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Health policies for controlling AIDS and STDs in developing countries

LIEVE FRANSEN[1], C JOHANNES VAN DAM[2] AND PETER PIOT[3]

[1]*AIDS Task Force, European Community, Brussels, Belgium,* [2]*STD Unit, World Health Organization, Switzerland and* [3]*Institute of Tropical Medicine, Antwerp, Belgium*

In developing countries the control and prevention of Sexually Transmitted Diseases (STDs) and the ensuing complications has received renewed attention since the emergence of the latest sexually transmitted disease, AIDS. Prevention via behavioural change has become more important than ever because of the current lack of therapy or vaccination for HIV infections. Considerations about STD and AIDS control programmes are discussed, and the option employed by the European Community to combine STD and AIDS control, is discussed.

The strategies used for STD and AIDS control are health promotion and adequate management of patients with STDs. It is argued that health promotion should be targeted, and take into consideration priority activities and groups; that condom promotion should be an integral part of health promotion rather than being an autonomous activity; and that promotion of health seeking behaviour is an important part of the strategy.

Adequate management of patients with STDs is effective for AIDS prevention because some STDs are associated with an increased risk of HIV transmission, but also because people coming spontaneously to a clinic can be considered a self-referred group, at an increased risk from HIV infection. The methodology used to implement those strategies is discussed, on three levels: the programming and management level; the expertise unit; and implementation at peripheral levels. Experiences, obstacles and technical problems encountered by the AIDS Task Force of the European Community are enumerated.

Introduction

The relative burden of dealing with STD and HIV infection compared with other health problems is now considerably higher than was previously assumed in much of the developing world, particularly in Africa. In a recent review of health sector priorities in developing countries, conventional STDs ranked among the top ten most important health problems in terms of healthy life years lost (Over 1990). Infection with the human immunodeficiency virus (HIV) alone is not only becoming the leading cause of adult mortality in urban Africa, it is also a major cause of direct and indirect economic loss and suffering in the same populations (Chin 1990; Piot 1988; Rowley 1990).

The demographic impact of HIV is still being debated, but it is most likely to be significant amongst the most productive segments of the population (May 1988). A combination of high population growth rates and improved child survival has resulted in an expanding population of sexually active men and women in the Third World. A seemingly irreversible process of urbanization and poverty provides a fertile environment for the spread of sexually transmitted infections.

STD and HIV infection are becoming part of the health problems of adults that characterize societies in 'epidemiological transition' (Omran 1971). STDs can be considered as an infectious link between a pre-transition epidemiological environment, dominated by infectious disease and malnutrition, to a post-transition environment increasingly characterized by non-communicable adult diseases. This new epidemiological environment, coupled with declining budgets for health and social services in many developing countries, make necessary a reassessment of resource allocation for health services and a reorientation of health service priorities.

This paper discusses policies and strategies currently used or recommended by the AIDS Control Programme of the EEC, and the major obstacles to programme design and implementation. We will focus on the prevention and control of sexually transmitted HIV infection. Prevention of transfusion-acquired HIV infection is addressed elsewhere (Van Dam 1990).

Options for STD and AIDS control programmes

The overall aim of the strategies discussed here is to prevent the sexual transmission of HIV infection and other STDs. In the developing world more than 90% of all cases of HIV infection are transmitted sexually. In addition, the prevention of the complications and sequelae of STD in women and neonates is an objective more specific to the control of conventional STD. Science has not yet devised an effective and affordable treatment for HIV infection, neither has it found ways to render infected individuals non-infectious, nor has it developed a vaccine. Even if these were available, it is not certain whether the implementation of these measures would be within reach of the existing control programmes. The epidemics of such treatable diseases as gonorrhoea, syphilis and other STDs which took place in the industrialized world in the 1960s and 1980s are examples of this problem.

Bearing this in mind, the European Community's Aids Control Programme for developing countries has opted for a combined STD/AIDS control approach to the prevention of the sexual transmission of HIV, with health promotion and efficient management of patients with STDs as the main intervention strategies.

Combining STD and AIDS control

Programmes for STD and AIDS control should be combined to increase their cost-effectiveness, impact and sustainability, as affirmed by the World Health Organization (WHO) consensus statement (1990). However, national STD control programmes in developing countries are often weak or non-existent. Instead of organizing a parallel and separate AIDS control programme their STD control programmes could be strengthened or joint control programmes initiated.

The major reasons for combining AIDS and STD control programmes include (1) common approaches for the primary prevention of STD and HIV infection; (2) a common benefit of secondary prevention of STDs by early treatment (that is, reduction of the rate of complications and sequelae of STDs, and reducing the incidence of STD that are risk factors for the sexual transmission of HIV). STD and AIDS control can benefit from each other for several reasons:

- some STD control approaches have been assessed in the past for their effectiveness and are probably also useful for AIDS control activities. For example, targeted behavioural interventions seem to be more effective than comprehensive messages aimed at the general population. STD control programmes have in the past also learned to rely on motivated patients promoting safe practices amongst their peers and sexual partners. The tradition of confidentiality which is a cornerstone of STD control programmes, becomes even more necessary when it comes to dealing with AIDS
- populations with a high risk of acquiring STDs, are often the same populations that are at risk from HIV infection. This provides a unique opportunity to counsel individuals at risk from HIV infection who may otherwise be difficult to reach, and for partner notification
- several STDs, including genital ulcers and chlamydial infection, increase the risk of acquisition and further transmission of HIV
- epidemiological data on STDs can be used as an indicator for the potential spread of sexually transmitted HIV into population groups or geographical regions, and can also serve to measure the impact of various intervention strategies
- health services and financial and human resources can be made available for the control and management of all STDs, including AIDS, which is more cost-efficient and sustainable.

It should be stressed however, that both programmes also cover distinct areas, such as the care of patients with AIDS, and the prevention of complications and sequelae of STD in women and infants (such as pelvic inflammatory disease, infertility, ectopic pregnancy, congenital syphilis and ophthalmia neonatorum). These problems should not be neglected when combining AIDS and STD control activities.

Strategies for STD/AIDS control

Health promotion

The aims of health promotion for the primary prevention of HIV infection include reduction of the number of sex partners, avoidance of high-risk sex partners and condom use. Although health promotion activities have traditionally been an integral part of STD control, in most countries they usually existed only on paper until AIDS control programmes were launched.

Targeting

Although it is generally possible to increase the awareness of the general population by means of a mass media campaign, it is doubtful whether such an approach leads to behavioural changes among high risk groups.

The following points should be considered:

- HIV infection has emerged and spread rapidly in a number of core groups[1] with some intense and high-risk sexual activities. Examples are some groups of prostitutes in Nairobi, Kenya, where the seroprevalence of infection rose from 20% in 1985 to 90% in 1988 (Ngugi 1988), and prostitutes in Thailand, where in six months the seroprevalence of infection rose from 1 to 20%, and the next year to 40% (Rhanupak 1989)
- the risk of the spread of HIV infection from these core groups to non-core groups
- the relatively higher efficiency and cost-effectiveness of prevention within core groups.

Based on these considerations and supported by the experience of the gonorrhoea control programme in the USA, priority is now being given to well targeted health promotion activities, among priority groups, while at the same time preventing segregation or stigmatization of these groups. The latter problem should be resolved before such targeted interventions are initiated. Behaviour modification and prevention of infection are possible in these groups, provided the intervention is adapted to reflect the realities, and the needs encountered. Members of high-risk groups should be involved in conveying safe-practice strategies. Examples of this are found with prostitutes in Nairobi and Kinshasa, and in the military in Ghana (Apeagyei 1990; Ngugi 1989; Nzila 1990).

Three priority groups for targeted health promotion are proposed:

- Political and community leaders, including religious leaders, technical experts and advisers. Members in these groups are usually in decision making positions and exercise great influence over their communities.
- Teenagers and school children. In this group, where HIV infection rate is still low and where high-risk behaviours have usually not yet developed, it is of prime importance to prevent the development of such behaviours. This calls for innovative approaches, such as reaching these groups through initiation ceremonies, through youth clubs and parents, and involving the target group.
- Core group transmitters characterized by high risk sexual behaviour. It is essential that these groups be more accurately identified in each country. Groups already identified in some developing countries include prostitutes, long-distance truck drivers, STD patients, and the military.

Condoms

When used properly, condoms can provide an effective barrier against HIV during sexual intercourse, and their increased use has been associated with a declining incidence of HIV infection and other STDs as compared to non-users in African populations (Laga 1990; Ngugi 1988). However, in many developing countries condom availability and use are low, they have not been popular as a birth control method, particularly outside Eastern and South-East Asia. In many countries a major disadvantage of condoms is that their use is controlled by a male partner, who is often negative about condoms, making women more vulnerable to infection.

Condom promotion should be an integral part of health promotion to avoid HIV infection, rather than being an autonomous activity. Marketing of condoms should be combined with information on AIDS prevention and the proper use of condoms (Smith 1990). Campaigns should not suggest that condoms are 100% effective, or that using a condom is the only way to prevent HIV transmission.

With demand growing, making sufficient condoms available to third world populations at an affordable cost is a formidable challenge. Uganda has determined that the need for condoms is so great that it would be impossible to maintain adequate supplies (Smith 1990). Stimulated by USAID, social marketing has been an increasingly popular and successful approach to promote condoms *and* make them available.

Promoting health seeking behaviour

In addition to measures aimed at reducing exposure to and transmission of STD and HIV, health seeking behaviour should be promoted as relevant to the early detection and efficient treatment of STD. The activity aims (1) to promote recognition of signs and symptoms of selected STD; (2) to encourage patients to seek health care in competent medical services as soon as they identify clinical manifestations of an STD; (3) to avoid self medication for STD; (4) to refrain from (unprotected) sexual activities as soon as signs or symptoms of an STD appear and while under therapy for an STD; (5) to encourage specific groups to attend health services for screening and early detection of STD (Hira 1990).

Adequate management of patients with STDs

The rationale for an effective and efficient management of patients with an STD as an AIDS prevention strategy is two-fold:

- Genital ulcer disease and genital chlamydial infection, as well as other STDs, are associated with a two-to four-fold increased risk of HIV transmission (Pepin 1989).
- People spontaneously visiting primary health care or STD clinics - whether it be as a result of disease, or being referred by their sexual partners, or for a check-up - can be considered a self-referred group at an increased risk from HIV infection. As a risk group these individuals may otherwise be difficult to reach. They should not only receive early treatment, but also counselling for safe sex practices and behaviour modification. They may also be involved in partner notification. If the services providing the management of STD/AIDS patients do not provide adequate treatment, patients will be discouraged from attending and an opportunity for primary and secondary prevention may be lost.

Principles and objectives

Adequate management of STD patients and their contacts provides the basis for secondary prevention of STD. It reduces the pool of infected individuals as well as the period of infectivity, and decreases the risk of complications and sequelae through early and effective treatment.

The objectives of clinical management (Meheus 1989; Piot 1990) are:

- to determine the aetiology of the patient's complaint
- to provide adequate treatment if necessary
- to counsel the patient on STD prevention through behavioural change and condom use
- to advise the patient to comply with treatment and to return if symptoms recur
- to encourage treatment of the patient's sex partners
- to screen for other STD including HIV infection.

Services

In most developing countries, patients with an STD are seen in primary health care settings, in the public as well as in the private sector, and not in special STD clinics. Whereas STD clinics may theoretically offer advantages such as higher expertise in case management, availability of more sophisticated diagnostic tests, drugs and condoms, provision of counselling and partner notification, they are often poorly managed, stigmatizing, without adequate resources, and, most significantly, cover only a small group of the population in the urban centres.

A major disadvantage of vertical STD services is the poor accessibility for women with an STD. This is mainly due to the low specificity of clinical manifestations of STDs and the frequent asymptomatic status of women with an STD, but is due also to the stigmatizing impact of specialized STD clinics and the often degrading treatment women receive in such services.

Since different structures for STD clinical services exist in various countries - from a fully vertical system to an integrated approach, and often heavily involving the private sector - no universal recommendations can be made as to how STD services should be integrated into the health system. Programmes should aim at maximum coverage and good accessibility, while assuring the possibility of patient referral, either to a specialized clinic or to a competent referral outpatient department in the health care system at district level. Patient referral is a problem in many developing countries. Therefore, STD control programmes should aim as much as possible to implement simplified and effective approaches for case management at the primary health care level.

Case management

The quality of health services in the developing world is often very variable. Yet, the image of STD control and the confidence of the public in the programme depends in the first place on the effectiveness of these clinical services. Therefore, strengthening the clinical services for STD management should be a priority of AIDS/STD control programmes. Some principles of case management in primary health care settings include:

- Problem oriented approach: the diagnosis must be based on case history, physical examination and simple laboratory tests, if available.
- Investigations should be performed routinely only if they influence the management of the health problem.
- Correct management should take less than 5 minutes.
- The choice of treatment should be rational, and treatment regimens standardized.
- Management should not be considered complete unless counselling and education information of the partner is performed.
- Referral of patients should be exceptional, preferably less than 5% of the total. This implies that the possibility is available (Meheus 1986).

National STD treatment guidelines should be developed, as well as recommended clinical algorithms for case management at the peripheral level. WHO guidelines (1989, 1990) provide a useful basis for such a document, which should ideally be formally published and widely distributed among health care workers. Laminated charts containing the algorithms can be produced from these guidelines, for distribution to primary health care centres.

Co-ordination with the Essential Drugs Programme is necessary to make sure that recommended drugs are available and are part of the country's essential drug list. The same distribution system can also be used in some countries for diagnostics and condoms.

Counselling should be an integral part of STD case management, as well as partner notification. There is an urgent need to develop effective and realistic approaches adapted to the cultural and working environment in developing countries. Activities more specifically directed at the prevention of STD complications in women and neonates such as case finding for gonorrhoea, screening for syphilis in pregnant women, and eye prophylaxis at birth will not be discussed here.

Methodology for implementing these strategies

Three administrative levels have been recognized to be involved in the implementation of these strategies. These are:

The programming, planning and management level in the Ministry of Health

The activities which need to take place at this level are:

- to develop the structure and the organization of an STD and AIDS control programme and service, either as governmental or as non-governmental service.
- to provide the financial means and human resources to operate the service after a cost analysis and resource allocation plan has been made and financial resources have been co-ordinated.
- to elaborate national guidelines for prevention, control and management of STD/AIDS in order to implement the plan.

- to set normative priorities for the programme in the context of the National Health Plan and in co-ordination with other sectors.

The expertise unit

Between the programming/managerial level and the implementation level the expertise unit has the following tasks:

- collection and analysis of data on a regular basis to enable those at programme level to set priorities, to evaluate trends and the impact of intervention activities. This should include data about behaviour (sexual and health seeking), risk and core groups, risk environments, diseases and health services (official and unofficial). Regular feedback of data to the peripheral level is also important
- training of personnel in epidemiology, behavioural interventions, health promotion, counselling, laboratory, and patient management. A training component should be integrated into the national STD/AIDS control plan. The training has to be adapted to local realities and sustained on a regular basis
- operational and fundamental research, including communication of the results to the programming and peripheral levels, could improve the translation of research results into public health policies and strategies at national level
- organize quality control, supervision and referral for all services at peripheral level.

Implementation at the peripheral levels

This should occur in all health facilities where STD/AIDS control and management are to be encountered. Activities at this level include the use of rationalized strategies for patient management including behaviour modification activities. Referral and supervision should be available. The services developed should be sustainable and possibly based on a well structured cost recovery system as far as patient management is concerned, and should be allocated a separate public health budget for pragmatic educational activities.

An analysis of these three levels and their operational capability is the first step towards implementation of these strategies. Each level contributes to the feasibility and sustainability of the programme and consequently any of these levels must be considered eligible for strengthening and support.

Experiences in and obstacles to the prevention of sexual transmission of HIV

At the start of the European Community's support to national programmes in developing countries, very few programmes had opted for a co-ordinated STD/AIDS control effort. More than 70 developing countries requested the EEC's AIDS Control Programme to support their AIDS control activities. In 25 developing countries activities were planned to control sexual transmission of HIV by strengthening STD and AIDS control, and the EEC's Task Force organized an initial assessment mission and a feasibility study. A partial analysis of the relevant points at the programme level is given here. Other information including checklists, cost estimations and technical information at the peripheral level are discussed in another paper (Fransen, forthcoming).

Most obstacles encountered are those found in any other disease control programme, and are mainly related to problems which characterize health systems and management in the developing world:

- Only 2 of the 25 countries had a national STD control programme although all had already developed a short-term, and most of them had a medium-term, AIDS control programme.
- Adequate data on STD to assess the importance of the problem and to estimate the potential risk of the spread of HIV were not available in virtually all of these countries. The available data included recent data on clinical cases of AIDS or on HIV seroprevalence in certain groups; the results of syphilis serology amongst pregnant women and blood donors; prevalence rates on gonorrhoea and some other STDs in STD clinic attenders and prostitutes.
- Realistic cost analysis for the programme or resource analysis were not available.
- Special funds for work among STD patients or high risk groups were not provided.
- Existing services are usually over-burdened, and personnel has very little time and resources available for patient counselling and partner referral.

- Four countries had centres of excellence, and these centres are mainly involved in research, training and laboratory quality control. Eight other countries also offered some STD control activities.
- National management strategies for STDs were available in four countries, but these strategies were not actually used at the primary health care level, and supervision or referral possibilities for difficult cases was virtually non-existent.
- At the first level of health care some 20 - 60% of the first time out-patients have an STD-related problem (Tanzania, Mozambique), with some exceptions such as Pikine, Senegal (5%) and the 'zones de santé' in Kinshasa, Zaire (1%).
- Condoms were virtually unavailable outside family health centres. One country has had condoms available since 1976.
- Coverage of existing STD services (specialized or integrated) was totally insufficient in all countries.

It was concluded that in all the countries visited some aspects of STD control were undertaken to some extent. However, their effects were often not very effective, poorly funded and rarely comprehensive.

The allocation of resources to work around AIDS can benefit other health activities, but most often resources are taken away from other health programmes. If AIDS control is to be combined with STD control activities, the latter need to be strengthened and built up. To increase sustainability in the long term, implementation of STD and AIDS control has to be integrated at the peripheral level. This requires the development of new and pragmatic approaches to STD and AIDS control.

Technical problems

A major problem in STD case management is the lack of simple and inexpensive tests for the diagnosis of gonococcal and chlamydial infections in women. They are urgently needed since syndrome-based clinical algorithms seem to be inadequate for diagnosis of reproductive tract infections in women.

- Data on STD related health seeking behaviours, on the prevalence of specific STDs, and on the aetiology of the most common syndromes are needed to adapt management strategies to the needs of the different countries.
- Criteria for screening and/or case finding in some groups should be better defined to make priority choices more rational. Technical expertise on STD among health care workers is usually poor and should be improved.
- Training on all levels has to be integrated into the programme in order to implement the activities efficiently.
- Condom availability is not easy to organize and to sustain once the demand is created. A further development of social marketing strategies for condom promotion and availability seems necessary.

Conclusions

Based on an evaluation of current STD/AIDS control programmes in a great number of countries in the developing world and on the subsequent feasibility studies and implementation of STD/AIDS control projects, a number of preliminary conclusions can be made.

1 STD and AIDS control should be integrated at implementation level and co-ordinated at programme level.
2 In only very few developing countries has there been adequate and long-term planning for STD/AIDS control, and very few experiences have been analysed. Consequently, international assistance in planning, management, and training is likely to be required, while national programme capability is being developed.
3 There often is also a lack of baseline data, indicating a need for operational research and surveillance.
4 It is of both medical and economical importance to select high priority populations for targeted and intensive interventions. This could reduce the number of potentially infected persons and the number of complications and sequelae due to STD and AIDS.
5 The development of STD control services is costly and labour-intensive, involving capital investment, manpower development, and substantial recurrent costs. However, the added cost for HIV screening-surveillance and counselling is less important if available resources are used for both programmes and

implementation, and are integrated as much as possible into primary health care. This is important in view of sustainability, resource availability and cost recovery.

6 In order to increase the efficiency of the programme there is virtually always room for a rationalization of the utilization of resources, services, and drugs.

Endnote

[1] 'Core group transmitters' is an epidemiological concept designating a group of individuals who are at the source of a disproportionate fraction of infections in the community because of their sexual behaviour (Hethcote and Yorke 1984). This does not imply that these individuals belong to a socially well recognized group, but usually they have a combination of certain features such as being young, poor, living in certain neighbourhoods, and being mobile. Prevention of a case of HIV infection in such a group has a multiplying effect, theoretically making interventions more cost-effective.

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Biographies

Lieve Fransen is Director and medical expert of the AIDS TASK FORCE department at the Commission of European Communities, Brussels. Between 1984-1987 she was a Medical assistant and researcher at the Institute for Tropical Medicine (I.M.T.), Antwerp, Belgium, and since 1982 has variously been adviser and medical manager on projects in Rwanda, Kenya, Mozambique and Cape Verde. She holds a PhD in Public Health from Antwerp University Belgium, and obtained her BA and MD in Medicine, Obstetrics and Surgery from Ghent University in Belgium.

C. Johannes van Dam, MD, MSc, studied medicine and philosophy at the University of Amsterdam until 1980. In 1982, he was seconded by the Dutch Ministry of

Development Co-operation to the Ministry of Health in Botswana. He was responsible for the development of a national STD Control Programme, which incorporated the national AIDS Programme. He obtained an MSc in Community Health in Developing countries (London 1988) and worked between 1988–1990 for the AIDS Task Force of the European Community. He now works with the WHO's STD Programme in Geneva.

Peter Piot, MD (University of Ghent); PhD (Microbiology, University of Antwerp); Dip.Tropical Medicine (Institute of Tropical Medicine, Antwerp). His present positions are professor and head of department of Microbiology, WHO collaborating centre on AIDS, Institute of Tropical Medicine, Antwerp, where he is also the Director. He is Associate Professor of Epidemiology. Free University of Brussels.

Correspondence: Dr Lieve Fransen, Director, AIDS Task Force, Commission of European Communities, Joseph II Straat, 67A, B-1040 Brussels, Belgium.