +95-1-278651

Dr Tin Aye
President
General Practitioner's Society
Myanmar Medical Association
249, Theinbyu Road,
Mingala Taungnyunt Township
Yangon
Tel: +95-1-285-169
Fax: +95-1-285169

Nepal

Dr Kiran Prasad Shrestha
Vice President
Nepal Medical Association
Kathmandu
Tel: +977-1-419330
Fax: +977-11-61886
E-mail adra@mail.com.np

Sri Lanka

Dr (Mrs) Iyanthi Abeyewickreme
Director
National STD/AIDS Control Programme.
P.O Box: 567 Colombo
Department of Health Services
Colombo, Sri Lanka
Tel: +94-1-695183
Fax: +94-1-695183
E-mail dir-nsacp@itmin.com

Dr Joel Fernando
Vice President
Independent Medical Practitioners Association
(IMPA)
Colombo
Tel: +94-1-502449
Fax: +94-1-696632
E-mail: suneraf@slt.net.lk

Thailand

Dr Pachara Sirivongrangson
Director
Venereal Disease Division
Department of Communicable Disease Control
Ministry of Public Health
189, Sathorn Tai Road, Sathorn, Bangkok 10120
Thailand
Tel: +66-2-286-3263
Fax: +66-2-287-3553
E-mail: sirivong@health.moph.go.th

Dr Godom Arya
Medical Director
Niramai Medical Clinic 230
Chakapadipo Ring Road
Bangkok-10100
Tel: +66-2-282-3312-13
Fax: +66-2-281-0882

WHO HQ

Dr Antonio Gerbase
Medical Officer
Department of HIV/AIDS
WHO/HQ, Geneva
Tel: +41-22-791-4459
Fax: +41-22-791-4834
E-mail: gerbasea@who.ch

WHO SEARO

Dr Purushottam N. Shrestha
Short Term Professional
New Delhi 110002
Tel: +91-11-3370804
Fax: +91-11-337-9507/0972
E-mail: shresthap@whosea.org

Dr Lalit K Bhutani
Short Term Consultant
Sitaram Bhartia Institute of Science & Research
B-16 Qutab Institutional Area
New Delhi 110002, 110016
Tel: +91-11-3370804 and 91-11-686-7435
Fax: + 91-11-6867440
E-mail: lbhutani@hotmail.com
bhutanil@whosea.org

Dr Ahmed Suleman Latif
Short Term Consultant
University of Zimbabwe,
P.O. Box A178 Avondale, Harare, Zimbabwe
Tel: +263-4 791631
Fax: +263-4 791995
E-mail: aslatif2000@yahoo.com

Annex 2 PROGRAMME

Monday, 16 July 2001

- 0900 – 1230 hrs Registration
 Inaugural session
 Welcome and Introductions
 Workshop objectives (Dr Shrestha)
 Regional STI situation and activities (Dr Bhutani)
- 1400 – 1700 hrs Country STI situation, response and experiences (Country Participants)

Tuesday, 17 July 2001

- 0900 – 1230 hrs Global epidemiology of STI (Dr Gerbase)
 Diagnosis and Treatment of STI (Dr Latif)
- 1400 to 1700 hrs Prevention and Care of STI: the essentials (Dr Gerbase)
 STI prevalence study (Dr Shrestha)

Wednesday, 18 July 2001

- 0900 – 1230 hrs New WHO guidelines on STI case management (Dr Gerbase)
 Public Private Partnership for STI Control (Dr Shrestha)
 Surveillance, Monitoring and Evaluation (Dr Latif)
- 1400 to 1700 hrs Field visit

Thursday, 19 July 2001

- 0900 – 1230 hrs Future Needs for STI Prevention and Care at various levels of health
 care (Group Work)
 Plenary Presentation of Group Work on Future Needs for STI
 Prevention and Care at various levels of health care
- 1400 to 1700 hrs National Plan of action for STI control (Individual Country Work)

Friday 20 July 2001

- 0900 – 1230 hrs Plenary Presentation on National Plan of action for STI control
 Closure