Motivating People to Protect Their Sexual Health

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Introduction

Sexually transmitted diseases (STD) are among the most common causes of illness in the world. It is estimated that there is at least one new STD consultation per 100 persons per year in developed countries, while in many developed nations STDs rank among the top few diseases for which health care services are sought. In addition to the 20 or more microorganisms that are predominately transmitted by sexual activity, they have been joined during the last decade by the human immune-deficiency virus (HIV), which leads to AIDS. These diseases continue to be an important threat to the human and economic resources of communities.

Epidemiology

Sexually transmitted diseases are now the commonest group of modifiable infectious diseases in most countries. Their control is important considering the high incidence of acute infections, complications and sequelae, their socioeconomic impact, and their role in increasing transmission of the human immunodeficiency virus (HIV). STDs have reached endemic status in many developing countries. The incidence worldwide is estimated at over 125 millions cases yearly (**1**). The infection rate is similar in both women and men, but women and infants bear the major burden of complications and serious sequelae.

The sequelae of sexually transmitted diseases most seriously affect women and their infants. Apart from HIV Infection, in the post antibiotic era we do not suffer severe consequences of sexually Transmitted diseases.

It is recognized that care for patients with STDs and HIV infection will be provided by many different services and individuals, both medically qualified and otherwise, and that resources and training will vary considerably. They may include:

- categorical STD clinics;
- hospital outpatient and inpatient departments;
- primary health care centers;
- centers delivering mainly preventive care, such as maternal and child health facilities, family planning clinics, and youth centers;
- individual physicians, ranging from general practitioners to specialists, often in private practice;
- pharmacies and drugstores;
- traditional healers;
- self-styled “doctors” (quacks) and street vendors of antibiotics

Continuing changes in the understanding of the epidemiology, etiology and management of STDs, including HIV infection, pose a formidable challenge and delay efforts to design all-inclusive approaches and procedures applicable to all settings. Health-care administrators are charged with the integration of STD control activities into an existing PHC structure.

It is important in STD that (1)

• Diagnosis and treatment, the aim being rapid, inexpensive, simple, accurate diagnosis and inexpensive, effective treatment.
• Patient testing as a case-finding strategy for certain STDs, including gonorrhoea, chlamydial infection, syphilis, HIV infection and cervical cancer.
• The notification and management of sexual partners; partner notification has an important role in STD control strategies and needs to be included in patient management wherever resources and cultural conditions permit.
• Information, education and communication, and counseling; educational messages should relate to the patients’ actual STD, but also include risk-reduction counselling appropriate both to the patient group concerned and to individual risk behaviour.
• The reporting of STD cases; reporting by “clinicians” is the major component of most STD surveillance systems.

Footnote: 1- Simplified approaches for sexually transmitted (STD); control at the primary health care (PHC) level. health care (PHC) level. Geneva, World Health Organization, 1985 (unpublished document WHO/VDT/85.437).

• Operational research; this is particularly needed to determine the best ways to manage patients, taking into account local factors, such as the availability of clinical, diagnostic and treatment services, as well as cultural and political ones.

1.1. Some current obstacles to STD control at the PHC level

In many developing countries facing health problems associated with high morbidity and mortality, trained personnel, laboratory facilities and funds are all extremely limited. Frequently, health centers must satisfy the need and demands of the 80-90% of the population living in the rural and peri urban areas. In the best case, they are staffed by medical and /or auxiliary workers and act as the first referral services for primary health care. These centers are expected to deliver integrated community health care, including curative and preventive services, and 10% or more of their daily workload may be related to STD and their complications. However diagnostic facilities at the PHC level are often either limited (microscope only) or non-existent. Furthermore, even in centers with access to better laboratory facilities, the delays in the reporting of test results and the limitations of the techniques used for STD detection may hinder timely treatment of infectious cases. Long waiting times for consultations, scarcity of drugs, and poor service are often encountered.

As a result, a varying but usually large proportion of STD patients resorted to self-treatment or are managed by traditional healers, drug vendors pharmacists, and self-styled practitioners outside the officially supported STD and public health services. Patients who can afford the expense of self care obtain it from private physicians, who seldom provide partner management and rarely report STD cases or follow official treatment guidelines. In some countries where prostitution is believed to play a significant role in the transmission of STD, “control programmes” tend to devote their resources almost exclusively to providing some measure of preventive STD diagnosis and treatment for these women. Unfortunately, such programmes are often of poor technical quality, reach only a small proportion (probably less than 20%) of the total prostitute population, and have failed to achieve a demonstrable impact on STD morbidity in the community. In addition, prostitute control programmes may interfere with the introduction of other STD control measures. Health policy-makers are frequently satisfied that, by implementing “prostitute control”, enough is being done and additional resources need not be devoted to STD problems in the country.

A further difficulty is that antimicrobial resistance of STD organisms has become a major problem in most developing countries and has rendered some of the low-cost drug regimens useless. In addition, adoption treatment policies found effective elsewhere have led to serious consequences in some settings (e.g., inadequate treatment of infection due to penicillinase- producing Neisseria gonorrhoeae (PPNG) following abandonment of silver nitrate prophylaxis).

For all the above reasons, it is important that patients who seek care for STD/HIV-related problems, as well as their sexual contacts, be identified, properly managed, and referred, if necessary, to a higher level. The Group patient management protocols would not only contribute to these ends but would also have additional value as a means of assessing and improving other STD and HIV-infection control efforts.

General principles of STD control at the PHC level

The main aims of STD control are:

1. To interrupt the transmission of sexually transmitted infections.
2. To prevent the development of STD and their consequences.

This can be accomplished by:
1. Reducing disease exposure by advising individuals at risk to avoid sexual contact with persons who have a high probability of being infected.
2. Preventing infection by promoting the use of condoms or other prophylactic barriers.
3. Detecting and curing disease by providing effective and efficient diagnostic and treatment facilities, and promoting health-seeking behaviour.
4. Limiting the complications of infection by providing early and effective treatment for both symptomatic and asymptomatic patients and their contacts.

Strategies for STD control

The above aims can be achieved by means of the main STD control strategies discussed below, of which treatment, health education, the management of sexual contacts and partner notification are considered in detail in subsequent sections or annexes.

Disease detection

This strategy is implemented by using the following three tools:

1. Screening, i.e. the ascertainment of the probability of disease in populations or individuals not directly seeking health care, e.g. serological screening for HIV in blood donors or for syphilis in
selected groups in the community.
2. Case-finding, i.e., the use of clinical and/or laboratory tests to detect infection in individuals seeking health care for other reasons, e.g., a serological test to detect syphilis in patients admitted to hospitals or in pregnant women attending antenatal clinics.
3. Diagnosis, i.e., the application of clinical and laboratory procedures to detect the cause of infection in individuals who present with symptoms and signs presumed to be caused by STD pathogens, e.g., the serological testing of patients with lesions suggestive of secondary syphilis or endocervical culture for *Neisseria gonorrhoeae* and *Chlamydia trachomatis.*

Treatment
Treatment is defined as the application of drugs, surgical procedures and other interventions to cure the patient's disease or ameliorate the symptoms. STD treatment usually refers to the application of antimicrobial regimens. The selection of an appropriate drug is determined by:

1. Efficacy, i.e., the ability to cure the disease. When coexisting infections are common, preference is given to drug regimens that can cure more than one of the STD infections likely to be present.
2. Safety, i.e., the absence of toxicity or side-effects.
3. Convenience and compliance, i.e., the ease with which the health worker can administer the drug and the patient receive it, and of patient compliance.
4.The cost and availability of the drug.

Health education
This strategy consists of the following components:

1. Information, i.e., activities that increase individual and community awareness and knowledge of STD
2. Education, i.e., efforts aimed at producing positive changes in attitudes and in health and health-seeking behaviours in STD and their prevention
3. Counselling, i.e., efforts aimed at increasing compliance with the clinician's advice and instructions on treatment, avoidance of re-exposure , risk reduction and consistent use of condoms by risk takers, and active collaboration in the referral of sexual partners . In patients attending health services, it is one of the mainstays of patient management.

Management of sexual contacts
This activity may be a direct result of patient counselling, which may include motivating the patient to assume an active role in bringing contacts for evaluation and treatment, or it may be implemented as an active search for STD contacts by health personnel. The appropriate management of STD patients must include the management of known contacts, in particular the regular sex partner (husband/wife) and the source of infection . This will often involve the application of full treatment regimens to all sexual contacts.

Clinical Services

Clinical services are usually provided at a clinic, hospital, private practitioner's office, health post, drugstore, or other facility providing the necessary privacy for the patient-clinician encounter(**1**). Most of the strategies outlined in section 2.1 are implemented within this context . Thus the clinician tries to provide adequate management by:

The clinician must realize that treatment of a case is only a part of proper STD management and control. The identification and treatment of sexual contacts, who are often asymptomatic, is important in limiting disease transmission in the community, and in preventing reinfection and the development of complications.

Support Services

In order to provide STD management, the following support services are necessary:

• Professional and technical training, to ensure that health personnel have the necessary knowledge and skills and the proper attitudes and behaviour to work in STD control.
• Laboratory services, since such services are extremely important in improving both patient management and the quality of epidemiological data . Unfortunately, such services are seldom available at the peripheral level.
• Information systems aimed at ensuring the flow of information between the peripheral, intermediate and central levels, and permitting epidemiological surveillance and the planning and evaluation of control activities. An adequate information system should include data gathering, collation, analysis and feedback.

Administration

An administrative system is necessary to support and supervise STD control activities and strategies. A person or group with managerial and policy-making skills should form part of the STD control programme. These administrators need not be STD specialists or even health workers, and will often have responsibilities extending beyond STD control and covering other PHC services (e.g., immunization, oro-dental care, family planning). A designated person must be administratively responsible for:

- Planning , directing and organizing activities,
- Procuring and administering resources, including drugs and other supplies.

National Centres

In each country and/or region there will usually be individuals with the knowledge and skills necessary to establish a viable STD control program. Unfortunately, this national or regional expertise is often now recognized or used sufficiently by health authorities. Whenever possible these experts should be brought together in a group representing the various disciplines (e.g., clinical medicine, microbiology, laboratory science, epidemiology,

Footnote:
1 In this report the term "clinician" will be used to designate any person actually diagnosing and
- detecting or ruling out disease,
- giving treatment, if necessary,
- counselling the patient regarding disease prevention,
- advising the patient on treatment compliance,
- ensuring that the patient's contact(s) are evaluated and treated.

behavioural science and health administration) and institutions (e.g., academic and professional organizations, social security institutes, the army and labour or private organizations) necessary for STD control. In some countries, the formation of such a group of experts, aids by community leaders and others from public and private organization has resulted in the development or strengthening of a national "STD centre of excellence", which then becomes the technical-scientific and policy-making focus for STD control. This centre can:

- Provide professional and technical training,
- Act as a reference laboratory,
- Conduct operational research (especially the highly necessary evaluation of appropriate diagnostic tests and treatments),
- Conduct epidemiological surveillance activities,
- Guide supervision, evaluation and policy-making activities.

Integration of STD control at the PHC level

Categorical STD control programs and special STD clinics are effective but expensive, and the latter, in particular, usually reach only small segments of the population. Owing to the scarcity of categorical resources and the predicted worldwide increase in the sexually active population risk, the health problems posed by STD will have to be addressed within the framework of existing PHC services. The STD control strategies and components outlined above need not be implemented as "special" categorical programs.

Thus, although a categorical technical-scientific and supervisory approach should continue to be maintained at the central level, the persistent prevalence of STD, especially in some developing countries, and the facilitating role in the transmission of HIV infection, argue for broadening the basis of STD and HIV-infection control activities within the context of general health services. The most feasible approach is to increase the contribution of the PHC level to STD Prevention and control.

The cornerstone of STD control, whether a categorical or an integrative approach is adopted, must be the clinical services, in other words the provision of appropriate and adequate STD patient management. STD patients in some PHC facilities have already been managed by non specialist clinicians, mainly using a syndrome-based approach following the guidelines contained in the WHO document previous guidelines, the spread of HIV infection and its relationship with the other STD, and the increase in the antimicrobial activity of several sexually transmitted pathogens have all necessitated the updating of STD management protocols.

Counselling and Health education

The term "counsellor" is used to describe an individual providing information,
education and counselling on STD, including HIV infection. A wide range of health-care workers, including clinicians, nurses and auxiliaries, can act as
counsellors. The important issue is not who does it but how well it is done.

General principles
Counselling on STD, HIV infection is based on the following principles:

1. Information on STD, HIV and risk reduction should be easily accessible to all patients seeking STD services.
2. Staff must adopt a non judgemental attitude. The aim of counselling is to help the patient to explore alternatives and make the most appropriate choice(s).
3. No assumptions should be made about how much patients know or their life-style, as this may result in relevant information not being given
and/or patients finding it difficult to ask questions, e.g., about particular sexual practices .
4. Monitoring and evaluation are necessary in order to learn what patients
feel about the health education and counselling service, and how it can be improved.
5. Confidentiality must be assured.

Practical aspects
In the provision of counselling, the following are important:
1. Guidelines on information appropriate to the community served and the local epidemiology should be available to all providers of STD services.
2. Guidelines on risk reduction should also be available. It is particularly important that these are appropriate to the patient's culture and beliefs.
3. Training and counselling for providers of STD services as part of their clinical training should be encouraged.
4. Patients should generally be counselled alone but, when appropriate, provision can be made for them to be seen with their partners. Privacy is important, as is allowing patients adequate time to discuss their problems.

Health education
Health education is an adjunct to one-to-one counselling, not an alternative. It provides key messages that are not usually very detailed, and does not involve discussion of the patient's own circumstances.

General principles
Health education on STD, including HIV infection, is based on the following principles:

1. Messages should be clear, accessible and appropriate to the audience.
2. Messages must not vary in content, particularly when a number of different media are used.

3. Pilot studies of the materials and methods to be used should be carried out in order to evaluate their effectiveness. Except in categorical STD clinics with extensive resources, this will be difficult, but national programme managers of combined or separate AIDS and STD programmes should arrange for such studies and for evaluation to be conducted by reference centers.

Practical aspects
When health education is to be provided, it is first necessary to determine:
(i) what media channels are available; (ii) the information to be communicated; and (iii) how the messages will be communicated, e.g. in words, pictures or diagrams.

Media channels
While health education is most easily provided in STD clinics, hospital outpatient departments, PHC centers, and clinics for maternal and child health and family planning, it should also be encouraged in consultations with doctors in private practice and other care providers. Posters, leaflets, videos and group or one-to-one discussions can all be used. The various factors to be taken into account in deciding whether posters, leaflets or videos should be used are discussed below.

Posters
Posters are useful for clear, simple, short messages (e.g., alerting patients to risks, methods of risk reduction such as condom use, or counselling services) and for suggesting questions for patients to ask during a consultation, but they are not useful for providing detailed information.

They do not need to be professionally produced; posters produced by clinics or local organizations may make the message more relevant to the patient. Posters need to be culturally appropriate and should not offend or embarrass, e.g., posters directed at homosexual men in a setting where large numbers of heterosexual men are present may reinforce the belief that only homosexual men are at risk.

Leaflets
Leaflets have a wider application than posters and can provide more detailed information. They can be made available at STD clinics, PHC centers, clinics for maternal and child health and family planning, and the offices of doctors in private practice. Leaflets are useful for providing basic information, e.g., on the HIV antibody test, before a consultation, and for reinforcing information given during a consultation, e.g., details of sexually transmitted infections and guidelines for safer sex. Leaflets should be written in clear, non specialist language, free of jargon. Colloquialisms or slang can make the messages more understandable. Diagrams that clarify the text, e.g., on how to use a condom, are useful.

Videos
In some clinics, short videos are shown repeatedly and can provide more information than posters yet be more personal than leaflets. They may be combined with discussions, e.g., on how to put guidelines for safer sex into practice. The disadvantages are the high costs of production and of the projection equipment.

Specific patient groups
Health education material can be aimed at specific patient groups. The issues involved will be different for women, heterosexual men, homosexual men, prostitutes and intravenous drug users. Consideration should be given to strategies that reach core groups with high rates of infection, e.g., prostitutes.

At information sessions and workshops, patients can be encouraged to exchange experiences and strategies for implementing risk-reduction methods. Peer support of this type has been used in developing countries to encourage individuals to make behavioural changes. Thus groups of prostitutes working with a facilitator can discuss the occupational risk to their health and even their lives, as well as condoms and how to persuade clients to use them.

Risk reduction counseling

Importance of risk reduction
Patients seeking advice on STD or HIV infection either have been at the risk of infection or perceive themselves to have been so. Behavioural change is most likely to occur if they recognize that:

- even if their current infection is curable, a future STD may not be (e.g., infection with HIV, human papillomaviruses, or human (alpha) herpes virus 1 or 2);

-future infections may be asymptomatic until permanent damage has occurred, e.g., tubal occlusion and infertility after chronic pelvic inflammatory disease;
-other STD may facilitate the acquisition of HIV infection;
-a risk activity for other STD is also a risk activity for HIV infection.

It is important, therefore, that individuals consider risk reduction so as to avoid contracting infections in the future, whether or not they are in principle curable.

Communicating information about risk reduction
It is essential that the risk reduction counsellor both thoroughly understands modes of transmission and guidelines for safer sex, and feels confortable discussing sex and sexuality. This is more difficult when sexually transmitted infections are not the clinician's main responsibility; training may therefore be required to overcome potentially counterproductive embarrassment or unease in health workers.

Patients should be given guidelines on safer sex and, where appropriate, additional information on safer ways to inject drugs. It is important to remember that drug users may attend STD clinics either to seek advice on STD or to be tested for HIV.

Risk reduction should be discussed with the patient and written information provided both as a reinforcement and so that details are not forgotten.

The counsellor must be honest about what is known and what is not, e.g., the actual risk of transmission of HIV through oral sex. Patients should be encouraged to err on the side of caution when making decisions about engaging in activities for which the degree of risk is unclear. The counsellor should start by asking patients what they understand by safer sex in order to assess their level of knowledge and determine whether any misconceptions exist. Information should be volunteered on all aspects of safer sex likely to be relevant to the patient. This reduces the risk that information will not be acquired because of embarrassment. Information that is clearly irrelevant to the patient should not be given as this may reinforce the feeling that others are at risk. Terms and language understood by the patient should be used, including slang as necessary.

The routes of transmission of infection should be explained so that patients understand the reasons underlying the guidelines for safer sex and can assess risk situations that have not been covered in the counselling session. Counselling should not consist of "don'ts". Safe activities should be emphasized and patients encouraged to think of other ways to enjoy sex. The point should be made that safer sex can be fun and exciting. Finally, information on condom use for both vaginal and anal intercourse should be given (see Annex 5).

Risk reduction in practice

Information on its own is not enough to reduce the risk of STD transmission. The patient needs to be able to incorporate risk reduction into his or her life-style. The following general principles can be laid down:

- advice should be appropriate to the patient's life-style;
- changes made by the patient should not lead to isolation and loss of personal contact;
- changes should be realistic and maintainable.

On the practical side, the counsellor should:

- explore patient's circumstances and life-styles;
- discuss how to cope with situations where there is potential risk if it is not possible to avoid them;
- encourage patients to generate their own solutions;
- discuss how and when to raise the question of safer sex with partners, strategies for dealing with negative reactions;
- encourage patients to set limits for themselves on the degree of risk that they are prepared to take;
- help patients to take action to prevent future infection (in a low-prevalence area, a patient may feel reluctant to accept any behavioural changes aimed at reducing risk);
- advise women not only on the risks of sexually transmitted infections, but also on those of unwanted pregnancy, and give contraceptive advice or direct them to family planning services if they so wish.

The objective is to encourage risk reduction and enable the patient to bring up the subject of safer sex with partners. The counsellor should concentrate on reducing the risk in the long term rather than eliminating it in the short term.

Counselling of patients with diagnosed STD

Whether the STD is a curable bacterial infection or a treatable but not curable viral infection, the following should be discussed with the patient in addition to risk reduction:

- the treatment;
- whether the infection is curable, and if not what the long term effects will be;
- the complications, if any;
- when sex can be resumed;
- the special issues of fertility, pregnancy and risks to neonates;
- the fact that the infection was caught from one partner and may already have been transmitted to others;
- the possibility that infected partners may be asymptomatic;
- the risk that reinfection can occur if sex is resumed with an untreated partner;
- the consequences to a partner of failure to receive treatment;
- the risk of other unsuspected STD, including HIV infection;
- partner notification.

Except in areas where HIV infection has been shown not to exist, specific information, and education counselling on HIV infection should be given. Patients at risk of HIV who have not recently been tested should be offered HIV counselling and testing.

Counselling before HIV antibody testing

Where HIV antibody testing is available, pre-and post-test counselling should be provided. Counselling needs to be individualized as no approach is suitable for all situations. The following are a few important points calling for consideration.

HIV testing is not a risk reduction measure per se. For some patients, a negative test will help in effecting behavioural change. For others, however, a negative test may reinforce a belief that risk is low and therefore risk reduction unnecessary. In addition a negative antibody test is no protection against HIV infection. Risk-reduction information should always accompany pre- and post-test counselling.

The HIV is not a test for AIDS, but for infection with the virus. However, seroconversion does not immediately follow infection; it may not happen until weeks or months afterwards.

Being identified as HIV-positive may lead to difficulties in obtaining dental and medical care, exclusion of some types of employment, and ineligibility for a visa or work permit in some countries.

Finally, both negative and positive results may have implications for existing relationships.

Implementing STD health education and counselling

When a health education and counselling service for the reduction of the risk of infection with STD agents, including HIV, is established or developed, it is necessary to consider how such a service can be incorporated into the health-care system. In most situations, the work will be done during a consultation with a clinician. If specific STD/HIV counsellors are employed, they will usually be working in a categorical STD clinic or PHC facility where many cases of STD are treated. The following questions must then be addressed:

- Will there be an open-door policy or an appointment system?
- Which patients will be referred and will the referral system work?
- If resources are inadequate, how will priorities be set and met?
- What training will be available?
- How will the evaluation and monitoring take place?

Since1981, the attention of nations has been riveted by the acquired immunodeficiency syndrome (AIDS) epidemic. As a consequence, many public health programs have been forced to make sacrifices. “Other” sexually transmitted diseases (STD), which had never taken their appropriate place among the nation’s health priorities, have been almost dismissed as less dramatic, less deadly, and thus less important. Yet, studies have shown that these diseases are more dangerous than ever, as risk factors in the acquisition and transmission of HIV infection.

Impact of AIDS on STDs

Although STDs have become more prevalent, more dangerous, and more costly to society, the fight against them has also become more politicized. This politicization has, of course derived from the politics of the AIDS epidemic, and future efforts to control STDs will be tied inextricably to the resolution of these political issues.

The AIDS epidemic has had both positive and negative impact on the issue of STDs. On the positive side, biomedical and behavioural research on AIDS may provide information that will benefit other STDs. Open discussion of sexual issues, particularly between parents and children as well as in schools and churches was needed long before the AIDS epidemic. Increased attention to and use of condoms and spermicides to prevent HIV infection can also prevent other STDs. Some of its negative effects are that

AIDS has drained resources, personnel, and funds from other STD efforts, thus delaying the initiation of new STD research and prevention programs.

AIDS has absorbed the attention and energies of many STD researchers, whose laboratories now are devoted, at least in part, to investigation of HIV.

AIDS has dominated press interest, and thus the public is not as aware of the prevalence and dangers of other STDs.

Although AIDS education programs have been widely supported with millions of dollars, almost no national public education programs have been designed or funded to inform and educate the public about STDs and the risk they pose. Mixed messages about the risk of heterosexual transmission of HIV may be a contributing factor in the increased incidence of some STDs.

Finally, AIDS has added to the stigmatization of people with sexually transmitted diseases, who in some cases may be the disadvantaged and disenfranchised of our society.

The expectation that fear of AIDS would bring about sufficient behaviour changes in all populations to decrease cases of STDs was a false one. Behaviour change among homosexuals has resulted in significant decrease in STDs among that group; however, reported increases in STDs have occurred almost exclusively among heterosexuals, and disproportionately among minorities. Part of the dramatic rise in syphilis infections and other STDs among heterosexuals has been attributed to crack cocaine use and the exchange of sex for crack.

Solutions to the STD epidemics will not result from behaviour change alone but will also require a major commitment to basic research, behavioural studies vaccine research, epidemiology, health education, multidisciplinary and interdisciplinary collaboration, medical training, and innovative and comprehensive prevention and control programs. Most importantly, control of STDs demands resources: resources that historically have been sorely lacking.

STD prevention and control

The problem of inadequate support for STD prevention existed long before the AIDS epidemic. STD control programs have been confronted.

Outbreaks of antibiotic resistant strains of gonorrhea, the need to prevent pelvic inflammatory disease and ectopic pregnancy, the rise of viral disease rates such as herpes and human papillomaviruses (HPV), the recognition of chlamydia, the association of some STDs with genital cancers, and the relationship of these diseases to infertility and reproductive problems remain a focus . Given diminishing resources and a significant diversion of personnel and funds for AIDS activities over several years, the control program of the CDC for other STDs has been forced to compensate, investing almost all of its state grant funds in control of syphilis and gonorrhea, diseases that are preventable and treatable. Other STDs, particularly viral ones, simply cannot be addressed.

Viral diseases

Traditional public health strategies of testing, treating, and contact tracing can be applied easily to a disease like chlamydia, which has a short incubation period, an available diagnostic test, and treatment. The major obstacle to integrating chlamydia into STD control programs is resources. Viral STD programs, however, cannot be managed in the same manner. These diseases have longer incubation times, periods of latency and recurrence, costly diagnosis, and expensive methods of treatment without "cure". Thus, state grant funds are not devoted to the control of genital herpes or HPV, which may be the most prevalent STDs in the United States today.

STD control, therefore, requires new approaches as well as resources. Not only are STD clinics testing and counselling sites for HIV, but they must deal with "new" STDs and the consequences of sexual and drug using behaviours that may cause them. Innovative new strategies, such as community- based integrated health services, must be designed and evaluated to allow STD clinics to appropriately respond to the nature of these epidemics in the 1990s. Such services should also encompass consideration of drug use, contraceptive use, and the special needs of minorities. In addition, these new programs could be designed to encourage collaboration between public health departments and academic institutions, particularly to enhance training.

Public education

An important component of these prevention and control strategies is public education. Although millions of dollars have been allocated to public education on AIDS, currently no nationwide coordinated public education initiatives have received high priority or funding by the US federal government . A new advertising campaign funded by the CDC, targeting information about AIDS for parents and youth, has been expanded to highlight the risk of STDs and their role in the transmission of AIDS. This is an important step. More creative ways of disseminating STD prevention messages, particularly to minorities, women, and young people are necessary, but again, competing priorities have prevented adequate resources for such endeavours.

One private pharmaceutical company, Burroughs-Wellcome Company, has initiated a series of advertisements promoting the "genital self-examination" to educate the public about STDs and encourage them to seek medical care if they are at risk. Although the campaign by its nature will be biased toward infections that cause visible genital lesions and will not necessarily address asymptomatic disease, it is at least a step toward increasing public awareness of the importance of these diseases and the risks of contracting them.

The only national program funded by the CDC to inform the American public about STDs is the national STD hotline, operated under contract by the American Social Health Association. Because little has been done to advertise the hotline on a wide scale, most of the millions of Americans who have or are at risk for STDs are unaware of this valuable information and referral service.

Facilities

The national STD hotline refers callers to local STD clinics where they can receive free or low cost services. These facilities need upgrading and improvement to make them more accessible to people at risk, and they need appropriate technology and equipment for diagnosis of all STDs. Holmes and others(5)suggested that patient care, medical research and physician training would all be better served by establishing coordinated efforts between health departments and medical schools, eventually relocating public STD clinics to settings within medical school-affiliated hospitals.

Training

Such an objective would help to alleviate one of the most chronic needs in this field: training of medical professionals. The prevention and control of these diseases depends upon adequate training of professionals on three levels: (1)medical and nursing school students; (2) STD control personnel; and (3) basic, clinical, and behavioural researchers.

Training of medical students in control of STDs traditionally has been poor. In1982 Stamm, Kaetz, and Holmes(9) conducted the only study in the past 20 years of clinical experience in STDs. They determined that medical training in the area of STDs was declining despite increasing importance of the diseases within a wide variety of subspecialties of medicine. They found that with an average of 6 hours of clinical training per student, given to only 30% of students in only 35 medical schools, the average length of clinical training in venerology in the United States and Canada is approximately 2 to 3 hours per medical student (assessed as being poor quality in half of the programs) compared with 10 hours per student in the United Kingdom.

Dr. Willard Cates, Director of the Division of STDs, recently announced that an unpublished study revealed that merely 10 % of primary care physicians stated that they take sexual histories of their patients to help determine their risk of STDs.

Training in the area of STDs requires special attention for another reason. The specialty of infectious diseases, for example, exists at virtually every medical center, with training programs and all the attending support, clinical research, and teaching activities. This is not true for STDs. New STDs researchers and trainees in the United States have come not from the larger pool of infectious disease departments, but from only two or three medical centers in the country. Even those centers do not have resources adequate to meet the needs of training, retention of junior faculty, and developmental grants. The US is, thus, facing a burgeoning STD problem without developing the appropriate academic university infrastructure required to control it except in a very few places.

STD research

The scientific framework and technology that allow the development of disease prevention and control strategies are provided by the biomedical research of the National institutes of Health (NIH). Prevention and control efforts would be greatly enhanced by vaccines, better and less expensive diagnostic tools, and effective treatments, particularly for the viral STDs such as herpes and human papillomaviruses that remain incurable and persistent.

The AIDS epidemic has diverted resources from STD research as well as prevention services. There is a serious dearth of new investigators of STDs and very few established ones. The list of research needs is a long one. Space permits mention of only a few:

No vaccines exist for any STDs except hepatitis B and herpes. A more inexpensive and rapid diagnostic test is needed for chlamydial infection, which would permit routine testing in STD, family planning, antenatal and other appropriate clinical settings. The pathogenesis and natural history of syphilis, and HPV infections are not yet fully understood. The nature of subclinical infection, latency, and reactivation of the herpes virus must be studied, and more must be learned about the association of HPV with increased risk of cervical cancer. A behavioural research branch within the NIH should be established to evaluate the efficacy of behaviour modification for primary secondary prevention of STDs in the US. Studies must be expanded to determine the role of STDs in the acquisition and transmission of HIV and to determine the effect of HIV infection on the clinical manifestations of other STDs.

Cases of STDs are increasing at dramatic rates, at enormous societal and personal cost. The epidemic of AIDS has diverted needed funds, personnel, and other resources from nation's programs of research, training, prevention, and control of STDs. Ironically, the epidemics of STDs, the diseases themselves and the sexual and drug-using behaviours surrounding them, are now fueling the HIV epidemic. Although it is often said that education is the only prevention of AIDS, in fact there is another important and cost-effective component of HIV prevention: the control of other STDs.

STDs are not only public health concerns, but issues of biomedical research, economics, access to care, public and professional education, drug use, poverty, and last but not least politics. Their prevention and control demands new research approaches, the development of necessary expertise, and a major and sustained investment of resources.

Sexually transmitted diseases and the primary care provider

The past decade, however, has seen a reversal of the trend of decreasing STD rates that marked previous decades. The recent emergence of viral STDs as a prominent problem, the increasing proportion of penicillin-resistant Neisseria gonorrhoeae, the emergence of chlamydia as a major and growing problem, and the resurgence of chancroid and syphilis, both previously under good control, all challenge complacency. These changes remind us that we battle a diverse army of organisms that fight to survive and flourish even as we attempt to free ourselves of their effects. These efforts are countered by a remarkable ability on the part of these organisms to quickly adapt to our new weapons. Neisseria gonorrhoeae, for example, has developed the ability to resist progressively stronger doses of penicillin, and finally penicillin itself, through mechanisms that include chromosomally mediated resistance and production of beta lactamase. Other factors related to recent STD changes include a growing population at risk, a progressive liberalization of attitudes toward sex in our culture, and most recently, drug-related behaviour, including the exchange of sex drugs.

Changing patterns of contraceptive use are also important: first, in the remarkable achievement of uncoupling sex from pregnancy, and more recently, in the decreases of the portion of women using intrauterine devices (IUDs) and oral contraceptives. This decrease has been offset only partially by the increased use of barrier contraceptives, with the net result that a greater portion of women are not consistently using contraceptives.

The most dramatic development in the STD field has been the epidemic of the human immunodeficiency virus (HIV). If there is a silver lining in this plague, it is perhaps the increased attention afforded all diseases that are transmitted through sexual activity.

Primary care is often an area in which societal concerns are transformed into treatment of individuals. This is true particularly in the field of STDs because it is primary care providers who most often are the first physicians consulted, making them frequent providers of curative medicine. Perhaps more important is the role of the primary care provider to disseminate messages about preventive care that can help avoid STDs. The long-term relationships of primary physicians with patients provide the opportunities for respect and trust that are necessary to effectively convey messages about prevention. Thus, the primary care physician provides services similar to those provided by other physicians in dealing with STDs: education and counselling, diagnosis, treatment, and referral of sexual contacts. The primary care provider's unusual, in some cases unique, opportunity comes from being able to do so more effectively.

What are the obstacles that have prevented a comprehensive attack on STDs? Hindrances include inadequate funding for research, treatment, and public health measures such as contact tracing, development of effective educational approaches for prevention, and the answering of questions relating to attitudes and values regarding sexuality. In addition, STDs tend to be highly stigmatized. Typically associated with "illicit" sexual behaviour, they have been often viewed by both patients and physicians as a source of embarrassment, if

not shame. This attitude has encouraged a public silence about these diseases.

Sex education, when it did occur, often emphasized the dangers of sexual activity by focusing on unwanted pregnancies and STDs. Rarely did sex education provide clear information about birth control or how to avoid STDs. Moreover, there has been considerable reluctance to discuss the nature and frequency of sexual activity, especially that among adolescents.

The disinclination to address the problem of STDs publicly has made medical intervention that much more difficult. Typically, medical approaches that emphasized easier access to treatment and public education about transmission and prevention have been opposed by those who identified the problem as an essentially moral issue. According to this moral approach, the best way to avoid STDs is to abstain from sex. Utilitarians and moralists have contested the optimal approach to elimination of STDs throughout the 20th century. Adherents of the moral approach argue that the simple medical approaches to intervention and treatment actually encourage more infections unwittingly encouraging and promoting sexual behaviour. Advocates of the medical orientation counter that the moralists promote infection by restricting access to explicit information and preventive techniques. This debate has persisted in current thought regarding the AIDS epidemic and other STDs. Of course, the critical question for primary care providers has been how best to serve their patients.

Tools for the primary care provider

Timely information

In an age of increasing information flow, STD control has advanced from improvements in data acquisition, analysis, and dissemination. The practitioner now has immediate access to the most recent statistics, recommendations, literature, and prescribing information through on-line facilities that provide timely answers to a variety of questions, using specially designed software that requires a minimum of expertise use.

Improved Training

As STDs have emerged as a prominent health problem, especially with development of the HIV epidemic, clinical training has increased in quality and quantity. As recently as 1982, little formal or practical training in sexually transmitted diseases was provided for medical students or house officers. Today, training has increased markedly, a change accompanied by an increase in the number of STD- related journals and more STD- related articles are appearing in the general medical literature. This attention is appropriate in view of the magnitude of the STD problem and most STDs being imminently diagnosable and treatable.

Diagnostic Advances

A marked change came with the introduction of tests that use monoclonal antibodies, which for the first time made possible receiving test results in a matter of hours. Today, a new generation of tests make office-based testing in small quantities practical with enzyme-linked immunosorbent assays (ELISA) tests. These provide the clinician the opportunity to diagnose chlamydia, gonorrhoea, or herpes in a matter of minutes at a cost of several dollars for each test . In addition to being able to establish a diagnosis, these tests offer the physician other advantages. First, they make possible screening of patients for whom screening had previously been impractical. For example, being able to test routinely for chlamydia trachomatis in sexually active but asymptomatic women will help reduce the incidence of infertility and ectopic pregnancy that result in such infections. Second, physicians in the office will have the same laboratory feedback as physicians who work in STD clinics. Finally, physicians can use these screening tools to track STD prevalence and help determine whether to provide empiric judgment. Future evolution of research tools such as a polymerase chain reaction that tests for the presence of precise DNA sequences promises tests that have a high ability to predict the presence of disease.

Lessons for the primary care provider

As the physician who is often the first consulted for a variety of illnesses, the primary provider has the responsibility for both curative and preventive medicine. These providers are thus crucial to controlling STDs.

1. Education and Prevention

Education and prevention messages form a foundation for good health and should be stressed repeatedly. Visits for well care, particularly in sexual areas such as contraceptive counselling, should include messages about minimizing risk factors for sexually transmitted diseases. Indeed, the only reason that a young, healthy person may visit a physician is to obtain contraceptives. When young people are ill may be one of the few instances when they feel vulnerable, which may present a unique opportunity to effectively convey messages about preventive efforts.

People tend to dichotomize most of life's risks, particularly those that are complex or obscure (generally including medical questions) into a "yes" or "no" determination of whether they are at risk. Most people see themselves at low risk for STDs, which translates to a "no".

A primary care provider's role in education is particularly important with adolescents who generally lack reliable information regarding sexuality, rather obtaining it from his or her peer group. The family is generally not a strong influence because of parental discomfort with sex education. Despite efforts to provide school-based sex education, there remains little evidence that these programs are effective in reducing sexual activity, use of contraceptives, or teenage pregnancy(10). This information takes on added importance with the realization that adolescents and young adults have the highest rates of STDs.

2. Awareness

The presence of STD risk factors should heighten sensitivity to a possible STD diagnosis, but remember that each patient is an individual. Factors associated with the

highest degree of risk include being a sexually active person less than 25 years old, having multiple sexual partners within the past six months, and having a history of previous STDs. Many physicians see patients who clearly do not fit into this high risk profile yet remain at risk. For example, factors consistently associated with a risk of contracting an STD include having a new sex partner within the past month, having a history of STDs, being young, being black, having an urban residence, and abusing drugs. Probably the most significant risk factor is multiple partners; among women, this may also be reflected as having partners who have multiple other partners. Some of these risk factors are surrogates for complex behaviors that are difficult to define. For example, although being black is generally a significant factor, there is nothing about race itself that alters susceptibility; rather, this indicator tends to be linked with behaviors that place an individual at risk.

In an era of strong concern regarding HIV infection, an STD should be viewed as a warning signal. Although most are curable, the viral STDs of HIV, herpes, and papillomavirus, which is linked with cervical cancer, are not. If your patients have a treatable STD, it is a warning sign for contraction of other STDs that may be lifelong, develop silently over long periods of time or even be fatal.

3. Knowledge

Be aware of the manifestations, treatments of common STDs, and recommendations about reporting and follow-up for sex partners. Contraceptives are important modifiers of STD risk. Barrier contraceptives, in the form of condoms, spermicides, contraceptive sponges, and diaphragms, decrease the probability of transmitting STDs. The protection of all of these contraceptives is highly dependent on whether they are used, so patients should be instructed carefully in their use and encouraged to use them with each encounter, particularly in view of recent reports that suggest that condoms are not used consistently even among high-risk groups Care also should be taken to use them properly as well as consistently; guidelines for condom use have been published. The likelihood of having severe consequences of STD infection is enhanced by IUDs, most notably pelvic inflammatory disease and are contraindicated in women who are at risk for STD infection. Oral contraceptives have been found to increase the cervical carriage rate of chlamydia and possibly of gonorrhea and increases the possibility that women who use them may wish to use a barrier contraceptive as an adjunct for their protection against STDs.

4. Non-judgmental Approach

This means an attitude which does not stigmatize an individual for his or her views and avoids placing value judgments on whether activities are “normal”. Make liberal use of open-ended questions. Confidence and trust necessary to effectively deal with patients is wanting without this necessary ingredient. Keep in mind, too, that sex is frequently impulsive, gratifying behavior, rather than a planned action such as brushing one’s teeth. More complete details about sexual history taking and education are beyond the scope of this article but are presented elsewhere.

5. Stress Education and Prevention

Patients should be presented with a list of options rather than dictates about reducing risk. These include sexual abstinence, changing sexual practices to modify or eliminate such activities as anal intercourse, reducing the number of partners, careful selection of partners who practice safe sex,
and examination of partners.

6. Follow-up

Follow-up for infected persons is a critical step to breaking the chain of transmission, particularly in an age when the most common STD, chlamydia, is frequently asymptomatic. This includes following the patient to assure cure; assuring that sexual contacts are contacted, tested, treated, or both tested and treated; and in some cases, notifying health departments. Most states have trained investigators who are thorough and discrete.

Although test-of-cure cultures are generally recommended, notably for gonorrhea, patients who obtain symptomatic relief rarely bother to return. Danger exists when an antibiotic with intermediate sensitivity suppresses symptoms but fails to eradicate disease. With other diseases such as chlamydia, failure to follow a full course of therapy is probably usual. Stressing the need for compliance is important, but an individualized assessment may also change your choice of antibiotic, route of administration, or both.

Referral facilities should include those where patients can receive HIV testing and counseling, such as hospitals in the event of more serious illness, family planning and contraceptive services, and substance abuse services.

Conclusions

The proliferation of STDs makes it likely that a primary physician will be confronted with a problem related to sexual activity. The mutual trust and respect between primary care providers and their patients, often established over a long period, places these physicians in an unusually effective position in dealing with STDs. Though these physicians must diagnose, treat, and refer contacts as any other, their relationship allows effective counseling and education to occur over a long period of time and to be tailored to the needs and concerns of individual patients.

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